



# CLINICAL HEALTH PROMOTION

Research & Best Practice for patients, staff and community

## 25<sup>th</sup> International Conference on Health Promoting Hospitals & Health Services



Directions for health promotion health care - Lessons from the past, solutions for the future

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## Editorial

Dear participants of the 25th International Conference on Health Promoting Hospitals and Health Services, and dear readers of the journal *Clinical Health Promotion*!

This year, the annual International Conference on Health Promoting Hospitals and Health Services will be hosted by the Austrian Network of Health Promoting Hospitals and Health Care Institutions (ONGKG). The University of Vienna, one of the oldest universities in Europe, will be the conference venue. Therewith, for its 25<sup>th</sup> anniversary in 2017, the conference will be held in the city where HPH has started. The first WHO model project on "Health and Hospital", which became the starting point also for the European Pilot Project on Health Promoting Hospitals, was based in the Rudolfstiftung Hospital in Vienna. Within this context also the international HPH network was initiated in 1990 by WHO in Vienna. The Austrian HPH network, already founded in 1996, has made valuable contributions to the international HPH Network since then. It facilitated previous international HPH conferences, representatives served on HPH task forces and it provided new scientific and practical inputs through its close collaboration with the WHO Collaborating Centre for Health Promotion in Hospitals and Health Care in Vienna (WHO-CC-HPH), founded already in 1992 by WHO and the Austrian MoH.

Taking the anniversary into account, the title and focus of the 25<sup>th</sup> International HPH Conference will be "Directions for Health Promoting Health Care. Lessons from the past, solutions for the future". Under this general theme, the conference program will specifically focus on five sub-themes:

- Celebrating achievements from the past, identifying challenges for the future
- The role of health promoting health care to achieve the Sustainable Development Goals: steps towards 2030
- Transforming health care to empower and meet the health needs of refugees and migrants
- Contributions of health care to mitigating and adapting to climate change
- Reorienting health services and systems: 30 years after the Ottawa Charter.

Altogether, 10 plenary lectures by renowned international experts as well as one panel discussion will address these themes during the 2 and a half days of the conference.

In addition to this comprehensive plenary program, the conference will offer a rich parallel program including oral presentations and workshops, mini oral presentations and posters. Following several requests, the conference will also offer one oral presentation, one mini oral presentation and a workshop in German language only. Overall, the Scientific Committee screened more than 800 abstracts, which were submitted from 41 countries around the world. Out of these, 717 abstracts (89%) were finally accepted for presentation in 40 oral sessions and workshops (165 abstracts), 20 mini oral sessions (106 abstracts), and two poster sessions (446 abstracts). Delegates from all over the world will meet at the conference to present, discuss, and network around topics related to HPH. Similar to previous years, the abstract book of the 25th International HPH Conference will be published as a supplement to the official journal of the international HPH network, *Clinical Health Promotion*. This will ensure high visibility and recognition for the conference contributions of the delegates. Furthermore, attention will be increased through the publication of the Virtual Proceedings after the event at [www.hphconferences.org](http://www.hphconferences.org) and plenary sessions will also be made available at the conference web-site in video format.

Now, we would like to thank all those who contributed to the program development and to the production of this abstract book.

In particular, we are very grateful to the plenary speakers and panel discussants, all abstract submitters, the members of the Scientific Committee especially for reviewing numerous abstracts, the chairs of the plenary and parallel sessions, the Editorial Office at the WHO Collaborating Centre for Evidence-based Health Promotion in Copenhagen, and above all, the local host of this 25<sup>th</sup> International HPH Conference in Vienna, Austria.

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WHO Collaborating Centre for Health Promotion in Hospitals and Health Care at Gesundheit Österreich GmbH (Austrian Public Health Institute)

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## Scope & Purpose

In 2017, the annual International Conference on Health Promoting Hospitals and Health Services (International HPH Conference) will be hosted by the Austrian Network of Health Promoting Hospitals and Health Care Institutions (ONGKG), which was already involved into previous International HPH Conferences. The conference venue will be the University of Vienna, one of the oldest universities in Europe. Thus, for its 25<sup>th</sup> anniversary the conference will be held in the city where HPH has its origins. The Austrian network, founded already in 1996, has made valuable contributions to the international HPH Network, not least by serving on HPH Task Forces and by providing new scientific and practical inputs through its close collaboration with the WHO Collaborating Centre for Health Promotion in Hospitals and Health Care in Vienna.

The title and focus of the 25<sup>th</sup> International HPH Conference will be "Directions for Health Promoting Health Care. Lessons from the past, solutions for the future". Under this general theme, the conference will specifically focus on five sub-themes:

### **Celebrating achievements from the past, identifying challenges for the future**

Having started with the first WHO-Model Project "Health and Hospital" at the Rudolfstiftung Hospital in Vienna in 1989, HPH has developed from mere conceptual considerations and pilot efforts to a significant international network comprising up to 800 member organizations around the globe. Accordingly, this session will take a look back on the achievements but also at challenges and opportunities that have influenced the development of the network up to now. Furthermore, a first diagnosis of future challenges and trends will shed a light on necessary developments of HPH networks.

### **The role of health promoting health care to achieve the Sustainable Development Goals: steps towards 2030**

By the Sustainable Development Goals (SDGs), United Nations (UN) have defined a new, universal set of goals, targets and indicators that UN member states are expected to use to frame their agendas and political actions in the course of the next 15 years. Accordingly, this session will focus on the following topics: What are the specific implications of the SDGs for health systems? Are there synergies between HPH and the SDGs that can be tackled in the future? How can the international HPH Network but also national and regional networks contribute to achieve the SDGs in different countries? Finally, what can be next steps towards 2030 for reaching these goals?

### **Transforming health care to empower and meet the health needs of refugees and migrants**

The considerable movements of refugees and migrants represent one of the major challenges for (European) public health. Their health status is at risk due to trauma, abuse and discrimination, and additionally hampered by barriers to access health and social services in host countries. Thus, how can equal access to and participation in health services be ensured for refugees and migrants? What are opportunities and threats to tackle refugees' and migrants' health? How can health promoting health care support refugees and migrants as well as health care staff confronted with this new challenge?

### **Contributions of health care to mitigating and adapting to climate change**

The progressive climate change characterizes another major challenge within the 21st century. While hospitals and health services require considerable energy-intensive processes in terms of water, lighting, heating, cooling, ventilation as well as waste disposal, adequate mitigation measures can help to use resources more efficiently. Thereby, not only resources of the health sector can be saved in the short and long term, but also the provision of health care services can be enhanced and health status can be (in-) directly improved. Accordingly, this session will deal with the following issues: What are the requirements to build climate resilient health systems? What are the contributions of "sustainable health care services"? And specifically, what are the lessons learned from the HPH Task Force on "HPH & Environment"?

### **Reorienting health services and systems: 30 years after the Ottawa Charter**

Already 30 years ago, the Ottawa Charter for Health Promotion of the World Health Organization defined the reorientation of health services as one of its five major action areas. Therefore, now is the time to look more closely at what has been achieved since then. Was the settings approach a successful strategy for gaining reorientation? Which preconditions, resources and incentives are needed to further support reorientation? What can be expected from more systematically using developments of the digital revolution? What role can and should the various stakeholders play? Last but not least, how can the systematic and sustainable involvement of patients, families and citizens be better ensured in health promoting healthcare in the future?

## Monday, April 10, 2017

### 13:00-17:00

HPH Summer School - Masterclass on setting up Evidence-based Health Promotion projects in Hospitals and Health Services

## Tuesday, April 11, 2017

### 09:00-16:00

HPH Summer School - Masterclass on setting up Evidence-based Health Promotion projects in Hospitals and Health Services

### 14:00-17:00

HPH Newcomers Workshop

### 14:00-18:00

Pre-Conference-Workshop by the HPH Task Force "Migration, Equity & Diversity": Ensuring equal access to and quality of health services for refugees and migrants

## Wednesday, April 12, 2017

### 09:00-16:00

HPH General Assembly (upon invitation only)

### 09:00-15:30

Pre-Conference by the Global Network for Tobacco Free Health Care Services (ENSH): New Ways for the future – Looking back and thinking ahead

### 17:00-17:45

Formal Opening

### 17:45-19:00

Plenary 1: Celebrating achievements from the past, identifying challenges for the future

### 19:00-21:00

Welcome Reception

## Thursday, April 13, 2017

### 09:00-10:30

Plenary 2: The role of health promoting health care to achieve the Sustainable Development Goals: steps towards 2030

### 10:30-11:00

Coffee, Tea, Refreshments

### 11:00-12:30

Oral sessions 1 from abstracts received & symposia by HPH task forces & conference workshops

### 12:30-13:30

Lunch

### 13:30-14:15

Poster sessions 1 from abstracts received

### 13:30-14:15

Mini oral sessions 1 from abstracts received

### 14:15-15:45

Oral sessions 2 from abstracts received & symposia by HPH task forces & conference workshops

### 15:45-16:15

Coffee, tea refreshments

### 16:15-17:45

Plenary 3: Transforming health care to empower and meet the needs of refugees and migrants

### 19:00-23:00

Conference dinner

## Friday, April 14, 2017

### 09:00-10:30

Plenary 4: Contributions of health care to mitigating and adapting to climate change

### 10:30-11:00

Coffee, Tea, Refreshments

### 11:00-12:30

Oral sessions 3 from abstracts received & symposia by HPH task forces & conference workshops

### 12:30-13:30

Lunch

### 13:30-15:00

Plenary 5: Reorienting health services and systems: 30 years after the Ottawa Charter

### 15:00-15:30

Coffee, Tea, Refreshments

### 15:30-16:15

Mini oral sessions 2 from abstracts received

### 15:30-16:15

Poster sessions 2 from abstracts received

### 16:15-17:45

Oral sessions 4 from abstracts received & symposia by HPH task forces & conference workshops

### 17:45-18:30

Farewell Refreshments



## Plenary 1: Celebrating achievements from the past, identifying challenges for the future

### Milestones, challenges and achievements of Health Promoting Hospitals and Health Services within 25 years of international conferences

#### PELIKAN Jürgen M.

The development and progress of the International Network of Health Promoting Hospitals and Health Services can be told as a story of successes, yet, there are potentials for further improvements as well. Having started with conceptual considerations based on the Ottawa Charter in the late 1980s, the concept has materialized into an international network comprising up to 800 member organizations around the globe. By that, the network is not only the second-oldest health promotion network initiated by the World Health Organization, but represents one of WHO's continuously stable and developing networks. As it is certainly not possible to grasp the whole wealth of potential insights from this network in one presentation, this keynote will invite the audience to a joint travel in time, starting in the last century and leading to the future with a strong focus on milestones and stages in which the network has reinvented itself to grow and achieve its agenda. During this development, the international conferences played an important part in shaping the network's agenda in the past. Therefore, having a closer look at these conferences can also help to better understand present and possible future opportunities and challenges for the international HPH network. The lecture will give a largely systematic reconstruction of 25 years of international HPH conferences including core developments prior to the 1st International HPH Conference in Warszawa, Poland, in 1993. Looking at the topics, programs, participants and local hosts of the conferences, it will be analyzed how the network has developed, adapted to changes and challenges in the relevant environments of health care and how it has changed its internal structures and processes to grow successfully over nearly three decades. Finally, first ideas for strategic priorities to maintain the international HPH network for another 25 creative annual conferences will be reflected.

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### Distinctive features of HPH in Taiwan: what made this network successful?

#### WANG Ying-Wei

The International Health Promoting Hospital Network was established by the WHO in 1990, and Taiwan became the first network member in 2006. The Health Promotion Administration of Taiwan develops policies to assist hospitals re-orient services and organizational culture from treatment to health promotion, improving the health gains of the patients, staff and community. The Taiwan HPH network has reached 163 members and is the largest block within the International HPH Network. Based on the action plans of the International HPH Network, Taiwan has developed six major strategies to promote HPH amongst healthcare institutions: Inter-sectoral collaboration: aside from promotion of HPH policies by the central government, the tasks of providing guidance on health promotion are carried out by the local health bureaus in cities and counties. The local health bureaus assist the healthcare institutions on obtaining HPH certification, and also improve relationship with institutions within their jurisdictions. Influence change in leadership: raise the hospital managerial understanding of health promotion and to analyze the benefits of health promotion for staff, patients and relatives, so that HP policies are incorporated as one of the core quality or business goals. Create standards and indicators: based on the WHO-HPH Standards and indicators, Taiwan establishes the standards pertinent to local situation. Outside experts and organizations are commissioned to provide consultation services; hospitals are communicated on the definitions of the indicators and scoring standards; creative projects such as the Age-friendly and Environment-friendly issues are incorporated in to the standards to encourage diverse participation. Education and training: staff of various level within the institution learn and improve their knowledge on health promotion through education and training; hospitals are instructed how to conduct outcomes assessment and to provide feedbacks on training outcomes for future improvement. Communication and advocacy: engage in health promotion international affairs; invite civil organizations to participate in HPH activities; invite hospital members to participate in the annual HPH conferences and share Taiwan's experiences with other countries, so each can learn from each other; the environment-friendly and age-friendly health promotion have been adopted by some countries after learning from Taiwan experiences; good interaction and experience sharing are the driving forces behind continuous improvement. Provides incentives: other than receiving funding, excellent performers are recognized for their efforts through various awards, such as benchmark model, excellences, organization restructuring, friendly workplace and creative projects (over 70). The main goal of the promotion of HPH by the Taiwanese Government is to foster the mentality of "happy staff and happy patient". Hospitals will become the frontline base of community health promotion, and in the future Taiwan will work to integrate other health promotion modalities, such as school, workplace and community, to further improve the development of community health promotion. Additionally, Taiwan will continue to incorporate health literacy and patient-centered shared-decision making modes into the overarching health promotion concepts to better promote patient-focused services.

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## Looking back, challenges ahead: a diagnosis for future scenarios

### **ALDERSLADE Richard**

The discipline of public health has the potential to improve health and well-being more equitably, within the global focus of the Sustainable Development Goals (SDGs), and the WHO European Regional focus of the health policy framework Health 2020 and the European Action Plan for the Strengthening of Public Health Capacities and Services (the EAP-PHS). All the determinants of health must be considered within national health policies, strategies and plans, and the response must be multi-actor and multi-sector, focusing on whole of government (WOG), whole of society (WOS) and Health in All Policies (HiAP) approaches. Moving "upstream" to tackle today's burden of noncommunicable diseases through health promotion and disease prevention approaches is fundamental. All components of health systems need to work in partnership in an integrated and coordinated way over the long term, focusing on both population and individual health needs. Patients who can be served and supported in a clinically sound way in a primary health care setting should be, with health promotion and disease prevention being an integral component of primary health care services. Yet hospitals must also respond to the rising levels of noncommunicable disease among ageing populations, offering health promotion, disease prevention, diagnosis and treatment focused around individual needs. Patients with chronic problems require support to achieve the best possible health related quality of life. Often such interventions are not systematically offered to all patients, nor are patients satisfied with the communication and listening skills of their doctors and other health professionals. Health Promoting Hospitals (HPH) is focused primarily on patients and their relatives, with a focus also on the needs of vulnerable groups, hospital staff, the community population and the environment. HPH is an example of the settings approach to health promotion and can contribute both to today's complexity of patient management yet also to maximising the contribution of health systems to improvements in health and well-being overall.

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## Plenary 2: The role of health promoting health care to achieve the Sustainable Development Goals: steps towards 2030

### SDGs and their implications for health promoting health care

#### PRASOPA-PLAIZIER Nittita

In 2015, the General Assembly of the United Nations adopted the Sustainable Development Goals (SDGs) which aim "to ensure that all human beings can fulfil their potential in dignity and equality and in a healthy environment". The 17 SDGs build on the Millennium Development Goals (MDGs), which had guided development efforts for the preceding 15 years. Achieving SDGs requires innovation - new ways of working that require more integrated and inclusive strategies and the 'whole-of-system' approach to ensure that the gains are enjoyed by all groups in society and that 'no one is left behind'. Accelerating towards achieving SDGs requires commitments from all stakeholders working together in collaborative partnerships, recognizing the connections between health issues and the broader social determinants as well as the development challenges. The WHO Western Pacific Regional Office has developed the framework 'Universal Health Coverage: Moving Towards Better Health' and provides guidance for countries to accelerate progress UHC and the 'Regional Action Agenda on Achieving the Sustainable Development Goals in the Western Pacific' to guide countries in their efforts towards SDG implementation. The UHC action framework identifies five inter-related attributes of a high-performing health system namely: quality, efficiency equity, accountability and sustainability and resilience. These attributes correspond well with the health promoting hospital and health service underlying principles that include equity, participation, empowerment and sustainability. This presentation will discuss how universal health coverage (UHC) can serve as a platform that brings together programmes and actions for health and development; how the health sector systematically and effectively address the SDGs through the 'whole-of-system' approach; what will be the role of health services and promoting hospitals and why engaging and empowering patients, families and the community is key to achieving the SDGs by 2030.

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### Creating synergies between HPH and SDGs

#### CHIOU Shu-Ti

The Agenda 2030 for Sustainable Development has kicked off in 2016 with the aim to transform our world that no one will be left behind through actions for people, planet and prosperity with 17 Sustainable Development Goals and 169 targets. The 9th Global Conference on Health Promotion affirmed the links between

health promotion and the 17 SDGs and released Shanghai Declaration which highlights three priority action areas- good governance, development of healthy settings, and health literacy for all. It's important to rethink the position of the development of health promoting hospitals and health services (HPH) in this new era and update the roles & functions of HPH to leverage such global momentum and create mutual synergy. The opportunities for creation of synergies between HPH & SDGs will be examined in this speech on three aspects of HPH as a healthcare delivery reformer, a sustainable workplace for staff and their families, and a health corporate in the community that leads by example. The integration of SDGs into the management and operation of HPH will be discussed using the framework of HPH standards as a tool and the potential necessity for revisions will be checked, followed by recommendations to policy support from government at different levels to make sustainability the shared gain by health services sector and the whole community.

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### The Austrian health targets: enabling healthy sustainable development on a national level

#### DIETSCHER Christina

Health and sustainable development are inextricably intertwined. On the one hand, health depends on societal development, especially on peace, social security and economic growth. On the other hand, health itself is a major determinant for societal innovation and development. Thus, health is both a driver for, and an outcome of, sustainable societies. For this reason, the interdependence of health and sustainable societal development is high on the political agenda – both internationally and in Austria: Quite recently, health has been assigned a key role in the fulfilment of the United Nation's Sustainable Development Goals in the 2030 era of sustainable development, which cover all areas of life, all phases of life and all sectors. Within the health sector, WHO has emphasized the vital contribution of health to sustainable development in the Shanghai Declaration that was launched during the 9th Global Conference on Health Promotion in November 2016. Also, the European Commission relates to health as a driver of economic growth in its position paper on investing in health from 2013. In Austria, we have set up a systematic process that addresses the interdependence of health and societal development in form of national health targets. The process started in 2011 and was commissioned by the Council of Ministers, the National Assembly and the Federal Health Commission. During a one-year participatory and intersectoral process with more than 40 key political and societal stakeholders ("the plenary"), 10 health targets were defined and finally adopted by the Council of Ministers and the Federal Health Commission. They are now part of the current government program and represent an important framework for the ongoing healthcare reform process. The targets aim to continuously improve the number of healthy life years of the Austrian population, paying special attention to health equity, and their scope goes far beyond the classical health sector: the targets address the social determinants of health in all major life settings throughout the whole life course, including living, learning and working environments, city and

regional planning, public safety, and ecology. Therefore, implementing the targets cannot be achieved by the health sector alone. Rather, a health-in-all-policies approach is needed to address health determinants in all sectors. Accordingly, we have set up specific intersectoral working groups for each health target, whose task it is to define sub-targets, indicators and concrete actions to realize the targets. Monitoring is in place to assess the progress we make. And Austria also works at broadly introducing health impact assessment as a tool to foster intersectoral responsibility for health. So far, our efforts have strengthened awareness of health equity, health in all policies, health promotion and health determinants both within the health sector and beyond. This is also supported by new intersectoral financing mechanisms. First, we have introduced so-called "Vorsorgemittel" (prevention funds) that are dedicated to funding nation-wide public health interventions that are jointly selected by representatives of the national government, the Austrian federal provinces, and social insurance. The current priority of the prevention funds is on early childhood interventions to strengthen health and health equity ("Frühe Hilfen"). Second, there are now health promotion funds in all nine Austrian federal countries. The projects and programs they fund have to be in line with the national health promotion strategy which is oriented at the health targets. Key learnings from the Austrian experiences with the Health Targets show that it is crucial to build and sustain capacities (leadership, partnership, organizational and workforce development, resource allocation) for facilitating intersectoral cooperation; to showcase examples of how other sectors can benefit from activities and investments in health – very often, better health will help them to better meet their own targets; to pursue a participatory approach, enabling representatives of all sectors to bring in their own perspectives and interests; and to create ownership of the process across sectors. Last but not least, it is important to think long-term, to be creative and to avoid over-regulation in order to keep the process active and productive over prolonged periods of time.

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## Plenary 3: Transforming health care to empower and meet the needs of refugees and migrants

### Health needs, challenges and opportunities of refugees and migrants on a global level

#### PETROVA-BENEDICT Roumyana

In a world defined by profound disparities and unprecedented, often forced, mobility, migration is not a problem to be solved but to be managed for the benefit of both migrants and societies of origin, transit, destination and return. Governments face the challenge of addressing and integrating the health needs of migrants into national plans, policies and strategies, taking into account the fundamental human rights, including the right to health. Acute such gaps are evidenced during the reception of refugees and newly arrived migrants. Furthermore policies and strategies to manage the health consequences of migration have not kept pace with growing challenges related to modern migration, and do not sufficiently address the existing health inequities and determining factors of migrant health, including social determinants of health, migrants' specific health profiles and barriers to accessing health services. The economic and social costs of excluding vulnerable groups from health care, have been anticipated and currently backed by several studies. Actions are needed to ensure that migrants' right to health is upheld, and that Universal Health Coverage(UHC) and equitable access to quality health services is provided, regardless of migratory status. It is furthermore crucial to ensure that appropriate policy frameworks and programmes are in place to offer health services equally sensitive to the needs of migrants and the communities in which they live. Health is, in fact, one of the most important of the components of the integration process. Governments, inter alia, have expressed commitment at International level to UHC and more recently to the SDGs, seven of the later having migration specific targets and all the health targets being pertinent in monitoring migrants' health and would require respective disaggregated monitoring. The 2016 UN Summit on Addressing Large Movements of Migrants and Refugees adopted the New York Declaration that contains bold commitments, with some specific references to the health needs of migrants and refugees. There is much, nevertheless, that remains to be done to ensure that the issue of migrant and refugee health is fully and securely inserted into the ensuing planned Global Compact to be adopted in 2018.

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## Refugees' and migrants' health: hands-on experiences

#### KERSCHBAUM Werner, ALREFAI Rabee

Nowadays, migrations of marginalized populations represent one of the most pressing issues in public health. 65.3 million people are forcibly displaced worldwide, there are 21.3 million refugees and 41% of all refugees around the world come from three countries, i.e. Syria (4.9 million), Afghanistan (2.7 million) and Somalia (1.1 million). By the end of 2015, the European Union has received 1.2 million first-time asylum claims while the vast majority of refugees (86%) continues to be hosted in developing countries. However, already the 1951 Refugee Convention states that refugees should enjoy access to health services equivalent to that of the host population, while everyone has the right under international law to the highest standards of physical and mental health. Accordingly, this presentation will focus on the experiences of Dr. Werner KERSCHBAUM, Secretary General from the Austrian Red Cross and Dr. Rabee ALREFAI, a doctor from Syria. The Red Cross offers assistance to refugees in countries of origin as well as countries of transit and destination. In Syria, the International Committee of the Red Cross (ICRC) and the Syrian Arab Red Crescent (SARC) together provide food for 4.7 million people, clean water for almost the entire population and health care for 32.000 displaced people. In the neighbouring countries of Syria, i.e. in Lebanon, Jordan, Iraq and Turkey, Red Cross Red Crescent volunteers are helping support thousands of people. Moreover, the Red Cross is active in countries of transit such as Greece. Here, accommodation centers for refugees are offered, e.g. in Northern Greece. Here, the Austrian Red Cross is responsible for the provision of water, sanitation and hygiene for 1.000 refugees. Moreover, there is a focus on strengthening self-help meaning that volunteering asylum seekers are trained as hygiene specialist and enabled to support other asylum seekers. Finally, the Austrian Red Cross is also active within Austria as a destination country for refugees and asylum seekers. In 2015 and 2016, around 900.000 refugees passed through Austria on their way to Germany and nearly 90.000 people applied for asylum in 2015. Examples of the work of the Austrian Red Cross include: food, water, shelter and health care for refugees in transit in 2015 initial medical check-up for asylum seekers after their arrival in Austria. "Basic Welfare Support" for 2.600 asylum seekers (accommodation, support access health system etc.) primary health care for irregular migrants: AMBERMED in Vienna and 3 similar services in other regions of Austria. After a brief introduction by Dr. Kerschbaum and the work of the (Austrian) Red Cross, he will interview Dr. Alrefai about the following issues: Where do you come from and how long have you been in Austria? How long did it take that your medical diploma was validated in Austria? How does your occupation as a doctor in Austria look like? (hospital or established doctor) What are the main clinical pictures of refugees / asylum seekers you are confronted with? If you had three wishes regarding migrants' health – what would they be? Afterwards, this interactive plenary presentation will close with some final reflections.

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## Contributions of HPH to meet health needs of refugees and migrants

### CHIARENZA Antonio

**Introduction and background** In 2015 more than a million refugees and migrants took their chance aboard unseaworthy boats in a desperate bid to reach Europe. The vast majority of those attempting this dangerous crossing are in need of international protection, fleeing from war, violence and persecution in their country of origin (source UNHCR). The enormous influx of migrants towards Europe has posed new challenges for health care providers. Countries have been affected differently, depending on whether they are arrival, transit or destination countries. Yet despite the differential exposure, the situation has proved similar: asylum seekers faced barriers to access adequate health services. Asylum seekers may face serious medical and psychological problems, yet they frequently do not receive the care they need because European health-care systems have still not adapted in order to respond adequately to the needs of these vulnerable groups. In this scenario in January 2016 the European project "Supporting health coordination, assessments, planning, access to health care and capacity building in Member States under particular migratory pressure" (SH-CAPAC) was launched in order to help European countries to face this challenging situation. The project received funding from CHAFEA within the European Union's Health Programme (2014-2020) and aimed at developing supportive frameworks and tools able to strengthen health systems' capacity in addressing the health needs of refugees, asylum seekers and other migrant populations. **Methods** As part of the SH-CAPAC project, the HPH-Task Force on Migrant Friendly and Culturally Competent Health Care (HPH-TF MFCCH) developed the "Resource package for ensuring access to health care of refugee, asylum seekers and other migrants in the European Union (EU) countries" aiming to address barriers to access to health care and to ensure continuity of care for these vulnerable populations throughout the migration journey: arrival, transit and destination. Specific objectives of this resource package are to provide: i) evidence on the new challenges for health services related to the current refugee crisis; ii) a framework and outline of steps for improving access to health care for refugees asylum seekers and other migrants; iii) evidenced tools and measures and other resources that can support member states addressing formal and informal barriers that hinder or limit access to health care for refugees and asylum seekers. In order to gather updated information on the new challenges for health professional and services related to the current refugee crisis and to identify gaps between barriers and solutions, a mixed method study was performed. Firstly, a series of interviews and focus groups were carried out in 10 EU countries connected to the HPH-TF MFCCH and secondly, on the base of the results of the interviews and focus groups, a systematic review (SR) was conducted to systematically collect, summarize and critically appraise the available evidence on access to health care services for asylum seekers and refugees. Studies were included in the review if they were: published in journals from January 2008 to July 2016, written in English, French, Italian, Spanish and Dutch. **Results** The analysis of the interviews and focus group provided indications on what should be included in a resource package and informed the search strategy of the SR. Results concerning evidence on barriers and solutions have been grouped into two categories: general barriers concerning access to healthcare services and barriers concerning access to specific healthcare services. The first

category provides evidence on legislative, administrative and bureaucratic barriers; linguistic and sociocultural barriers; organisational barriers and obstacles to ensuring equitable quality of care; lack of coordination between services; lack of information for health providers and difficulties in ensuring continuity of care; lack of information and education for refugees and asylum seekers. The second category provides evidence on barriers and solutions concerning mental health care, sexual and reproductive care, children and adolescent care, and care for victims of violence. **Conclusions** The results of the focus groups, interviews and literature review clearly show that a resource package containing tools and measures to improve access to health care for refugees and asylum seeker should be adapted at national/local level. The context in which health professionals and managers operate is different from one country to another and so is the situation for migrants. Information on available measures and resources useful to support access to health care should be integrated into the national and local means of communications and established network of cooperation. The proposed resource package is to be seen, therefore, as a support tool for the development and dissemination of measures at country/regional/local level, depending on its level of implementation. Furthermore, national governments should allocate funds to improve the support to those already working with asylum seekers and to develop plans to improve integration in society of asylum seekers.

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## Plenary 4: Contributions of health care to mitigating and adapting to climate change

### Building climate resilient health systems

#### VILLALOBOS PRATS Elena

WHO has been working on climate change and health for over 20 years now. Building the evidence on the health impacts of climate change was prioritized during early stages of work. In 2008 a resolution was passed and 2009 the first workplan on climate change and health was approved. Since then, the WHO work has been considerably scaled-up. The implementation of the first generation of projects on climate change facilitated the development of a comprehensive approach to build the resilience of health systems to the threats posed by climate variability and change. The proposed approach (i.e. operational framework for building climate resilient health systems) builds on the six building blocks of health systems and propose ten concrete recommendations that, when implemented, will contribute to ensure that either health systems or health programmes, become more resilient to climate change. WHO considers that health systems are resilient when these are “capable to anticipate, respond to, cope with, recover from and adapt to climate related shocks and stresses”. At the same time, resilience means that uninterrupted environmental inputs to sustain health operations are ensured at all times (e.g. energy, water and sanitation) while environmental impacts are assessed and minimized. Activities conducted in the health sector have associated environmental considerations, which if left unaddressed, can inadvertently affect health and well-being. For example, policies and practices in health care waste management can influence health worker and community exposure to infection. The incineration of health care wastes can also give rise to other environmental risks to health, such as air pollution and environmental releases of dioxins, persistent organic pollutants, and mercury. Measures aimed at “greening health care” therefore constitute an important demonstration of the health sector’s commitment to ensuring that the delivery of health care does not inadvertently cause harm. They also provide an important demonstration of the health sector’s commitment to sustainable development. Moreover, opportunities for health and health systems strengthening may arise where “greening” measures facilitate an alignment of interests across SDG goals, for example where efforts to promote enhanced access to access to water and sanitation (SDG6) or sustainable energy (SDG7) include health care facilities as a priority area of focus.

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## Climate change and healthcare systems: A reciprocal relationship with risks and opportunities

#### HAAS Willi

The global omnipresence, teleconnectedness, and economic intensity of contemporary human activity are historically unprecedented, as are a multitude of consequent environmental and social changes. Climate change, one of the changes, fundamentally threatens human health, and the functioning of both health care and public health activities at all levels of scale. Causal pathways can be direct, indirect or very diffuse, in all cases complicated by their interrelations with other changes like aging, urbanization, economic crises, global and national power relations. Climate change impacts are more severe in the global South but even Austria, land locked and mountainous, risks increased death tolls due to heat waves in summer. Estimates for Austria forecast an excess mortality of roughly 600-3,000 deaths for the 2050s. Amongst indirect health effects, effective programs to reduce Salmonellosis cases probably would be curbed due to climate change. Further, climate change-triggered spread of Ragweed, a potent source of allergens, will consequently enhance allergy. And how climate change impacts elsewhere might reinforce migration and related new disease patterns challenging our health system remains almost unfathomable. Present climate change is human induced, mainly by the global North, which has overconsumed excessively its share of the carbon budget available for a safe future. Among the responsible sectors, growing health care is one driver. US studies for example show that direct and indirect emissions of health care activities contributed 8% of total US GHG emissions in 2007 and 10% in 2013. Ironically, health care systems contribute to climate change, in turn threatening the very same human health they are reproducing. This calls for a fundamental re-thinking of health care. Consequent alignment of hospitals to health promotion strategies would be a major step forward to gain co-benefits for health and climate. My talk will focus on this reciprocal relationship.

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## HPH & Environment: Achievements and contributions of the HPH Task Force

#### LIN Chin-Lon

Hurricanes, floods, heat waves, droughts around the world affecting thousands of people have lost their lives; suffering food shortages and outbreak diseases are feared. This accord forestalling is widely acknowledged as the greatest public health threat this century. It has increasingly clear that climate change is not just about polar bears or endangered species but also a growing burden of disease and reversing climate change would protect and promote population health and well-being. Task Force on HPH and Environment has established as a means to



facilitate, to mobilize, and to build multi-sector partnership formation in order to advocate climate solutions and healthcare leadership to combat climate change, also a greater focus on disaster prevention and preparedness, as opposed to response and recovery. This presentation examines environmental friendly health care trends and the development of resilience hospital focusing on the importance of creating healthy settings as an effective and sustainable strategy. It starts with a brief overview of the development and aims of the task force; then explains the needs for the urgent call; illustrate the existing efforts all around the world with shining case examples. The final part discusses issues and gaps concerning HPH global strategies and provides recommendations for its future development. Website: <http://www.hph-greenhospital.org>

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## Session O1.1: Past achievements and future challenges for HPH

### Resilience of the HPH network during the reform

**AGUZZOLI Cristina, GIACOMINI Luisa, TROLESE Paola, BALESTRA Stefano, CHANNOUFI Lamia, DI CACCAMO Serena, DI PRIMA Giovanni, TENZE Maja, RUSSIAN Stefano, DUDINE Luisa, BEACCO Virginio, DODI Barbara, FAIT Maria, PORTOLAN Patrizia, CICCONE Luciano, ZORATTI Raffaele**

#### Introduction

The members of the HPH Friuli Venezia Giulia Network are going through a high level of complexity in their mission especially during regional health reform (ongoing). Some of them are hospitals with health services, others are university hospitals or center for research in paediatrics, rehabilitation, assistance to the elderly, social engineering enterprise. The different care targets make very inhomogeneous the network contacts. It is complex to find a common denominator in order to work together.

#### Purpose/Methods

We need a common topic to rebuild the identity of the network; design the link between the new mission of the members and HPH strategy. For each of the member of HPH network the priority is "to take care of who take care". The HPH Local Committees coordinate the work line of healthy workplace with the path of the risk assessment (DL 81/2008), in a logic of mutual exchange of information, while preserving different methods and approaches, one of empowerment, the other of surveillance. In this context we shared the use of the 5-variable model including the standards HPH: a quick self-assessment of the resilience at the workplace.

#### Results

The updating of the HPH Tools Network, pushed the growth of the spirit of the team. We are going to share guidelines on management of employees with a particular approach towards wellbeing and lifestyles.

#### Conclusions

As Regional Coordination Center we need to rebuild our guidelines. The fragility of the network is the application of Standard 1. This is also highlighted by the analysis of resilience at the workplace. At the moment we are working to give strength to the network starting from the national level. In December in Rome will be held the Conference where we will discuss these issues and alliances with the National Institute of Health and the Italian LifeStyle Medicine.

#### Comments

It is necessary to conduct a strategy of surveys of health needs and welfare of the employees that mix the skills linked with resilience of employees and the mission of Health service.

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### The action plan to implement the strategic lines of the HPH in the Catalan Healthcare organizations

**INIESTA Cristina, SANTIÑÀ Manel, SIMON Rosa Maria, BRIANSO Maria, FERRET Anna, JUVINYA Dolors, PEREZ Anna Carol, RAMON Isabel, SERRA Marisa**

#### Introduction

Develop the strategic lines of the HPH is the base to implement in the healthcare organization the health promotion activities and achieve positive results in the clinical health promotion. The objective of this communication is to present the action plan methodology that we are introducing in the different healthcare organizations, members of the HPH Catalan Network

#### Purpose/Methods

Working with the different stakeholders, as the Health Department of the Catalonia Government. - Introducing health promotion objectives into the different Population Management Plans as Oncology or Stroke that help the healthcare organizations in their work in this area. - Creating working groups of intervention in health promotion (WGIHP) in the healthcare organizations that act as a driving force of the health promotion activities. The WGIHP should be lead by a clinician and should be composed of different health professionals, clinicians, nurses and others.

#### Results

We will present the situation on the first step of the development of the action plan: - Asset map available in the HPH Catalan Network - Situation of the Health Promotion in the Population Management Plans of the Health Department of the Catalan Government - Incorporating in the clinicians guidelines the best evidence of the clinician health promotion. - Development of the WGIHP

#### Conclusions

The Catalan Health Service have different Population Management Plans focused on treatment of acute and chronic disease. This new approach incorporating clinical health promotion could be an important advance to improve the clinicians results and improve the health of the population. The HPH Catalan Network is working towards achieving a better health organizational model with the incorporation of health promotion activities. We want to promote the improvement of people's knowledge about their health, improving health literacy and incorporating patients and relatives in the health promotion activities.

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## The development of the Swedish HPH network 1996 – 2016: From single hospitals to all health services and from projects to systematic learning.

**KRISTENSON Margareta, KARLSSON Lovisa**

### Introduction

Linköping University hospital was one of 20 participants in the European Pilot Hospital Project 1993-1996. After the pilot period Linköping holds the Coordinating Center of the Swedish HPH network, launched in 1996. This presentation shall describe the development over 20 years, strategies used and lessons learned.

### Purpose/Methods

The network works on implementation of the HPH-concept in four perspectives, patients, own personnel, the population served and management for health orientation. Early experiences from projects based work showed the need of structures for systematic learning. The development shall be described using taxonomy by RURU (the Research Unit for Research Utilisation)

### Results

From the start in 1996 with 7 hospitals the network has steadily grown. After realizing the need of including purchasers, members comprise county councils (with hospitals and primary care). Since 2016 all county councils in Sweden, and two private care givers, are members. The quantitative growth of members is mainly an effect of diffusion ("let it happen"), where interested organizations have searched contacts. The qualitative development has used strategies for dissemination ("make it happen"). These include social influence (including highest management levels), facilitating activities (today 11 active task forces, networks of process leaders and a vivid homepage), reinforcement, (yearly assessment of HPH indicators, and peer learning) and strategies for collaboration (internal in conferences/workshops and external with other national actors), where the decision, 2002, on a national target for health promoting health services has been of great value.

### Conclusions

The Swedish HPH network has developed from single hospitals to embracing all Swedish health service and from projects to systematic learning. These developments have acted in concert as main reasons for becoming a member lies in the perceived value for the organizations.

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## Health Promoting Hospitals in Iran : A review of research and experience in one decade

**VAZIRI Mohammad-Hossein, KESHAVARZ MOHAMMADI Nastaran, RAMEZANKHANI Ali, KAVOUSI Amir, OLIAEI MANESH Aliraza**

### Introduction

The idea of health promoting hospitals is not new worldwide, but it has been introduced in Iran only recently. This paper reviews the research and experiences on health promoting hospitals concepts in one decade of its diffusion in Iran.

### Purpose/Methods

The related papers, reports, thesis regarding health promoting hospitals in Iran which has ever been published was searched utilizing search engines and databases including the electronic database of Iran Medex, SID, MagIran, Med Lib, Pubmed, Web of Science, Scopus in both language of Farsi and English was searched.

### Results

Total 10 papers, six in Farsi and four in English were identified. All of the papers described the situation of studied hospitals or key stakeholders regarding health promoting hospitals. No paper regarding the implementation of health promoting hospitals were found. However some of the standards of HPH already are in place in studied hospitals but there is important diversity in terms of readiness to become a HPH.

### Conclusions

Overall, it seems that Iran is ready to embrace the concept of HPH both among health professionals, hospitals and even the ministry of health. However, considering the important role of the cultural and organizational context and even the health systems in implementation of HPH, there is a great need to develop implementation and evaluation tools and frameworks for HPH which takes into account the local needs and conditions.

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## 1-year implementation model improves standard compliance in clinical health promotion

**SVANE Jeff Kirk, TØNNESEN Hanne**

### Introduction

Worldwide, several implementation programs, models and strategies are used by hospitals to improve performance. These include an array of quality management initiatives, accreditations and certifications. Evidence to support the effect, however, remains sparse. In clinical health promotion (CHP), patient-level interventions can improve treatment results, safety and quality of care. However, evidence on addition of CHP to quality management is lacking. This study (The WHO-HPH Recognition Project) evaluates a fast-track implementation model for CHP with the aim of testing the models effectiveness.

**Purpose/Methods**

48 clinical hospital departments from 11 countries were randomized to either using the implementation model or continuing usual routines. The departments documented standards compliance and CHP performance using validated tools and made a quality plan. The plan was implemented over 1 year and follow-up status was measured. The control group departments waited 1 year following their allocation, at which point they measured their baseline status. Comparisons were made in order to determine effect of 1 year use (one cycle) of the implementation model.

**Results**

33 departments delivered data. The overall standards compliance of the intervention group was significantly higher - and specifically, patient information and intervention was improved. Results on health gains and frequency of service delivery from the multi-centre RCT will be published in 2017.

**Conclusions**

The 1-year implementation model improves overall standard compliance in clinical health promotion - and specifically, in the area of patient information and intervention. It is now of key priority to quantify improvements in actual service delivery and health gain, which may potentially also take place as a result of using the fast-track model. The results on health gains and frequency of service delivery from the multi-centre RCT will be published in 2017.

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## Session O1.2: Sustainable health care

### “EcoBuy Vienna” procures good indoor air quality

#### GRIMBURG Michael

**Introduction**

To ensure healthy lives and promote well-being for all at all ages (SDG Nr. 3) the air quality is crucial. As we spend 90 % indoors it is essential to avoid and reduce harmful substances emitted by construction materials used in interiors. If we only obey the laws and directives controlling the quality of building materials we cannot be sure to achieve a satisfying indoor air Quality.

**Purpose/Methods**

The GPP Programme "EcoBuy Vienna" sets criteria for the procurement of chemicals and building materials to avoid: CMR-substances (carcinogenic, mutagenic or toxic for reproduction); heavy metals; formaldehyde; biocides; VOC and SVOC (Semi Volatile Organic Compounds). Measurements have shown that 90 % of common hazardous emissions can be avoided easily.

**Results**

Purchasing healthy, ecological materials is very effective, although it is not more expensive than buying more familiar

products. However, the process is more complex, especially when checking the products offered against the ecological criteria. So everyone who is responsible for (interior) construction should take care to minimise emissions of hazardous substances. We who work for the GPP programmes have to provide the best support to tender with regard to the ecological criteria easily, without getting problems with procurement law.

**Conclusions**

One aim of GPP programmes is to change the market, providing better products to the benefit of all of us. Therefore it is necessary to harmonise ecological criteria, because the producers do not want to make different products for different GPP programmes: The initiative “ÖkoBau Kriterien” has harmonised criteria, which are used from many different communities also hospital associations.

**Comments**

Tools have been developed to help purchasers, suppliers and site foremen to use healthier materials. A cooperation with a database which lists products, which meet the ecological criteria, makes it easily possible for everyone, even private builders, to find and use sustainable healthy building materials for free in the net.

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## Promoting sustainable health care through health humanities and organizational health

#### ORVIK Arne, CRAWFORD Paul

**Introduction**

Health care organizations can be supportive settings that achieve health promotion and sustainability in terms of workforce integrity and wellbeing. However, New Public Management continues to focus predominantly on economic values at the expense of work health problems which are on the increase. There is a clear and urgent need to consider how health care organizations can reorient to a more humanistic and health promoting culture of work. This requires a critical examination of the institutional logics and values that drive organizational activities in health care. Potentially, the health humanities and organizational health can broaden the horizon of work health promotion in this context.

**Purpose/Methods**

This conceptual paper discusses how a framework of health humanities and organizational health can be a starting point for promoting sustainable work health in the field of health care. The analysis combines inductive, deductive and abductive reasoning, informed by postmodern hermeneutics.

**Results**

Health humanities and organizational health have the potential for enabling health care organisations to cope with value tensions in a sustainable way. Based on institutional and cultural

theories, empirical findings and core ideas of public health, five dimensions of organizational health emerge.

#### Conclusions

Integrative dimensions of organizational health can balance human and economic values, but also blur value tensions and competing logics. Disintegrative dimensions keep up tensions between human and economic values and thus can be more sustainable.

#### Comments

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## Improving the Quality of Health Care In one Specialized Public Hospital in Shanghai

**ZHANG Xiaobo, XIA Ging, XU Hong**

#### Introduction

Improving and sustaining the quality of hospital care is an international challenge. With the transition of the medical mode from biomedicine to bio-psycho-social medical model, the conception of the quality of health care had changed from traditional to a variety of modern medical service quality. How to continuously improve and improve the quality of medical service has become an international challenge in the continuous medical service.

#### Purpose/Methods

The Children's Hospital of Fudan University in Shanghai started up the project of "Focus on Medical Treatment Experience in Children" in 2013. Medical staff should implement some initiatives, and launch "listening window", "brave dragons" election, top ten 'mini' process, pediatric media platform construction etc., and concern with patient experience, and promote interaction. In 2016, the project will achieve further advancement and carry on effect evaluation.

#### Results

Improve the quality of care actually as well as enhance satisfaction of the doctor and patient.

#### Conclusions

There are so many ways to improve the quality of health care. Not only put the focus on the experience of patients but also on medical staff, the two complement each other.

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## Session O1.3: Smoke-free health care

### The difficulties and solutions of adaptation new ENSH-Global Self- Audit Tool in Taiwanese tobacco- free hospitals

**HUANG Hui-Ting, LIN Jin-Ding, HWANG  
Lee-Ching, WANG Chia-Fen, LO Shu-Ying,  
LIN Chia-Chen, SHIH Yu-An**

#### Introduction

Since Taiwan became a member of ENSH-Global Network for Tobacco Free Health Care Services in 2011, all hospitals in Taiwan were encouraged to participate and a total of 210 hospitals received recognition so far. In line with ENSH-Global amended the standards in early 2016, this research investigate the degree of difficulty and achievement rate of the new standards.

#### Purpose/Methods

We analyzed the data of Tobacco-free hospital onsite visit scores and satisfaction survey of 23 hospitals. Prior to formal assessment, we conducted pilot test in different level of hospitals. Field visit scores and satisfaction survey data were analyzed using Excel as tool. The response rate is up to 100%. This study aims to analysis (1) average score and achievement rate of new self-audit tool (2) comparison of the degree of difficulty and accomplishment rate in different hospitals.

#### Results

Standard 1: Governance and Commitment had the highest achievement rate of 93%, Standard 4 (Identification, Diagnosis and Tobacco Cessation Support), standards 7 (Community Engagement) and 8 (Monitoring and Evaluation) has the lowest achievement rate (76%, 76% and 72% respectively). The certification bodies considered the most difficult part as standard 4 and standards 8. The achievement rate of these two standards were lower than 80%, which means the degree of difficulty in certification is inversely proportional to the achievement rate.

#### Conclusions

Through the evaluation and site visit process can understand the difficulties of application the new version of ENSH-Global self-audit tool. An International conference was held to invite ENSH-Global experts to deliver a keynote speech and invite model tobacco-free hospitals to share the specific practice of achieving the lower score standard. Hopefully, hospitals can learn by observing each other and practice ENSH eight standards in policy and practical aspects.

#### Comments

This study will further analyze the sub-criteria for achieving lower rates and their causes and develop improvement measures.

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## How to promote Smoke-free Hospital with the concept of Ecosystem : A Taiwan's Experience

**HSUEH Kuang-Chieh, YU Shan-Sian, LIN Jin-Ding, PAN Lee-Fei, LIN Chia-Chen, CHENG Jin-Shiung, JENG Shaw-Yeu, LIU Chun-Peng**

### Introduction

Cigarette smoking is the most important preventable cause to public health in the world. More than 6 million people died from smoking-related diseases per year. Smoke-Free hospital is the most appropriate campus to provide stop smoking services (smoking cessation clinic, consultation, group therapy) and smoking-free environment but which is not an easy task. Implement smoke-free hospital in an ecosystem concept maybe a brand new way to attain the highest level of achievement.

### Purpose/Methods

Briefly, Ecosystems are the network of interactions among organisms and their environment, they can be of any size and some scientists say that the entire planet is an ecosystem. The energy that flows through ecosystems and species diversity can stabilize ecosystem function. In that way, take smoke-free hospital as an ecosystem, the more kinds of smoking cessation services you can provide will make the system more stable and powerful.

### Results

Our hospital implemented electronic refer system for recognizing smokers, passive smokers, electronic cigarettes users and quitters, provided comprehensive smoking cessation services including smoking cessation consultation, clinical including medicine supportive, and group therapy for them. We also provided smoking cessation group therapy for community people, above 130 groups in recently 10 years and smoking cessation clinical in workplace for 4 companies in recently 2 years. Finally, we also promote our smoking cessation service to Vietnam and Cambodia.

### Conclusions

In our experience, the more smoking cessation services you can provide, it will be more easier to promote smoke-free hospital policy. As a result, the good and health flow effectively between everyone just like energy flows through all ecosystems. Look different kinds of smoking cessation services as species in ecosystem, more kinds of services will make your smoke-free system more powerful and stable. Services can also connect to each other and spread energy far away than your anticipation.

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## Education and Training Program in Tobacco Cessation Counseling and Treatment - Example for a good

## Model ENSH - Global Member Cooperation Austria & Switzerland

**KOALICK Susann, KURAT Claudia, GOLL Wolfgang, PICKL Edith**

### Introduction

This training program in smoking cessation treatment and counseling was created according to international standards, guidelines and best-practice. The training was developed in 2010/2011 as a training program for health care professionals, which offers a uniform approach in smoking counseling and cessation on behalf of the main association of the Austrian social insurance funds. Since 2012, these trainings have been carried out successfully Austrian-wide. Since 2015 this training series has also been successfully implemented in ENSH-Switzerland (FTGS)

### Purpose/Methods

This training program is structured into six modules, which can be completed independently from each other. The modular design allows the participants to choose the most suitable subjects according to their previous knowledge and needs. The consultants are experts from Austria and Switzerland with extensive experience in the field of smoking cessation. The seminar focuses on a practice-based instruction of the seminar contents. All interventions, techniques and materials are practiced through numerous cases and examples.

### Results

This program has been successfully completed 8 times in Austria. (2012-2016) So far, 120 participants have obtained the diploma for smoking cessation counseling. So far, 141 participants have received the diploma for smoking cessation treatment according to the quality standard of the Austrian social insurance funds. In ENSH Switzerland are 50 persons trained in 2015 / 2016. With this training, a comprehensive training course for all health care professions exists in Switzerland. The Network ENSH - Global ([www.ensh.eu](http://www.ensh.eu)) promotes cooperation and exchange of ENSH global members. This presentation will share outcomes and examples from the ENSH - Global cooperation of Austria & Switzerland in Education and Training.

### Conclusions

This successful training program will continue in cooperation. Results and experience can be shared with other interested persons. The cooperation strengthens the quality and availability of the training program. That well training professionals initiate the development of necessary cessation services in their own healthcare service.

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## Health professional and consumer perceptions of nicotine replacement therapy (NRT) for smoking cessation



## DEAN Emma, CORBEN Kirstan, DOOLEY Michael, WAY Andrew

### Introduction

Despite the significant decline in smoking rates in Victoria over recent decades, smoking remains a leading preventable cause of death and disease.

### Purpose/Methods

Alfred Health, a major metropolitan health service, has recently undertaken research into the use of NRT for smoking cessation, focusing on the relevant structural and policy drivers including Therapeutic Goods Administration (TGA) and clinical practice guidelines. The project included consultation with 79 health professionals to understand the extent to which their clinical practice was informed by TGA approved indications and clinical practice guidelines for NRT use. Conferencing with 87 consumers was designed to understand their experiences with smoking cessation and the use of NRT.

### Results

Health professionals reported significant variability in alignment of their real world clinical practice with TGA indications and current clinical practice guidelines; 87% supported TGA indications being extended, including higher doses, combination therapy and longer durations of therapy. Clinical guidelines are very important in informing health professional practice; 85% support the development of new guidelines that reflect best available evidence. Consumers expressed varied perspectives of and experiences with NRT; they reported their use of NRT was heavily influenced by product labelling and information leaflets which are based on TGA indications.

### Conclusions

Opportunities exist to improve the effectiveness of consumer use of NRT, including advocacy to change TGA indications and develop clinical practice guidelines that reflect best available evidence. Practice improvement in the area of smoking cessation is likely to prompt more people who smoke to attempt to quit, and also to increase the effectiveness of those attempts.

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## Clinical setting based smoking cessation program and the quality of life in people living with HIV

### GRABOVAC Igor, DORNER Thomas Ernst

#### Introduction

In Austria and Germany there is a striking disparity in smoking prevalence of people living with HIV (PLWHIV) and the general public, where the prevalence of smoking in PLWHIV is almost double. Smoking influences many aspects of health in PLWHIV and has a deteriorating impact on quality of life (QoL). A survey for QoL in PLWHIV before and after a smoking cessation program has not been conducted in these countries.

#### Purpose/Methods

Using a multicentre cross-sectional design participants were approached during regular visits to their HIV treatment outpatient clinic and asked to aid by filling out a questionnaire consisting of sociodemographic and general health data and the WHOQOL-HIV-Bref.

#### Results

Overall 447 (Mean age=45.5) participants took part with 221 classified as smokers. A total of 165 (74.6%) participants received a short intervention about the benefits of smoking cessation and 63 (28.5%) agreed to participate in the full 5 session program. At baseline, differences in QoL have been observed, where smokers had lower QoL in domains of physical (M=16.1 v. 15.3; p=0.009) and psychological (M=15.3 v. 14.6; p=0.021) wellbeing, independency level (16.1 v. 15.2; p=0.003) and environment (16.5 v.16.0; p=0.036). Eight months after baseline, 27 (12.2%) participants have quit smoking; 12 (19.0%) program participants and 15 (14.7%) that received a short intervention. There were no significant differences in QoL between smokers and non-smokers at follow-up.

#### Conclusions

QoL results may be used to better understand the underlying motivation of PLWHIV who start cessation programs. In order to reduce the steep prevalence and health burden that smoking causes in PLWHIV it is necessary to introduce effective interventions that can be used in the clinical setting, while keeping in mind the heterogeneity of the PLWHIV population.

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## The Gold Standard Program for Smoking Cessation: Effectiveness in smokers with and without mental disorders

### RASMUSSEN Mette, KLINGE Mads, TØNNESEN Hanne

#### Introduction

Psychiatric patients have severely increased pre-mortality. The smoking prevalence is high in this vulnerable group, and smoking is an important factor in the 15–20-year reduced life expectancy in psychiatric patients. In contrast, smoking cessation would improve physical and mental health, reduce morbidity, and contribute to longevity. The question is how well smoking cessation intervention works in patients diagnosed with mental illness? The standard smoking cessation treatment in Denmark is the Gold Standard Program (GSP), a comprehensive 6 weeks program with pharmaceutical support and patient education. The GSP has proven highly effective in the general public, but the effectiveness in real life remains unknown for subgroups such as psychiatric patients. Our aim is to estimate the effectiveness of the GSP in smokers with mental disorders. Our main hypothesis is that patients receiving the GSP treatment who have a diagnosis of a psychiatric disorder are less likely to stay smoke-free after six months compared with non-psychiatric smokers receiving the program.

**Purpose/Methods**

This is a prospective cohort study based on data from the smoking cessation database, the National Patient Register and the Danish Psychiatric Central Research Register. The analyses will be made using a mixed-effect logistic regression model adjusted for selected prognostic factors.

**Results**

The analyses are ongoing and the results will be presented at the conference.

**Conclusions**

This project will provide new insight about smoking cessation intervention for patients with mental illness.

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## Session O1.4: Health promoting workplace

### The 'Everest Challenge': An intervention program to promote stairs climbing in a hospital setting

**BRONNER Karen****Introduction**

Regular physical activity is universally recognized by medical and public health authorities as a vital instrument for chronic disease prevention. Previous studies have highlighted the health benefits of stair climbing for cardiovascular fitness, muscle tone improvement, weight loss and stress reduction. Since most medical centers are located in high buildings, promoting the use of stairs for moving around the hospital can be easily integrated into daily practice

**Purpose/Methods**

The use of stairs over elevators was encouraged among medical personnel and hospital visitors using smart point-of-decision multi-language signs, creative design of elevators and appealing staircases, a marketing campaign and gamification of an organizational virtual climbing competition to the Everest summit. A smart phone application monitored the use of stairs.

**Results**

During the two-month challenge period, approximately 35,000 journeys were performed, meaning that more than 4,580,000 stairs were ascended and descended. This translated into an organizational energy expenditure of 450,000 calories. Testimonials of hospital employees revealed that the Everest Challenge was an effective strategy to foster stair usage and engagement in leisure-time physical activity

**Conclusions**

A multi-channel, creative and innovative intervention program based on smart point-of-decision prompts, e-monitoring, vivid prolonged competition, environmental design and marketing

communication is needed to change habitual behavior and to encourage individuals to prefer the stairs over elevators in a medical center setting.

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## Creating organizational readiness for Workplace Health Promotion: A Best Practice approach

### NOEHAMMER Elisabeth, STUMMER Harald, DREXEL Michaela

**Introduction**

Introducing Workplace Health Promotion (WHP) is voluntary for the organization, and using the program elements is non-mandatory for the employees. This reduces both the likelihood of WHP being implemented and then used.

**Purpose/Methods**

The aim of the project in an Austrian hospital was to combine existing internal data (employee satisfaction, work-family-conflict assessment, patient satisfaction, workplace assessment) and a survey based on new legislation regarding mental health to create (a) organizational awareness and (b) readiness for implementing WHP and to (c) promote the uptake of the subsequent activities by the staff.

**Results**

We found that by integrating the requirements of the new legislation in existing data collection mechanisms, basing WHP suggestions on a broad basis of evidence increased acceptance on all hierarchical levels, program design went smoothly and even succeeded in receiving national funding.

**Conclusions**

Creating organizational awareness and readiness for WHP is simplified by integrating preparatory action in established processes. A broad data base allows designing tailored activities for general and specific needs.

**Comments**

Process management can then be used to integrate health goals and measures in all procedures.

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## Reasons and Pitfalls for Workplace Health Promotion in Austrian Hospitals

### GAHLEITNER Christa, NOEHAMMER Elisabeth, STUMMER Harald



### Introduction

Workplace health promotion (WHP) is an approach simultaneously benefitting company, employees and the health system. However, Austrian hospitals seem to be reluctant to implement it holistically (Schaffenrath-Resi et al. 2010).

### Purpose/Methods

The aim of this study was to analyze the reasons for implementing WHP in Austrian hospitals and those reported for failure. All Austrian hospitals except the 7 military ones, single entities for chronically ill integrated in regional hospitals and one without an e-mail address were contacted electronically. Those not declining participation (22) received a link to a mainly quantitative online questionnaire with 110 items based on Schaffenrath-Resi et al. (2010), leading to N = 242. Data collection lasted from 03-05/2015, the return rate was 27%.

### Results

WHP is mainly implemented to increase employee health awareness, reduce sick days, and strengthen employee health, motivation, and productivity. Below 5% say the goal is improved recruiting options and market chances. The main reasons why WHP efforts failed are believed to be lack of time on the employee's side, unclear responsibilities, lack of employee interest, having no contact person, and lack of knowledge about WHP. Only 9.3% believe it is lack of management interest, below 5% lack of money, and below 3% lack of time of management.

### Conclusions

The classical goals of WHP are pursued, strikingly also health awareness in a healthcare context. In case of failure, a combination of organizational and individual reasons is stated as cause.

### Comments

The relationships between goals and responsibilities and thus also failure in the context of WHP need to be clarified.

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## Promoting health organization and safety: The instrument and the role of the briefing in a multi-disciplinary internal medicine ward

**BAGNULO Alberto, FRANCHI Luigi, BACH JENSEN Jan Guido, MACCABRUNI Valeria, GAIONI Claudia, CHIARENZA Antonio**

### Introduction

The briefing was validated, especially in the areas of Surgery and Anesthesia, as a tool related to positive outcomes. We report the results, first of all in terms of workplace health promotion and safety, of five years of systematic use of the daily briefing in a ward of Internal Medicine with 46 beds

### Purpose/Methods

After introduction of briefing semi-structured, in particular for the part of safety, on HEADS-UP (Hospital Significant Event Analysis Describing Unanticipated Problems) model, we have monitored the effects on major outcomes. Analysis tools are provided by the Quality/Clinical Governance Office, while for the assessment of organizational well-being, we used the questionnaire approved by ANAC (National Anti-Corruption Authority). Briefing is attended by the director, 4 physicians dedicated to hospitalization, nursing coordinator and nurse of long-term care section

### Results

At 5 years from the start of the experiment: reducing of average length of hospitalization for acute admissions (from 10.5gg to 6.4gg), improved protected discharges (from 60 to 100%), reducing re-admissions within 30 days, improved prescription appropriateness, awareness of health workers on reporting adverse events, "team work and safety" climate. Relatively to items of the questionnaire on organizational health: significant improvements, on the Likert scale, for items such as equity, professional development, environment/sense of belonging, performance and system operation

### Conclusions

The daily semi-structured briefing, pre-visit to patients, can help, in the medium to long term, to optimize the verification/performance improvement process and to improve the workplace climate and health promotion as well as operational safety within the Equipe of an Internal Medicine Ward

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## The Diagnostic Pathology in Slovakia

**BENCAT Marian, RAJCANI Julius, LEDNICKY Peter**

### Introduction

Slovakia is one of post-communist countries in middle Europe with a previous democratic history (from 1918 to 1939) looking back to ancient historic background from century 9. The public healthcare underwent profound changes in last decades.

### Purpose/Methods

The recent definition of pathology as determined by the legislature in Slovakia from 2004, which deals with biopsy (surgical pathology) and cytology embracing special techniques. It should be stressed that necropsy (autopsy) is not a part a pathology as defined by new legislature being organized by the state Office for the Control of Healthcare under leadership of Ministry of Health.

### Results

The Pathology Departments are organized either in the framework of medical faculties or belong to private diagnostic companies such as Alpha medical. The latter includes several laboratory branches (biochemistry, microbiology, genetics, immunology and molecular biology). It has 5 working sites for pathology with a total of 180 employees including 40 medical

doctors. This staff is able to handle 65,000 biopsy samples annually, resulting into 400,000 slides (basic HE stain), 170,000 slides stained by immunohistochemical methods, 130,000 slides stained by histochemical techniques, as many as 28,500 immunofluorescence tests (determination of autoantibodies), over 200,000 cytology slides including 5,000 LBC specimens. The recent applied research at the Pathology Diagnostic Center in Martin encountered 1 book (published in 2013), 2 chapters in books, 12 papers in scientific journals and 3 papers for the I-Med portal. The Pathology Center Ltd of Alpha medical in Martin is, in addition, the workplace of the Slovak Health University (SHU) for postgraduate training of pathologists.

### Conclusions

The healthcare, which for over 40 years had been accomplished from the state budget, is recently financed either from the health insurance or by the state and regional authorities. We report here the activities of diagnostic pathology at the Alpha medical Company.

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## Session O1.5: Promoting health in the community

### Caring the Community Residents through Traditional Chinese Medicine, Experiences of a Rural Area in Southern Taiwan

**JUAN Ying-Hsu, YEH Chia-Chou, YEH Ming-Hsien, LIN Ming-Nan**

#### Introduction

Traditional Chinese medicine (TCM) includes herb medicine, acupuncture, moxibustion and massage. TCM therapy is more popular in rural area of Taiwan compared to western medicine and has been approved to be helpful for pain control and symptoms relief. Rural area in southern Taiwan has little medical resources. People there was with low health literacy, relatively aged and less educated population. The infrastructure such as transportation was poor. Out-reach programs for delivering the services familiar to the people from the hospital play a important part in caring the health of them.

#### Purpose/Methods

Together with family medicine department, the department of chinese medicine in Dalin Tzu Chi hospital provided out-reach health screening, health counseling and TCM therapy for people in rural area of southern Taiwan. By emphasizing the Chinese Medicine services they were familiar, we successfully implemented screening and counselling activities in 24 recycling stations and . Referring services were also provided if further examinations and management were needed after the screening.

### Results

2040 person-time of Chinese Medicine were served in 102 sessions from the year 2015 till now. 80 sessions of community screening served about 4000 persons during the two years. The satisfaction of people served was very high.

### Conclusions

We are glad to help people to get appropriate medical treatment. Our doctors became good friends with people we helped. The relationship between the patients and the doctors get tightly even more like a family relationship. With health screening, we found some people had diseases which had to be treated positively, like hyperlipidemia, hypertension or diabetes mellitus. We sincerely hope we can help everyone who is really in need.

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## Application of multi-sectoral action for non-communicable diseases prevention policy formulation in Nigeria

**OLADEPO Oladimeji, OLUWASANU Mojisola, ABIONA Opeyemi**

#### Introduction

The modifiable risk factors for Non-communicable diseases (NCDs), mainly cardiovascular diseases, cancers, chronic respiratory diseases and diabetes are influenced by the underlying social determinants of health. Effective NCDs prevention and control interventions require a coordinated multi-stakeholder engagement. However; there is little evidence on the use of multi-sectoral action (MSA) for NCDs prevention policy formulation in low- and middle-income countries. This study is an appraisal of MSA in policy formulation for NCD prevention and control in Nigeria.

#### Purpose/Methods

A descriptive case study design guided by the policy analysis framework of Walt and Gilson was used. A mixed methods approach encompassing desk review of 43 NCDs related documents (policies/acts/articles/reports/media publication) focusing on MSA use in formulating policies on four NCD modifiable risk factors (tobacco use, harmful alcohol use, unhealthy diets and insufficient physical activity) and conduct of 44 key informant interviews with policy makers were used. Data was integrated and analysed using NVIVO version 10.

#### Results

The extent of MSA in NCD policy formulation process for all the risk factors is low except for Tobacco. Barriers to the use of MSA included poor understanding of the principles of MSA and its operationalisation, conflict of interest among sectors, limited timing and overdependence on external donor organisations to fund the process. Others include tussles between ministries on the sectors to lead the process and challenges of consensus building. Facilitators to MSA included political commitment to the process and information sharing among the stakeholders.

### Conclusions

The potential challenges of MSA use in policy formulation underscores the need for policy bureaucrats to be equipped with MSA knowledge and skills (use of dialogue, consensus and group dynamics) to achieve the common goal.

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## Extent of adoption of the WHO Best buys intervention for non-communicable diseases prevention policy formulation in Nigeria

**OLUWASANU Mojisola, ABIONA Opeyemi, OLADEPO Oladimeji**

### Introduction

Non-communicable diseases (NCDs) mainly cardiovascular diseases, cancers, chronic respiratory diseases and diabetes are threats to human health and development and prevention remains a key approach for reducing its occurrence. The World Health Organisation emphasizes the “Best Buys” intervention as evidence-based options for addressing NCDs and countries are expected to integrate them into policies. Nigeria, has developed some NCD policies however; there is a dearth of information on the extent of integration of the “Best Buy Interventions”. This study addresses the information gap.

### Purpose/Methods

The study adopted a descriptive case study design guided by the policy analysis framework of Walt and Gilson. A mixed methods approach comprising desk review of 43 NCDs related documents on best buy interventions for the four major NCDs modifiable risk factors – tobacco use, harmful alcohol use, unhealthy diets and insufficient physical activity and key Informant interviews with 44 policy makers was adopted for the study. Data was integrated and analysed using NVIVO version 10.

### Results

Tobacco use is the only modifiable risk factor with the most comprehensive set of best buy interventions. Harmful use of alcohol has no comprehensive policy and only one of the best buy interventions- restricted access to alcohol, exist in the policies. Policies to promote healthy diet incorporate all the best buy interventions but there are no acts to regulate the activities of the food industry in respect of salt and trans-fat content of manufactured foods. In addition, the “best buy” intervention for physical activity is not integrated in policy documents.

### Conclusions

These findings have grave implication on the country’s effort to effectively tackle the growing burden of NCDs. It underscores the urgent need to review the NCDs prevention and control policies to ensure the integration of the globally recommended “best-buy” interventions coupled with sustained political commitment and resource allocation for implementation.

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## Facilitating happiness and preventing suicide by a longitudinal community-based project

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### Introduction

The BHC-5L (being happiness catchers- looking, listening, learning, loving, and living) has been developed not only for suicide prevention but also for mental health promotion since 2010. The BHC-5L was not only designed to promote general population to find those who were in suicidal risk but also to teach people how to think positively and how to change your mind. Before the possibility to promote the BHC-5L to nationwide, we want to review the process of the BHC-5L.

### Purpose/Methods

We have 3 standard 1-hour lectures of BHC-5L for community, school, and workplace. All facilitators had gotten full training and passed the examination. We added up all lectures and audiences, and compared the suicide rates longitudinally.

### Results

From September 2010 to September 2016, there were 1,071 lectures of BHC-5L including 349 in community, 306 in school, and 416 in workplace. Total audiences were 104,506, including 27,425 in community, 53,238 in school, and 23,843 in workplace. Over 2% citizens of New Taipei had heard the BHC-5L. After 2011, the suicide rate of New Taipei City became lower than whole Taiwan.

### Conclusions

As an Eastern model of gatekeeper for suicide prevention, the BHC-5L provide more factor than the QPR, because the BHC-5L emphasized positive thinking and mental health promotion. The BHC-5L became an easy acceptable model for suicide prevention and mental health promotion in Taiwan. It should promote to whole Taiwan.

### Comments

All these standard lectures of the BHC-5L were designed based on community, culture, and positive psychology, but the most importance was the BHC-5L emphasizing we had to keep living and loving with who you care. It should be the important value of human society.

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## Session O1.6: Child and family engagement

### Authentic Partnership and Engagement of Patients and Families through the Family Advisory Network (FAN) at SickKids

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#### Introduction

At SickKids, partnership with patients and families is fundamental to the delivery of child and family-centred care. Partnership is engaging children and families in an authentic, meaningful way. Although the Family-Centred Care Advisory Council (FCCAC) and the Children's Council have existed for many years, a need arose in the last few years for more advisors to partner with the hospital on committees, projects and initiatives. The Family Advisory Network (FAN) was created in 2013 in response to this need.

#### Purpose/Methods

Within two years the FAN saw an increase in the number of advisors and in advisor participation on committees and initiatives. A strategic planning activity was launched, with the overarching goal of enhancing child and family engagement at SickKids through the development of a stronger Family Advisory Network. A committee comprised of advisors and staff reviewed the recruitment and on-boarding process for advisors. Many strengths were identified as well as a number of key processes requiring improvement.

#### Results

The committee identified three objectives for 2015-2016: (1) to streamline recruitment, on-boarding, and orientation processes, (2) to enhance opportunities for engagement of advisors, and (3) to foster an organizational culture that embraces child and family engagement. A streamlined process implemented in September 2015 resulted in increased number of active and potential advisors. A need for personal connections led to FAN Connections, a set of activities to facilitate engagement amongst advisors that includes: FAN Forum, a quarterly newsletter, FAN Pulse, a bi-weekly email with updates and news, #FANConnect, a social media presence, and FAN Chat, a semi-annual check-in with peer advisors. A FAN policy was also developed to embed within hospital culture. As of June 2016, advisors sit on nearly 60 committees.

#### Conclusions

The FAN supports children and families to work in partnership with staff across all levels of the hospital to improve care. As a result of a rigorous, thoughtful process the program is engaging children and families in a meaningful way, it is enhancing staff understanding of child and family engagement, and is creating opportunities for advisors to co-lead and drive advancements in child and family-centred care. An evaluation of these objectives and activities will take place in 2016-2017.

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### Early Childhood Intervention Networks in Austria – Strategy, Implementation and first results of evaluation

**HAAS Sabine, WEIGL Marion, GRUBER Gabriele, WINKLER Petra, ANZENBERGER Judith, UNGER Theresia, BENGOUGH Theresa**

#### Introduction

A model for early childhood interventions was developed for Austria in 2014 combining universal and indicated prevention. The objective of this model is to reach and support those families during pregnancy or within the first three years of a child, who live under burdened life circumstances. The indicated part in form of regional early childhood intervention networks was implemented in certain regions of all nine Austrian provinces.

#### Purpose/Methods

Cooperation with hospitals and medical doctors is important for these networks at regional level. Hospital staff could recognize signs regarding burdened circumstances among families and refer them to early childhood intervention networks where they could get in depth-support for their specific needs. If families need medical care the networks refer them to relevant professionals. Two external evaluations were commissioned, one focusing on the establishment of the regional structures (process evaluation) and one on the effects / benefits for families supported by the regional networks observed by experts and families (outcome evaluation). The teams of both evaluations make use of the data collected by a special Austrian-wide documentation system and carry out interviews and focus groups with the main experts and stakeholders involved.

#### Results

The data from the documentation system confirms the relevance of hospitals as partners within the regional early childhood intervention networks, especially concerning the access to families in need. Preliminary results of the evaluation show that the regional networks are able to reach socially/socioeconomically disadvantaged families and to provide services and interventions from the social and health care system according to their needs.

#### Conclusions

Since many of these families have not been sufficiently supported in the past, it can be expected that the Austrian approach to early childhood interventions will contribute to health equity on the longer run.

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## The Build-up of a Safe Fort for our Children, To Explore the Safety Protection of Children's Resident Environment

**HUANG Tsu-Hsueh, HUNG Ta-Chuan, LAIO Lee-Hua**

### Introduction

"Home" is the most familiar and safe place for children age under 6 years old. However, past statistic shows residing environment has been the first place of occurring locations for the children injury to deaths. Our hospital together with Public Nursing and Childcare center and communities promote security policies by multiple strategies, such as providing conception of children's home safety and recommendations for improving environment to reduce children physical and psychological suffering.

### Purpose/Methods

From June to November in 2016, we held education lectures and invited parents to visit safety of residing environment. We also propagated conception of children resident environment safety and identify the potential risk factors. We assess children residential environment, which including 14 major items and 41 subentries, then analyze the result and review the process.

### Results

We held lecture with 631 participants. It achieved up to 95.7% awareness rate post lectures. Totally we visited 50 families. The percent of nuclear family accounts was 73.7%, parents' serving as caregiver was 54.5%, parents' level of educational at colleges was 54.5%. The assessment has 80.8% of the items consistent with safety of the residential environment. The top 3 items were the ground, warehouse and outdoor environment. The lowest 3 items were indoor staircase, fire protection and rope storage. Our recommendation included that installation indoor staircase fence and fire extinguishers.

### Conclusions

The Government concerned about the frequent occurrence of children's accidents, so that the issue of children's safety incorporated into the advanced items. By advocating home environmental safety via home visiting, we identified potentially dangerous environment factors that parents have never been aware. Parents showed a highly willingness to improve the environment according to our suggestions. It is expected that, with the efforts of the Government and parents, children will grow up in a safer residing environment.

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## Seven Things This Year Initiative - A Family Empowerment Initiative

**MALIK Suleman**

### Introduction

Evidence shows that a significant reduction in maternal, new-born and child related can be achieved through some low-cost, high impact interventions dependent on the adoption of recommended behaviors and practices by individuals and families. In 2012, Seven Things This Year' project was initiated in Myanmar focusing on maternal and child health. It aimed at engaging women to enhance their role and contribution in promoting family practices and play a greater and supportive role in better health of their children, families and communities.

### Purpose/Methods

The project promotes seven key family practices of exclusive breastfeeding, maternal nutrition, immunization, use of ITN, hand washing with soap, home care for sick children and care seeking when child is sick. The strategy utilized a cascade model that started with setting up of a core group of seven volunteers in each village. These female volunteers were then trained and tasked to reach out to seven families in the village engaging a total of 49 families.

### Results

A 2015 project evaluation reveals about 94% respondents practicing exclusive breastfeeding. 96% respectively consumed extra food during pregnancy. Positive practice was witnessed for immunization, as 94% respondents reported having immunized their infants. 52% respondents having used insecticide ITN. Supply-side barriers like lack of availability and high cost were the limitations in practicing the behavior. The project was successful in enabling 99% respondents to wash hands.

### Conclusions

In summary, the Initiative is a low-cost & high impact. It's based on two theoretical models of social learning theory and diffusion of innovation. The methodology used appeared as catalyst for creation of social norms. Apparently the initiative has provided a strategic opportunity to mothers to get together regularly for dialogue, mutual learning and actions. The project offers sustainable solutions as most of the activities are self or community supported.

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## Parental influence on infant appreciation of clown humour

**MARKOVA Gabriela**

### Introduction

When infants face novel situations they use parental affective cues to interpret the situation. Interactions with hospital clowns likely represent such situations considering that many infants do not have experience with clowns. However, infant reactions to hospital clown humour or the mechanisms through which they react positively to such humorous engagements with strangers have not yet been examined. The aim of the present study was to examine the role of parents in infant reactions to clown humour.



**Purpose/Methods**

Infants between 3 and 24 months (N = 53) were observed in interactions with hospital clowns during their hospital visit. Social referencing behaviours with parents (e.g., infant gazes to parents, parental facial expressions, gestural/tactile and auditory behaviours), parental sensitivity, as well as infant smiling and laughter were assessed.

**Results**

Parents often spoke and interacted with their infants, showed them physical affection, and laughed themselves at the actions of the clowns. Infants' age was significantly correlated with their gazes at parents, parental talk towards their children and their display of positive affect, as well as infant smiling during the interactions with the clowns. When controlling for age, there were significant relationships between infants' laughter and parental nodding and parental laughter. No effects of parental sensitivity were found.

**Conclusions**

Results of the present study suggest that parents use age-appropriate social referencing behaviours to help infants make sense of their ambiguous engagements with hospital clowns. Infants not only actively searched for the signals of their parents, but parental behaviours were crucial for infants' interpretations of the clowns' behaviours as funny. The presence of the caregiver is thus crucial for infant appreciation of clown humour in the hospital setting.

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## Suicide Prevention for children and adolescents: Talk to me! A New Initiative of the National Suicide Prevention Program, Germany

**KACIC Viktor, ZIMMERMANN Frank****Introduction**

Over the last years there is a constant increase of depressions in children and adolescents. Suicidal behaviour and self harm are among the most challenging symptoms to detect and treat among those patients. Psychiatric disorders with increased suicidal risk are clearly defined: depressive, bipolar, schizophrenic, personality, eating disorders and drug abuse. Risk traits in adolescents however are quite versatile, therefore pediatricians and general practitioners can easily be overchallenged in the evaluation of adolescent acute suicidal risk.

**Purpose/Methods**

Purpose of our pilot study (n=19 pediatricians) was to improve our diagnostic guideline for pediatricians and general practitioners that enables them to detect early symptoms of evolving suicidal behavior of adolescents, and also to take adequate action in a potentially suicidal crisis situation: Self harm was added to the guideline. Furthermore, training sessions (16 hours) about epidemiology, etiology and practical training

including therapeutical assessment strategies were established as a requirement of using the guidelines in a pediatric setting.

**Results**

First feedback focused on the fact that pediatricians gained more confidence in detecting suicidal ideations and self harm. Therapeutic assessment strategies were rated as extremely helpful. The fact that the initiative "Talk to me" of the National Suicide Prevention Program was advertised in their waiting room on a poster contributed to more willingness of patients to address their suicidal thoughts.

**Conclusions**

Talking about suicidal thoughts and self harm in primary care is a strong tool to start a successful suicide prevention. Training pediatricians and providing them with a diagnostic guideline creates confidence in both doctors and patients. Thus, - the initiative "Talk to me" - the intervention of directly addressing suicidal symptoms and self harm by patients and doctors opens the possibility for a substantial step towards successful suicide prevention.

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## Session O1.7: Mental health and psychiatric care

### Thinking it Through: Mental health and wellbeing within a health service

#### CORBEN Kirstan, SMOKER Gemma, DEAN Emma, NOBLE Kia

**Introduction**

Alfred Health strongly invests in improving the health and wellbeing of not only its patients, but also its staff and the wider community. With research showing each year, approximately one in five Australians experience mental illness and rates of suicide are increasing, Alfred Health is beginning its journey in taking dedicated action to address these statistics.

**Purpose/Methods**

Aim: To assess mental health variables among patients and staff of Alfred Health Methods: Alfred Health undertook baseline measurements: - Patients: A retrospective medical record audit was conducted for 307 patients admitted over two days in July 2014. Data was examined for evidence of inclusion of modifiable risk factors in clinical documentation, including factors related to mental health (social/living arrangements and alcohol/ other substance misuse). - Employees: A range of self-reported health and wellbeing measures, including history of depression and/or anxiety and the Kessler-10 questionnaire, were recorded by staff in April 2016.

**Results**

Patient social/living circumstances were recorded in 67%, alcohol in 31% and substance use in 21% of medical records reviewed. Where documented, 4% of inpatients were homeless or living in insecure housing; a further 27% at risk of social

isolation (living alone), 34% were using alcohol daily and 21% had a diagnosed mental health comorbidity. Approximately 25% of employees had reportedly sought treatment for depression and/or anxiety and specifically 10.6% indicated 'high' or 'very high' levels of psychological distress. Almost 40% of people experiencing high levels of distress indicated they had not sought treatment.

### Conclusions

While Alfred Health currently provides extensive mental health services, it has demonstrated strong support for the establishment of mental health and suicide prevention as a population health priority. The organisational response to this priority is being developed in partnership with patients, staff and key partners.

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## A Study Investigating the Relationship between Nursing Personnel's Support and Their Job Satisfaction and Intention to Stay.

### LI Chia-Ling

#### Introduction

In recent years, there has been nursing manpower shortage in medical workplaces. At present, many medical institutions in Taiwan have developed interdisciplinary training programs one by one to enable nursing personnel to flexibly support other divisions/departments, as well as improve their care capacity.

#### Purpose/Methods

This comparative study enrolled a total of 142 subjects, and divided the subjects into two groups (with 71 subjects in each group, respectively). One group was nursing personnel who provided external support, while the other was nursing personnel who did not provide external support. This cross-sectional study used purposive sampling to enroll subjects, and used Minnesota Satisfaction Questionnaire and Scale on Nursing Personnel's Intention to Stay to conduct questionnaire surveys on the subjects.

#### Results

This study concluded as the following: (1) the average age of nursing personnel was 31.96 years old, the average seniority at the current unit was 6.46 years; (2) the fixed shifts of nursing personnel who provided external support were significantly positively correlated with their intention to stay ( $F = 6.694$ ,  $p = 0.012$ ); (3) the job satisfaction of nursing personnel who provided external support was significantly negatively correlated with their intention to stay ( $\gamma = -0.345$ ,  $p < 0.01$ ); (4) The significant predictor of nursing personnel who did not provide external support was fixed shifts, having children or not, and seniority at current unit, and their coefficient of determination ( $R^2$ ) was 0.195, suggesting that these three variables could explain 19.5% of the total variance of nursing personnel's intention to stay.

### Conclusions

This study is limited by money and nursing manpower, but in this era of nursing manpower reduction, this conclusion on the nurses will have a lot of help and hope for government agencies refer to this conclusion.

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## People with Epilepsy and Irish Mental Health Care Provision

### MICHAEL Bergin, MAJELLA McCarthy, LOUISE Bennett, JOHN Wells

#### Introduction

Epilepsy affects more than 6 million people in Europe with recent projections for Ireland identifying more than 37,000 cases. This makes epilepsy one of the most common neurological conditions but despite its prevalence remains a much misunderstood and often stigmatised disability. Many people with epilepsy suffer from mental health problems; however the needs of such people in receipt of mental health care provision remain poorly understood and under researched in Ireland.

#### Purpose/Methods

The aim of this study was to explore and analyze mental health care provision for people with epilepsy. Experienced Based Co-Design (EBCD) was used as the methodological approach and involved two phases (1) the discovery phase and (2) the co-design phase. In-depth interviews with service users ( $n=12$ ), service providers ( $n=13$ ) and a joint co-designed focus group discussion were conducted and analyzed using the Frameworks Approach. Ethical approval was granted by Waterford Institute of Technology and University Hospital Waterford Research Ethics Committees.

#### Results

Results indicate that Irish mental health services need to be more aware and sensitive to the complex biological, psychological and social needs of men and women with epilepsy that engage such services. Some of the issues identified are in relation to responsiveness of services, diagnoses, parenting, stigma and stereotyping.

#### Conclusions

Irish mental health services need to be more aware and sensitive to their understanding of the needs of men and women with epilepsy that engage such services. Establishing greater links with The National Epilepsy Care Programme may offer a more sensitive approach for mental health care provision.

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## The efficacy of web-based electronic alerting system of emotional distress in the acute wards of cancer center.

**LO Ching-Hsuan, HUNG Chao-Chen, LI Dian-Kun, CHIEN Sou-Hsin**

### Introduction

The cancer patients in the acute ward have physical and emotional stress related to the cancer and the treatment complications. We set up a web-based electronic alerting system of emotional distress and referred the high vulnerable patients to the psychiatrist and social worker to prevent the suicide and improve the mental health.

### Purpose/Methods

The study retrospectively reviewed the data of the web-based electronic alerting system and surveyed the efficacy of the system. The web-based electronic alerting system of emotional stress applied the Brief Symptom Rating Scale, BSRS-5. In 2014, 2962 patients responded the scale by the alerting system, but only two patients were referred to the psychiatrist. The referral rate was relatively lower compared to the other hospitals nearby. We worked out the low referral rate and checked the protocol of the alerting system. We modified and added the following steps in the protocol. The first was forcing every cancer patients in the acute ward to fulfill the scale by the web-based electronic alerting system. The second was setting the automatic referral system to the psychiatrist for the cancer patients with high score. The third was periodic meeting to check and follow up the referral patients and the missing referral.

### Results

In 2015, 2901 patients responded to the scale. 157 patients were referred to the psychiatrists and/or social workers. The referral was 0.07% in 2014 and was 5.41% in 2015.

### Conclusions

The web-based electronic alerting system of emotional distress in the acute wards of cancer center can effectively select the high vulnerable cancer patients and automatically refer them to the psychiatrists and/or social workers. The alerting system can reduce the suicide and improve the mental health of cancer patients.

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## Experience of Conducting the Multidisciplinary Smoking Cessation Course in Psychiatric Day-care Ward

**WANG Min-Fu, HUANG Shou-Cheng, CHEN Li-Yu, TSAI Chung-Hung**

### Introduction

Tobacco use is common among patients with psychiatric disorders. While smoking prevalence among the general adult

population is 20% in Taiwan, almost one half of patients with bipolar disorder and two thirds of patients with schizophrenia seen in clinical settings smoke. Smokers with psychiatric illness also consume more cigarettes per day compared with smokers without psychiatric illness. However, smokers with psychiatric illness have more difficulty quitting smoking. In addition to pharmacologic treatment, smoking cessation course is another effective intervention of smoking cessation.

### Purpose/Methods

There was no experience holding smoking cessation course in psychiatric day-care ward in the past time. However, following tobacco-free policy the director of psychiatric department decided to set tobacco-free environment in day-care ward. In order to help the residents to quit smoke, we designed an 8-week smoking cessation course included pharmacological treatment, cognitive behavior therapy, nutrition education, and exercise class.

### Results

A total of 5 smokers among 17 residents in psychiatric day-care ward. During 8-week smoking cessation course, we held 2 classes of general education course about the harm of smoking and benefit of quitting, 2 classes of nutrition and weight control during cessation, and 2 classes of exercise and physical fitness. All of the smokers received cognitive behavior therapy every week, and 2 smokers received pharmacological treatment with nicotine patch and gum. At 12 week follow up, there were 2 residents quitted successfully. Moreover, all the residents never smoke during the day-care ward which was tobacco-free environment.

### Conclusions

Tainan Municipal An-Nan Hospital is a tobacco-free hospital since 2014. By conducting a multidisciplinary smoking cessation course, we successfully reduced the smoking rate and maintain the tobacco-free environment in psychiatric day-care ward.

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## Session O1.8: Health literacy and communication

### A national strategy for improving healthcare communication in Austria

**SATOR Marlene, NOWAK Peter**

### Introduction

Evidence shows that good quality communication between providers and patients is highly relevant with regard to health outcomes. Turning health promoting healthcare organizations into supportive settings for health literacy and good quality communication therefore is a central element of re-orienting health services. Current Data, however, shows that the quality of patient-provider communication in Austria is below average within the EU. Therefore, the Austrian Ministry of Health has started a project within the framework of the Austrian National Health Target "Enhancing health literacy".

**Purpose/Methods**

The aim of the project is to improve communication in Austria's healthcare organizations by establishing a patient-centred culture of communication. The project's design follows the Public Health Action Cycle: On the basis of a groundwork („Assessment“), a working group of the financiers of the Austrian healthcare system developed a national strategy („Policy Development“). „Implementation“ involves all relevant stakeholders (including medical universities, professional associations, hospitals etc.). „Evaluation“ includes process evaluation and outcome evaluation, which will be done via the next European Health Literacy Survey (HLS-EU).

**Results**

The assessment showed necessary re-orientations in healthcare communication, their potential outcomes, the status quo and possible fields of action in Austria. The national strategy was passed by the supreme decision-making body within the Austrian Health Reform in July 2016. For implementation, action is recommended in four fields: 1) developing strategies and a culture of communication, 2) evidence-based quality development, 3) human resources development and 4) organizational development.

**Conclusions**

Given the lack of national initiatives to implement a comprehensive national strategy to improve healthcare communication, first experiences from the implementation process of this innovative project will make a valuable contribution on an international level.

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## Simplifying the language and revising information materials using Health Literacy techniques

### GAZZOTTI Federica, BEDOGNI Valentina

**Introduction**

In Italy, the highest educational qualification held by about half the adult population is a middle-school certificate. Also, in the PIAAC survey promoted by the OECD in 24 countries, Italy had the lowest score for literacy skills and the second lowest for numeracy skills.

**Purpose/Methods**

In 2011, the Emilia-Romagna Regional Healthcare Policy Department set up a working group to promote HL practices within our Healthcare Authorities. At the end of the course, 35 out of the 70 participants expressed a wish to become educators in their turn.

**Results**

In the Reggio Emilia Local Health Authority, as well as providing classroom training to over 350 healthcare professionals, repeated courses were also delivered to administration staff with a view to simplifying the administrative language used in the forms and information directed specifically at the users of our

services (over 50 professionals trained). We also proceeded to systematically revise the new information materials produced. The texts, presented by professionals, were submitted to the Communication Staff and revised in a participatory manner with patients and family members. In light of their observations, the material was then rewritten before being sent to the printers. Around 20 materials were revised. In addition to the professionals involved, each revision exercise was attended by 4 to 8 patients/family members.

**Conclusions**

Classroom training sessions for healthcare and administrative staff met with the approval of the learners, who in the learning and satisfaction questionnaires pointed out the usefulness and immediate applicability of HL techniques. The patients and family members who took part in the revision of material showed great appreciation for the initiative, and the new information materials produced are more frequently requested and utilized by users of the services.

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## The Evaluation of Patients' Opinion on Confidentiality in Hospitals

### GIEDRIKAITE Ryte, STANISLOVAITYTE Monika

**Introduction**

Confidentiality is one of the core duties of medical practice. Confidentiality is important to maintain privacy, security and trust in personal and professional relationships. Patients are more likely to trust and divulge personal information to their doctor if they believe he can maintain privacy. Confidentiality is valued and expected in any situation where sensitive information is accessed or shared. Breaking the rules of confidentiality by releasing private information to the wrong entity can cause discord, broken trust and even lawsuits between parties. In rare cases, a medical provider can break a confidentiality agreement with the permission of the patient, or when required by law.

**Purpose/Methods**

A survey was performed in four randomly selected hospitals of Kaunas county, Lithuania in 2013. The study included all patients, who were undergoing treatment in the Departments of Internal Diseases and Surgery on the day of the inquiry. In total, 382 questionnaires were distributed (response rate – 69.1%).

**Results**

Confidentiality of the health information was of high concern to one third (35.2%) of respondents. For the rest of the respondents (16.9%), the issue of confidentiality was important partially. Less than one tenth (8.1%) said, their confidential health information might be disclosed to others without their consent. The patients with the most concern in their health information confidentiality were treated in the smallest hospital, with 150 beds. There, more than half (56.7%) of the patients stated that handling of their health information by the doctor and other medical staff should be protected.

### Conclusions

The research showed, for one third of the respondents (35.2%) it was important that their confidential health information is protected. A small proportion of patients (8.1%) said that their confidential health information was disclosed and the highest number of such cases was reported in the smallest hospital.

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## Can the Implementing Inter-Professional Shared Decision Making Model in General Hospital Create a More Satisfied Environment for Medical Care Professionals?

### CHEN Hou-Chaung

#### Introduction

For an interprofessional approach to shared decision making (IP-SDM), two or more professionals collaborate with patient in identifying best options, clarifying patient preferences and enabling patients to take more control over treatment plan. High-quality and cost-effective healthcare service are seen as two key elements in interprofessional care and the engagement of patients as partners in their own care. However, little is known about the satisfaction of the medical professionals while implementing IP-SDM systemically in a general hospital

#### Purpose/Methods

We evaluated the healthcare professionals, patients and their families who engaged in IP-SDM since 2011 to 2013 in a general hospital of north region in Taiwan. A total 203 doctors and nurses and 341 patients and their families completed a questionnaire based on theory of satisfaction. The performance information of hospital also was collected since 2010 to 2013 to compare the related factors before and after implementing IP-SDM.

#### Results

Since 2010 to 2013, the number of admitted patients increased 9.7% and Case-Mixed Index for disease severity is no difference. After implementing IP-SDM, the medical malpractice cases reduced 74%. To engage in medical care team and participate clinical decision discussion get the highest scores in patients' and families' satisfaction evaluation. To improve the communication among medical professionals, to resolve the clinical problems efficiency, and to improve patients safety in practical way was more concerned in healthcare professionals.

#### Conclusions

Implementing IP-SDM in general hospital can create a more safe, cost-effective and medical professionals satisfied environment. The cooperation among medical professionals and the engagement of patients as partners need to be supported by a new medical care system which can balance the care quality, hospital performance and patient safety.

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## To improve health literacy among elderly in community

### LIU Yi-Lien, YANG Pei- Chun, SHYU Ren-Shi

#### Introduction

Low health literacy is considered a worldwide health threat. The purpose of this study is to assess the prevalence and socio-demographic covariates of low health literacy in northern Taiwanese and to conduct the school-based health education programs to improve health literacy of elderly in community.

#### Purpose/Methods

The community health center of Min-Sheng hospital recruited community elderly who lived in Taoyuan areas (northern Taiwan) from February 1, 2016 through June 30, 2016. A total of 132 participants were contacted, of which 124 consented to participate and 121 completed valid questionnaires for analysis. The improvement of health literacy among elderly has minimum of two hours each week on high quality health education and physical activity within the school-based curriculum. Data were collected using a cross-sectional questionnaire survey. Pre- and post-test results of Health literacy were measured with the short form Taiwan Health Literacy Scale (THLS).

#### Results

Participants had a moderate level of health literacy, approximately thirty percent of adults were found to have low (inadequate or marginal) health literacy. Participants with inadequate health literacy were more likely to be older, not a high school graduate, and reside in less populated areas. Paired t-test comparisons indicated a significant increase in elderly knowledge about health literacy after the 16-weeks educational session. Mean test scores increased from 6.5 to 8.4 on the 11 items.

#### Conclusions

Our findings confirmed that low health literacy is prevalent among elderly in community of Taoyuan area. The school-based health-related programs that are literacy sensitive encourage health-promoting behaviors among elderly in community.

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## Session O1.9: An Evidence-Based Framework for Sustainable Patient and Family Engaged Care

### An Evidence-Based Framework for Sustainable Patient and Family Engaged Care

#### FRAMPTON, PHD Susan

Abstract Introduction Patient and family engaged care (PFEC) is care that is planned, delivered, and managed in partnership with patients and their families in a way that reflects their preferences and values. This approach to care is a shift in the role patients and families play on their own care teams, as well as in quality improvement and care delivery efforts. Currently barriers exist in most settings that prevent organizations from creating a culture that is driven by patient and family engagement. Purpose / Methods To address these barriers, the US National Academy of Medicine convened a Scientific Advisory Panel to compile and disseminate important insights on culture change strategies that facilitate patient engagement with validated results tied to better outcomes, better care, greater value and greater joy in practice. To achieve this goal, the Panel drew on both the scientific evidence and the lived experiences of patients, families, and healthcare practitioners to develop a comprehensive framework for creation of a culture of PFEC. Results This resulting National Academy discussion paper includes research supportive of the elements of the model and a bibliography within each topic area. The paper introduces the framework and associated evidence, along with practical examples, with the goal of supporting action that will support PFEC. Widespread dissemination of the framework is underway currently, and on-going updates to the evidence-base will be added in order to keep the model evolving. Conclusion Our aspirations for a sustainable culture of patient-engaged care requires an understanding that all stakeholder groups are part of the solution. The behaviors and attitudes of patients, clinical staff, and leadership create the culture of healthcare delivery. Culture change efforts must be informed by the experiences of all who interact with the system. Having a framework that identifies how to manage culture change, along with a compilation of supportive evidence is essential.

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## Session O2.1: Refugees, migrants and minorities

### WOMEN ASYLUM SEEKERS: hosting - understanding - communicating

**GEMMI Cristina, FORNACIARI Rossano, FORACCHIA Andrea**

#### Introduction

The Emilia Romagna hosts asylum seekers on its territory. To provide access to healthcare services, a card called PSU has been introduced which guarantees not only quick access to essential and ongoing urgent treatment but also the traceability of individual healthcare pathways. In the last 2 years 2,300 new cards have been issued under the Reggio Emilia Health Authority. Through the traceability of the data we have recorded 37 hospitalizations in the district's hospitals. Although women asylum seekers make up 9% of the total number, the % of hospitalized women is around 25%. Most hospitalizations of women asylum seekers involve the sphere of obstetrics and gynaecology

#### Purpose/Methods

During first reception stage, when a general medical examination is carried out, women asylum seekers are also offered an interview with a midwife. In agreement with the cooperatives handling the reception of refugees, we have started to organize health education meetings. The meetings are attended by small groups of 6-12 women and are designed to facilitate health-protecting behaviour, provide basic information on the prevention of sexually transmitted diseases and offer appropriate information on contraception. The meetings are run by a midwife, a gynaecologist and a linguistic-cultural mediator.

#### Results

During 2015 we held 2 repeated meetings with the same group of 10 women. During 2016 (up to the month of November) we have held 5 meetings with several small groups of 8-12 people

#### Conclusions

The meetings enable topics of a fairly confidential nature to be addressed within appropriate timeframes; they provide a context of educational continuity insofar as the operators participating in the meetings are also those who are present during surgery activities; they allow the operators to gain a better insight into these young women's needs and to contextualize their issues. The situation of educational continuity is conducive to establishing a relationship of mutual trust, which is the foundation for acceptance of the proposals made

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### Minor Migrants needs: the role of a pediatric hospital in health care promotion

**CELESTI lucia, GIOCONDO valentina, CATENA sara, RAPONI massimiliano**

#### Introduction

Age assessment procedure occupies a crucial position in better understanding of refugees' and migrants' health condition. The amount of procedures used to try to establish the age of a person is very important because being identified as a minor allows the presumed underage foreigner to benefit from peculiar protection measures

#### Purpose/Methods

Because age assessment procedures need to take into due consideration a series of physical, psychological, environmental and cultural factors, it is necessary to use a holistic assessment. In order to perform this kind of assessment, several professional profiles need to be included into the team, namely physicians with auxological competences, child neuropsychiatrists or paediatric psychologists, social operators, cultural mediators. These professionals, that belong especially to hospitals and health services, need to be specifically trained on the methodology. It is necessary to provide specific tools to implement age assessment, trying to avoid too many invasive diagnostic exams and using a holistic multidisciplinary approach.

#### Results

Experts have realized these innovative tools, that are meant to be used into health service that most young migrants reach. They include: a protocol for age assessment, for a common approach in migrants' health management; a medical/auxological examination form, which objective is to elucidate if the aged declared by the presumed minor is compatible with his/her general appearance; Modified Child MMSE and Mental state evaluation, that used together are able to provide a more complete neuropsychiatric evaluation; social evaluation, aimed at collecting information regarding the child's life.

#### Conclusions

This project promotes an integrated healthcare model, based on principles of interdisciplinarity, transculturality and migration medicine.

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### Barriers for single mothers to get healthcare service during pregnancy and child birth in Korea

**KIM Jung-Eun, LEE Jin Yong, LEE Sang Hyung**

#### Introduction

The aims of the researchers were to investigate if single mothers were satisfied with healthcare services that they received related to pregnancy and child birth and determine what gaps in current healthcare services and policies need to be addressed in the future to help mothers achieve a better, independent life.



**Purpose/Methods**

To understand the experiences and perspectives of single mothers regarding healthcare services, a focus group discussion (FGD) with 7 single mothers was used to collect data.

**Results**

Regarding healthcare issues during pregnancy and child rearing, there were three main themes that emerged from the FGD. First, they pointed out a lack of service linkage and information provision from healthcare providers. Second, they felt stigma and discrimination such as "cold vibes" from healthcare personnel when they visited healthcare institutions. Lastly, it was very difficult for single mothers to get healthcare services because many of them had financial problems and lack of family and social supports.

**Conclusions**

We confirmed that single mothers had difficulties in getting healthcare services during pregnancy, childbirth, and parenting. Thus, the Korean government and societies make an effort to get rid of these barriers for them to live successfully, self-reliant lives

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## Asylum seekers and healthcare seekers: healthy migrant effect and empowerment

**MONICI Lucia, FORNACIARI Rossano,  
GRECI Marina, BONVICINI Francesca,  
PINOTTI Elettra**

**Introduction**

Asylum seekers who land on the Italian coast are hosted on Italian territory by an extensive network of reception organizations. Local cooperatives with hosting facilities aim to meet people's basic needs. Since 2014, the local Health Authority of Reggio Emilia has been working in close collaboration with cooperatives in order to recognize the refugees' entitlement to healthcare and access to services.

**Purpose/Methods**

The local government authority provides information on the new arrivals to the cooperatives; they pass on the data to the other various levels (Administration and Outpatient Service). The Administration prepares the health cards for immigrants to have access to healthcare. People arriving on the territory are given a medical examination within a few days of their arrival, with the main purpose to detect contagious diseases. Active TB screening with chest X ray is performed. The Outpatient Service that provides health care and prevention activities is specialized for 20 years in the management of the immigrants.

**Results**

In the last two years 7500 examinations and 62424 vaccinations were carried out. Up to 31 August 2016, they were diagnosed 35 cases of scabies, 6 of pulmonary tuberculosis and 35 of latent tuberculosis infection; all patients have completed the prescribed treatment correctly. All women have an interview and

an examination with a midwife. Cultural mediators were constantly present with the health care professionals and the patients.

**Conclusions**

These last 2 years of collaboration between Hosting Cooperatives and the Health Authority have seen a gradual improvement in the design of social-healthcare pathways to provide health assistance and of educational projects for the hosted immigrants; as part of the collaborative relationship for the empowerment of asylum seekers, various professional training meetings of healthcare workers and educators have already been held.

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## Session O2.2: Chronic diseases and lifestyle development

### Body mass index, waist circumference and the presence of non-alcoholic fatty liver disease among Japanese adults participating in health check-ups

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Naoshi, OTANI Yuichiro, MITAO Noriko,  
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MURATA Hirohiko**

**Introduction**

Obesity, defined as excessive fat accumulation that may impair health, has been increasing worldwide at an alarming rate. According to the WHO, in 2014 more than 1.9 billion adults (39% of 18 years and older) were overweight, and over 600 million (14%) were obese. There is a growing body of evidence pointing to the relationship between an increasing body mass index (BMI) and the development of non-alcoholic fatty liver disease (NAFLD), which can develop into liver cancer and failure.

**Purpose/Methods**

We aimed to investigate the prevalence of NAFLD among Japanese adults receiving health check-ups. One hundred and thirty non-drinking adults who participated in health check-ups at one of our satellite clinics during a 3 month period were included in this study. Only individuals who underwent abdominal ultrasonography (to determine the presence and severity of NAFLD) were included. Participant's physical as well as laboratory data were analyzed to investigate the relationship between BMI, waist circumference and the presence of NAFLD.





### Results

Forty individuals (30.8%) had mild to severe NAFLD as detected by abdominal ultrasonography. Individuals with NAFLD had significantly higher BMI, waist circumference, triglyceride, alanine aminotransferase (ALT),  $\gamma$ -glutamyltransferase ( $\gamma$ -GTP) and HbA1c levels when compared to those without NAFLD. High-density lipoprotein (HDL) cholesterol levels were also significantly lower in participants with NAFLD. After adjusting for age, gender, triglyceride levels and HbA1c levels, a higher BMI was significantly associated with the presence of NAFLD (adjusted odds ratio 1.38,  $p < 0.001$ ).

### Conclusions

This cross sectional study confirmed the strong association between BMI, waist circumference and NAFLD. Health education to bring about the necessary changes in dietary and physical activity patterns to prevent or treat obesity will always be challenging. However, we need to persist and strive within our capacity through our various health promoting activities as we face this challenge.

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## Losing More Body Weight by Strengthening Self-Efficacy and Increasing Class Participation — Take One Female Weight Loss Class for Example

**HUANG YEN CHEN, LI CHIEN YUAN, HSIEH HUNG YU, YEH EN TIEN**

### Introduction

Overweight/obesity is a global health problem, so is Taiwan. Inappropriate eating habit and lack of exercise are the main reasons of getting overweight. The prevalence of overweight patient, by the definition of BMI (Body Mass Index)  $\geq 24$  Kg/m<sup>2</sup> from Health Promotion Administration of Taiwan, was around 43% in 2014. The department of health promotion administration center in Cardinal Tien Hospital has held weight loss classes for years to improve patient's weight control.

### Purpose/Methods

The purpose of this study was to investigate the better strategy to make participants losing more weight. We held a 6-week weight loss class, with inclusion criteria of participants: high motivation of losing weight. We recruited 27 female participants, aged from 16 to 64 years old. The class was designed by: (1) Pre- and Post- class anthropometric measurements including: body weight (BW), BMI, waist circumference (WC), and body fat percentage. (2) Group courses: give healthy diet lecture and group aerobic/anaerobic exercising time one hour for each. (3) Two tests: one is Cognition test, the other is Self-Efficacy test. Design gradually level of missions based on goal of habit of healthy diet and regular exercise to help participants keep self-monitoring during personal time. (4) Class Participation Rate, evaluated by summing up the attendance rate and homework-submit rate.

### Results

The 27 participants had an average weight-loss percentage of 2.69% (pre/ post class BW: 64.05kgw/ 62.32 kgw). Average waist circumference loss was 11.19 cm (pre/ post class WC: 90.52cm/ 79.33cm). Average body fat percentage decreased by 0.3% (pre/ post body fat percentage: 35.9%/ 35.6%). Weight-Loss percentage was significantly related to Self-Efficacy test ( $p < 0.01$ ) and Class Participation Rate ( $p = 0.026$ ).

### Conclusions

According to our study, high self-efficacy and class participation rate are more important than well cognition, as far as losing weight is concerned. It implied that overweight patients should strengthen practical action.

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## An overview of systematic reviews of interventions to change diet-related behaviours in overweight or obese people

**BROWNE Sarah, MINOZZI S, BELLISARIO C, SWEENEY MR, SUSTA D**

### Introduction

This overview of existing systematic reviews (SRs) was conducted to evaluate the effectiveness of interventions in changing diet behaviour among overweight/obese adults in healthcare and community settings.

### Purpose/Methods

SRs of randomised controlled trials (RCTs) testing dietary behaviour change interventions were identified through searches in Cochrane Library, PubMed, Embase and PsycINFO (1/2006 to 11/2015). The methodological quality of SRs were appraised using AMSTAR. 17 SRs were identified, 13 were not relevant and excluded.

### Results

4 SRs, 3 high quality (Lara 2014; Mastellos 2014; Dombrowski 2010) and 1 medium quality (Taylor 2013), were eligible for inclusion in this overview. Two SRs evaluated RCTs within specific population groups: people of retirement age and males. Dietary behaviour change was the primary outcome for two SRs, while two evaluated interventions with other lifestyle components. Increasing fruit and vegetables intake is the most consistent and significant behaviour change across the SRs, especially among older groups. Reducing dietary fat is the next most effective outcome, however reducing total energy intake is less consistent between studies. Effective interventions were both short (2-12 months) and long (12-58 months) and were delivered by dietitians/nutritionists or trained counselors/research staff. Multiple face-to-face contacts combined with remote communications is the most effective modality. The site of delivery may be important for specific population groups, for example effective interventions with males were delivered in workplace and community settings.



### Conclusions

This overview demonstrates that dietary interventions are particularly effective in increasing fruit and vegetable and reducing fat intakes in obese/overweight populations.

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## Promote the Habits of Regular Exercise and Self-Monitoring of Blood Glucose (SMBG) by Joining Support Groups for diabetes patients

**HUANG Wan-Zi, TSAI Li-Yu, CHANG Hsin-Mei, CHEN Yi-Chih, TSOU Jhi-Chyun**

### Introduction

Metabolic syndrome (MS) is the combination of disorders that will increase the risk of chronic diseases including diabetes and cardiovascular disease if without early aggressive lifestyle modification. In order to avoid the occurrence of metabolic syndrome and subsequent complications, it depends on long-term education about healthy lifestyle, advocates and initiate healthy habits, exercise encouragement, early disease recognition and medical intervention, persistent caring and follow-up for them.

### Purpose/Methods

The period of execution is July 29 ~ September 30, 2016. We played videos about exercise training for 15 minutes at the beginning of each meeting. In order to increase their frequency of exercise for health promotion, we invited the professional athletic coach to teach exercise that would be done at home by themselves or done in sitting position. We cooperated with the community-based medical network to hold the "Sweetheart Exercise Walking Competition". In order to promote home self-monitoring of blood glucose (SMBG), we designed "Health Passport" to record health parameters in this small book.

### Results

After a serial of strategy, we did make our Sweetheart Family members to achieve greatly advancement in regular exercise and SMBG. Forty-two of our involved diabetic patients (65.6%) reached the goal of regular exercise for five times per week. The patient percentage of achieving hemoglobin A1C(HbA1c) <7.0% was 29.6% before our intervention, and it increased to 37.5% after our intervention. Besides, the patient percentage of HbA1c >9.5% was reduced from 12.5% to 9.3% after our intervention.

### Conclusions

Our support group for diabetic patients "Sweetheart Family" has been set up for five years. This year we tried to impress our members the concept of self-monitoring of health by checking their blood sugar, blood pressure, waist size, and body weight in our each 2-month gathering. We expected to remind them the importance of health promotion and master their health this way.

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## Physical activity and health outcomes among the patients with type 2 diabetes

**PÖLLUSTE Kaja, KÄRBERG Kati, TOLK Anni, LEMBER Margus**

### Introduction

Regular physical activity (PA) plays an important role in glycaemic control in patients with type 2 diabetes (T2D), promotes the body weight control, has a positive impact on the cardiovascular risk factors as blood lipids and blood pressure, and on health-related quality of life (HRQoL).

### Purpose/Methods

This study aims to explain the associations between the PA and health outcomes among patients with T2D. PA was assessed by using the short version of the International Physical Activity Questionnaire (IPAQ-SF). HRQoL was assessed by using the 36-Item Short Form Health Survey (SF-36). Blood samples were taken for the measurement of HbA1c, triglycerides, HDL- and LDL-cholesterol. Body mass index (BMI) was calculated from the patient's individual body weight and height measured during the study visit.

### Results

143 patients aged 34-70 (mean value 59.4) with duration of T2D 7.2±6 from seven GPs' list were involved, of them 38% male patients. Of the patients, 12% reported low, 38% moderate, and 50% high PA levels. 77% of the patients were obese (BMI≥30), and 26% had HbA1c>7.5%. The average blood pressure was 147/89 mm/Hg. The median value of the physical component scores (PCS) and mental component scores (MCS) of HRQoL were 65.9 and 78.3, respectively. Patients with high PA levels were less likely obese (OR=4.2, 95% CI 1.6 to 11.1), and had more likely the PCS above the median value (OR=4.3, 95% CI 1.1 to 16.8). Patients with low and moderate PA levels had significantly higher probability of HbA1c>7.5% compared those with high PA level (OR=4.9, 95% CI 1.4 to 17.1, and OR=3.6, 95% CI 1.4 to 9.3, respectively). The PA level was not associated with the amount of blood lipids, blood pressure or MCS of HRQoL.

### Conclusions

The results of this study confirmed the beneficial effect of PA on the glycaemic control, BMI and the PCS of HRQoL. An individual evaluation of PA in addition to other tests may help the patient better to understand these associations and give the motivation to adjust the lifestyle.

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## Effect of probiotic supplementation on glucose homeostasis: a potential strategy to treat diabetes in the future

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LEE Hung-Chang**

#### Introduction

Obesity and insulin resistance are associated with low-grade and chronic inflammation. Previously we found *Lactobacillus* had marked anti-inflammatory effect and *Bifidobacterium* could attenuate weight gain and metabolic syndrome including glucose and HOMA-IR in high fat diet (HFD)-fed mice. We hypothesize that probiotic treatment may modulate the lipopolysaccharide (LPS)-induced systemic endotoxemia. The aim of this study is to investigate the effect of probiotic supplementation on glucose homeostasis in an obese mice model.

#### Purpose/Methods

The adult male C57BL/6J mice (n=12) were fed HFD or normal diet (ND). These mice were fed with or without a probiotics mixture (*Lactobacillus acidophilus* (1x10<sup>7</sup>cfu) and *Bifidobacterium* (1x10<sup>7</sup>cfu, LaBi) for 12 weeks. Metabolic parameters, glucose tolerance test (GTT) and pancreas morphology were studied. Inflammation severity was determined by serum LPS level.

#### Results

After 12 weeks, the HFD group gained more body weight (BW) and had a significant increase in serum cholesterol, triglyceride (TG), glucose, insulin, HOMA-IR, LPS and impaired GTT levels when compared to ND group. On the contrary, HFD group with probiotics supplementation had significantly decrease in the BW gain and various metabolic parameters levels. TG: ND 90.5±5.5mg/dl, ND with LaBi 86.8±4.0mg/dl, HFD 129.9±8.0mg/dl, HFD with LaBi 109.9±6.2mg/dl. Insulin: ND 0.16, ND with LaBi 0.08, HFD 0.79, HFD with LaBi 0.4. HOMA-IR: ND 1.1, ND with LaBi 0.8, HFD 6.5, HFD with LaBi 2.8. Besides, the impaired pancreas morphologic change (fatty infiltration) induced by HFD seemed to be repaired by LaBi supplementation in the probiotic group.

#### Conclusions

In our study, we demonstrate that probiotic supplementation can stabilize GTT value, reduce insulin level and maintain pancreas morphology in an obese mice model. We conclude that probiotics may play an important role in providing a novel opportunity in glucose homeostasis and probiotics administration may become a potential strategy to treat diabetes in the future.

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## A Pilot Study Exploring Effects of Empowering Project for Type 2 Diabetes Mellitus (T2DM) using Motivational Interviewing (MI)

**WONG William, LI Jennifer, CHEN Ken**

#### Introduction

This study aimed to improve T2DM patients' self-management skills as a way to find a more effective method of changing their lifestyle behaviors. Specifically, it would evaluate the effectiveness of MI model from the patients' perspectives by way of questionnaires exploring the patients' attitudes, thoughts, behavioral changes and their satisfaction of the program. We hypothesized that MI could increase self-efficacy and release the distress reported by the participants.

#### Purpose/Methods

This study used pre-and-post evaluation by implementing questionnaires to assess the effects. All 28 participants in this pilot were recruited from Department of Family Medicine (FMPC) of The University of Hong Kong-Shenzhen Hospital and community health centers in Futian district, Shenzhen. The program was comprised of four sessions namely, knowing about self and diabetes, the concept on self-care, changing diet, and foot care and exercise. MI techniques such as engagement, focusing, evoking and planning, were used to guide the development of these modules.

#### Results

The pilot showed such an approach was both acceptable and feasible to the participants. The scores of Patient Enablement Instrument (PEI) were greatly improved after the intervention (from baseline 4.16 to after intervention 1.79, the P=0.006) and two questions in the PAID-SF-C questionnaire also showed significant changes. However, due to the smaller sample size, further research is needed to identify more significant changes in other domains.

#### Conclusions

This pilot study tests feasibility of such a novel approach to behavioral change in China and found patients felt more empowered and confident to manage their disease after MI intervention. Given these promising results, further research is needed to explore the role of MI in behavioral change of T2DM patients compared to the traditional education programs.

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## Session O2.3: Miscellaneous

### Improvement in post-surgical pain treatment quality based on computerized quality parameters

**BLOCH Yuval, SALEM Iris, SEGAL Eran,  
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Iliia, SCHLEPER Prina**

#### Introduction

Quality post-surgical pain treatment is one of the most important components of patient treatment. It has a significant impact on the recovery process, on outcomes of the surgical intervention, and on patient satisfaction.

**Purpose/Methods**

To improve pain treatment and to increase patient satisfaction by implementing pain quality parameters. Process parameters included pain assessment and treatment by hospital personnel. Result parameters included the rate of patients whose pain levels decreased by at least 30% after treatment. The parameters were implemented by setting up a pain Champions' Forum, educating staff and patients, implementing pain tutorials and, developing a medical protocol for pain treatment, and performing departmental inquiries on deviations from the pain quality parameters protocol.

**Results**

Between 2013 and 2015 there was an increase in the rate of pain assessment and treatment: pain assessment once per shift increased from 91% to 96%, comprehensive pain assessments increased from 59% to 86%, and providing treatment for pain within 30 minutes increased from 43% to 58%. Results parameters: The number of patients reporting decreased pain levels following treatment with pain medications increased from 78% in 2013 to 86% in 2015 ( $p < 0.05$ ), leading to a significant increase in patient satisfaction with post-surgical pain treatment - from 70% to 96% between 2013 and 2015.

**Conclusions**

The implementation of process and results parameters for pain treatment, together with the use of advanced technology, allowed the accurate mapping of work processes requiring improvements and the outcomes of pain treatment and management, increased the compliance rate of following work protocols, reduced post-surgical pain, and increased pain treatment satisfaction

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## Using Heath Believe Model to enhance the effectiveness of Betel Nut Cessation Group - Taking a transportation company as an example

**WENG Chung-Feng, HAN Tzu-Yang, LIN YI-HUI, HSIEH Hung-Yu, YEH EN-TIEN, CHANG Yu Lan**

**Introduction**

In Taiwan, oral cancer is the most common type of cancer among men at the age of 25-44. Chewing of betel nut can be noted up to 90% in men of working class. Hence, the rule of prevention of betel nut chewing is augmented through public health programs via Cardinal Tien Hospital. Betel Nut Cessation (BNC) services have been put into action in places such as local community, industries and even schools. According to the Institute of LOSH., industry related to construction, transport and fisheries are prone to oral cancer. Thus, the article will depict the experience of health promotion of a transportation industry here in New Taipei city, Taiwan.

**Purpose/Methods**

In order to create a healthy workplace environment and to encourage more employees to participate in the BNC program, the Health Believe Model was integrated into the curriculum as follow: 1. Enhance the awareness and seriousness via the oral cancer individuals. 2. Provide action cues on the advice of the physicians. 3. Increase the benefits of betel nut cessation actions through incentives. 4. Decrease the availability and accessibility of betel nut chewing through peer pressure and guidelines.

**Results**

Arrange weekly BNC courses in accordance to work attendance, and keep tracking for three months. Have weekly investigation for the current situation and giving consultation and help in the process. The result of betel nut cessation rate reached 75%. The company publicly gave honor to those employees that had successfully quit chewing betel nuts.

**Conclusions**

Physician shared their clinical experience followed by introduction of oral cancer patients and their stories. In hoping to achieve full understandings and gravity of the situation, supervision of physicians as well as company supervisors is mandatory. They shall continue to do so until participants have stopped betel nut chewing altogether. The key to success not only lie in the determination of every participant, the support and incentives provided by the company supervisors hold a great significance.

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## The Correlation between Stress and Overwork at Hospital Staffs

**SHEN Cho-kuang, CHENG Yu-chen, CHEN Yu-Shan, CHEN Yi-Chih, TSOU Jhi-Chyun, HUNG Ling-Yu**

**Introduction**

Recent years, we heard news about overwork caused nurses and doctors health damage in Taiwan. Hospitals are special and professional work environment and staffs have high work pressure and long work time. If there was no stress management, cumulative stress will cause staff physical and mental illness and disease. First, we would like to figure out the correlation between stress and overwork in our hospital staffs.

**Purpose/Methods**

In 2015, self-reported overwork questionnaire, including three aspects of personal, work and service objects, and monthly overtime hours were surveyed at staff health check up first time to evaluate the overwork problems. The results were divided into 3 grads. Besides, self-reported Taiwanese Depression Scale (TDS) was used to survey staff mental stress and classified into 4 grades. SPSS 17.0 was used as the analysis software. Descriptive statistical analysis and correlation analysis were used in the results.

### Results

A total of 480 questionnaires were collected. The results showed, at moderate and severe grades, there were 178 staffs with personal overwork, 156 staffs with work overwork and 105 staffs with service objects overwork. TDS analysis showed that 56 staffs had pressure overload and 39 staffs needed medical assistance. Monthly overtime hours survey showed 19 staffs had overtime between 37-72 hours and 5 staffs had overtime above 72 hours. The Correlation analysis showed the positive correlation was found between three aspects overwork and stress, but no correlation with monthly overtime.

### Conclusions

We found that more than 30% staffs had personal and work overwork, about 20% staffs had stress problem and needed assistance and part of doctors had extreme overtime. Besides, the correlation between overwork and stress were noted. This result showed if we would like to improve overwork, decrease overtime hours will not be the main target. How to provide life and work assistance to decrease staff personal, work and mental stress will be the future strategy.

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## Experience of Delivering Smoking Cessation Services into the Workplace

**TSAI Chung-Hung, WANG Min-Fu, CHEN Li-Yu, HUANG Shou-Cheng**

### Introduction

Tobacco smoking is the leading preventable cause of disease. Taiwan has made remarkable progress on decreasing the smoking rates in adults from 27.0% to 17.1% between 2002 and 2015. However, smoking rates among males in Taiwan are much higher compared with other developed countries. Moreover, male smokers aged 25-50 year-old in Taiwan less searched for smoking cessation service because of various reasons. The workplace appears to be a useful setting for helping people to stop smoking, because large groups of smokers are available who can easily be reached and helped. Delivering smoking cessation service into the workplace may be a good way to reduce the smoking rates of male smoking workers.

### Purpose/Methods

Since the implementation of second-generation smoking cessation program by Health Promotion Administration in 2011, smoking cessation service could be provided as individual counselling and pharmacological treatment. By agreement of Department of Health, we held the outpatient service in the 2 different companies. All of smoking workers received 8-week pharmacological treatment and 4 times individual counselling.

### Results

A total of 33 male smoking workers joined the smoking cessation program, 22 (66.7%) smokers received Varenicline and 11 (33.3%) smokers received combined nicotine replacement therapy. At 12 week follow up, 11 workers quit smoking

successfully. All of the workers decreased the daily amount of cigarette.

### Conclusions

To deliver smoking cessation service into the workplace increases the accessibility for busy male workers. The 12 week cessation rate is similar as the other outpatient services, and the long term cessation rate need to be investigated in the future.

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## Happy Hour – Addressing alcohol use from a health service

**CORBEN Kirstan, SMOKER Gemma, DEAN Emma, NOBLE Kia**

### Introduction

Research shows approximately 40% of potentially preventable hospitalisations for chronic conditions are associated with alcohol, tobacco or obesity. While tobacco use and creating healthier food and drink environments have been a long term priority for Alfred Health, alcohol use among patients and staff has become a recent focus.

### Purpose/Methods

Aim: To explore the nature of alcohol related harm among patients and staff of Alfred Health. Methods: Alfred Health undertook baseline measurements: -Patients: A retrospective medical record audit was conducted for 307 patients admitted over two days in July 2014. Data was examined for evidence of inclusion of modifiable risk factors in clinical documentation, including alcohol use. -Employees: A range of self-reported health and wellbeing measures, including alcohol use, were recorded by staff in April 2016.

### Results

Patient alcohol use was recorded in 31% of all medical records reviewed. Where alcohol use was documented, 34% of inpatients reported daily use, and a further 23% several times a week. In patients drinking alcohol regularly (at least several times per week), 69% were male, 37% current smokers and 42% were at risk of social isolation (live alone, homeless or insecure housing). Approximately 13% of staff reported drinking at levels which expose them to long-term harm and 9.6% at levels for short-term harm. While 50% of staff indicated they 'rarely' or 'don't drink', 6.5% of these still reported levels of drinking at risk of short-term harm.

### Conclusions

Both patients and employees experience significant levels of exposure to alcohol related harm; both groups are not being engaged in Alfred Health's response to minimising harm from alcohol, building on organisational successes in smoking and obesity. Alfred Health's leadership in the area of alcohol aligns with its role as a major trauma centre in Australia.

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## New strategy to prevent corruption in public health system

**RIVOIRO Chiara, DIRINDIN Nerina, BRUNETTI Massimo, DE FIORE Luca**

### Introduction

Country profiles from Transparency International show a high level of citizen reported corruption in Italy: as in other countries, healthcare is particularly affected. Since 2014, we launch an Italian initiative to prevent any type of corruption in the Italian NHS, called Illuminiamolasalute. Among others activities, we proposed innovative training for health care professional working in Hospital or in local health authority.

### Purpose/Methods

We proposed innovative training paths for group of healthcare professionals, based on the methodology of open dialogue and peer education. Training is centered on real cases of daily scarce transparency or illegality proposed by professionals. We highlighted two main risk factors for corruption: conflicts of interest and asymmetric information.

### Results

The training experiences has allowed us to identify the ingredients useful to increase the perception of corruptive risk in healthcare sector: a deep analysis of the values's system at the basis of health professionals activity; the active participation of professional in the training process, the deconstruction of those consolidated elements that are risk factors of corruption; the discussion of real experience and case studies of single participants. After training paths, in many Italian hospitals, groups of healthcare professional have started to analyze the problem of conflicts of interest, not in a bureaucratic way, but centered on the real risk factors, on the possible consequences and on the realistic way to address single cases.

### Conclusions

Since new anticorruption law was enacted in December 2012 (190/2012) in Italy, there is the risk that this law is mostly applied bureaucratically. New training methods, with real involvement of healthcare professionals, the use of open dialogue and peer education instruments are effective to involve all the participants in a virtuous process to prevent corruption.

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## Session O2.4: Creating a healthy workplace

### Workplace health promotion in Austrian hospitals

**GAHLEITNER Christa, NOEHAMMER Elisabeth, STUMMER Harald**

### Introduction

Workplace health promotion (WHP) is an approach simultaneously benefitting company, employees and the health system. However, health care organizations seem to be reluctant to implement it (Schaffenrath-Resi et al., 2010).

### Purpose/Methods

The aim of this research was to describe the current status of WHP in Austrian hospitals, replicating a study by Schaffenrath-Resi et al. (2010). All Austrian hospitals except the seven military ones, single entities for chronically ill integrated in regional hospitals and one without an e-mail address were contacted electronically. Those not declining the participation (22) received a link to a mainly quantitative online questionnaire with 110 items based on Schaffenrath-Resi et al. (2010), leading to N = 242. A follow-up e-mail was sent after two weeks. Data collection lasted from March-May 2015, the return rate was 27%.

### Results

About 2/3 of the respondents rate WHP as well-placed investment. In most cases, the management (ca. 24%), the work council or the company physician (ca.17%) is the initiator. More 50% do not require assistance for the implementation, use health circles and have a rather project-based program. Environment-directed elements mostly refer to flexible schedules, partly to team and leadership trainings, individual-based ones focus on sports and communication trainings, way less on prevention of substance abuse, cancer or coronary diseases. Workplace health management as comprehensive approach has been implemented by only 18.5%, irrespective of location and type of initiator. In most cases, the programs are evaluated, but not systematically.

### Conclusions

Those Austrian hospitals that report to have established health promotion within their organization seem to implement it with increasing quality using participatory approaches and a combination of individual- and setting-oriented elements. However, WHP approaches are very scarce and often not holistic.

### Comments

Informing about WHP and supporting holistic programs is highly recommended.

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## Hospital Staff's perspective regarding potential effect of the hospitals on their health: suggestions for a health promoting hospital

**KESHAVARZ MOHAMMADI Nastaran, VAZIRI Mohammad -Hossein, KALHOR Rohoolah, NOORI Kobra, ZAREI Fatemeh, REZAEI Masood**



**Introduction**

Hospitals play a pivotal role in health disciplines; however, they can turn into high risk environments for their staff, patients and visitors.

**Purpose/Methods**

The goal of the study reported here was to define hospital Staff's perspectives regarding potential effect of hospitals on their health and also suggestions for making a hospital into a health promoting one. It was a qualitative study performed in 5 hospitals in a city in Iran. Data were collected by conducting semi structured interviews with 45 staff of these hospitals. The data were analyzed according to thematic content analysis.

**Results**

Some of participants believed that they had experienced positive impacts by working in the hospital including increased awareness and information, easy access to treatment facilities and also mental positive effect. The negative effects also were reported by many participants including adverse mental and physical effects, communicable diseases and fatigue. Their suggestions for creating a health promoting hospitals included improving communication, management, facilities and human resource, creating a positive psychological environment, better infection management, holding up educational workshops and providing much more services to the patients and their relatives.

**Conclusions**

From view points of hospital staff, hospital environment could influence their health, negative or positive. However, due to difference in working conditions, they reported different impacts.

**Comments**

This may suggest that rather than developing a unique plan for all type of hospitals, any efforts to turn any hospitals into a health promoting hospitals should be based on addressing hospitals specific demands of their staff, patients and visitors and also the level of readiness of hospitals.

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## Knowledge transfer through educated colleagues - a best practice example

**MOSOR Erika, STAMM Tanja****Introduction**

In recent years, different kinds of workplace health promotion interventions have been conducted for the staff working at residential care homes. Still, the number of reported physical problems in daily routine is high. Programs which enable employees in getting involved and making a personal contribution to their health seem to be rare. Based on results of the pilot project "Health has no age" (2011-2013), we developed and implemented a multi-faceted training program focusing on health promotion and ergonomic issues.

**Purpose/Methods**

The aim of this project is to support employees in changing ergonomic behavior, adapting work environment whenever necessary, and performing balancing exercises on a regular basis. Due to regular education and training units conducted by occupational therapists (twice a year), the so-called "ergonomics pilots" pass on their knowledge and experience to their colleagues in daily work and team meetings. This knowledge transfer is supported by different training materials expressed in lay terms.

**Results**

Until now, more than 200 employees from different sites and various divisions have been educated in ergonomic principles and physical activity. The process evaluation revealed several aspects for improvement of the "ergonomics pilots" program. The successful implementation requires support of the management, a detailed job description, and enough time resources for regular training, well-structured documents, and exchange possibilities.

**Conclusions**

Involving employees from different workplaces and empower them as experts for their own work could be a useful asset for organizations offering participatory workplace health promoting interventions.

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## Interpreter Debriefs – Building a dynamic and sustainable model for self-care and vicarious trauma support for interpreters

**TANCREDI Anita, WAH Deolinda, EAGAN Grace, SAPPLETON, KARIMA Karen****Introduction**

Over the past decade, awareness about vicarious trauma among interpreters has increased. In that time, we have also become aware that regardless of the label we give it - vicarious trauma, compassion fatigue, occupational stress, etc. - we need to do more to provide interpreters with resources for self-care, emotional support, and ethical decision-making skills.

**Purpose/Methods**

In 2013, after conducting a needs assessment and research into the benefits of debriefing, the Hospital for Sick Children (Toronto, Canada) began to offer interpreter debrief sessions as part of a Quality Initiative. Both staff and contracted agency interpreters were invited to take part. In order to ensure the sustainability of the successful support initiative, in 2014 SickKids reached out to its external interpretation service provider, Access Alliance Language Services, to explore transitioning the sessions to the external ISP. In early 2015, SickKids began the transition by jointly offering the debrief sessions, alternating between the host sites.

### Results

Overall satisfaction with debriefing sessions was high amongst 42 respondents surveyed. After conducting a few debriefing sessions with interpreters, to facilitate the transition of the program to Access Alliance, a training program was co-developed between the hospital and the agency. A self-care resource toolkit and an annual structured workshop to review the code of ethics in the context of challenging interpreter situations were also created. A group of six interpreters were trained to facilitate the sessions at Access Alliance to ensure on-going sustainability of the program.

### Conclusions

Overall satisfaction with debriefing sessions was high amongst 42 respondents surveyed. After conducting a few debriefing sessions with interpreters, to facilitate the transition of the program to Access Alliance, a training program was co-developed between the hospital and the agency. A self-care resource toolkit and an annual structured workshop to review the code of ethics in the context of challenging interpreter situations were also created. A group of six interpreters were trained to facilitate the sessions at Access Alliance to ensure on-going sustainability of the program.

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## Session O2.5: Community health promotion

### “Tomo” group; a community-rooted way of HPH

**KITASHIRO Saya, KATAKAMI Daisuke, UEDA Daiju, FUKUNISHI Shigeki, SEO Takahumi, OYA Akira, SAITO Kazunori**

#### Introduction

There is a group named “Tomo” in our hospital; Mimihara General Hospital. This group is managed by the local residents. “Tomo” members promote their health with our hospital through various activities such as holding lectures presented by medical experts, medical round-table conferences and health festivals. In spite of their activities, it has not been investigated that how “Tomo” group has effected on their health. Recently, our team has been studying the health effects. This time, we focused on how early-stage colorectal cancers can be found in “Tomo” members comparing with non “Tomo”.

#### Purpose/Methods

To investigate the health impact by joining “Tomo”, retrospective cohort conducted in patients who were hospitalized by colorectal cancers since 2012 January to 2015 December. Stage 0, I were regarded as an early-stage detection and II-IV as a late-stage detection. We compared these groups with the univariate and multivariate analysis.

### Results

There were 346 hospitalized patients diagnosed as colorectal cancers. 55 patients, recurrent or palliative cases, were excluded. 146 cases (42%) were “Tomo”, 200 cases (58%) were non “Tomo”. 119 cases (41%) were in the early-stage. 172 cases (59%) were in the late-stage. In the multivariate analysis, joining “Tomo” was a statistically significant factor to detect colorectal cancers in the early-stage [OR 0.552, 95% CI 0.314 to 0.971, P=0.039]. The other statistically significant factors were checking a fecal occult blood test [OR 0.094, 95% CI 0.053 to 0.166, P<0.01] and aging [OR 1.030, 95% CI 1.010 to 1.060, P=0.012].

### Conclusions

We found that more cases were found as an early-stage detection of colorectal cancers in “Tomo” members. “Tomo” would have a lot of benefits to not only colorectal cancers, but also to other diseases. To find out the benefits, we are now running another study of “Tomo” health effects. If other hospitals start a system like “Tomo” group in our hospital, similar benefits to the health would be brought elsewhere.

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## Enjoy Skinny from Health care- Explore the Effects of Physical Managements from Multivariate-Activities in “Health Day”

**HUNG Ta-Chuan, HUANG Tsu-Hsueh, SHEN Yan-Ling**

#### Introduction

According to the WHO reports, obesity could increase the risk of metabolic syndrome. The “Health Day” events, which are free of charge, are held in our hospital regularly. They include lectures, expert guidance and measurement for obesity issues. Especially, we provide personal physical assessments and health consulting in order to increase awareness of physical fitness and knowledge of self-weight-management in the communities.

#### Purpose/Methods

The “Health Day” events provided lectures targeting on metabolic syndrome prevention, healthy diets and fitness exercise from June to October, 2016. The participants’ body mass indexes (BMI) were also recorded. Finally, medical staffs would give recommendations and or refer participants to outpatient program for weight management if necessary. Any participants in the program who can lose over 1 kg would have an opportunity to join the annual lucky draw as incentive of events.

#### Results

Five “Health Day” events were held. There were 1558 participants attending the themes of obesity prevention, healthy diet and physical fitness. Four hundreds and eighty-three participants’ BMI were obtained. Sixty-six people were overweighted (BMI > 24). BMI was decreased in thirty four participants. All of them made effort to lose weight, which were 102.5 kg in total. Seven of them joined weight-lost course through outpatient arrangements. The rest of them were more

likely to achieve self-life modification through the activities of "Health Day".

### Conclusions

The hospital is a platform for advocating weight management and check-up services. Hospital is also the best gatekeeper in the community, by providing multiple categories of activities and professional advice to enhance community awareness of the continuously self-weight management skills. Therefore, we can create a healthy living community and keep the metabolic syndrome away.

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## To Advance the Power of the Contest Program of Community Volunteers to Participate in Health Promotion Activities

### HUNG Ta-Chuan, HUANG Tsu-Hsueh, TIEN Jung-Chen

#### Introduction

To promote and develop community health service, we organize Health Stations in five administrative districts. We train community volunteers not only to provide measurement on BMI, blood pressure and abdominal waist, but also referral service for individuals with abnormal outcomes. In order to encourage volunteers to continue to promote and participate in health promotion activities, we organize the "excellent Health Stations and individual merit" contest.

#### Purpose/Methods

We formulated the contest details through the discussions with representatives of health stations in 2014. The 5 contest items included preventive health care, chronic disease control, obesity prevention, active aging, and physical health. We provided a rewarding point passbook (healthy lifestyles) for contest; the competition period was from April to October 2015. In addition to awards bonuses given to top three stations, we invited them to share experiences in annual award ceremony.

#### Results

A total of 339 volunteers participate in this activity. The recovery rate of the passbooks at each station was 73.3%. The participation rates of each station for preventive health care and chronic disease control were 23.3% and 46.7%. 291 volunteers joined for obesity prevention and finished the full course, achieving 273.2 kg of total weight loss. Co-sponsored with the District Office a health and vitality show contest, there were 19 teams consisting of 611 seniors participating in this contest. 170 participants join in the exercise walking, with individual frequency on average 2.1 times per week.

#### Conclusions

To consolidate volunteers' coherence and to bring better results, we organized the first annual contest program in 2015. We revised the procedures of second annual contest program based on the feedback from all aspects in 2016. We believe that the

new program can motivate volunteers to participate community health activities. We will continue to invite people to join volunteers and to promote health activities for creating healthy life.

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## Effectiveness of Using Multiple E-Strategies for Promoting Weight Loss Maintenance Among obese-Adults in Urban communities

### WANG Chi-Jane, WONG Wei-Teng, CHEN Ying-Zu

#### Introduction

Several literature indicated that ICTs can bring positive effects on weight loss program. However, It is rare studies using e-strategies as a tool in weight loss program to older-adult population.

#### Purpose/Methods

The purposes of this study were to examine the effectiveness of using multiple E-technologies to maintain weight loss for obese older-adult after a weight management program. A randomized controlled design with pre- and post-test design was conducted. The participants with obesity were randomly assigned by residential clusters to either intervention group or control group. There were 25 in IG and 31 in CN with completed activities during a period of 2-month follow up. Both two groups received a reminding instruction for weight management. Moreover, the IG group additionally received multiple E-technologies (e.g. Face book, instant messaging, telephone reminding, mobile phone Apps) to promote weight loss maintenance. The outcomes were evaluated including body weight (BW), percentage of body fat (BF%) and body mass index (BMI) by ANCOVA analysis.

#### Results

The study findings show the IG group had much more reductions on BW, BF% and BMI than the CN group had in a 2-month follow up.

#### Conclusions

Multiple E-technologies (e.g. Face book, instant messaging, telephone reminding, mobile phone Apps) can promote urban older-adult to maintain their weight loss after a weight management program.

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## The Effects of Transtheoretical Model Stage Change on Lifestyle

## Modification Intervention among Pre-diabetes Subjects.

LI Yu-Ling, BAI Chyi-Huey, SU Chien-Tien, WANG Sen-Te, LIN Shiyng-Yu, CHEN Jong-Dar, HWANG Lee-Ching, CHIOU Hung-Yi

### Introduction

Pre-diabetes defined as high impaired glucose tolerance or impaired fasting glucose, which often progresses to diabetes in the following years. The lifestyle intervention program focusing on healthy dietary habit and exercise effectively prevents progression to diabetes. Thus, the purpose of this study was to assess the effectiveness of lifestyle intervention program on pre-diabetics subjects in Taiwan.

### Purpose/Methods

The study was a 2-parallel groups' randomized controlled trial. Participants with elevated fasting plasma glucose concentrations (FPG 100-125 mg/dl) or glycated hemoglobin (HbA1C 5.7-6.3%) were enrolled. All study subjects were randomized to receive a lifestyle intervention (intervention group) or regular prevention education (control group). The parameters were obtained from physical examination and biochemical assessments by well-trained case manager at baseline and each follow visit (3th months, 6th months and 12th months). All participants completed a structured questionnaire, including basic information, disease history, physical activity, food-frequency, stage of change, and social support situation.

### Results

We randomly assigned 411 pre-diabetes persons to control (n=141) or a lifestyle-modification program (n=265). The data showed that intervention group had greater reductions in fasting glucose, HbA1c, weight, blood pressure, total cholesterol, triglyceride, high-density lipoprotein cholesterol and low-density lipoprotein cholesterol than the control group after following 12 months, but the difference were not statistically significant. When the stage of change improve from baseline to 12 month follow up, the intervention group shows significant greater reductions in HbA1c ( $-0.12 \pm 0.25$  vs.  $-0.05 \pm 0.26$ ,  $p=0.029$ ) and weight ( $-1.15 \pm 2.38$  vs.  $-0.51 \pm 2.02$ ,  $p=0.048$ ) than control group after adjusted age, gender and study sites.

### Conclusions

A lifestyle intervention improves the status of HbA1C and weight among pre-diabetic adults especially in those who changes their behavior phases.

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## Session O2.6: Child and adolescents health

Health promoting from the very first day: Japanese mothers' experiences

## and perceptions of breastfeeding support in the United States and Austria

SEIDLER Yuki

### Introduction

The health benefits of breastfeeding to infants and the mothers are recognized globally. Early initiation and all forms of extra support increase the duration and exclusiveness of breastfeeding. Little is known of the experiences of breastfeeding support from the perspectives of minority immigrant groups. This study aimed at identifying factors that promote or discourage the continuation of exclusive breastfeeding among the Japanese mothers in the United States (U.S.) and Austria. How can hospitals and health services in western countries create a supportive breastfeeding environment also for minority groups?

### Purpose/Methods

To qualitatively explore the experiences of Japanese mothers, 23 nulliparous Japanese mothers (10 in the US; 13 in Austria) were recruited based on purposeful sampling. In-depth interviews were conducted in 2014-2016. Thematic content analysis was applied to all data assisted by Atlas.ti.

### Results

Analysis revealed three major themes: hospital-based support; out-of-hospital support; and informal support. Mothers regarded hospital-based support the least helpful. Many experienced ad-hoc, inconsistent and rather impulsive advices from various hospital personnel. Out-of-hospital support, if provided by lactation specialists in a continuous way, clearly supported mothers to exclusively breastfeed. Barriers to access and utilisation of these services were language. Informal support provided by experienced Japanese midwives were highly valued and effective.

### Conclusions

Hospitals aiming at promoting exclusive breastfeeding also among minority groups should ensure uniform and consistent messages to their clients and try not pressure the mothers to become 100% successful by the discharge date. Referring mothers with language difficulties to peer support groups may not be effective. Maternal healthcare professionals with immigrant backgrounds could be integrated more into the formal healthcare workforce of the host country.

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The Relationship between Breastfeeding, Postpartum Depression, and Weight retention among Taiwanese Women in a Mother-Child Friendly Hospital

## HWANG Lee-Ching, LEE Shu-Chen, CHEN Yu-Hua, SHAO Hsin-Hui

### Introduction

To determine postpartum depression and postpartum weight retention according to the level of breastfeeding among Taiwanese women in a mother-child friendly hospital.

### Purpose/Methods

A cohort of 801 postpartum women was recruited in the postnatal wards. Self-report questionnaires were completed at recruitment, and at 1 month postpartum. The Edinburgh Postnatal Depression Scale was used to screen for symptoms of depression.

### Results

Breastfeeding was initiated by 94.6 % of the participants; at 1 month, 38.3 % of women were exclusive breastfeeding and 5.4% were exclusive formula feeding. At 1 months postpartum, the mean of EPDS score was 7.7 (SD: 4.9) and 18.5% of the participants developed postpartum depression. The mean of weight retention was 4.3kg (SD: 3.9, range: -7.2-28.5). The results revealed participants who were exclusive formula feeding had the highest scores on the Edinburgh Postnatal Depression Scale and the highest levels of weight retention, while participants who breastfed exclusively had the lowest scores ( $p=0.0002$ ) and the lowest levels of weight retention ( $p=0.009$ ). Using a multivariate level of analysis, the odd ratios for weight retention of more than 7 kg at 1 month (75 percentile) were significantly lower among exclusively breastfeeding women (OR: 0.40 (CI: 0.17-0.98)). The odd ratios for postpartum depression were significantly lower among breast feeding women (OR: 0.16 (CI: 0.07-0.41)) for exclusive breastfeeding, 0.21 (0.08-0.53) for combining breast feeding and formula feeding).

### Conclusions

Breastfeeding diminished the risk of postpartum depression and significantly lowered weight retention among Taiwanese postpartum women. Assistance with breastfeeding issues should be included in the management of postpartum depression.

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## BambiniMoltoInForma: an integrated program for obesity prevention in childhood in Reggio Emilia

**FERRARI Elena, DAVOLI AnnaMaria, STORANI Simone, BONVICINI Laura, BROCCOLI Serena, FERRARI Francesca, VOLTA Alessandro, GIORGI ROSSI Paolo**

### Introduction

Child obesity is an important risk factor for obesity in the adult age and for related chronic diseases. In Italy, the percentage of overweight and obese children is among the highest in Europe.

Guidelines underline the importance of preventing obesity by involving pediatricians in weighing, measuring and calculating the BMI percentile of children from the age of two, using shared methods and equipment.

### Purpose/Methods

Since 2008 Primary care pediatricians are engaged in addressing the problem of obesity. They decided to work as a network involving various departments (Pediatrics, Food Hygiene (SIAN), Epidemiology, Places of Prevention and Primary Care) with the aim to create a program that integrates primary and secondary preventive actions.

### Results

From 2012-2015 pediatricians implemented and tested a motivational intervention aiming to change lifestyles targeted at overweight children aged 5-7 and their parents. A motivational counselling from the pediatrician for overweight 6 year old girls is now an integral part of the referral model in Reggio Emilia. In parallel primary care pediatricians decided to use the information collected during health check ups as an opportunity to intercept the problem of obesity and attempt to implement the first prevention actions. They therefore started measuring the BMI percentile and variables related to lifestyle at health check ups for 3 and 5-6 year olds. The first measurement at the 3-year-old health check up highlighted that the prevalence of overweight and obesity is rather limited: 7.9% and 2.0%. The prevalence is higher at age 5: overweight 9.2%, obesity 4.4%

### Conclusions

In the province of Reggio Emilia, a prevention and referral program for childhood obesity is progressing (BMInforma). There are still some issues to be explored. The measurements repeated at age 3 and 5 (and later) provide the opportunity to monitor the children over time and to study the action of the risk factors

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## “How to prevent mistreating healthy children: The Münchhausen by Proxy-Syndrom in everyday health care”

### PAUL Rainer

### Introduction

The Münchhausen by proxy-syndrome defines the fact that a number of child-patients, are presented by their parents as somatically ill, but being healthy. In those cases the illness, treatment is being searched for, is produced by others artificially, namely by their parents. This is not very seldom in everyday hospital health care. How to discover those cases, which are the leading symptoms? Which are the consequences for our practice and policy as a health promoting hospital? It is more health promoting not to intervene on a somatically account, but detect the psychic need of the parents to get their children being treated!



**Purpose/Methods**

The paper will give a definition of the "Münchhausen by proxy syndrome", will present a set of epidemiological data and will present three case-studies, by which the central questions of the course of intervention will be shown.

**Results**

The casestudies will show, that a short term psychtheapeutic interventon on the side of the parents in the case of Münchhausen by proxy-syndrome is needed and efective. By doing so, those children can be procted beeing mistreated.

**Conclusions**

A set of children rights in hospital health care is presented. Childen rights in medical health care must address the right not to be treated, when the necessity is not evident.

**Comments**

Further ethical question should be discussed.

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## The setting based approach for mental health in young people: Coordinating Centre of wellbeing in school

**AGUZZOLI Cristina, MICHELIN Corinna, ANZALLO Calogero, FOSSELLA Sabrina, PLETTI Luciano, VIDI Miryam, PERAZZA Franco, LORU Franco, TROLESE Paola, CULOT Wally, DAMILANO Igor, CONDOLF Anna, FRAGIACOMO Marco, IPPOLITO Eleonora, TORSELLI Elisa, BRAIDA Cinzia**

**Introduction**

In the survey HBSC 2014, young people were asked how often they had experienced the following symptoms in the last six months: headache; stomach ache; backache; feeling low, irritable or bad tempered; feeling nervous; difficulties in getting to sleep; and feeling dizzy. Italy is on the top of the list for the prevalence of this item. These symptoms are an easy ground for bad lifestyles, bullying and self injuring. .

**Purpose/Methods**

"What's up?" is a system dedicated to improve life skills and resilience in order to promote coping strategies and resilience in teen agers. The vision includes: a governance level, made of alliances between health services, schools, other institutions and private sectors of the community; an operative level, with life skills tools and a multilevel evaluation strategy. The Self-Assessment Manual of the HPH Network is the main tool we are using to check the functions of the Coordinating Centre of wellbeing

**Results**

Coordinating Centre of wellbeing collects the needs of the school environment, draws plans for improvement by sharing with stakeholders and articulates with the health and social services to ensure the proper management of risk cases and take charge when necessary. At the moment the workline Crescere insieme con What's Up is active in 90% of the schools in Province of Gorizia, and the model is implemented at the regional level. In the current school year (2016/2017) What's Up is involving about 13,500 students in 25 institutions. The Local Banking Foundation is doing a strong advocacy and is giving the financial support to involve in Coordinating Centre of Wellbeing a team of private psychologists. They are accurately selected and monitored monthly by experts of Health Service.

**Conclusions**

This represents an effective model for the management of the work line about health of children and adolescents provided by the Prevention National Plan 2014/2018.

**Comments**

Similar models are ongoing in Nuffield Health and in the Emotional Intelligence Center of the Yale University.

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## Links Between Classroom Acoustics and Repetitive Behaviors in Preschool Children with Autism: An Observational Study

**KANAKRI Shireen****Introduction**

Autism has been generally ignored by the interior design community and excluded from building codes and guidelines, even those developed specifically for special needs individuals. In reference to this exclusion, Baron, of the International Code Council Stated, "I know of no building or accessibility code that incorporates requirements specifically to address children with autism. However, accessibility in general is addressed in the codes developed by the International Code Council" (Baron-Cohen, 2003; UN Global Program on Disability, 1993). Acoustics is one of the most important issues in interior design. No specific references are made in the mandates regarding individuals with developmental disorders or autism, but the term "consideration" is used in reference to "other communication disorders" (UN Global Program on Disability, 1993). Individuals with developmental and psycho-social disorders, of which autism is one, have been overlooked (UN Global Program on Disability, 1993).

**Purpose/Methods**

Therefore, one of the primary aims of this research is to correct this exclusion by developing a preliminary framework of interior design guidelines for autism. To reach this goal of developing a framework for architectural guidelines for autism, an extensive literature review was conducted and a behavioral observation.



### Results

Research results indicate that environment is important to the treatment of autism because it influences behavior. A correlation between noise levels and frequency of target behaviors was found; that is, as decibel levels increased, several of the observed behaviors occurred with greater frequency.

### Conclusions

This research gives practical solutions that architects and designers can use to modify the environment for children with autism. These modifications will help these children develop their skills, cope with auditory problems and improve their behaviors.

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## Session O2.7: Health promotion among the elderly

### Physical Activity Promotion in Residential Aged Care – Results from an Austrian Pilot Project and Follow-Up

**KRAJIC Karl, WIECZOREK Christina C.**

#### Introduction

Starting in 2011, a two-year pilot project “Gesundheit hat kein Alter” (Health has no Age – “GHKA”) was carried out in 3 aged care facilities in Vienna. The project aimed at developing residential aged care into health promoting settings for all groups concerned. For residents, the project stakeholders had selected physical mobility enhancement. The literature and the local needs assessment indicated sustaining mobility as area of major concern. As a consequence of good success, a local follow-up and proliferation project was carried out until 2016. Since 2015, Styria Vitalis (Styrian health promotion agency) conducts a transfer project, based on concept, tools and experiences of GHKA. It co-operates with 5 aged care facilities and implements transfer strategies to many other Styrian facilities.

#### Purpose/Methods

Research aims to clarify the potential for physical activity promotion programs in aged care. Specific questions include feasibility of implementation, effectiveness and viability of the mobility enhancement programs in the pilot units; feasibility and effectiveness of diffusion strategies. The paper cross-analyses the results of various evaluation studies conducted by the author and other researchers since 2011, including quantitative and qualitative data.

#### Results

In the pilot units, the physical activity promotion program proved feasible and effective (significant and sustainable effects on quality of life, proven in an RCT study). Concerning diffusion, a study could show good connectivity to staff perspectives. Evaluation of the follow up project in Vienna showed good program viability. Also the Styrian transfer project demonstrates good connectivity of physical activity promotion to relevant actors in Styrian aged care.

### Conclusions

Physical activity promotion as a means to stabilize or improve mobility of residents seems a relevant area with high connectivity in Aged Care settings. It should be a core element of health promotion programs in this area.

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## The fitness-enhanced courses for the elderly

**CHUANG Chin-Ru, YU Shu-Chuan, HUNG Ling-Yu, CHEN Yi-Chih, TSOU Jhi-Chyun**

#### Introduction

Physical fitness is the body's ability to adjust to life, sports and the environment. The better the physical fitness status, the better the health is. According to the result of 2016 senior citizen's health examination, 35.1% of the participants are lack of muscle endurance. We hope that training courses will enhance the muscle endurance of the elderly and prevent them from falls.

#### Purpose/Methods

To improve participants' physical fitness status, a 15-week-exercise course, including muscle strength training, flexibility training and cardiovascular endurance, is introduced. All participants should do fitness test, including body mass index, balance, upper and lower limb muscle strength, upper and lower limb flexibility, cardiovascular endurance and dynamic equilibrium, before and after the exercise courses.

#### Results

A total of 39 participants enrolled in this project. The average age is 75 years old and 12 participants completed the fitness test before and after the courses. We compared the pre-post valid data by paired T test. The results showed that 15-week of exercise training courses could effectively improve balance ability by 10.6 seconds ( $p=0.000$ ), the strength of upper limb by 4.3 times ( $p=0.000$ ), the strength of lower limb by 4.7 times ( $p=0.001$ ), upper limb flexibility by 4.7cm ( $p=0.005$ ), cardiovascular endurance by 12.5 times ( $p=0.044$ ) and dynamic equilibrium by 1.4 seconds ( $p=0.003$ ). All fitness indicators are improved significantly except lower limb flexibility.

#### Conclusions

The results showed that the exercise-training courses could effectively enhance the physical fitness status. 96% of participants are satisfied with the courses and give a positive response to the project. Since the participants are aged from 69 to 85 years old, it must be taken into consideration the age difference and the diverse physical conditions of the participants. Some will need assistance from nurses to avoid accidents.

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## The Effectiveness of Innovative Intelligent Electric Bulletin Board in the Geriatric Ward in a Tertiary Teaching Hospital in Southern Taiwan

**CHOU Ming-Yueh, CHOU Mei-Hsiang, LIANG Chih-Kuang, LIN Yu-Te, CHENG Jin-Shiung**

### Introduction

Older people are at risk for acute delirium and sarcopenia while admission and one quarter of older people will suffer from functional decline after admission. While admission, older people get used to lie down on the bed and wait for staffs' visiting and exams. Moreover, they will become disorientation to time and develop of acute delirium easily. The purpose of this study is to design the intelligent electric bulletin board in the geriatric ward so as to provide older people well orientation and lower nursing staffs' caring burden in the geriatric ward.

### Purpose/Methods

We recruited a geriatric multidisciplinary team including the engineer to design the intelligent electric bulletin board in 2015. Every older person admitted to the geriatric ward in a tertiary teaching hospital in Southern Taiwan would had their own electric bulletin board. The intelligent electric bulletin board integrate the information including the clock, the weather outside, the name and picture of staffs, the important reminders for nursing cares, and the details of whole daily schedule. The system also integrated the patient instructions and the reports of their own exams in this electric bulletin board.

### Results

After using this intelligent electric bulletin board in the geriatric ward, the older patients' ADL while discharge increased from 36% to 57%, the incidence of pressure sore decreased from 0.12% to 0.03%, the nursing staffs' care burden decreased 2,880 minutes for every month, and the patient satisfaction scored 100%.

### Conclusions

Through designing the intelligent electric bulletin board in the geriatric ward, we could provide the age-friendly ward to improve patients' ADL, to lower the risk for pressure sore, to lower the care burden from the nursing staffs and to increase the patient satisfaction.

### Comments

Using this innovative design for the intelligent electric bulletin board, we would like to provide the older people an age-friendly environment so as to improve their quality of life while admission.

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## Medical Information Reception Among Hospitalized Elderly Patients in Taiwan: A Pilot Study

**CHEN Kai-Li, HUANG Mei-Chih**

### Introduction

Communication is a challenge for medical professionals, especially with geriatric patients. Medical messages receiving among hospitalized elderly have not been studied.

### Purpose/Methods

The aim of this study was to explore medical messages receiving among the hospitalized elderly in Taiwan. A descriptive study design was used. Convenience sampling was applied and the research was conducted in a geriatric ward in a medical center in southern Taiwan. Patients were recruited who were 65 years or older and capable of verbal communication. Data were collected using a self-developed questionnaire. For each participant, data were collected in one regular ward round. Physician's messages were recorded. During the first and fourth hour after the ward round, the researcher collected the medical messages conveyed by the physician in the ward round that could be repeated by the patients. Quantitative data were analyzed by descriptive statistics.

### Results

Thirty patients participated in this study. All participants could remember the visit of the physician. Seventeen participants (56.6%), however, could not repeat the messages, and the total message repetition rate was 17.8% at the first hour after ward round. By the fourth hour, the message repetition rate was down to 8.9%. Three participants (10%) even reported incorrect messages.

### Conclusions

Majority of the hospitalized elderly cannot repeat medical messages conveying from the physicians. Written materials and the involvement of principal care givers in the medical informing process may be necessary.

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## The Use of Neurocognitive Disorder Screening Tools in Community Counseling Services

**FANG Chun-Kai, LIN Chen-Ju, YAN Ting-Ju**

### Introduction

In 2016, the MMH Department of Geriatric Psychiatry initiated our collaboration with our Community Health Center to provide monthly community screenings and counseling of neurocognitive disorders. Using the AD-8 Early Screening for Dementia Questionnaire, we provided the members of the community with evaluation and promoted the understanding and empathy of symptoms of early dementia among the community.

**Purpose/Methods**

Our department started its collaboration with the Health Bureau of Taiwan in 2014 to start the Community Dementia Care Project. Our purpose was to raise awareness and understanding of dementia in the community to promote preventative measures. From 2016/01 to 2016/10, our case managers using the AD-8 provided screening services at the Ba-Li and Danshui Community Health Centers, assisting the elderly with self-evaluation of cognition. We provided telephone interviews and follow-up for anybody with an AD-8 score higher than 2.

**Results**

In 2016 our case managers in collaboration with our community health center provided 12 sessions of screening and counseling services, and evaluated over 100 elderly members of the community. 7 of these suspected of having a neurocognitive disorder.

**Conclusions**

Our case managers in community health centers provided screening services to elderly members of the community using the AD-8 questionnaire and provided follow-up telephone interviews. We recommend future bi-annual sessions in community health centers to provide evaluation and care to the elderly. We also recommend educating and training volunteers regarding dementia and use of the AD-8 to broaden the scope of screening and education services in order to provide early diagnosis and early treatment.

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## Non-Medical Therapy For Elderly Patients Of Dementia In The Community

### CHIEN Chun-Ying, HUNG Hui-Ting, CHUO Ying-Hsiang, LIN Kuan-Hung

**Introduction**

Dementia treatment is an important issue in Taiwan society. Our team provide not only medical treatment in dementia clinic but also non-medical therapy in the community. The combination of these actions can help our patients and their families to have a comprehensive plan in dementia treatment.

**Purpose/Methods**

"The Peaceful sea center" was founded by Sungshan Adventist Church in 2015. Taiwan Adventist hospital (TAH) started "The Dementia Caregiver course" since July 2015. In this course with 10 topic on every Tuesday, we share the expertise of dementia care. Wednesday and Thursday will be arranged church activity course, with each week 3 half the time to teach excited and activities to prevent and deterioration and promote healthy living. Caregiver can learn the skills about this disease, and also can get support and respite in this class.

**Results**

2015 July – 2016 December total have 7 courses, more than 200 students. The students include the caregivers (25%); community

volunteers (20%); community people (20%) and Mild cognitive impairment patients (15%); Mild with dementia patients (15%). The patients take this course a year follow up cognitive test (use Mini-Mental State Examination (MMSE)), the maximum score on the MMSE is 30 points. A score of less than 27 points have 50%; 26 points have 45%; 22-25 points have 5%, non-medical therapy really can keep they cognitive and quality life.

**Conclusions**

The cooperation between hospital and church can be an optimal model regarding the treatment of dementia. We will keep exploring the possibility in this model and develop a better strategy to care our elder citizens.

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## Session O2.9: Health Literacy Improvement after applying the concept of Share Decision Making (SDM) in Health Promotion Hospital

### Health Literacy Improvement after applying the concept of Share Decision Making (SDM) in Health Promotion Hospital

**CHIANG yuh-chyn**

Dr. Zsuzsanna Jakab, stated that health literacy is a key element of health in 2020 (HLS-EU Consortium, 2020). Health literacy is the ability to obtain, process and understand health information and services, and to apply the information to make appropriate decisions. Survey from eight member states in the European Union showed about half of the population has insufficient health literacy, 12% has inappropriate health literacy, and 35% has questionable health literacy (HLS-EU Consortium, 2012). Studies have also shown that insufficient health literacy could result in 3-5% of extra medical expenditures annually (Eichler, Wieser & Brugger, 2009). The health promoting hospital (HPH) not only provides high quality and comprehensive medical care and nursing services, but also fosters corporate recognition that tightly meshes with health promotion targets, develops organizational structure that cultures that promotes health, and enables patients and employees with active roles (Groene, 2006). On improving the role of patients and the general public, Valerie Billingham emphasized the patient-centric Shared decision making (SDM) process, which is defined as "An approach where clinicians and patients share the best available evidence when faced with the task of making decisions, and where patients are supported to consider options, to achieve informed preferences". Studies have shown that utilization of SDM in procedures such as cancer treatment, airway diseases, non-communicable diseases and bone surgery that improve quality of medical care and reduce medical expenses. The introduction

of SDM in HPH institutions is expected to improve doctor-patient communication, strengthens health literacy, and to enable healthcare service users to take on a more direct and active role.

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## **Session O2.10: Round-table discussion: Clinical Health Promotion**

**Clinical Health Promotion: Best-practice for patients, staff and community - the official journal for the International Network of Health Promoting Hospitals and Health Services**

### **BERN JENSEN Thor**

Since its inception in 2011, "Clinical Health Promotion: Best-practice for patients, staff and community" has been the official journal for the International Network of Health Promoting Hospitals and Health Services. The journal has become an important channel for HPH research articles and news from the Network across the globe. The Editorial Secretariat is hosted by WHOCC in Copenhagen international and the journal has an Editorial Board of international experts in the field. Medline indexing is also in progress - hopefully to come into effect with full back-cataloguing of journal archives since the beginning in 2017. The roundtable discussion will focus on service to authors and publishing opportunities within the journal. A full walk-through of all the work processes in the journal will also be presented. The journal additionally offers opportunities for thematic issues and supplementums (as utilized by e.g. HPH Task Forces) as an effective way to broaden knowledge and share best-practice on issue-specific HPH topics throughout the international HPH membership and beyond. The session also outlines costs associated with publication and inside into the perspectives and nexts steps in the journal's development in the years to come. The session will finalize with a general discussion of relevant topics related to patients, staff and community and further development. Agenda Behind the scenes: editorial process and introduction to the journalSupport for authors - what do I get and how?Criteria for articles and how to submitSupplementum / thematic issue - how do I prepare one?CostsFurther development of the journal

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## Session O3.1: Looking back and ahead

The effectiveness of inter-organizational networks in the settings approach of health promotion. The example of the Austrian HPH network (ONGKG)

### METZLER Birgit

#### Introduction

The International Network of Health Promoting Hospitals and Health Services, founded in 1990, belongs to the oldest networks to implement the settings approach of health promotion. The aim of such networks is to develop and implement health promotion. To disseminate the HPH concept, also national/regional networks have been established since 1995. However, not all networks are successful in building sustainable and efficient structures. By using the example of the Austrian HPH Network (ONGKG), network structures and processes as well as conditions in relevant environments were examined to investigate their influence on the effectivity of a network in the settings approach of health promotion. Thereby, insights on factors that have specific meaning for the sustainability and reproduction of a network as well as for the fulfilment of its purpose were investigated.

#### Purpose/Methods

Theoretical framework: network approach and organizational theory approach (especially the network effectiveness concept by Dietscher, the concept of decision premises by Luhmann) Methodology: document analysis; expert interviews with representatives and cooperation partners of the Austrian, German and Swiss HPH networks; interpretive evaluation.

#### Results

Results are illustrated along the historical development of the formal structure and the relevant environments of the ONGKG. They are contrasted against the German and Swiss network. E.g. an early onset of relationships with relevant partners from policy and health care, a full-time coordinating center, the establishment of thematic departments, obligation by membership criteria, and participatory decision structures and processes have been identified as important influencing factors for effectiveness.

#### Conclusions

The results coincide largely with existing findings concerning the effectiveness of networks. Furthermore, additional aspects could be highlighted which allow the deduction of recommendations for networks.

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## Health Convenient Acquirement with One Stop Multi-Services – Development Goal of Community Health Stations

### HUNG Ta-Chuan, HUANG Tsu-Hsueh, HSU Chih-Hung

#### Introduction

About health promotion in the early stage, our hospital were invited occasionally by village office and social community associations nearby. However, we arranged various activities such as health education lecture. But we found the ways of health promotion were too passive between hospital and communities, and it was hard to achieve the efficacy. In order to enhance the performance, we expand Health stations to five districts nearby hospital.

#### Purpose/Methods

In view of above, we cooperated with communities (i.e. village office, church). We recruited local volunteers to operate Health stations. Each local resident who visits stations were tabulated. Initially, Health stations provided measurement (i.e. BMI, BP, abdominal waist), delivering information of health promotion. Then we plan to add service items gradually and arrange medical staff to provide their professionals regularly. We also develop Personal Cloud System enhances the operation efficiently and turn passive to be active.

#### Results

The number of station was increased from 40 to 64. Nowadays, 10 kinds of services were provided. We added glucose and cholesterol check, health consulting, medical referral (community nurse), cancer screening (case manager), dietary guidance (dietician), medication consulting (pharmacist), dementia screening (psychological consultant). Personal Cloud System assisted medical staff to interact with visitors in time. And personalized health information could be checked from individual "mobile application". Thus, there are 7.7 times increasing of visits (7343 in 2009, 64117 in 2015).

#### Conclusions

We are keeping to establish Health stations. The Health network with one stop for multi-services connects communities with hospital for entire scale. In the future, the network will link national long-term care system. Let Health stations where elderly is willing to visit become a friendly place, reduce the burden of care giver and achieve great performance of health promotion.

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## The difference between three accreditations (WHO HPH & ACHS & SZ HPH) - an experience sharing

### WONG William, YAN Jingya



### Introduction

HKU-SZH is the breakthrough between the University of Hong Kong and Shenzhen government, which delivering a new hospital culture and management style with a patient-centered medical service. It joined WHO Health Promoting Hospital (HPH) network in 2014 and was seeking accreditation by the Australian Council of Healthcare Standards (ACHS) at the same time. It applied for Shenzhen HPH network in 2016, as an attempt to advocate for health promotion in a hospital setting. This synopsis aims to compare and contrast the requirements of the third institutions and lessons learnt from the different approaches.

### Purpose/Methods

HKU-SZH participated in the three programs between 2014 and 2016. The first part of the presentation is to summarize the similarities and differences of the three frameworks in their approach to health promotion. With examples, we would illustrate the ethos and principles behind their application. The experience of the stakeholders in these assessment processes will be shared and pros and cons in each of the approaches discussed.

### Results

A HPH committee under the hospital management including experienced staffs was set up. An annual report for the members were organized to share the challenges and solutions facing health promotion. The ACHS assessed on six domains on healthcare service delivery with only one part dedicated to health promotion. In SZ HPH, there are detailed requirements in the assessment criteria including 6 sections. Every section has scores. A overall score above 85 is required to join the network.

### Conclusions

WHO HPH is a network of global healthcare system, aims to support HPH. ACHS assesses on the overall standards of a hospital in which health promotion is an component. SZ HPH is quite similar with ACHS in that there are numbers of criteria to reach but it also specifies assessment targets for health promotion work in a hospital setting. They may serve different purpose but all help to change the mindset of health promotion in a hospital setting.

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## Integrated Work Environment Management in a health care setting

### LIFF Roy, WIKSTRÖM Ewa

#### Introduction

Sickness absence among personnel working within the health care sector has increased and job satisfaction has decreased during the last decade. Poor psychosocial work environment is believed to be a large part of the problem. Leaders are crucial for a health promotive work environment. A key challenge in the development of a health promotive work environment is that it integrates with management models. This requires cooperation between managers and human resource (HR) in the health care setting and occupational health services (OHS).

#### Purpose/Methods

The main data used is qualitative: interviews, observations and document with managers, human resource (HR) personnel and personnel in occupational health services from a research program of collaboration between OHS, HR and managers at various levels.

#### Results

Our studies reveal the importance of working with early, weak signals in prevention and health promotion. To include an organizational perspective is central, in terms of operational performance and quality. These efforts may be counteracted by the many informal boundaries between line managers, HR and OHS, characterizing a health care setting. Key conditions for the cooperation are managers who perceive themselves to "own" the process when it comes to developing the work environment and that HR and OHS are seen and used by managers as functional supportive resources.

#### Conclusions

A major component to achieve cooperation between the actors is the level of trust that is needed to make outside expert knowledge current. Crafting sustainable leadership includes building capacity to early identify and manage risks and resources, and have knowledge of the factors that are favorable from a holistic perspective in the workplace as well as at the individual, group and organizational level. If the work environment is strategic and important to the operations, it must be visible in the management model.

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## Makkah Health City

### SEBAI Zohair

#### Introduction

Since most of the health problems global wise are preventable, the question remains: "Do we need to change the present curative medical practice to comprehensive health care?" If the answer is "yes", as it would be expected, the next question would be, "how do we do it?" The solution, which is multifaceted, is replete with obstacles and hurdles along the way. The gap between Health Demands (expressed by the people) and Health Needs (expressed by professionals) should be reduced to a minimum. Well-designed health education and other health programs should set the trend. New generations of health personnel should be trained to provide comprehensive health care to people. However, resistance to the change is expected from educators, health authorities and practicing physicians. Maintenance of the status quo by keeping to current practice is more convenient. Such resistance should be handled by creating role models and legislations. The article discusses the "Role Model" we are trying to create for both medical education and health services.

#### Purpose/Methods

Makkah, the main Holy City for Muslims, has a population of about 2 million. However, the city is visited every year by no less than 10 million people from all over the world to perform the Islamic rituals, Al Haj and Al Omra. We are in the process of establishing Makkah Health City comprising a health promoting



hospital and a college of medicine and health sciences, the aim of which is to produce members of a health team whose aspiration would be to provide comprehensive health care for the people.

### Results

MHC could serve as a model for educators, planners, executives and entrepreneurs to replicate elsewhere. The article shed the light on the process of establishing MHC and the expected outcomes.

### Conclusions

MHC could serve as a model for educators, planners, executives and entrepreneurs to replicate elsewhere.

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## Antimicrobial stewardship: alliance with citizens in a primary care setting

**RAGNI Pietro, CHIESA Valentina, FERRETTI Alessandra, GABBI Ermanno, GANDOLFI Alberto, CHIARENZA Antonio, MARCHESI Cristina**

### Introduction

In the context of primary care Italy is among the European countries with higher antibiotics (ATB) prescribing rates, almost 80% of ATB are prescribed in the primary health care setting. ATB are prescribed inappropriately mostly for respiratory infections and often on a patient's request. General aim of the current study was to reduce ATB prescriptions implementing joint strategies involving both general practitioners (GPs) and citizen.

### Purpose/Methods

An antimicrobial stewardship (AS) multidisciplinary team involved bot GPs and citizens: training programs with GPs (n=335) in all the six districts of the province have been conducted and actions at the population level have been implemented respectively. Among the latter, a brochure to be in case of non-ATB prescription has been give to patients in order to raise awareness on ATB risks, to make them "feel cured", to empower them on how to manage symptoms related to viral respiratory infections. Meetings with representatives of citizens of the Advisory Committees and popular initiatives to raise awareness have been organized, easy to read articles on Multi-drug-resistance (MDR) have been published on local magazines. Informative materials and video on ATB and MDR – developed form the Emilia-Romagna region - have been distributed and broadcasted to citizens.

### Results

In all districts has been observed a significant reduction of ATB prescriptions by GPs (between 9.7% and 14.7%). The following prescribing rates have been achieved (expressed in: DDD/1,000 patient-days): all systemic ATB: 8,89-14,35, fluoroquinolones: 1.01-1.5, macrolides: 1.4-2.93, penicillins: 5-8.13 and cephalosporins-monoactams: 0.73- 1.33.

### Conclusions

Joint strategies based on training programmes for GPs and citizen empowerment led to a consistent reduction in ATB prescription. The proposed model could be applied in other contexts to improve appropriateness of drug prescription

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## Session O3.2: Environment-friendly health care

### Reducing the European Health Sector's Climate Impacts

#### GAETA Ana-Christina

### Introduction

The health sector produces GHG emissions: it is energy intensive, procures and disposes of large amounts of resources. Adding to climate change, which harms people the health sector is meant to heal, and therefore it has a moral responsibility to reduce climate impacts. The health sector can also save money, and accelerate the transition to clean energy through investment, greening the supply chain, and empowering employees.

### Purpose/Methods

We mobilise health systems to become climate leaders; based on mitigation, resilience, and leadership our 2020 Health Care Climate Challenge invites hospitals & health systems to commit to reducing GHG emissions. Our European Healthcare Climate Council (EHCC) works to reduce climate footprints and inspire other hospitals by raising awareness about the health sector mitigating climate change. The council collaborates with HCWH to influence EU climate policies. HCWH Europe raises awareness through reports, webinars, and workshops that showcase best practices of European health systems reducing climate footprints.

### Results

Energy efficiency and implementing renewable energy systems are the easiest and most cost-effective solutions for European hospitals reducing climate footprints. Measuring and reducing GHG emissions from procurement materials requires advanced action, resulting in better purchasing practices and methodologies, already available in Europe. We identify solutions adopted by hospitals, proven to reduce costs, pollution, and improve health effectively. Our 2020 Challenge represents over 9000 hospitals & health centres in 23 countries.

### Conclusions

The 2020 Challenge encourages health systems to reduce their climate footprints with the 2020 Climate Challenge Awards. Recognition and associated exposure motivates participants to exceed targets. Through the EHCC we create a network of European health systems as climate leaders, constantly seek to improve efforts of the EHCC members, and expand the network to inspire more European hospitals & health systems.

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## The Power of Ottawa Charter Principles to improve Healthcare Waste Management.

**PAN Ying-Fang, YANG Po-Hsun, CHIEN Sou-Hsin, CHEN Ching-Yuan, LIN Chien-Ting**

### Introduction

The curative, promotive or preventive health care services are basic human rights but inevitably create waste (HCW) which itself poses a risk to health and environment. Yet, hospitals still rife with opportunities to reduce the environmental impact with the added benefits of financial gain, improved patient outcomes, better staff health and reduced turnover, and community benefit by endeavoring to reuse, recycle and repurpose medical supplies.

### Purpose/Methods

The study aimed to harness the power of Ottawa Charter principles for better improves HCW management. Hospital vice superintendent as the chair of Occupational Health and Safety Committee is tasked to monitor the amount of HCW and number of staff who has been trained in every quarter. By implementing accredited educational workshops, mini-group training and on-site demonstrations and experts' consultation line to develop and enhance proper handling skills.

### Results

Since Sept 2013, 29 sessions of educational workshops were completed. It has been developed into e-learning courses in the year 2013 with 2,734 person/time attendees. Results showed significant improvements on pre and post-test. Biomedical waste generated decreased from 0.93kg/bed in 2012 to 0.77kg/bed in 2016; general waste reduced from 1.52kg/bed in 2012 to 1.31kg/bed in 2016. From 2013 to 2015, the total of recycling products weight 404,210kg which saved TWD 1,970,866 of waste treatment cost.

### Conclusions

The HCW management cannot be successfully implemented without the knowledge, skills, self-motivation and engagement from all staffs of any healthcare establishments. There is a need to evolve strategies which should be coupled with effective, systematic and integrated health promotion model. Medical staffs definitely have the reach into centers of influence and leadership potential to help guide the community toward improved sustainability.

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## Towards a Low Carbon Foot Print Hospital- Reducing the Incineration by Decreasing the Medical Waste

**LI Chen-Lin, CHENG Yu-Yang, CHANG Chin-Chi, LIN Ming-Nan**

### Introduction

Medical waste management is very important because it is hazardous not only to human beings but also to the environment. Incineration is currently being used as major disposal method of medical waste, and also an easily available treatment option. More than 120,000 tons of medical waste were generated from the 20,000 health care institutes in Taiwan. It is obviously that toxic air pollutants and much greenhouse gases will be emitted during the incineration process.

### Purpose/Methods

Dalin Tzu-Chi hospital generates about 90,000 kg wastes per month. In order to reduce the air pollutant and greenhouse gas, we used different bags and recycle bins for the disposal different materials all over the hospital campus, including the wards, the outpatient clinics, the operation theaters, the public areas and even the dormitories. In order to ensure reducing the medical waste and to increase recycle resource, we run a series of programs to educate the patients, visitors and staff about the importance of waste classification.

### Results

Through the education, waste classification and periodically audit programs, the medical waste recycling rate increased from 27% to 41%. It could reduce the incineration of medical waste by 151,200kg per year, which equals carbon dioxide reduction by 311,472kg and also equals planting 69,216 trees. Non-hazardous medical waste (e.g. artificial kidney, tubing pack, syringes) will be autoclaved which can be send to recycling factory for further use. A total amount of 21,216kg of plastic medical waste can be recycling that equals reducing carbon dioxide emission by 43,705kg.

### Conclusions

Reducing the medical waste through reuse and recycle to decrease the incineration has to be promoted. If all the medical institutions increase 10% medical wastes recycle, it will reduce at least 12,000 tons medical wastes which is equivalent to 24,720 tons of carbon dioxide emission reduction per year. We need to revisit the regulations of our medical waste management policy for the sustainable environment.

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## Socially responsible public procurement of textiles in the City of Vienna

**NENTWICH Herbert**

### Introduction

In the frame of "Ecobuy Vienna" we started 2005 with the formation of the working group "Textiles" with the first aim to develop human-toxicological criteria to reduce toxic ingredients in textiles. We have examined textiles from different facilities and the decision was to use the label "ökotex standard 100". For the first criteria catalogue 2009 we added the demand of "no use of child labour" (ILO convention 182).

### Purpose/Methods

In the beginning we had problems with the proof of this social demand, because we got only signed bidder declarations without the possibility to proof the statements. So we started 2012 with a project to create compulsory socially responsible criteria for "Ecobuy Vienna" with the aim to implement "easy to check" criteria in technical specifications.

### Results

After a very hard work together with other departments of the City of Vienna between 2013 and 2015 we have a mandatory Criteria Catalogue since 23. November 2015. The minimum requirements apply for "ready to wear" clothing and contain the obligation for manufactures to observe all basic rights in the factories as specified in international agreements like freedom of association, elimination of forced labour, abolition of child labour and elimination of discrimination in respect of employment and occupation. All this demands can be proven by membership of the Fair Wear Foundation, SA 8000 certification or equivalent accredited certification. A bidder declaration is not sufficient and it should be viewed as invalid proof.

### Conclusions

Social fair procurement is a very important part of the sustainability. We made the experience that is not enough to create a lot of demands. It is better to have few demands and they will be proofed. With our activities and the mandatory criteria catalogue for the social fair procurement of textiles we started a raise of awareness by the bidders and our own staffs.

### Comments

Ralph Waldo Emerson (1803-1882) said "Always do what you are afraid to do". After this activities we have lost our fear.

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## How to Procure Safer Disinfectants with the WIDES Database

### JAROS Marion, KLADE Manfred

#### Introduction

In hospitals and other hygiene risk areas, disinfectants are routinely used to prevent infections and thus protect people's health. Consequently, the adequate antimicrobial efficacy of disinfectants in the respective application area is their most important property. However, the required cytotoxic, i.e. cell-killing, properties of disinfectants also involve certain hazards for the environment and human health. In principle, there is an extensive and comprehensive range of products on the market. Possible risks to health and the environmental can be reduced to

a minimum by carefully selecting disinfectants with a low hazard potential.

#### Purpose/Methods

The Disinfectants Database WIDES was specifically designed to consider occupational health and environment was developed within the framework of ÖkoKauf Wien, the Viennese programme for sustainable public procurement. It has been set up by experts for Hygiene and toxicology. It is an industry-independent and continuously updated instrument, freely available in German and English ([www.wides.at](http://www.wides.at) and [www.wides.at/en](http://www.wides.at/en))

#### Results

The WIDES compares hazard profiles of commercial products on the basis of the hazard potential of the individual product ingredients taking into account their concentrations in the final working solution. It enables the purchasing department and/or sanitation commissioner of hospitals to compare the potential risks of products on human health and environment by a mouse click and to select those disinfectants from the market supply, which means less risks to hospital stuff, patients and environment. The WIDES is recommended by Austrian Federal Ministries, EU Commission, WHO and ILO. Access statistics show, that the WIDES is used in all continents.

#### Conclusions

The presentation will include a brief user instruction for the WIDES database, some general recommendations for the safe use of disinfectants and practical examples for the achieved reduction of dangerous chemicals in Viennese hospitals.

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## Session O3.3: Using ICTs to promote health

### Engaging with mHealth: Consequences for self-management and health promotion

#### MARENT Benjamin, HENWOOD Flis, DARKING Mary

#### Introduction

Mobile digital health technologies (mHealth) are now widely utilised in clinical pathways to promote self-management of chronic diseases. In relation to health promotion principles mHealth has produced a polarised debate, questioning whether it will contribute to empowerment and a holistic understanding of health. However, this debate remained largely speculative and in-depth theoretical and empirical research is demanded.

#### Purpose/Methods

Contributing towards more evidence, this 5-year study investigates the development and implementation of a smartphone app to enable self-management amongst HIV patients in five clinical sites across the EU. In the first study year,

10 focus groups and 20 interviews with patients have been carried out to explore how patients evaluate and reflect on the potentialities and risks of an app for self-management of HIV.

### Results

The results indicate quite contrasting approaches. Some patients argued that they feel overwhelmed with data that comes through the app, prefer to deliberate about their condition in face-to-face clinical encounters and expressed feelings of discomfort and uncertainty if becoming part of a digital health network. Other patients, in contrast, seem to accept data as information and, in order to accomplish the management of their disease, are willing to distribute control into the digital device. These patients imagine being part of a digital network as a moment of empowerment, accompanied with feelings of reassurance and certainty.

### Conclusions

We argue that the contrasting approaches relate to distinct forms of cultural practices that regulate and enable the use of mHealth. These forms of engaging with mHealth might have different consequences for promoting self-management and health. In order to effectively use new technologies individuals will have to apply and switch between different strategies. Furthermore, hospitals will need to consider how digital and traditional care pathways may complement and reconfigure each other.

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## Implementation of a Rapid Response System to prevent unexpected cardiac arrest among high risk patients

**LIU Ming-Chin, HU Wen-Chieh, KO Shao-Hua, SHYU Ren-Shi, YANG Pei-Chun, YANG Pei-Chun**

### Introduction

A review of the charts of in-patients who had cardiac arrest, showed 60-70% of them had vital signs changes 6-8 hours prior to needing CPR. However, vital signs changes were noticed by the medical team in only 25% of the cases.

### Purpose/Methods

We set up a Warning Signs Alarm System according to ACLS guideline. Anyone can set off the Rapid Response System (RRS) should a warning sign be noticed in the patient's condition. The on-duty physician should immediately be informed about the "RRS case" and come to the ward within 10 minutes for the necessary examination and treatment. If the patient's condition does not improve within 30 minutes, he/she can be sent to the ICU, OR, or to the Observation Room if needed, after consultation with the family about Do Not resuscitate (DNR). Should the patient's condition improve within 30 minutes, the medical team will still increase the frequency of visits, and closely monitor the Warning Signs until the condition is stable.

### Results

We analyzed nearly 500 RRS cases that occurred between 2012 and 2015. Most of the patients were hospitalized for more than 7 days, and the majority suffered from respiratory failure or blood pressure down. After the start of RRS, 65% of patients saw their condition improve and return to good health, as a result of early detection and treatment. This is an improvement compared with the Pre-RRS numbers, and the number of unexpected cardiac arrests decreasing. Of those transferred to ICU, 20% still succumbed. Year after year, one notices a sharp increase in the demand for DNR from the relatives of patients in the ICU.

### Conclusions

The "Rapid Response System" mechanism is designed to prevent unexpected cardiac arrests in general wards, to have clear set-off standards, and to provide more effective communication between medical teams through continuous education and training. The mortality rate of inpatients has decreased, and is now lower than at peer hospitals. The length of stay and the cost of treatment are also decreasing.

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## Assessment on the Information Security Education for Health Workers

**JEONG Woo Cheol, LEE Jong Yun, KIM Pan Gyu, SHIN Hye-Jung, AHN Myoung Ock**

### Introduction

Not only is IT the root of medical services and network, but it also plays an important role in implementing new approaches for health promotion. It is needless to say that the health information security has to be guaranteed and the technology for security has been developed accordingly. IT security technology should be based on the awareness for information security. This study is to conduct information security education for health workers through information security events at the National Medical Center and evaluate the results and satisfaction level.

### Purpose/Methods

All health workers received information security education with two lecture types: lecture for entire workers and group lecture for each department. Afterwards, the satisfaction level of the educatee was surveyed and the effect of education was analyzed by conducting mock training against malicious e-mail 3 times for 30% of the health workers.

### Results

Group education was conducted 22 times and 236 people received the education. Among them, 193 persons (82%) responded to the survey. As a result, the understandability, applicability, and preference for group education all earned high score; 88.9, 86.4, and 84.0, respectively. The reasons for preferring group education were concentration level, flexibility in schedule, contents appropriate for each department, flexibility in venue, and attendance rate, in that order. As regard

with 672 malicious e-mails sent out to health workers, 19 persons opened 39 of them and did not take appropriate measures. Among them, only two persons (10%) participated in the information security education and the rest of them did not.

### Conclusions

The need for information security education has been reaffirmed by the results of the mock training, The results of this study show that the health workers prefer group education over education for entire workers. It is considered that further researches on the detailed framework and contents of information security education along with effect analysis method.

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## Effectiveness of eHealth tools and other intervention components for fruit and vegetable intake

**RODRIGUEZ-ROCHA Norma P, KIM Hyekyeong**

### Introduction

Studies evaluating the effectiveness of a variety of eHealth tools for health behavior change have been published in the literature. However, there is a gap in terms of which eHealth strategies are more successful, and the characteristics that might be responsible for their effectiveness.

### Purpose/Methods

This study tried to evaluate the effectiveness of the use of eHealth tools and other intervention components for the improvement of fruit and vegetables (FV) consumption. A meta-analysis of RCTs for FV eHealth interventions was conducted. Peer-reviewed studies were located through online databases. Studies had to be RCTs or quasi-experimental trials, using an eHealth tool as main intervention arm. A random-effects model was used and pooled Hedge's *g* was calculated for effect sizes (ES). Higgins I-squared test was used to assess for heterogeneity, subgroup analysis was conducted to evaluate for other intervention characteristics.

### Results

The analysis included 16 studies and 5774 participants. The most commonly used eHealth tools were Internet-based ( $n=9$ ), and computer-based interventions ( $n=6$ ). The overall ES was small, but statistically significant ( $ES=0.261$ ,  $SE=0.055$ ,  $95\% CI=0.153-0.368$ ,  $p<.001$ ), favoring eHealth interventions. The between-studies heterogeneity was large ( $I^2=68.08\%$ ,  $p<.001$ ). Tailored interventions ( $n=13$ ) showed an overall significant positive ES of  $0.28$  ( $SE=0.061$ ,  $95\% CI=0.157-0.396$ ,  $p<.001$ ), while non-tailored interventions ( $n=3$ ) showed a non-significant small positive ES of  $0.19$  ( $SE=0.140$ ,  $95\% CI= -0.089$  to  $0.459$ ,  $p=0.186$ ). When analyzing the ES by eHealth tool, SMS intervention showed the largest ES ( $0.970$ ,  $p<.05$ ).

### Conclusions

The use of eHealth tools for the improvement of FV intake appears to be more effective than interventions not using these technologies. More research is needed in this area to determine

the specific combination of eHealth tools and intervention components that could be more effective.

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## A Pilot Study: Developing Decision Support Systems Based on a Cross Departmental Data Warehouse for Active Aging in Taiwan.

**LIU Chien-Tsai, YEH Yu-Ting, LEE Chia-Hui, CHEN Peng-Wen, HSU Li-Ching**

### Introduction

In Taiwan, the people with age of 65 and older was 7% in 1993, and estimated to be 14% by 2018. Due to the changes in population structures, we face new challenges in health promotion and non-communicable disease prevention. Many countries have proposed plans and strategies responding to these issues, such as active aging in the Europe.

### Purpose/Methods

Taiwan's Health Promotion Administration (HPA) have developed computer based systems for health data collection and analysis. The HPA is planning to use the well-established systems and datasets to provide evidence-based decision for reinforcement of preventive public health. Thus, we have built a decision support system (DSS) based on a data warehouse, where data are collected and integrated from different systems across hospitals and others public departments. In this project we formed a task force, consisting of experts from the HPA and IT industry, to determine the goals and strategies to achieve, to identify topics of interest, to set standards (indicators) for data collection, analysis and visualization, and to oversee the development processes of the project.

### Results

A cloud based DSS has been developed. It consists of a data warehouse, big data analytics, and data visualization combined with geographic information systems. The data warehouse currently contains data marts for 15 topics of health promotion. Big data analytics provides 3 presentation views for each topic. We can compare the predefined indicators of our country with OECD countries, look into detailed indicators in a region of our country, and provide the prediction or trend analysis for specified indicators.

### Conclusions

Our DSS can support different levels of data exploration and trend analysis. It would make policy makers easier to understand the context of data, to identify bottlenecks at all levels, and to help turn the data into useful insights for better decisions. We will continue improving the performance of the systems based on users' feedbacks.

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## Session O3.4: Promoting employees' health

### Whole Person Health of Employee in a general hospital

**FANG Chun-Kai, PI Shih-Hsuan, LIU Chih-Ju**

#### Introduction

Hospitals are the places for health care provider. However, many employees and employers often neglect health, particularly whole person health. Since 2014, we design a study to construct a questionnaire by qualitative and quantitative methods to measure the degree of whole person health. The goal of the study was to understand the phenomenon of whole person health.

#### Purpose/Methods

From August 2015 to September 2016, we invited all employees (nearly 5,400) in Mackay Memorial Hospital to attend our study (after getting the approval of the IRB). We used the Whole Person Health Scale for Employee of Hospital-13 items (WPHS-EH-13) to measure whole person health. All participants were classified to physicians, nurses, medical technicians, administration staff, and the other. We tried to understand the difference of whole person health.

#### Results

There were 900 participants (male=107, 11.9%) included 33 physicians (3.7%), 528 nurses (58.7%), 135 medical technicians (15%), 144 administration staff, and the others. The mean of the WPHS-EH-13 was 62.11±9.91. By t-test, there were no different in gender and religions. The means among 4 main classifications were 57.12±8.35 in physicians, 62.30±9.91 in nurses, 60.36±9.42 in medical technicians, and 63.67±9.09 in administration staff. Whole person health of administration staff were significantly better than all the others ( $p < 0.05$ ). Physicians' whole person health was the worst.

#### Conclusions

Different kind employees have different work and life styles. The whole person health was significant difference in different kind employees. Employers of health providers should consider to design different programs to promote employees' health.

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### How valid is a single question for the assessment of staff's burnout in hospital?

**PÖLLUSTE Kaja, MERISALU Eda, RIKKA Margit, TILGRE Aili**

#### Introduction

Occupational burnout (BO) is often found within medical professions due to the high-stress work environment and emotional demands of the job. The leading measure of BO is the Maslach Burnout Inventory (MBI) which allows a calculation of three scales: emotional exhaustion (EE), depersonalization (DP), and personal accomplishment (PA). Recently, the WHO-CC for Evidence-based Health Promotion in Hospitals & Health Services proposed in its updated standards a set of questions to assess the hospital staff's health and safety, including a single question for the assessment of staff's BO (SQ-BO).

#### Purpose/Methods

In this study we aimed to assess the concurrent validity of the SQ-BO during the staff's satisfaction survey in Põlva Hospital in Estonia. The SQ-BO "How burned out from work are you?" has five options: from "not at all" to "extremely". The MBI was used as a "gold standard" as this measure has been validated and used previously in several hospital staff satisfaction studies in Estonia. Additionally, the questionnaire included questions about the work stress and health problems. All staff members ( $n=276$ ) were invited to participate in the study. Spearman correlation coefficient was used to evaluate the strength of associations.

#### Results

134 staff members or 48.6% completed the survey. Strongest correlation was found between the SQ-BO and EE ( $r=0.63$ ,  $p < 0.0001$ ). The associations between the SQ-BO and other two scales were weaker:  $r=0.35$  ( $p < 0.0001$ ) for DP; and  $r = -0.28$  ( $p < 0.01$ ) for PA. A moderate association was found between the SQ-BO and job satisfaction scale ( $r = -0.38$ ), weak or moderate associations were found between the SC-BO, some stress factors and physical health complaints ( $r=0.19$  to  $0.31$ ,  $p < 0.05$ ). Stronger correlations were found between the SQ-BO and mental and emotional aspects of health ( $r=0.32$  to  $0.58$ ,  $p < 0.0001$ ).

#### Conclusions

Compared to the MBI, the SQ-BO is valid for the assessment of EE, but may not describe enough the other scales of MBI.

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### The "Good News for Smokers" campaign: supporting staff to quit smoking

**DEAN Emma, BRADFORD Linda, CHIENG Ruth, SMOKER Gemma, CORBEN Kirstan**

#### Introduction

Alfred Health is proud of its long-standing reputation as a leading health service; a reputation founded on delivering the highest quality treatment and now recognition for its 'prevention system'. As a major employer of more than 8,500 personnel, with an additional 540 volunteers, Alfred Health aims to create a workplace that promotes health and wellbeing, recognising the vital link between staff health and outstanding patient care.



**Purpose/Methods**

To implement and evaluate a campaign to actively support staff who smoke to quit. Staff health checks conducted in 2016 (which demonstrated that 4.5% of Alfred Health staff smoke) along with other staff consultation processes, informed the 'Good News for Smokers' campaign. The key messages of the campaign included: \*Alfred Health values the health of its staff and wants to support staff to quit. \*Quitting is difficult and relapses are common. Nicotine Replacement Therapy (NRT) and support can help. \*Social networks are highly influential in quitting. The campaign included funded NRT and best practice individual or group support. Staff keen to be involved were invited to email an expression of interest.

**Results**

Since August 2016, 44 staff have attended their first session; 59.1% female (n=26), smoking on average 17 cigarettes per day at baseline with an average expired carbon monoxide (CO) reading of 12ppm. The majority, 90.9% (n=40), had made a previous quit attempt, although 20.5% (n=9) had never used pharmacotherapy to assist. All staff accepted pharmacotherapy to assist their quit attempt (63.6% combination NRT, 31.8% intermittent NRT, 2.8% varenicline, 2.8% NRT patch only). 22 staff have successfully quit, for an average of 48 days, verified by an average expired CO of 3ppm.

**Conclusions**

The 'Good News for Smokers' campaign has been successfully implemented. Early quit rates look promising. By supporting staff who smoke to quit, it is envisaged this will create a healthier and more productive workforce.

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## Smoking Cessation Service at smoke-free Workplace: An Experience of Taiwan's Smoke-Free Hospital

**YU Shan-Sian, HSUEH Kuang-Chieh, LEE Chia-Hua, PAN Lee-Fei, LIN Jin-Ding, LIN Chia-Chen, HUANG Hui-Ting, JENG Shaw-Yeu, CHENG Jin-Shiung**

**Introduction**

The previous Taiwan's study showed that financial lost related to smoking (including absenteeism, reduced productivity, occupational injury) at workplace were approximately US\$10.32 billion. There are 8.2 million workplace employees including 1.5 million smokers in Taiwan, it is important to implement smoke-free policy and provide smoking cessation service at all workplace. Smoking cessation service including consultation and pharmacy in workplace are not common in Taiwan before, our study was to evaluate the effectiveness of smoking cessation program in workplace

**Purpose/Methods**

The team of smoking cessation included physicians, nurse and pharmacists who provided smoking cessation consultation and medicine (including NRT and varenicline) to three industries(Shin

Yang Steel Co, China Steel Machinery Co, YUSCO stainless Steel Co). Consultation nurses performed individual education, Physicians prescribed quit-smoking medicine, pharmacists checked prescriptions and provided medicine for smokers. We contacted the subjects by phone call at 3rd and 6th month after the first visit. A 7-day point abstinence rate was evaluated.

**Results**

A total of 71 subjects were recruited for this study. There were 61 participants (85%) were prescribed Varenicline and 8 participants (11.3%) with the NRT. There were two participants (2.8%) with the NRT at first and switched to varenicline finally. The 7-day point abstinence rate was 43.7% and 46.5% at 3rd and 6th month, respectively Factors which correlated with the abstinence rate of 6th month cessation rate were the number of smoking cessation visits.

**Conclusions**

The study showed high quit rate (46.5 % in 6 months follow up) for smoking cessation service with behavior and medical support in smoke-free workplace. Workplace employees who unable to complete the smoking cessation therapy were more likely to be failure. Furthermore, the smoking cessation therapy model in workplace has been approved that can be implemented by other hospitals and workplaces in Taiwan.

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## Session O3.5: Healthy nutrition

### Reducing food waste through sustainable procurement: case studies from the European healthcare sector

**CIOCI Grazia****Introduction**

The healthcare sector can make an important contribution to sustainable consumption and production, because of the large volumes of goods and services that it procures. Circular procurement, which links the green procurement of goods with the reduction of waste, is becoming increasingly important. This link has been explored by HCWH Europe in the healthcare food service sector, given that in hospitals and other healthcare facilities food waste can range from 6% to 65%.

**Purpose/Methods**

HCWH Europe has carried out a survey to examine the implementation of healthy and sustainable food policies by European hospitals and health systems. In the first instance, 320 healthcare facilities were sent a structured questionnaire and, from these, twenty participating institutions were finally selected due to their high level of engagement in providing fresh, seasonal, local, and organic food to their patients and employees, and for their commitment to preventing and reducing food waste. The results of the questionnaire were gathered, and followed up by telephone and with face-to-face interviews with hospital catering managers or food procurers.

### Results

The results of the interviews have shown common challenges and opportunities for European hospitals. The importance of healthy and sustainable procurement of food in relation to reducing food waste is one of the key results of the survey. In addition, the survey results have also shown that the greening of food procurement can lead to the prevention of food waste in healthcare facilities.

### Conclusions

Hospitals and health systems have an opportunity to lead by example when it comes to the provision of health and sustainable food and the reduction of food waste. Recommendations for implementing healthy and sustainable food procurement policies linked to food waste prevention and reduction practices will be presented, including key policy recommendations to provide incentives for the healthcare sector and beyond.

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## Green Public Food Procurement in Vienna Hospital Association benefits to patients and environment

### KROMP Bernhard, ROTH Katharina

#### Introduction

Intensive conventional agriculture has crucial side effects on the environment, e.g. on global warming by emitting 14% of total anthropogenic greenhouse gas emissions worldwide. Low quality foodstuff and malnutrition cause an epidemic increase in overweight, adipositas and diabetes especially in youths. Consequently, public propagation of a healthy nutrition with high-quality food has to be considered crucial also from an economic point of view preventing future health costs.

#### Purpose/Methods

Since 1999, foodstuff for public kitchens in Vienna's municipal hospitals, retired peoples' homes, kindergardens and all-day public schools (approx. 100.000 meals daily) is procured according to the following "EcoBuy" criteria checklists obligatory for bidders: an organic quota of 30% (50% for children and pupils), GMO-free, reduced transfat acids, eggs from outdoor-kept chickens and sustainable fish & sea food.

#### Results

As to the Vienna Hospital Association (VHA), for a 20.000 full boards daily 6.2 million € were spent in 2015 achieving an avg. organic quota of 31.7% (total food costs: 19.5 m €). 4 "Best Practice" of the 12 kitchens despite steady budgets succeeded organic quotas between 37 and 48 %, mainly by means of long-term experience and personal engagement of the kitchen managers and by optimizing food procuring as well as saving costs by reduction of meat share as well as food waste.

#### Conclusions

Recently, Vienna's "EcoBuy" criteria for green public food procurement have been revised for enhancing sustainability and health factors like short food supply chains, animal welfare and

social aspects of food production. Finally, sufficient money for high-quality nutrition spent now will manifold return in the future by reduced costs for healthcare and environmental damage.

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## Nudging consumer food choices for better health

### CORBEN Kirstan, NOBLE Kia, FILIA Sacha, SMOKER Gemma, DEAN Emma

#### Introduction

Alfred Health has invested strongly in improving the healthiness of foods and drinks available at its retail outlets, in vending machines and catering practices. A new communication strategy at the point of sale in retail outlets significantly shifts consumers towards more healthy food choices.

#### Purpose/Methods

Aim: To investigate the effectiveness of a point of sale communication strategy in encouraging consumers to make more healthy food choices at a retail outlet in a major health service. Observational survey methods were utilised to measure consumer food choices at lunchtimes over a baseline period. Food choices were categorised as 'green', 'amber' or 'red' in accordance with Victorian Government guidelines. A range of communication tools were implemented at the point of sale to indicate food items as 'green', 'amber' or 'red' including a "nudge line" designed to discourage purchase of less healthy foods and encourage purchase of more healthy foods. Observational survey methods were continued to measure consumer food choices throughout the intervention period. There was no statistically significant difference in the number of 'green', 'amber' and 'red' foods available for purchase through baseline and intervention periods. Independent samples t-tests were conducted to compare daily food purchases according to the traffic light guidelines before and after the intervention.

#### Results

During the intervention period, consumers reduced their purchasing of 'red' rated foods by 17% and increased their purchasing of 'green' by 26% and 'amber' by 7%; translates to 30,000 fewer unhealthy lunches purchased annually from one retail outlet. Overall, there was no statistically significant difference in the total number of foods purchased between intervention and control periods.

#### Conclusions

Point of sale communication techniques have the potential to significantly influence consumers to make more healthy food choices while maintaining financial viability for retailers.

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## Combat the vending machine - A successful implementation of healthy vending machines at Assuta Medical Centers

**BRONNER Karen, MARDI Limor**

### Introduction

Most hospital vending machines still dispense sugary, salty, carbohydrate-loaded food, and carbonated drinks despite various national guidelines, stating that medical centers should set an example and serve nutritious healthy food. With a prime location in the heart of the hospital, vending machines have a captive audience, as both the medical staff and the patients may have no other food choices due to night shifts, enhanced workloads, prolonged waiting hours, or poor health conditions.

### Purpose/Methods

To develop innovative vending machines that dispense freshly-made, healthy, accessible and affordable food at all times, and provide nutritional information and healthy eating messages in order to enable informed choices and take control of one's diet. Such vending machines must meet the Israeli Ministry of Health Regulations.

### Results

In the first phase, a pilot to introduce healthier solutions side by side with unhealthy choices in the existing machines was unsuccessful because the operating company refused to take out leading sale products, to centrally display healthy solutions and to remove advertising messages regarding unhealthy food. In the second phase, Assuta Medical Centers formed a joint venture with a business partner committed to health values who consented to meet the nutritional criteria of the Department of Health Promotion. The existing vending machines were replaced by advanced automated refrigerators that can accommodate a large variety of healthy and fresh food choices, display price and nutritional values when an item is lifted, and post health prompting messages. This innovative solution not only won popularity among employees and visitors but also proved to be cost saving and profitable.

### Conclusions

In order to implement innovative solutions in health-promoting hospitals, one must think out of the box and recruit all relevant partners and stakeholders by finding mutual interests and developing new operating models

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## An Evaluation of "Detective Conan" Project - Make Healthy Food Choice the Easy Choice.

**LAI Yi-Ling, CHEN Ching-Yuan, CHIEN Sou-Hsin, CHANG Pin-Yi, WU Hung-I, LIU Yi-Hua, HSU Lin-Ying**

### Introduction

The prevalence of obesity is increasing in developed and underdeveloped countries. The National Nutrition of the year 2008 revealed obsessed children aged 6-12 increased from 12% to 17%. Children with overweight got higher percentage to be obese youth and adult; this will increase future risk of heart risk. Parents with better eating habits will significant influence children's healthier food choice. The hospital offered free testing and labeled food nutrition profiles.

### Purpose/Methods

This study aimed to evaluate the implementation of the project to have the ability to make a healthy choice where healthy choices are readily available. The coordinating committee consists representatives from health bureau, community, Elementary School, local restaurant and hospital, aligned with "Detective Conan" Project organized a five-week parent-child weight-watch camp. Parent-child acted as detective Conan to map location which provides healthy food in school surrounding.

### Results

A total of 15 restaurants been recruited 13 types of meals passed the nutritional test. According to weight-watch camp survey showed the ratio of five fruits and vegetables daily consumption increased from 81% increased to 85%. Thus, eliminate junk food ratio also elevated from 62% to 72%. Moreover, children's knowledge on food profiles such as fats, calories, health impacts is relatively low. Participants showed high satisfaction rate for educational programs and perceived behavior change accounted for 92%.

### Conclusions

A fruitful collaboration lead by the hospital, let children engaged on mapping healthy food choices in school surrounding. This project lifted the awareness on healthy food choice among parents, food community, and healthcare institutes. As demonstrated, a successful health promotion program can ensure a flexible and dynamic balance between fulfilling organizational targets on the one hand, and individual skills and health needs on the other, which is an essential and desirable ingredient for the ability to compete successfully in the modern world.

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## Effects of probiotic supplementation on amelioration of body fat accumulation and weight gain: a potential strategy to reduce obesity in the future

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### Introduction

Recent studies in humans and animal models revealed that obesity is associated with chronic inflammation and changing pattern of gut microbiota Firmicutes /Bacteroidetes (F/B) ratio. One of the key molecules implicated in chronic systemic inflammation is lipopolysaccharide (LPS). Anti-inflammatory benefits of Lactobacillus may improve metabolic disorders. Probiotics is considered to affect F/B ratio. The aim of this study is to evaluate the effect of Lactobacillus on body weight gain and fat accumulation in obese mice.

### Purpose/Methods

The adult male C57BL/6J mice were fed a high fat diet (HFD) or normal diet (ND). The mice were then fed with or without a suspension of probiotic (Lactobacillus casei variety rhamnosus, Lcr35) for 12 weeks. Body weight was recorded and plasma biochemical values were analyzed. Visceral fat weight (VFW) was measured and specimens were analyzed histologically. Visceral fat percentage (VFP) was calculated. Inflammation severity was determined by serum LPS level.

### Results

HFD group gained more BW and VFW with increased serum cholesterol, triglyceride (TG), glucose, VFP and LPS levels when compared with ND group. Probiotic Lcr35 significantly inhibited weight gain, lowered TG and LPS level in HFD group. However, the VFW and VFP values were not affected much. VFW: ND 0.5g, ND with Lcr35 0.6g, HFD 2.1g, HFD with Lcr 35 1.8g; VFP: ND 1.7%, ND with Lcr35 1.9%, HFD 5.1%, HFD with Lcr35 4.9%. Besides, the F/B ratio was significantly higher in HFD group than in ND group. However, no obvious difference was found after Lcr35 supplementation.

### Conclusions

We demonstrate that probiotic treatment appears to attenuate inflammation and inhibit steatosis in obese mice. We conclude that probiotic shows protective potential in metabolic disorders. Probiotics may become a potential strategy to reduce obesity in the future.

### Comments

Since treatment for obesity remains largely ineffective, new interventions such as probiotics may play an important role in providing a novel opportunity in anti-NAFLD performance.

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## Vegetarian diet is associated with lower risk of nonalcoholic fatty liver and liver fibrosis

**CHIU Tina H. T., LIN Ming-Nan, PAN Wen-Harn, CHEN Yen-Ching, LIN Chin-Lon**

### Introduction

Nonalcoholic fatty liver disease affects 20 – 40% of the population, with no approved drug treatment. Lifestyle modification to induce weight loss is currently the standard treatment, though the optimal diet has yet to be determined.

### Purpose/Methods

To investigate the association between vegetarian diets, major food groups, and nonalcoholic fatty liver, and to compare the degree of liver fibrosis between vegetarians and nonvegetarians among those with fatty liver. The study included 2127 nonvegetarians and 1273 vegetarians who do not smoke or drink alcohol, and with no hepatitis B or hepatitis C. Fatty liver and liver fibrosis were determined using ultrasonography and NAFLD Fibrosis Score, respectively. Diet was assessed through a validated food frequency questionnaire.

### Results

Vegetarian diets were associated with lower risk of fatty liver (Odds ratio=0.79, 95% confidence interval: 0.68 – 0.91) while adjusting for age, gender, education, history of smoking and alcohol drinking. Adjustment for body mass index (BMI) attenuated the protective association and mediation analysis suggests that the protective association was fully mediated through BMI. Vegetarians had less severe fibrosis than nonvegetarians. Replacing a serving of soy with a serving of meat or fish is associated with 12 – 13% increased risk, and replacing a serving of whole grains with a serving of refined grains, fruits and fruit juice was associated with 3 – 12% increased risk.

### Conclusions

Vegetarian diets, replacing meat and fish with soy, and replacing refined sugar with whole grains, may protect against fatty liver through lower BMI.

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## Session O3.6: Promoting maternal and child health

### Natural Hospital Delivery

#### ROZTOCIL Ales

### Introduction

One of the totalitarian heritage in the Czech Republic remains the authoritative way of obstetricians in an important number of delivery wards in the communication with their pregnant clients. We know what is the best for You a You will do the best if You obey our recommendations. Facing the fact that an increasing number of Czech pregnant women want to live their delivery at their own way, there is a negative position of these women towards the established obstetrical system of „medically conducted labor“. This leads to the „obsterical migration“ of mothers towards the more comprehensive hospitals or to their decision for home delivery.

### Purpose/Methods

Based on the WHO, Unicef and the Czech Society of Gynecology and Obstetrics recommendations our hospital has adopted three years ago 10 simple rules of Natural hospital delivery. They are the following: dialogue, individual approach, information, respect, professionalism, patients agreement, no hospital fees, patients freedom, avoid the separation, breastfeeding.

### Results

The results of our new obstetrical policy are the following: the increase of clients, decrease of inductions of labor, regional analgesia, oxytocin labour augmentations, arteficial rupture of membranes, episiotomies, mothers fully lactating at the moment of hospital repase.

### Conclusions

Based on our preliminary results, we can conclude, that hospital natural deliveries are at present the only succesfull tool against in our conditions still dangerous home deliveries.

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## Promote the culture of pediatric acute and procedural pain management in healthcare professionals in a Pediatric-Neonatological Unit in Piemonte Region (Italy)

**NANGERONI Marco, PICOTTO Amabile, ESPOSITO Paola, ROASIO Luca, MORESCO Valter**

### Introduction

In spite of increasing evidence that acute pain in children can have negative effects in brief and long term, a considerable gap between recommendations and practice still exists, with important consequences on the quality of medical care. The setting of this work is a paediatric and neonatal Unit of Piemonte Region (Italy) and arises from the need to promote the culture of managment of paediatric acute and procedural pain improving the quality of the care.

### Purpose/Methods

The project has the aim to sensitize professionals to the concept of health promoting hospital, through an active and responsible attendance to the managment of pain. Started in 2015, the project is still in progress, developing through different phases of training ("residential" and "on the job"): intervention of experts, creation of small working groups, which shared suggestions through a "network" of communication and accomplished an operative protocol. Finally, a questionnaire has been administrated, to evaluate behavioral changes of professionals.

### Results

Thirtyfive healthcare professionals (nine doctors, twentiesix nurses) took part in the project. The protocol was shared and employed by all professionals and has been applied to all newborns, beginning from November 2015 for a total number of 900 newborns. The analysys of answers to the questionnaire demonstrated implementation in regard to personal motivation and individual belief that management of pain in the newborn improves tha quality of care to the child and his family.

### Conclusions

The methodology of "training-on-the-job" adopted in our project demonstrated to be positive and innovative for our team and suitable to be proposed for the future. The purposes of cultural growth and behavioral change have been achieved. The project is still in progress: we are planning to involve actively other health professionals operating outside the Pediatric Unit and criticize our work after a satisfaction questionnaire filled out by parents.

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## Health telling: Environment, Agriculture, Nutrition, Physical activity

**SBROGIÒ Luca, BELTRAME Laura, DI PIERI Martina, MICHIELETTO Federica, PESCE Emanuela, ZIPRANI Chiara, RUSSO Francesca**

### Introduction

Veneto Region, in collaboration with Venice Local Health Authority, Didactic Farms, and "Alcuni" Group (famous cartoons' authors), started "Health telling: Environment, Agriculture, Nutrition, Physical activity" project, part of "Gaing Health" Programme and open to all students of primary schools of Veneto Region. The programme's aim is healthy lifestyle promotion at school and it was born from different regional sectors (Public Health, tourism, agriculture and sports) wich work together to promote health.

### Purpose/Methods

The students draw up a short story on healthy lifestyle arguments (ex: environment, local products, physical activity), with "MiniCuccioli- small puppies" ("Alcuni" group cartoons) as characters. The best stories will be transformed into cartoons with the active participation of students, led by "Alcuni" professionals.

### Results

In 2015-2016, the programme "Health telling: Environment, Agriculture, Nutrition, Physical activity" was attended by 33 primary schools, for a total of 62 classes and 1,300 students. In 2016-2017 have joined 47 primary schools, for a total of 101 classes and 1,630 students. They were produced 7 cartoons.

### Conclusions

Children are encouraged to reflect and discuss with teachers on their well-being in order to promote healthy lifestyle. Drawing up a story with their favorite cartoons' characters "Mini Puppies" makes it very playful, and it allows to learn healthy behaviours in a fun way. For more information website: [www.regione.veneto.it](http://www.regione.veneto.it) or [www.alcuni.it](http://www.alcuni.it)

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## Effectiveness analysis of laboring women received epidural analgesia and follows an exercise program

**CHIU Mu-Jung, HSU Tzu-Chuan, HUANG Hui-Ting**

### Introduction

The goal of this research is to analyze and discover the affect of the labor symptoms and labor time when laboring woman received epidural analgesia and follows an exercise program.

### Purpose/Methods

Research was conducted from January 2015 to June 2016. The experimental group is laboring women received epidural analgesia, who spontaneously joined the exercise program with approval from their attending doctors. The exercise program included "pelvic rocking, squat, birth ball exercises, and walking." Total cases that meet the original requirement were a total of 747 patients. The control group is laboring women given epidural analgesia but didn't join the exercise program, total 233 patients. The data was analyzed by SPSS 22.0.

### Results

The experimental group for average second stage laboring time is  $96.12 \pm 64.51$  minutes, while in control group is  $156.51 \pm 75.37$  minutes. The t-test showed significant difference between two groups ( $t=10.11$ ,  $p<0.001$ ). The rate of indwelling urinary catheters in experimental group is 19.0%, while in control group is 61.5%. The Chi-square test revealed significant lower rate of indwelling urinary catheters ( $\chi^2=113.55$ ,  $p<0.001$ ) in experimental group. The average out of bed exercise time in experimental group is  $75.56 \pm 33.70$  minutes, while in control group is  $20.81 \pm 28.04$  minutes. The t-test showed significantly more out of bed exercise time in experimental group than in control group ( $t=-18.53$ ,  $p<0.001$ ).

### Conclusions

Laboring women given epidural analgesia with effective pain control and follow an out of bed exercise program that resulted in shorten laboring time, and decrease the need for an indwelling urinary catheter.

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## Quantitative maternal hepatitis B surface antigen predicts maternally transmitted hepatitis B virus infection

**YEUNG Chun-Yan, HUNG Ta-Chuan, WEN Wan-Hsin, LIN Lung-Huang, CHEN Huey-Ling**

### Introduction

Despite immunoprophylaxis, hepatitis B virus (HBV) transmission in highly viremic mothers remains a global health issue. Using quantitative maternal surface antigen (HBsAg) to predict HBV infection in infants has not been investigated.

### Purpose/Methods

We enrolled 526 mother-infant pairs with positive maternal HBsAg under current immunoprophylaxis. Maternal viral load and quantitative HBsAg were measured in the peripartum period. Infant HBsAg seropositivity for more than 6 months was defined as chronic infection.

### Results

Results showed that maternal HBsAg was positively correlated with maternal viral load ( $r=0.69$ ;  $P<0.001$ ) and accurately predicted maternal viral load above 6, 7, and 8 log<sub>10</sub> IU/mL with an area under the receiver operating characteristic curve (AUC) of 0.97, 0.98, and 0.95. Nineteen infants were chronically infected. After adjustment for the other risk factor, maternal HBsAg level was significantly associated with risk of infection (adjusted odds ratio for each log<sub>10</sub> IU/mL increase, 15.02; 95% confidence interval [CI], 3.89-57.94;  $P<0.001$ ). The AUC for predicting infection by quantitative maternal HBsAg was comparable to that by maternal viral load (0.89 vs. 0.87;  $P=0.459$ ). Estimated rates of infection at maternal HBsAg levels of 4, 4.5, and 5 log<sub>10</sub> IU/mL were 2.4% (95% CI, 0.1-4.6;  $P=0.04$ ), 8.6% (95% CI, 4.5-12.7;  $P<0.001$ ), and 26.4% (95% CI, 12.6-40.2;  $P<0.001$ ).

### Conclusions

Quantitative maternal HBsAg predicts infection in infants as well as maternal viral load does. Antiviral therapy may be considered in pregnant women with an HBsAg level above 4-4.5 log<sub>10</sub> IU/mL to interrupt mother-to-infant transmission.

### Comments

Our study shows that quantitative maternal HBsAg is highly correlated with maternal viral load, and infants born to mothers with high HBsAg levels are at substantial risk of infection. To our knowledge, the current study is the first to demonstrate the significant relationship between quantitative maternal HBsAg and maternally transmitted HBV infection.

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## Abortion in modern health care: Considering the issues for health-care professionals

**SMYTH-POWER Dawn, LANE Paula**

### Introduction

In Irish healthcare abortion, has long been a divisive issue. Under Irish legislation, termination of pregnancy is a criminal offence unless there is a 'real and substantial risk' to the mother's life. In the clinical setting difficulty arises where the threat to life is not imminent. In October 2013, the Case of Savita Hallappanavar highlighted the predicament faced by healthcare professionals (HCP) when attempting to adhere to both their legal and ethical

obligations in the course of healthcare delivery. It is undeniably unethical to withhold medical intervention until the trajectory of a woman's illness satisfies the criteria for a risk to her life. In fact to operate in such a manner is contrary to clinical governance that promotes optimal outcomes through early intervention. Currently the protection of human life legislation is under considerable political debate and is likely to culminate in further amendment within the Irish Constitution.

#### Purpose/Methods

A comprehensive search strategy of international health, law and political source materials was undertaken and test cases used to illustrate the application of legislation.

#### Results

Political opinion on the subject remains divided and internationally no consensus exists with regard to the circumstances under which an abortion can be procured and gestational limits on abortion. Despite amendments to legislation, cases may continue to present which are outside the criteria which has been legislated for.

#### Conclusions

With litigation becoming more common it is understandable that HCP's feel the need to operate within the constraints of the law. However, in a rapidly evolving world it is impossible to legislate for every eventuality. There is merit in legislation but little substitution for clinical expertise and professional judgement. Further education is required for all HCP's on how to interpret existing legislation, Guidelines and Policies to make clinically sound decisions that are in the interest of preserving public safety.

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## Session O3.7: Age-friendly care

### Face to Face with the Elder person

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#### Introduction

We have initiated a multiprofessional course package directed towards people working face to face with the elder individual. We aim for a holistic and salutogenic multidimensional approach in order to obtain a high quality performance and function in the individual from our retirement age into the centenarian stage. We try to cover external factors such as political incentives affecting the elder population, housing, environmental aspects and legal aspects as well as individual medical factors. Housing: In our society individuals are assumed to want to live "at home" all their life. We state that: We always live "at home" but our "homes" need to be flexible and develop over time according to our needs. Legal aspects: We have a unique Norwegian tool "Fremtidsfullmakt" which enables the person to control things

after becoming i.e. demented. Individualised/personalised medicine and optimised biological parameters beyond standard reference values are one of the key medical factors in "optimising aging".

#### Purpose/Methods

The purpose is to elevate the knowledge in the community of what an optimised healthy aging means and what risk factors that should alert a medical intervention.

#### Results

We have tried out a preliminary model earlier in Sweden and we have now further expanded the multiprofessional team also with experts in how to construct our homes and how to protect us from illegal activities. We have also taken our migration into account and try to involve the resources present in the immigrant community.

#### Conclusions

By educating and spreading the knowledge of an optimised healthy aging to the community we hope to improve life quality and performance of the elderly individuals in our society.

#### Comments

Health will be equal to wealth in the sense that when our last pay cheque is arriving our age poverty starts. In other words we need to be able to work higher up in age in order to have an economic good standard. Dynamic retirement. To do so we need to know how to stay healthy and trim our performance and function.

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## A study of Taiwan's framework of age-friendly: Age-Friendly Health Services Recognition exploration

**HUNG Hsi-Lung, HSU Yueh-Han, SHIH Chen-I, LI Huei-Yu, CHIA Shu-Li, WEI Chen**

#### Introduction

Taiwan is one of the fastest aging countries in the world, which have a great variety of challenges to health services. To prepare for the rapid demographic transition and provide them appropriate care, a recognition project for age-friendly health care institutions in Taiwan had drove to clinics, public health care centers and long-term care institutions in 2012. So far, there are 242 health care institutions had passed the recognition, including 159 hospitals, 37 public health care centers and clinics, and 46 long-term health care institutions.

#### Purpose/Methods

In order to meet current conditions, we should develop Taiwan's framework of age-friendly version 2 recognition for hospitals or primary health care centers. We developed the version 2 based on promotes experience of WHO Health Promoting Hospitals standards (HPH) and WHO Primary Health Care standards (PHC). To establish validity, we have invited 8 experts in various fields of advanced age-friendly to edited measurable items. To

establish reliability, we have recruit 19 care institutions to fill self-estimate questionnaire of age-friendly version 2.

### Results

Age-friendly version 2 includes 2 sections, 5 principles and 18 items. Two sections address care institution and clinical care. Five principles include management policy, information intervention and communication, friendly environments, health promotion, and community service and referral. In validity, Total CVI showed 0.92. In Cronbach's Alpha reliability, total showed 0.891, section of care institution showed 0.815, and section of clinical care showed 0.8.

### Conclusions

Age-friendly version 2 is reliable and valid for application in hospitals or primary health care centers of Taiwan.

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## Assessing and Prioritizing Health Needs in an Elderly Care Institution

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### Introduction

In Taiwan, 15.4% of the aged population considered high levels of dependency that needs institutional care. There are more than 1,600 institutions with a total of 109,385 beds providing elderly care. The ultimate goal of these service providers is to improve the health and quality of life of the elderly. This can be achieved through programs that promote health and healing as a response to identified needs. Assessing and addressing prioritized needs are important in developing a successful health intervention.

### Purpose/Methods

A total of 103 residents from an Elderly Care Institution were recruited with purposive sampling method. Need assessment conducted using survey, in-depth interviews and fitness test. Quantitative data included health behavior and health awareness survey, quality of life questionnaire (WHOQoL-BREF-) and elderly mental health scale (GDS), blood sample and urine test results.

### Results

Descriptive results showed the average age of participants is 76 years old and 69.9% are males. More than half have primary school education level; 79.6% speaks Taiwanese. Needs to improve cardiac-respiratory endurance and legs muscle strengthening were determined for all residents. There are 29% smokers, 9% drinkers and 33% did not achieve recommended levels of physical activity. Thus, the survey indicates a lack of knowledge on healthy lifestyle and blood glucose management. Almost one in five of the residents have the tendency to become depressed.

### Conclusions

By taking into deep consideration the important of need assessment and elderly care institution function as a true health

promoting setting. If institutional care focuses solely on disease care, this will result in dis-empowerment, not health promotion. This study clarifies the urgent need on emotional supports and health literacy on healthy lifestyle including diet and physical activities. In responding to the needs of elderly, we urged to use a deliberate setting approach to creating a supportive environment to promote health and well-being.

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## Create an Age-Friendly Health Care Institution: Knowledge of aging and attitudes toward elders among long-term care facilities' staffs in Taiwan.

**KUO Ying-Ling, CHOU Chun-Chen, WU Meng-Tien, CHANG Pei-Li, CHEN Yi-Chih, TSOU Jhi-Chyun**

### Introduction

Aging populations are a powerful and transformative demographic force. As many elderly require care in long-term care facility, the development of age-friendly medical environments has become increasingly crucial. In Taiwan, it's 12.99% of elderly in the total population which is second highest rate of elderly population in the Asia. Health care workers' knowledge and attitudes towards elderly will influence the quality of care. They would affect treatment strategies for elderly patients, the way of care, and allocation of medical resources.

### Purpose/Methods

This study is to investigate the knowledge and attitude towards elderly amongst Long-term care facility staffs, before the Age-Friendly Health Care Institution certification. A purposive sampling, use a structured questionnaire, survey working of all staff. This study adopts a cross-sectional survey. Using Palmore's Facts on Ageing Quiz 1(FAQ1), and the UCLA Geriatrics Attitudes Scale (GAS).

### Results

There were 126 subjects involved in the study (mostly Female, Nurse Assistants, and over 50 years old). The research found that facility staffs had a low level of knowledge (average score was 50.13 points) on elderly and the have positive attitudes (average score was 3.07 points) with elderly. In addition, the majority of the subjects showed positive attitudes towards elderly except those who felt uncomfortable relating to elderly.

### Conclusions

We found that knowledge about the psychological and social dimensions of aging were weaker, which partially agreed with the results of other studies. Teaching method, it is recommended that through experiential activities. This study has concluded that facility staff' knowledge and attitudes towards elderly were generally positive, however more support needs to be provided for staff in understanding and providing care for elderly in facility. It is necessary to arrange the age-friendly education in the future.

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## Age-friendly hospital: Development and application in a community hospital in southern Taiwan

**LIN Min-Nan, LIAO Hui-Yen, CHIEN Jui-Teng, TSOU Hsin-Ying**

**Introduction**

Dalin Tzuchi hospital is located in Chiayi, a county in which the elderly population rate (16%) is far over the national average (12.5% as of 2015). Furthermore, over 35% of patients in our hospital are older than 65 years old with multiple comorbidities and suboptimal family support. Age-friendly environment and culture are thus vital and fundamental in delivering health-care services to this specific patient group.

**Purpose/Methods**

To investigate the process and progress of implementation of age-friendly policies in this hospital since 2010. This qualitative, descriptive research was done in a community hospital in southern Taiwan. This hospital owns 600 beds, with over 1,600 employees and annual visits around 60,000. Individual in-depth interviews with 3 high-level administrators (2 vice-superintendents and 1 deputy chief of nursing department) were performed, using a validated, semi-structured questionnaire focusing on policy making, facilities preparedness, services implementation, and training systems of health-care providers.

**Results**

Results indicated that, in order to create an age-friendly environment, a hospital should emphasize the importance of management on policy making, publicize the idea of an age-friendly hospital with breadth and depth inside and outside the hospital, implement on job training, and redirect service strategies.

**Conclusions**

To provide effective and efficient age-friendly services to the elderly patients, it is mandatory to formulate a support system in which top-down policy making and bottom-up communication are harmoniously integrated.

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## Home-based Palliative Care Service: Decision Making for Living Alone Elderly

**WU Meng Ping, HUANG Sheng Jean**

**Introduction**

Through the home-based palliative care and interdisciplinary service, the study provides the living alone EOL patient a home-based 5 Ws care for taking care of their body, mind, and spirit.

**Purpose/Methods**

Through the lens of the interdisciplinary team's vision, provides the proper medical care information and direction while showing the respect of the EOL patients' medical autonomy. By constant communicate with the patients, the team, the family and the care givers to discuss about the issues including social culture, ethics and morality to make the decision for the EOL patient. After having mutual consensus, the team can execute a complete home-based palliative care plan accordingly.

**Results**

These can be achieved by constant communication and coordination. The research takes place of a case of a terminal patient with liver cancer. The medical team accompanies the patient to go through the process of disease, symptom control, proper nursing, environment improvement, support system establishment, empathy application, finding consensus, signing the "Palliative Care Service Agreement," and to accomplish their final wishes. Moreover, combining with social resources integration including emergency rescue system, food delivery, home-based daily assistance, subsidy for transportation fee, section management, and community care service to provide a complete care service to ensure their quality of lives, and the satisfaction rate is 100%.

**Conclusions**

There are many people who need the assistances, this issue can be solved as long as the medical team is willing to provide assistances actively; using their professional knowledge, skill, and attitude. It is believed that with the support from the interdisciplinary professionals to enhance the willingness of signing the palliative care service agreement, provide the 5 Ws services and help the people to have a "good life," "good farewell," but also a "good death."

**Comments**

The study is hoped to be a reference for future medical professionals when making medical decision.

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## Session O3.8: Chronic disease management

### Effects and cost-effectiveness of patient education programs

**STENBERG Una, VÅGAN Andrè**

**Introduction**

The aim of self-management education programs is to enable the participants to understand the illness process, acquire skills related to medical management, as well as to provide education on how to live a complete life with illness. To date, no review has

addressed the full scope of studies that have investigated cost-effectiveness and effects of participating in patient education programs.

#### Purpose/Methods

The purpose of this scoping review is to give a comprehensive overview of cost-effectiveness and effects of participating in group based patient education programs aimed at promoting self-management for people living with chronic illness. We searched 8 literature databases. Full text articles meeting the inclusion criteria were retrieved and reviewed. Arksey and O'Malley's framework for scoping studies guided the review process and thematic analysis was undertaken to synthesize extracted data.

#### Results

This scoping review has given overview of studies and different group-based self-management patient education programs for people living with chronic illness, and has highlighted cost-effectiveness and the benefits and challenges as experienced by participants. The participants experienced the programs as beneficial according to less symptom distress and greater awareness of their own health, improved self-management strategies, peer support, learning and hope.

#### Conclusions

A substantial evidence base supports the conclusion that group based self-management patient education programs are cost-effective and in different ways have been experienced as beneficial, but more research is needed.

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## A Study of Improvement on Depression, Sense of Hope and Life Quality in Dialysis Patients by Educational Groups in Health Promotion

HSU Shan-Yu, HUANG Hsin-Shu

#### Introduction

The experimental design study provides the evidences of improvement on depression, sense of hope and life quality in dialysis patients by educational groups in health promotion.

#### Purpose/Methods

This study aims to investigate the effectiveness of the improvement on depression, sense of hope and life quality in dialysis patients by educational groups in health promotion. The experimental design was employed, which was chiefly a quantitative approach complemented by qualitative one. The subjects were the dialysis patients at a medical center in Northern Taiwan, who, 235 of them, were first recruited, numbered and divided on a random basis on Excel into an experiment group and a control group, each of 20 patients, however, each group lost 2 members during the period of research. In the experiment group, apart from routine therapy of dialysis and nursing guide, there was also involvement of

educational groups of health promotion in eight occasions, which came in two 90-minut sessions a week. The control group received routine therapy of dialysis and nursing guide as well, but without any experimental intervening measures. All members of both groups received measurement with "Beck Depression Inventory", "Herth Hope Scale, Chinese version" and "Kidney diseases quality of life scale, Chinese version", before and after their participation in the research.

#### Results

The data of research were processed with a Chinese version of SPSS17.0 software for descriptive and inferential statistics. A qualitative approach was also used to analyze the health issues that the members brought out in the educational groups of health promotion, and revealed the subjective health issues on the part of the subjects as follows. (1) Body: learn to adapt to one's physical condition; (2) Mind: rethink--take happiness as the purpose of life; (3) Soul: Keep hoping when facing difficulties; (4) Social: exchange the energy of support. A quantitative data analysis revealed the following. (1) The subjects of this study had an average score at 12.45±standard deviation 9.03 for the level of depression, which was light; an average score at 34.85, equivalent to 72.60% for the level of hope, which was medium. In their score on the Kidney Disease Quality of Life, KDQOL-SFTM, the score in mental health construct (M=42.65, SD=8.81) was higher than that in physical health construct (M=37.38, SD=9.28), suggesting a quality of life at medium level. Hope and depression were seen in significant, negative correlation. (2) In dialysis patients, the level of depression and that of quality of life displayed significant, negative correlation, suggesting that a dialysis patient with a severer degree of depression had a worse quality of life. (3) The level of depression in dialysis patients after intervention from the educational groups of health promotion was significantly lower than before the intervention, whereas the levels of hope and of quality of life after intervention were significantly higher than before intervention.

#### Conclusions

Therefore, the finding of this study was that the intervention from the educational groups of health promotion did improve the depression, hope and quality of life in dialysis patients.

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## Health-related quality of life among subjects with long-term mental symptoms

SAHARINEN Tarja, KYLMÄ Jari

#### Introduction

There is a need for measuring health-related quality of life (HRQL) to supplement public health's measures of morbidity and mortality. An individual's subjective perception of physical, mental and social functioning and well-being is important in measuring HRQL. It is also necessary to assess HRQL in vulnerable populations and to produce knowledge promoting HRQL.





**Purpose/Methods**

The purpose of this study was to examine HRQL and its correlates among subjects with long-term mental symptoms (n=158) in a population-based sample in Finland. HRQL was measured using the RAND-36 including the physical (PCS) and mental (MCS) scores. Sociodemographic, somatic, and psychiatric factors were investigated with a self-rated health questionnaire, structured interviews, and standard clinical measurements. Pearson's chi-squared test, an independent samples t-test and logistic regression analyses were used.

**Results**

Subjects with long-term mental symptoms had a poor HRQL in the physical, mental and social domains. The main correlates were life dissatisfaction and somatic diseases, in men alexithymic features, in women a low level of education, a frequent use of alcohol and depressive symptoms. A reduced working capacity and in women being a current smoker were associated with a poor HRQL. Long-term life dissatisfaction was a risk factor for poor HRQL. Sociodemographic and somatic factors were only weakly associated with HRQL.

**Conclusions**

When promoting HRQL it is important for nurses and other healthcare professionals to recognize mental health symptoms and co-operate in the early phase in a multiprofessional team. Among subjects with long-term mental symptoms it is necessary to note also their physical and social well-being and functioning. It is important to pay attention to alexithymic features in men and a frequent use of alcohol in women. Society can promote HRQL by supporting education, ability to work and financial situation particularly among vulnerable people.

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## The Frailty Trajectory And Related Factors in COPD Patients

**CHEN Pei-Ju, WANG Kwua-Yun**

**Introduction**

Frailty is a condition or states about personal loss or decrease ability to resist event stress. Patient with chronic obstruction pulmonary disease (COPD) who has dyspnea, the prevalence of frailty is more than half. There were seldom evidence related to frailty trajectory in COPD and related factors.

**Purpose/Methods**

The study purpose was to understand the trajectory about COPD with frailty and relate factors. This study was a prospective longitudinal research design. A total of 133 of patients with COPD were recruited from chest outpatient department in two teaching hospitals in Taipei City using convenient sampling. The data were collected through the first time (the researcher meeting the patient first) to sixth times and one month interval for each time. The structured questionnaires including demographics, Canadian Study of Health and Aging Clinical Frailty Scale, COPD Assessment Test (CAT), the modified British Medical Research Council and center for epidemiologic studies depression scale were used to collect data. The data were

analyzed by description and inferential statistics using SPSS 22.0 software packages.

**Results**

The results showed that more than half patients without frailty, around thirty percent in pre-frail, and near twenty percent in frail. There were significant correlations among frailty with age, income, cigarette-type, disease-severity, comorbidity, and medication.

**Conclusions**

The study gives the information about COPD with frailty. Further, the findings of this study will be the reference to development effective interventions to improve frailty of COPD patients.

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## Session O3.9: WORKSHOP: The Salutogenic Hospital Design for Health Promotion Research and Application

### The Beneficial Health Outcomes of Salutogenic Design

**DILANI Alan**

There is an urgent and ever-growing awareness world wide of the need to invest in healthy and sustainable infrastructure. By applying salutogenic design principles that seek to promote greater health, this landmark shift can begin to occur. The resulting and striking healthful outcomes of such existing structures bring these concepts to the forefront of global building opportunities. This approach now comprises the leading edge of change in our society. By embracing these precepts to shape our built environments and infrastructure, we engage in shifting the quality of such environments. Salutogenic architecture is taking its rightful place in the vanguard of preventative care strategies that have the potential to change our lifestyle for the better. Health has become a commodity that is not equally distributed within society. Certain groups of individuals are more successful than others in having access to proper health-related knowledge and information. This data gathering is very often supported by a healthier lifestyle, in combination with lower exposure to risk factors within the built environment. The author discusses the principles and ideas for a salutogenic design approach in planning future built environments with one simple goal: to create a healthier society. For design professionals (architects, planners, designers et al), the focus upon and concern for designing a sustainable healthy future society is the most compelling task to be addressed and implemented in all societal sectors where human beings live work and play.

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## The Pink Effect: Healing the world by Salutogenic Design

### BLACK Susan

Introduction The largest pre-eminent academic ambulatory care centre and research institute in Canada, Women's College Hospital is dedicated to improving the health and lives of women and their communities. They aspired to build a new hospital with a design team who would identify with their vision and contribute unparalleled innovation to match their own. Objectives Harness the power of the feminine to create an environment that treats the 'whole' woman encouraging The Pink\* Effect - healing from her to her family and into the community Generate innovative health system's solutions to keep complicated medical patients out of the hospital Measure how architecture, planning and design impacts the integration of academic research, education and clinical outcomes Methods Engaged in a pre-emptive quantitative and qualitative research study 'Voices of 1000 Women' Created inspired physically and socially supportive environments - beyond meeting ambulatory design norms Reinforcing The Pink\* Effect when creating environments that support information sharing both internally and externally Results The Salutogenic design approach ensures that The Pink\* Effect penetrates every level of the facility and speaks to integration and collaboration with the community - while embracing a light-filled welcome box, with the addition of a cantilevered branding element glazed in the strongest pink. Concepts of welcome, choices, diversity, and quality of experience contribute to patient and staff self-empowerment and engagement. Scalable clinical models of care prove innovations are successful Innovations are shared across the country and beyond Team learning spaces accommodated within each clinical pod Integration of complimentary childcare lessens anxiety and respects women's time constraints Clinical neighbourhoods reimaged to incorporate screening and inter-departmental diagnostics for efficient patient flow Team of healthcare specialists treats the whole person with multiple appointments Wait times reduced to 20 minutes Patient visits increased 1000 per month since 2013 Community participation in tapestry project! Conference Centre became a unexpected revenue generator and a hub for knowledge sharing Satisfaction surveys including inclusivity ratings are increasingly positive Reduction in emergency visits due Acute Ambulatory Care Unit Research Institute repatriated onsite Conclusions The Salutogenic Design approach inspired by the 'soul' of the women incorporates strategies and innovative ideas to support healing on all levels - concepts which are sharable and scalable. Key Words: Salutogenic Design, Women, Pink, Scalable

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**Innovation in health infrastructure to revitalize health and tackle 21st century challenges by Salutogenic Design**

**WIMMER Albert**

The salutogenic approach aims to create a highly efficient process-orientated hospital that places the patients with all their varied needs and requirements in the centre. The crucial point is the creation of a so-called "healing environment" that offers a health promoting atmosphere. In this respect people - patients, staff and visitors - do not stand at the edge of outstanding architecture but in the centre point of their environment. International role models for the practical application of salutogenic design principles are the new hospital projects Vienna North Hospital, the hospital Südspidol in Esch/Alxette, Luxembourg and the children's and adolescent clinics in Freiburg, Germany. All projects are designed based on the orientation on the patient's needs. The fundamental idea is to provide health care buildings on a human scale instead of confronting patients, staff and visitors with a mega structure. Through this the designs ensure an intuitive comprehensibility and high readability that is furthermore supported by the clear visual connections and logical zoning. The concept aims to create clearly and understandably segmented structures with high orientation and readability. Consequently all projects pursue a strategy that consciously exceeds the state-of-the-art. The proposed designs anticipate possible future developments and follow the strategic goal of patient-friendly and functional employee-friendly environments. Autonomy and self-determination, differentiated zones for conversation and retreat, as well as a clear and distinctive division between private and public interaction are at the focus of the projects. The designs support encounters and interactions, while ensuring that the human need for self-reliance and mutual respect is fulfilled. Bright, light-flooded rooms, the use of natural forms and "healing colours" such as can be found in nature as well as a leafy view contribute to a pleasant and relaxed atmosphere. Supplemented by a selection of suitable artworks and especially designed gardens and roof landscapes, the result is a holistic-spatial experience that optimizes the atmosphere and supports the recovery process. The nature-near atmosphere find it's continuation in the surrounding landscape that provides an important contrast to the clinic structures of the hospital and offers a wide range of possibilities to experience nature and supports the recovery process. For patients, staff and visitors alike the park is suitable for all fitness levels and provides leisurely and easy walking paths with high value of inhabitation.

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**Session O3.10: Symposium on the updated WHO-HPH Standards – guided tour, the evidence and next steps**

**Symposium on the updated WHO-HPH Standards – guided tour, the evidence and next steps**

**SVANE Jeff Kirk**

Since they were first published, more than a decade ago, the WHO HPH Standards for Health Promotion in Hospitals has been a cornerstone of HPH efforts worldwide. The manual and standards underwent a largescale revision and updating process in 2015 and 2016 in a multinational project lead by WHOCC in Copenhagen and funded by WHO Europe. The revised and updated standards manual builds on systematic literature searches of the best available evidence in the scientific literature. It was also pilot tested with clinicians in European countries and abroad and subsequently evaluated in an international expert review process. The updated manual broadens the focus of its predecessor by encompassing the 'non-hospital organizations' as well, as these are natural parts of the HPH membership today. After final editing and modifications based on test and review results, a beta version is now available. This symposium deals with the updated and revised standards, provide a guided tour of the chapter and the measurable elements, and allows discussion of relevant topics related to patient, staff and management. Future next steps in implementation will also be discussed.

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## Session O4.1: Reorienting health services

### One Stop Service for survey of diabetic complications

**CHEN Chung Sen, LIAO Kuo Meng, CHENG Pi-Sung**

#### Introduction

Diabetes mellitus with poor glycemic control was notorious for its chronic complications. It was difficult to persuade diabetic aged people to dilate pupils for yearly retinal examination, and on schedule to check other complications. Because of no survey of complications, no diagnosis, thus no managements were happened in the real world.

#### Purpose/Methods

One visit in our clinics, we will provide survey of microvascular complications including of urine albumin excretion rate (nephropathy), non-mydiatic retinal camera (retinopathy), and quantitative sensory testing (neuropathy). Macrovascular complication (peripheral artery disease) was also assessed by ankle brachial index at the same visit. We served four complications survey in one stop. We will check the rate of four examinations before and after the service. Satisfaction survey was also performed.

#### Results

The percentage of four examinations were increased after the service. Retinal examination rate increased from 67.6% to 72.8%, urine albumin excretion form 63.5% to 79.8%, quantitative sensory testing from 0% to 45%, and ankle brachial index from 89.9% to 95.1%. Satisfaction survey selected 165 form 5265 subjects revealed 99% satisfied. The number of loyal patients in our clinics was also increased form 4676 to 5147. Care quality including of Hba1c<7 % rate was raised from 56.3% to 57.8%. LDL( low density lipoprotein)<100 mg/dl form 59.5% to 61%.

#### Conclusions

One stop survey complications of diabetes were a patient-center service. Integrated care of patient could increase the percentage of diagnosed complications, thus we could provided managements.

#### Comments

One stop service need space reconstruction, additional staff, and increased instruments. It was a difficult road to walk. but it was a patient-center service. After the the procedure reconstruction, we can see the benefit.

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## Self-help friendly hospitals: Reorienting health care services through professionalized self-help groups?

**ROJATZ Daniela, FISCHER Julia, WALCH Siegfried, FORSTER Rudolf**

#### Introduction

The Ottawa-Charta calls for a reorientation of health care services. In order to enhance the people-centeredness of hospitals, the self-help friendly hospital concept strives to structure the cooperation between self-help groups/organisations (SHG/SHO) and hospitals and to make the cooperation more sustainable. In line with the HPH-New Haven recommendations, the criteria following the concept allow for both a stronger cooperation with civil society and patient participation. The concept includes criteria for hospitals but no quality criteria for SHG/SHO. Experiences with the implementation of self-help friendly hospitals in Austria suggest that hospitals raise expectations on SHG/SHO concerning their professionalization in case of cooperation.

#### Purpose/Methods

The presentation aims to critically reflect the need and consequences of professionalization of SHG/SHO. Expert interviews with representatives of SHO were conducted to find out their general understanding of professionalization, supplemented by documentary analysis of governmental and SHO-defined criteria for patient representatives in Austria.

#### Results

Professionalization is no major topic in SHO although some consider it as risk for their own core characteristics and as a potential cause for the decoupling of representatives and ordinary members. Their understanding of professionalization refers to competency, organizational and human resources development. Documentary analysis shows among others a self-commitment of SHO to fulfil specific criteria such as financial transparency.

#### Conclusions

Professionalization seems to be both necessary and risky for SHO cooperating with the health care system. Approaches to facilitate the cooperation like the self-help friendly hospital need to consider this ambivalence. This holds especially true for the expectations of the stakeholders involved and the subsequent understanding of the cooperation towards standardization or enhancing communicative action.

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## Organizing Network Platform of Community Health Promotion to link Continuous Long-term Care System

**HUNG Ta-Chuan, HUANG Tsu-Hsueh, WEI Ching-Yao, YEH Hung-I**

### Introduction

Apart from acute medical services, hospitals will need to integrate services in long-term care, home care, community health promotion and hospice. The "Healthy, Happy, Homey" life care system designed in three sections and five levels is established to offer proper local care to the elderly.

### Purpose/Methods

Mackay Memorial Hospital designs a "one-window" service model, that links the hospital to nursing home, day care center, home care system, senior club, health stations, early dementia center, and hospice home care system, providing a friendly service to the healthcare of elderly in zero distance.

### Results

The hospital discharge planning services are connected with the "Nursing Home subordinates to Mackey Memorial Hospital" to provide elderly with post-acute care and respite care. Two small-scale multi-function "Day Care Center" are set up for mild disability elderly. And community health promotion network platform including 64 "Health Stations" distributed in 5 districts. The elderly volunteer provide services in blood pressure, BMI and abdominal waist measurement at Health Stations. Moreover, nurses, dietitians, pharmacists, cancer case managers, and psychologists are available to provide counseling on health education, disease screening and referral. The "Early Dementia Center" in a rural area offers activities for groups of dementia elderly and their family. The "Senior Club" holds sharing food program and counseling on health education. The nursing home and the hospice team provide home-based services to establish a "Healthy, Happy, Homey" life care system for elderly.

### Conclusions

Taiwan will enter the "super-ageing society" by 2025 while the application of network service model for elderly-oriented "one-window" service model will offer proximate, continuous and individualized holistic care services. That will implement goal of local LOHAS living in the elderly.

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## United States vs Sweden: Health counselling service in primary care

**WEINEHALL Lars, JOHANSSON Helene, JENKINS Paul, DALTON Jim, JERDÉN Lars, SORENSEN Julie**

### Introduction

An ongoing Swedish-American study compares (1) primary care professionals' engagement in lifestyle counselling, (2) patients' need for support from primary care to change lifestyle and (3) the patients' experiences of primary care interventions to meet those needs.

### Purpose/Methods

The presentation is based on two cross sectional studies, one including four key questions on counseling for tobacco use, alcohol consumption, physical activity, and eating habits, that compares perspectives, attitudes, and practice among 180 Swedish and 86 US primary care providers (physicians, physicians assistants, midwives, and nurses), and the other 288 Swedish and 341 U.S. randomly selected patients, based on telephone interviews.

### Results

U.S. providers rated counseling "very important" significantly more frequently than Swedish providers for tobacco, physical activity, and eating habits, and reported giving "very much" counseling more frequently than did the Swedish providers. Swedish providers rated their level of expertise in providing counseling significantly lower. A higher percentage of U.S. providers expressed a desire to increase levels of counseling "very much". For 3 of the 4 lifestyle habits (except alcohol) the proportion of subjects needing life style changes was higher in the U.S. The proportion that needed and would like to get lifestyle support from primary care was generally above 80% in both countries. The proportion patients reporting primary care initiated discussions on lifestyle was below 50% in Sweden and above 50% (with the exception of alcohol for men) in the U.S.

### Conclusions

The studies indicate needs of improvement for primary care in both United States and Sweden regarding how to better address nutrition, physical activity and tobacco habits and demonstrates high and quite similar patient expectations concerning lifestyle counselling in both countries.

### Comments

The presentation is based on a research collaboration between Umeå University, Sweden and Bassett Research Network, Cooperstown, NY, USA.

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## A Five Year Journey: Strengthening Prevention at Alfred Health

### CORBEN Kirstan

### Introduction

Alfred Health has undertaken a five year journey to strengthen its approach to prevention, population health and health promotion. In addition to delivering world class treatment services, Alfred Health now provides environments and clinical interactions which actively promote the health of its community, patients and workforce.





**Purpose/Methods**

**Aim:** To achieve a health service system which integrates opportunities for health promotion alongside treatment based care within a major health service. **Methods:** High level leadership development with the Chief Executive, Executive Committee and Board shaped the organisation's prevention culture. Communication strategies increased consumer and staff awareness regarding the value of prevention and the organisation's prevention initiatives. Creation of healthy environments spanned smokefree, healthy food, active travel and sit to stand. Clinical interactions more systematically identified and responded to modifiable risk factors including nicotine dependency, overweight and obesity, alcohol and illicit substance use and homelessness.

**Results**

The organisation has become recognised as leader in population health and health promotion. A commitment to safe to fail experiments have enabled some world first trials and sharing of positive learnings with other settings. Alfred Health's prevention system has been fully operationalised and supported by operating and capital investments. More people quit smoking, address their overweight or obesity, adopt active forms of travel and consume healthy foods and drinks than ever before. Alfred Health now undertakes a statewide leadership role to support similar journeys in other Victorian health services.

**Conclusions**

A systems approach is effective at strengthening prevention, population health and health promotion within a health service setting. Achievement takes organisational leadership, a culture which is open to change and effective partnerships within and outside of the health service.

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## Establishing HPH Project in Afghanistan: Challenges and Opportunities

**ABDULLAH Maihan, GRAISER Silke****Introduction**

Being one of the world's poorest countries, Afghanistan has a universal healthcare system even though according to a recent survey, healthcare consumers pay more than 75% of the expenses each year. While communicable diseases such as TB and Malaria are more prevalent, non-communicable diseases are escalating responsible for about 35% of mortality. Considering the low health education/literacy among healthcare providers as well as healthcare consumers, increasing load of patients, and growing job dissatisfaction in hospitals, Health Promotion Department at MoPH initiated Health Promoting Hospital project in March 2015 to know the about various health promoting hospitals activities in three different types of hospitals. The project will also reveal what financial and technical resources are needed to implement a Health Promoting Hospitals program in those hospitals in particular and in other similar hospitals in general.

**Purpose/Methods**

The project is piloted in two public and one private hospital to reduce the load of patients, decrease complications of diseases, especially resulting from chronic diseases, and to increase job satisfaction largely through proper health education and communication trainings. The three hospitals located in capital city, Kabul, are selected based on their geographic location representing three different locations of the city. Self-Assessment Tool for Pilot Implementation guide with a slight modification was used for a baseline assessment.

**Results**

Ahamad Shah Baba (ASB) Hospital administered by Medecins Sans Frontieres (MSF) gained the highest score of 17.5 out of 51 because a health promotion team already works on some of the indicators. Surprisingly, Ariana private hospital scored the second highest of 14.5 followed by Dasht-e-Barchi Hospital scoring only 7.5. ASB Hospital scored higher in Management Policy, Patient Assessment, and Continuity and Cooperation while Ariana private hospital scored higher in Patient Information and Intervention and Promoting a Healthy Workplace standards.

**Conclusions**

The assessment shows that some of these hospitals conduct health promoting activities to some extent; however, these activities are not systemic and standardized. Despite enormous challenges, the hospital the hospital administration and other staff in the three hospitals are interested in implementing health promoting activities. However, lack of financial resources and staff is making it difficult to achieve most of the indicators. Considering the huge difference it will make, the government need to develop a policy providing specific resources for health promoting activities in hospitals.

**Comments**

This is the first time health promoting activities are conducted in a govt. hospital by the Ministry of Public Health. The presentation will include data on types of patients and top ten diseases in the hospitals. It will also include some indicators from the hospital where health promoting activities are conducted by MSF. In addition, unique challenges and opportunities towards implementation of the project will also be discussed.

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## Session O4.2: Physical activity and healthy lifestyle

### Ethical and existential aspects of lifestyle changes

**ARLEBRINK Jan****Introduction**

Many people change their lifestyle and such changes can be either voluntary or involuntary. Often, some sort of crisis forces people to change their lifestyles. Therefore, the difficult

existential questions become relevant to those who have been forced to change their lifestyle.

#### Purpose/Methods

The purpose of this paper is to explore several types of lifestyle changes within an ethical and an existential framework. Such frameworks are applied because lifestyle changes, regardless of their reason and the need for change, require the individual to ask questions about the fundamental nature of life. The ethical context is constituted by the Danish ethicist K.E. Lögstrup and his thoughts on the basic conditions of life for the human being. The existential context is constituted by questions dealing with the foundations of our existence and which man cannot avoid.

#### Results

In the examples which will be given, the patients seldom receive any help to process their existential questions and as a consequence their problems become more severe.

#### Conclusions

It is important to treat every patient as a subject and to take care of not only his or her medical problems but also of the patient's existential questions generated by the medical problems.

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## Moving Generations – Evaluation of an intergenerational health promotion program based on psychomotricity

**MOSOR Erika, WALDHERR Karin, HÜBEL Ursula, PINTER-THEISS Veronika, STAMM Tanja**

#### Introduction

In recent years, different kinds of intergenerational interventions with older adults and preschool children have been conducted. However, only a limited number of evaluation studies and evidence has been found.

#### Purpose/Methods

The aim of this study was to evaluate the implementation and feasibility as well as the outcomes of an intergenerational health promotion program based on psychomotricity. A clinical multicenter trial using mixed methods was conducted with preschool children and older adults. The study included a pilot phase (10 units; 4 institutions) for evaluating the intervention and the assessments and a roll-out phase (20 units; 16 institutions).

#### Results

In total, 140 participants were included in the study. Of these, 62 (44%) were children and 78 (56%) were older adults. The process evaluation in the pilot phase revealed several aspects for improvement of the intervention. The outcome evaluation showed a significantly higher number of happy facial expressions of the participants after the intervention when compared to

baseline ( $p < 0.0001$ ). Moreover, a significantly higher number of children initiated intergenerational contacts at the end of the intervention when compared to baseline ( $p < 0.0001$ ).

#### Conclusions

The intergenerational intervention based on psychomotricity was found to be feasible and improved active engagement and intergenerational contact.

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## Outpatient heart sports club - beyond physical activity

### HÜLLEMANN Klaus

#### Introduction

Germany's first outpatient heart club (OHC) was founded as a member of the German Sports Association in 1968. Up to now there are more than 6000 OHCs evenly distributed throughout Germany. What health gain is to be expected for members of an OHC? One hour training per week is not of much help to set measurable positive cardiovascular, muscular-skeletal, or biochemical effects. But experience of medical doctors who are in charge of OHCs show that the group gives shelter for the survivors of a life-threatening heart attack with psychological trauma. A more recent US meta-analysis of 4000 patients underlines the significance of emotional stress. Depressive symptoms occurred in 30% of critical illness survivors. Neither preventing nor treating depressive symptoms through verbal psychotherapy is supported by strong evidence, whilst physical rehabilitation (e.g. OHC) after discharge seems to be successful and deserves further investigation.

#### Purpose/Methods

We have learned from neuroscience (van der Kolk) that trauma is not a mere psychological phenomenon. Trauma has changed the brain's hardware especially in the brain's older part, in the reptilian brain, the so-called brain stem, and also in the so-called limbic system.

#### Results

Under therapeutic aspects it is crucial that arguments or words cannot be heard by these parts of the brain. But "Somatic Experiencing" (Levine) e.g. physical activity on the one hand (reptilian brain) and bonding (trust, shelter) on the other hand (limbic system) can modulate the evaluation of the emotional content of these brain structures.

#### Conclusions

Word trauma psychotherapy does not work with coronary patients. OHC is for many of these traumatized patients an accepted structure of therapy. Social shelter (bonding, trust, safety) and somatic experiencing (e.g. physical activity) are basic for health gain through OHC. Perhaps that is why the Heidelberg OHC, the so-called Ludens Club, still exists after nearly 50 years.

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## Holistic Care with Tai Chi Exercise can maintain the function of balance and alleviating Depression in Patients with Spinocerebellar Degeneration Disease – Pilot Study

LIU Chin San, CHIU Chung-Min

### Introduction

Spinocerebellar ataxia (SCA) is a neurodegenerative disease without effective medicine but high risk of depression and suicide in patients. SCA patients also have a negative impact on the physical, mind and the social engagement.

### Purpose/Methods

The Holistic Medical Team (HMT) and the Tai-Chi exercise intervention may have benefit effect in the maintenances of balance and minimize depression in SCA patients. The study was divided into HMT group (N = 50) and HMT group with Tai-Chi exercise (N = 50). Outcome measures were assessed within 2 years by the scoring of Scale for the Assessment and Rating of Ataxia (SARA) for balance function and Taiwanese Depression Scale (TDS) for depression severity.

### Results

After 2 years, severe standing unbalance was disclosed in SCA patients received only in group of HMT ( $2.8 \pm 1.7$  vs,  $3.3 \pm 1.8$ ,  $P = 0.010$ ). However, preserved function of standing was found in patients with HMT/Tai-Chi intervention ( $2.0 \pm 1.1$  vs.  $2.0 \pm 1.5$ ,  $P = 1.000$ ). In the group of patients with severe depression (TDS > 19), nearly significant reduction of depression score after HMT/Tai-Chi intervention ( $23 \pm 5$  vs.  $6 \pm 3$ ,  $P = 0.057$ ).

### Conclusions

HMT with Tai-Chi exercise is a potential therapeutic-model in the maintenances of balance function in SCA patients and alleviation of critical depression.

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## Session O4.3: Tobacco cessation

### Factors associated with adolescent cigarette smoking in Northern Taiwan

CHEN Chih-Dao, YEH Yu-Chun

### Introduction

Tobacco use is a leading preventable cause of illness and death in the world. Many adult smokers initiate the smoking habit during adolescence. This study describes the prevalence and determinants of tobacco use among three levels of education (junior high, senior high and vocational schools) from a randomized sampling study in northern Taiwan.

### Purpose/Methods

Data were extracted from the 2009 Campus Health Survey of Adolescents in New Taipei City. In this research, we analyzed socio-demographic variables, family function (The Family APGAR Index), depressive symptomatology (CES-D), The Eating Attitudes Test (EAT-26) and other risk behaviors contributing to tobacco use. Body mass index (BMI) was also calculated based on the recommendation by the Ministry of Health and Welfare in Taiwan. Chi-Square tests and multinomial logistic regression were used to analyze the associated factors.

### Results

Total 13,799 students were recruited and 10,766 complete the questionnaire. During the 30 days before the survey, the smoking rate for boys and girls were 8.4 % and 3.5%. The smoking rate for junior high, senior high and vocational schools were 5.0%, 4.2% and 8.1%, respectively. Adolescent tobacco use was related to the low family function, depression and eating problem. The coexistent of alcohol consumption, nut chewing and illicit drug use with smoking use were 57%, 10% and 4.5%.

### Conclusions

Tobacco cessation programs have been highly promoted in Taiwan and second-generation cessation program ( free consultation for adolescent ) was popularized by health department since 2012. The quitting rate was relevant low at the young age in Taiwan. The study revealed multiple factors (family dysfunction and depressive disorders) and substance use (alcohol consumption, nut chewing and illicit drug use) related to tobacco use.

### Comments

Smoking maybe a call for help sign for adolescent. "Youth-Friendly Clinic Health Checklist", which was developed and used in Taiwan since 2004. We should offer a comprehensive adolescent health care.

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## Smoking and clinical aggression in a large health service: can we do better?

DEAN Emma, ANANDA-RAJAH Michelle, CORBEN Kirstan, MARUM Steve

### Introduction

Clinical aggression in a health service may escalate requiring a security response known as a 'code grey'. Addressing the clinical drivers of code grey episodes is a high priority for health services in order to improve patient outcomes and minimise occupational risks.

### Purpose/Methods

To understand the relationship between nicotine dependency and clinical aggression as part of an organisational review characterising the epidemiology, management and resource utilisation associated with code grey episodes. A retrospective audit was conducted of all code grey episodes occurring between 1 January and 31 December 2015, in a large metropolitan health



service. Patients were identified from security records and clinical incident reports. Variables collected included socio-demographic and clinical risk factors, including drug and alcohol abuse, nicotine dependency, co-morbidities and resource utilization, including special nursing, security personnel and pharmacological/mechanical restraints.

### Results

To date 713 code grey episodes in 341 patients have been reviewed. Characteristics include: 69% male (n=235), mean age 39 years (range 16-98 years), psychiatric diagnosis in 35%, dementia or cognitive impairment in 14%, and acquired brain injury in 10%. Of the code grey episodes reviewed, 70% (n=499) involved a patient who smokes (51% patient smoking rate), however a nicotine dependency assessment was performed in only 70% (n=349) of these episodes. Of the 53 episodes involving patients with high nicotine dependency (smoking heaviness index of 5 or 6), nicotine replacement therapy was not administered in 70%, despite recommendations for initiation in 87% and features of nicotine withdrawal in 75% of episodes.

### Conclusions

People who smoke are overrepresented among patients with significant episodes of clinical aggression. Improved assessment and management of nicotine dependency in the hospital setting is a modifiable factor with potential to improve patient outcomes and staff safety.

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## Will cancer patients stop smoking and drinking alcohol in relation to major bladder cancer surgery?

**Lauridsen Susanne Vahr, Thomsen Thordis, Thind Peter, Tønnesen Hanne**

### Introduction

Smoking and alcohol consumption above two drinks per day is associated with an increased risk of postoperative morbidity. For bladder cancer patients scheduled for surgery the preoperative period is often very short. An ongoing multicenter randomised controlled trial is investigating the effect of an intensive smoking and alcohol cessation intervention following the gold standard programme (GSP), shortly before and 5 weeks after bladder cancer surgery on postoperative complications and smoking cessation. The purpose of this study is to evaluate if there is a difference between the stop rate in the smoking cessation group, the alcohol cessation group and, the smoking and alcohol cessation group, respectively.

### Purpose/Methods

The GSP combines patient education and pharmacologic strategies. The GSP for alcohol and smoking cessation interventions prior to surgery consists of five meetings in six weeks, where the patient meets with a trained health promotion nurse. Stratification variables are: trial site, daily smoking, > 2 units of alcohol daily, daily smoking and > 2 units of alcohol daily.

### Results

Till now 58 patients have been enrolled in the study. Data is available for 26 patients who have completed the GSP intervention. At 6 weeks follow-up, 50 % had successfully quit smoking, alcohol drinking or both; 9 out of 16 patients stopped smoking, 1 out of 5 stopped drinking alcohol and 3 out of 5 stopped both smoking and drinking alcohol. More results on the stop rates will be presented.

### Conclusions

Cancer patients are able to change life-style in relation to surgery regarding tobacco and alcohol use.

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## Quit rates after a perioperative pharmacist-led brief smoking cessation intervention in a pre-admission clinic

**Dean Emma, Bui Thuy, Inserra Vanessa, Myles Paul, Burke Justin, Corben Kirstan, Younie Stuart, Dooley Michael**

### Introduction

Links between smoking and perioperative complications are well established. Assisting patients who smoke to quit before planned surgery may enhance surgical outcomes and should be considered by clinicians delivering perioperative care.

### Purpose/Methods

To compare smoking rates, quit attempts and reduction in number of cigarettes smoked prior to surgery, before and after the implementation of a pharmacist-led smoking cessation intervention in a pre-admission clinic (PAC). A retrospective case review was conducted of all patients who smoke and were seen by a clinical pharmacist in the PAC of a major tertiary hospital. The control group (n=292; January to December 2013), received usual care: smoking cessation advice was provided in an ad-hoc manner at the discretion of the multidisciplinary team members at PAC. The intervention group (n=249; December 2014 to December 2015) received a smoking cessation brief intervention by the PAC pharmacist, including verbal quit advice, nicotine replacement therapy (NRT) recommendations and linkage to support services (e.g. Quitline®). Outcomes measured included smoking status, quit attempts and reduction in number of daily cigarettes smoked by the date of surgery.

### Results

In the intervention group, 20.9% of current smokers made a quit attempt prior to surgery compared to 10.9% of the control group (p=0.002); 14.5% of the intervention group were smoke-free on the day of surgery compared to 7.9% of the control group (p=0.018). For patients who continued to smoke, 14.1% (30/213) in the intervention group reduced the number of cigarettes smoked per day versus 7.8% (21/269) in the control group (p=0.036).

### Conclusions

A smoking cessation brief intervention delivered by the PAC pharmacist prompted more quit attempts and almost doubled the rate of smoking cessation by the day of surgery. Perioperative providers are ideally placed to prompt smoking cessation prior to planned surgery.

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## Effectively Enhancing the Smoking Cessation Success Rate Through Case Management

**CHENG Chih-Ling, CHENG Yi-Feng, YU Shu-Chuan, CHAO Pai-Mei, CHEN Yi-Chih, HUNG Ling-Yu, TSOU Jhi-Chyun**

### Introduction

Over 3.6 million smokers in Taiwan seek help with smoking cessation each year, 70% of whom have unsuccessfully attempted to quit smoking before. Chronic smoking behavior is complex and involves physiological, psychological, and social factors.

### Purpose/Methods

The nationwide bi-annual "quit and win" competition was held in Taiwan in 2016 to provide smokers with immediate incentive to quit smoking. A short message service (SMS) reminder was sent to participants regarding smoking hazards every week and on the day before each scheduled clinic visit. Participants were followed up with every month, and those who did not return to the clinic were followed up with by telephone at night or on holidays.

### Results

From January 1 to April 30, 2015, 100 participants were recruited; the smoking cessation success rate was 18% after 3 and 6 months. The telephone and SMS care program was implemented the subsequent year and 97 participants were recruited from January 1 to April 30, 2016. After 3 months, the smoking cessation success rate was 46%; after 6 months, the smoking cessation success rate increased to 51%.

### Conclusions

To successfully quit smoking, smokers require support from other people in addition to relying on their own will. Case management and telephone care can encourage smokers to regularly return to the clinic, undertake exercise routinely, and remind them of their own personal commitment and motivation for quitting smoking, thereby effectively enhancing the smoking cessation success rate.

### Comments

Through case management, smokers can obtain continuous care and improve their knowledge, attitude, and behavior. We suggest that the government frequently hold a smoking cessation competition and use interviews, telephone follow-up, and SMS messages to establish a relationship with smokers and effectively enhance the smoking cessation success rate.

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## Session O4.4: Equity in health promoting health care

### Adapting Equity Healthcare Standards in At-Risk Local Context in Spain: Lessons Learned and Future Challenges

**GARCIA RAMIREZ Manuel, CAMACHO Carlos, GARRIDO Rocio**

### Introduction

Equity Healthcare Standards (EHS) developed by the HPH Task Force MFH seeks to become an approved framework of equity in organizations providing health services to migrants and other at-risk groups. The massive arrival of migrants to Europe has involved different organizations and providers in such way that their capacity to respond has been surpassed. EHS overcome the limitations of other standards based on cultural criteria, adopting a social justice approach and taking into account health determinants of at-risk migrants.

### Purpose/Methods

This study proves that EHS characterize equitable multicultural organizations (EMO), increasing the capacity to respond of providers in terms of cultural competence and organizational influence. 526 providers participated through an intentional sampling from 45 organizations in three Spanish enclaves. A survey was applied using a questionnaire composed of EHS indicators and items from cultural competence and organizational influence scales (Suárez-Balcázar et al., 2011; Albar et al, 2012). Data analysis was conducted using Partial Least Squares-structural equation modeling through SmartPLS 3.0.

### Results

A reflective-formative type II model was applied. Regarding the reflective constructs, the individual item reliability was evaluated by the Composite Reliability (> 0.7), and the convergent and discriminant validities by the Variance Extracted (> 0.5). Regarding second order constructs we used a two-stage approach, through bootstrapping to obtain the T value. Predictive power of the structural model was assessed by the path coefficient and the R2 value obtained was 0.362, which represent a large effects.

### Conclusions

The five standards included in the model characterize the degree of equity in the organization. Each standard is properly measured through selected performance indicators. The degree of equity in an organization is a good predictor of the capacity of providers to effectively respond to the health needs of at-risk migrant flows. Providers' capacity to respond is promoted through competencies for migrant users and enhancing their capacity to influence in their organizations' decisions.



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## Equity assessment: our health prevention and promotion programmes reach EVERYONE?

**RIBOLDI Benedetta, CHIARENZA Antonio, FERRARI Annamaria**

### Introduction

Healthcare organizations are increasingly facing with more kind of "diversity" not related to traditional classifications (eg. Poor people, migrants,, marginalized ...) and closely linked to the social vulnerability and multidimensional phenomena: in this context health cannot be limited to implementing interventions for specific target but needs to develop an equity approach in all its plannings

### Purpose/Methods

To disseminate culture of equity in the Regional Prevention Plan of 2016-2018 through the use of EqIA (Equality Impact Assessment), which is a tool for the evaluation of equity in the health pianification:it starts from an analysis of the evidence on inequity in local context to orienting the organizations of services (process of research-action). This is a process by which an organization monitors its ability to meet the principles of equity and non-discrimination it declares in the programming documents. It has been realized both a regional and local training: in Reggio Emilia training involved 40 professionals from the Department of Public Health as trainers of trainers that will be able to transfer the knowledge of this tool within their work team. After the training professionals had the task of testing the chekl list of Eqia tool to evaluate all local projects of the new plan for prevention 2016-2018

### Results

Many external stakeholders such as local authorities, sports associations, voluntary, third sector, schools, etc have been involved. This has allowed us to identify some improvement actions to be included in the drafting of new prevention projects to reach more people in an equity way. Moreover Eqia allowed to assess the consequences and effects that policies, programs and actions implemented (or have to be implemented) have on the population.

### Conclusions

It 'important that equity assessment tools become part of the system and of all health policies and plans to be effective and to create a real equity proposal of health services.

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## Compliance to tuberculosis screening in irregular immigrants: The success of a model centered on case-holding

**CASONI Carmen, BONVICINI Francesca, MONICI Lucia, WAMBA George Josselin, FOSCHIERI Jenny, FORNACIARI Rossano**

### Introduction

Screening for active and latent TB in selected high-risk groups, providing appropriate treatment and targeting the most vulnerable and hard-to-reach groups, are main components of WHO's TB control program. A high level of compliance to protocols is mandatory; in previous studies on immigrants adherence to screening and treatment resulted very low. Furthermore there is a lack of data on the feasibility and compliance among undocumented immigrants.

### Purpose/Methods

The Centre for Health of Foreign Family is an outpatient Service dedicated to prevention and care of irregular immigrants in Reggio Emilia Province in Italy. A retrospective cohort study was conducted between 1 January 2012 and 31 December 2015, with the objective to evaluate the adherence to LTBI and active TB screening

### Results

The overall compliance among the 368 immigrants included in the study was 90.22% and 87.3% for active and latent TB screening respectively. The 70.00% patients that started the preventive therapy for latent infection (Isoniazid for 6 months) completed the treatment. Homelessness, prostitution, female sex and working activity adversely affect compliance. The level of knowledge of the Italian language did not provide significant results. Alcohol chronic consumption was associated with a greater risk of no beginning or interrupt of prophylaxis. All the patients with active TB successfully completed the treatment.

### Conclusions

The compliance resulted very high comparing to other recent investigations. The "case-holding" is a central measure of public health: to ensure a high compliance, it is essential to create a network of Services and health workers connected together and patient-centered. The distinctive aspects of our organization are: the continuous presence of cultural mediators, the creation of stable teams, the pre-existing agreements between different services, the presence of a nurse dedicated to the periodic monitoring of compliance, the complete gratuitousness and the direct delivery to the treatment

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## Targeting tuberculosis elimination: A combined screening strategy in a population of irregular immigrants

**BONVICINI Francesca, MONICI Lucia,  
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Carmen, FORNACIARI Rossano**

**Introduction**

TB remains an urgent global public health problem. Screening for and treatment of active and latent TB (LTBI) in high-risk groups are essential components of WHO's strategy, fixing the ambitious targets of TB elimination by 2050 in low-incidence countries. There is a lack of data about the burden of disease in the subpopulation of irregular immigrants: because of the special conditions of vulnerability, it could be an important source of LTBI and/or active TB.

**Purpose/Methods**

We conducted a cohort study at the Centre for Health of Foreign Family, an outpatient Service for irregular immigrants in Reggio Emilia Province (Italy). We included adult patients who underwent TB and LTBI screening between 1 January 2012 and 31 December 2013; active follow-up ended on 31 December 2015. The aim of the study was to estimate TB and LTBI prevalence in the population of undocumented subjects and to analyse the association between immigrants' characteristics and risk for LTBI and TB.

**Results**

The prevalence of pulmonary TB among 368 immigrants ranged from 1.36% to 3.73% using different inclusion criteria. Chinese had a higher risk, of almost 5 times. The tuberculin index was 39.83%. The risk of LTBI was directly associated with increasing age. The condition of being homeless showed a prevalence of infection of more than double. The presence of working activity and a number of cohabitants higher than 4 people were associated with an increased risk of both LTBI and active TB.

**Conclusions**

TB and LTBI prevalence were higher than reported in other investigations targeting regular immigrants. Undocumented population may have high risk of LTBI, TB and/or progression from LTBI to active TB. Because of the high probability of diagnostic delay and poor accessibility to health services, screening should be implemented in each clinic dealing with seeking care irregular immigrants; the execution of both screening simultaneously allows to optimize the resources. National guidelines should support active screening in this subpopulation.

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**Health Promotion at the Least  
Expected Setting -- Health-Promoting  
Hospitals for Healthy Prisons**

**CHEN Michael S., LEE Chiachi B.**

**Introduction**

Taiwan has extended the coverage of its universal National Health Insurance (NHI) to the some 60000 inmates serving time at the 51 prisons around the country since January 2013.

Healthcare in the correctional institutions has therefore been "mainstreamed". However, since the NHI mainly covers only acute care on a fee-for-service basis, there is little incentive for the participating hospitals to promote health for the inmates. The co-payments re-introduced financial barriers for the inmates who lack income.

**Purpose/Methods**

An evaluative study was conducted to recommend a reform facilitating health promotion in the prison using questionnaire surveys on the inmates as well as on the medical staff of the prison; in-depth interviews were conducted to replicate the real-world experience of the medical staff. The quantitative and qualitative data were analyzed to highlight the need for health-promoting measures and extract the reform for that purpose. The status quo was examined and possible alternatives were assessed.

**Results**

While inmates welcomed the policy and the self-reported health was generally better compared with that at the beginning of incarceration, unhealthy behaviors remained, and very little health promoting practice or health education provided by the participating hospitals. While the utilization of health service by the inmates was at par with that by the general public, curative medicine prevailed and salutogenic service sidelined. Unpaid co-payments are mounting which will eventually discourage the hospitals to serve the inmates.

**Conclusions**

The in-prison healthcare should be based on a capitation system which allows the participating hospitals to keep a large portion of the unspent allocated budget. The prison, may be the least expected, can become the most effective setting for an HPH. This shall facilitate the hospital to adopt innovations featuring health-promoting practice and health education, leading to healthy prisons as advocated by the World Health Organization.

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**Session O4.5: Improving patient  
care**

**Limiting the use of Physical  
Restraint: A Guide for Healthcare  
Professionals**

**LANE Paula, HUGHES Layla**

**Introduction**

Physical restraint is used in a variety of care settings to protect a person from self harm, harming others or to administer medically necessary treatment interventions. If used to manage behaviour that challenges, it must be clinically warranted and approved as essential to patient safety. Any form of restraint must be justified as an option where no alternative exists and is generally reserved for exceptional cases where there are safety risks. This poster provides guidance regarding the management of behaviour that challenges through the application of Positive

Behaviour Support (PBS). PBS is an evidence-based, person-centered initiative that may be used in any care setting where behaviour that challenges exists.

#### Purpose/Methods

A literature search exploring PBS was undertaken. Key words used included 'physical restraint', 'Behaviour that Challenges', 'Positive Behaviour Support', and 'Clinical Safety'. A comprehensive search of electronic databases was performed and 48 relevant articles were retrieved.

#### Results

Findings show the value of PBS approaches to clinical governance. PBS can significantly reduce or eliminate even the most severe challenging behaviour, thus minimizing the use of restrictive interventions.

#### Conclusions

PBS is an evidence based approach to managing behaviour that challenges. It is important to apply the best available evidence and learn from international experience. Restraint policies need to be continually updated to reflect modern, research based risk management options. Implications for clinical practice show a need for enhanced CPD regarding the management of behaviour that challenges. Specifically, healthcare professionals have a duty of care to apply PBS in appropriate clinical contexts. This demonstrates the importance of accurate patient assessments, and supportive educational initiatives.

#### Comments

To further advance person-centered care, it is proposed to engage in research to evidence the impact of PBS approaches to managing behaviour that challenges.

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## The efficacy of physical therapy in the head and neck cancer patients with trismus

**LIAO Ling-Zhen, HUNG Chao-Chen, LI Dian-Kun, CHOU Yi-Fan, WU Hung-Pin, CHIEN Sou-Hsin**

#### Introduction

Trismus is a common complication in the head and neck cancer patient who received surgery and/or radiotherapy. Trismus results in dysphonia, poor oral hygiene, dysphagia, malnutrition and increased risk of aspiration pneumonia. We studied the efficacy of physical therapy in the recovery of the range of the motion of temporomandibular joint and swallowing.

#### Purpose/Methods

Physical therapy can increase the tissue blood flow in the oral cavity and improve the wound healing. To treat the trismus, we developed the protocol of physical therapy. Within the two weeks after the surgery we wined the sterile gauze on the spoon instead of spatula and placed it between the upper and lower teeth. The patient bit the spoon and swung the spoon up

and down gently for five to ten minutes every hour. Depend on the wound condition and teeth, increasing the range of swing motion slowly and gently without inducing the pain.

#### Results

After the two months of physical therapy, the mean width of mouth opening was 3.3cm at the beginning, 3.6cm after one month, and 3.8cm after two months.

#### Conclusions

Early intervention of physical therapy can improve the swallowing and prevent the trismus of the head and neck cancer patients. The physical therapy will be introduced in the wards and the outpatient department of the Head and Neck Cancer Center.

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## Applying the method of root cause analysis to reduce the infusion error of chemotherapy.

**WU Yen-Fei, HUNG Chao-Chen, HSU Chi-Chen, LI Dian-Kun, HUANG Kuan-Po, LO Ching-Hsuan, CHIEN Sou-Hsin**

#### Introduction

The infusion error of chemotherapy could result in severe complications and even death to the cancer patients. There were three episodes of infusion error in the last year in our hospital. The severity assessment code rating was SAC 2. We took the action to reduce the infusion error by applying the method of root cause analysis (RCA).

#### Purpose/Methods

First we collected the data and analyzed from the aspects of education, operating procedure and personal reason. After using the fishbone diagram and cause and effect diagram, we confirmed the root causes were: 1. the training course of chemotherapy administration for the new staff was imperfect and not completed, 2. the standard operating procedure was not executed so thoroughly, 3. timing of follow-up was not executed orderly. After the barrier analysis, we set up six action plans, including: 1. set up the new International Organization for Standardization (ISO) document for the post administration observation of high alert medication; 2. set up the assessment and audit schedule of nursing process for the administration of chemotherapy; 3. six hours new staff training program of chemotherapy administration; 4. adding the operating protocol of infusion pump setting in the new staff manual; 5. immediate audit after the lecture of chemotherapy administration; 6. audit the operating protocol of infusion pump setting.

#### Results

After applying the six action plans, the pass rate of auditing 120 nurses was 99.8%. We reeducated the staff who did not pass the audit within one week and repeated audit again. For the new staff, the pass rate was 100% after the training program of

chemotherapy administration. After applying the six action plans there was no infusion error of chemotherapy this year.

#### Conclusions

Through this RCA project, we successfully reduced the infusion error of chemotherapy and set up new protocols and audit plan to improve the safety of cancer patient

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## Enhance the proficiency of nursing integrity on quality care for urgent gastrointestinal bleeding patients

### HU Ya-Chieh, WANG Ying-Husn, HSU Wen-Chuan, LIN Rui-Hsiang

#### Introduction

Providing complete and urgent care is supposed to prevent the complications related to Gastrointestinal (GI) bleeding. It was found that when patients suffer from GI bleeding, the lower quality of care attributed to the nursing staff who are not able to control the condition of patients immediately.

#### Purpose/Methods

However, according to the investigation of the ward, the percentage of nursing staff completing the necessary management for patients with acute GI bleeding was only 57%. Reasons including nurses unfamiliar with these processes, who do not yet have the skill and needed deciding on the right compulsory equipment. Therefore, we improved the standard of nursing care by designing a cue card and an equipment package for treatment, and meanwhile editing the educational training content when looking after patients with acute GI bleeding.

#### Results

After the project was carried out, the number of nursing staff with a correct perception of dealing with acute GI bleeding patients increased from 57% to 100%. The ratio of nursing integrity and quality care was also raised from 57% to 98.2%.

#### Conclusions

We can see from those statistics that using this nursing proposal helped with the problem of caring for acute GI bleeding patients.

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## A Study on Clinical Pharmacy Service of Adverse Drug Reaction in a Regional Hospital in Northern Taiwan: Analysis of Examinations and Improvement Strategies

### SHIH Po-Jen, LIN Yu-Wen, YANG Nan-Ping, LIN Ching-Feng

#### Introduction

Report of adverse drug reaction (ADR) is one the most important services in clinical pharmacology. A good ADR report and propaganda, a complete establishment of allergic history, a comprehensive ADR monitoring, analysis and prevention and a well-designed ADR follow-up are all critical to prevent ADR in order to increase patient medication safety.

#### Purpose/Methods

We used descriptive analysis to discuss and amend the operating procedures of ADR-related clinical pharmacological services derived from seasonally case reports submitted by ADR task force in a regional hospital in Northern Taiwan during the 1st season of 2014 and the 2nd season of 2016.

#### Results

By analyzing ADR types during the 1st season of 2014 and the 2nd season of 2016, we discovered that the report rate of Type A (related to pharmacological effects and is predictable in dose-dependent manner) and B (unrelated to dose or pharmacological effects, cannot be predicted or protected, and usually is life threatening) were 38% and 62%, respectively. Although the report rate of Type A in 3 seasons were relatively high and appeared to be less life-threatening, underestimation of patient compliance and medication accuracy may be the source of ADR. Moreover, the warning message of excessive ADRs could also be a huge challenge for clinician prescriptions. Therefore, the ADR task force of Season 4 in 2015 had decided that the warning messages appeared in MIS system should be temporarily based on Type B ADR.

#### Conclusions

Effective and integrative case management and follow-up is quite important to the coherence of previous treatment, prescriptions or medication. A periodic telephone interview with special population with ADR Type A (e.g. elderly of age 80 or above or patients with dementia and mental illness) is helpful to understand the compliance and accuracy of patient medication in order to achieve clinical efficacy and reduce unnecessary ADR.

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## Effectiveness of BSRS-5 in high suicide risk patient care for medical social worker-An example for Taipei TzuChi Hospital

## CHEN Chu-Yueh, LIN Chia-Te, WU Fang-Chien, CHAO You-Chen

### Introduction

Many factors involved in suicide none of the single factor can explain the variability. Our study is designed for "selective" and "indicated" segments, utilize "Brief Symptom Rating Scale - 5" (BSRS-5 see attachment) as a tool to screen and identify high suicide risk inpatient, provide immediately intervention and care

### Purpose/Methods

Used BSRS-5 a self-administered questionnaire, to evaluate five psychiatric symptoms (Feeling tense, Feeling blue, Feeling easily annoyed or irritated, Feeling inferior to others, Trouble falling asleep) let patients recall the past 7 days (including assessment day), the degree of distress or disturbance, For suicide prevention, a supplemental independent question to evaluate suicidal tendency, screened inpatient (except psychiatric inpatient), 1st evaluation will be conducted within 8 hours after admission. If the total score of the first 5 questions  $\geq 10$  or the 6th question  $\geq$  then the system will alert the doctor for more emotional care, nurse and medical social worker will intervene the case assessment and provide corresponding care.

### Results

Between 2016 May and June total 210 patients were referred to medical social worker for assessment and intervention. Emotional support were the largest group accounted for 35.65%, followed by suicide tendency 15.82%, informed government suicide prevention center track 3.16%, evaluated family structure and economy 8.44%, 7.81% patients received welfare consultation and economic assistance another 8.23% cases of enhancing family support functions. Among those inpatients medium emotional distress and worse were 3.8~4.7%, medium suicide tendency were 1.8~2.4%. After intervention when they discharged medium emotional distress were 1.5~1.7% medium suicide tendency dropped to 1%

### Conclusions

Inpatients with mental disorders, such as often lead to prolonged hospitalization period, but also easy to affect the doctor-patient relationship. The BSRS-5 scale was used to provide a clear understanding of the mental state of the inpatients and their care needs.

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## Session O4.6: WORKSHOP: Standards and Tools for improving children's health

Standards and Tools for improving  
children's health

SIMONELLI Ilaria

### Introduction

The Task Force is composed by 26 members working on Health Promotion for Children and Adolescents in Hospitals and health services. Among its working areas there is the mapping and evaluation of current health promotion practices for empowering children and adolescents; the realization of a community of practice; the exchange of knowledge; the drafting of tools for measuring the respect of children's rights and their level of well-being with particular attention to their participation as well.

### Contents

As part of the promotion of child and adolescent health, the Task Force HPH-CA has recently started setting specific standards taking into account: The general framework divided into 5 areas (Management Policy, Patient Assessment, Patient information and Intervention, Promoting a healthy Workplace, Continuity and Co-operation); The address of the Ottawa Charter (WHO, 1986), the Child Rights-based Approach developed by UN agencies (WHO, UNICEF, UNESCO) with particular regard to the child's right to health (article 24 of the Convention on the rights of the child, 1989), the child-friendly health care guidelines approved by the Council of Europe (2010); International experiences such as Child Friendly health care, EACH Charter, Child friendly health care (Council of Europe), Baby-friendly hospitals initiative (1991); The experience carried out by the Task Force HPH-CA on the respect of children's rights of self-assessment standards in the hospital (Self Evaluation Model and Tool, SEMT, 2009-ongoing). The Workshop will focus on the participation process as key cross-cutting dimension and on concrete tools implementing standards such as SEMT.

### Conclusions

As expected from the General Comment of the Committee on the Rights of the Child (OHCHR) number 15, relating to the right of the child to achieve the highest attainable standard of health, which highlights how the right to health should be supported and made concrete, it is necessary to define health promotion standards for Hospitals and health services in order to improve quality of care but also accountability levels. Given the Task Force experience in tools and standards drafting for promoting children's rights and health, it seems useful to compare experiences in order to focus on children's, families and caregivers needs. Measuring and Participating are dimensions that should be taken into account and highlighted in order to have a clearer vision on how planning effective and responsive healthcare services for children and adolescents. The Workshop expected result is to update on the general situation on the application of standards and on the implementation of useful tools.

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## Session O4.7: WORKSHOP on Age-friendly Health Services Management- Identifying Challenges & the Supports that Work for YOU



## Workshop on Age-friendly Health Services Management- Identifying Challenges & the Supports that Work for YOU

**CHIOU Shu-Ti**

### Background

As proposed in the WHO's "World Report on Ageing and Health" & in WHO's "Global Strategy and Action Plan on Ageing and Health" approved by the 69th World Health Assembly, the challenges of global population ageing needs to be addressed by multisectoral action for a life course approach to healthy ageing, and the health system needs to be aligned to the needs of older populations by orienting health systems around intrinsic capacity and functional ability, developing and ensuring affordable access to quality older person-centered and integrated clinical care, and ensuring a sustainable and appropriately trained, deployed and managed health workforce. However, there are many challenges faced by nowadays health service organizations. They usually have to handle rapidly growing workload with budget and workforce shortage. Chronic diseases are just too difficult to manage. Communication with patients are sometimes frustrating. In addition, frontline personnel were often neglected of their voices and could not change the system they worked within. So, how can "orienting health systems around intrinsic capacity and functional ability" really happen? What are the approaches that work at the organizational level and the department level? The International Framework of Age-friendly Hospitals and Health Services was developed with the aim to help healthcare organizations adapt their structures, cultures, decisions & processes to support their staff in delivering older person-centered and integrated care to promote active & healthy ageing. It took into account the WHO Age-friendly principles for health care, the WHO HPH Standards and some contents from the world's pioneering hospitals. The four standards of this framework well address the key areas for action on healthy aging in aligning health systems to the needs of older populations raised in the above mentioned WHO reports on healthy ageing. It was validated for use of self-assessment and external recognition, tailored to all types of health services, and translated into English, German, Estonian, Greek, etc. Up to as many as 211 healthcare organizations including 153 hospitals, 25 primary health center and 33 long-term care institutes have been recognized as age-friendly by May of 2016. Aim To examine the challenges and share experiences and strategies that work in such process of organizational adaptation in introducing age-friendly healthcare initiative to promote healthy ageing and improve quality of older person-centered healthcare.

### Methods

This workshop will put participants' needs and wisdom at the center, and work together to examine the challenges & solutions in introducing age-friendly healthcare initiative. The agenda contains four parts- brief presentations, group discussions, group reports, open discussion. Each group will be assigned a topic for discussion.

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## Session O4.8: KICK-OFF WORKSHOP: Working Group on HPH and Health Literate Health Care Organizations

### Working Group on HPH and Health Literate Health Care Organizations

**PELIKAN Jürgen M., WIECZOREK Christina C., NOWAK Peter**

Health Literacy (HL), a core concept of health promotion, has become a "buzzword" globally. As such, HL is discussed in health policy, science, and practice. Within health care, HL is particularly important because persons with limited HL as compared to persons with better HL are less likely to use preventive services, request treatment at later stages, and have more hospitalization, higher risks of treatment errors and sub-optimal treatment outcomes. This indicates that HL significantly contributes to health care quality and patient safety. Other advantages involve that HL-oriented communication with patients contributes to patient satisfaction, reduces the likelihood of malpractice claims, and improves work satisfaction of staff. Accordingly, HL is regarded as a relational concept meaning that individual skills determine a person's HL, but also the availability, understandability, appraisability and actionability of health related services and information. Considering the latter one, HL can be improved by reducing demands of health care systems and organizations and offering compensatory support.

Accordingly, the WHO Collaborating Centre for Health Promotion in Hospitals and Health Care developed the "Vienna Concept of a Health-Literate Healthcare Organization" (V-HLO) which builds upon the "Ten Attributes of Health Literate Healthcare Organizations" developed by the Institute of Medicine (IOM) in the United States. V-HLO expands the concept of IOM by (a) introducing specific aspects relevant to HPH, (b) including the "Five standards" published by WHO/Euro and the "18 HPH core strategies", and (c) making explicit referral to concepts of quality management. In detail, V-HLO specifies how health care organizations and systems can make health related information better accessible, understandable, appraisable, and applicable to the three (HPH) target groups: patients, staff, and citizens.

In order to make the concept of V-HLO applicable to the practice of health care organizations, an organizational self-assessment tool for hospitals was developed following criteria of the ISQua process. The self-assessment tool consists of 9 standards, 22 sub-standards and 160 measurable elements. To investigate the feasibility of the self-assessment tool, nine Austrian hospitals piloted the tool. Results show that (a) the self-assessment tool is very understandable and usable for health care staff, (b) the items are considered as relevant, (c) the effort to conduct the self-assessment is considered reasonable, and (d) variation in measurements between standards and between organizations suggest that the tool can support organizational self-assessment for planning of measures to improve organizational health literacy as well as benchmarking between organizations. Based upon the outcomes of the feasibility study, a revised version of the tool and a toolbox with interventions in relation to each of the 9 standards is now available in German language.

While V-HLO has proven to be useful for Austrian health care services, the aim of the proposed working group (WG) on "HPH and Health Literate Health Care Organizations (HPH & HLO)" is to discuss the V-HLO and the self-assessment tool with other countries and in particular, with HPH members. Moreover, the aim of the WG is to adapt and translate the concept and tools. In line with this, the workshop will comprise:

- 1) Presentation by the initiating members of the working group on the existing concept and tools
- 2) Initiative discussion on necessary adaptations and translations
- 3) Agreement on action plan and time schedule
- 4) Discussion of next steps.

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## Session O4.9: WORKSHOP: Healthy Food and Wellbeing

### Healthy Food and Wellbeing

#### CIOCI Grazia

Food is our primary source of energy, and the food we consume can be seen as an indicator of our health and wellbeing. Yet quite a few hospitals and healthcare settings (e.g. home care centres) give enough attention to the quality of the food they serve. Although food is vital in the process of patients' recovery, patients too often end up not eating or not finishing their meals. This is due mainly to the food not being tasty and not reflecting patients' preferences. However, hospitals and healthcare settings have the responsibility to provide the right food and in the right amount to patients, in view of meeting patients' preferences, avoiding malnutrition and facilitating a fast recovery. In this way hospitals will also decrease food wastage and achieve considerable savings. Finally, food is not only important for patients, but also for healthcare employees as it also contributes to the health and wellbeing of hospitals' staff. A few steps have to be taken by the healthcare sector to improve the wellbeing of patients and staff in relation to the food that is served: Procure fresh, sustainable and, whenever possible, organic food to provide tasty and high quality food to patients and staff. Organise roundtables with patients and staff to allow them to identify different menu. Allow patients to choose their meals and the size of the portions from a menu. Improve communication between patients and kitchen staff, to be aware of patients' choices and preferences. Provide protected mealtimes for patients, to allow them to take their time to finish their meals. Assist patients while eating, if assistance is needed. Monitor food intake. Improve meal presentation. In addition, healthcare professionals need to be aware of the barriers to food intake and understand the mechanisms necessary to create a patient-centred care around nutrition. In addition, having nutrition classes in the training of healthcare professionals would be an asset and this knowledge could be transferred to patients and their families before discharge. Description of the session This session will discuss how the healthcare sector can provide healthy and sustainable food and improve the nutrition and the well being of their patients and employees. Two keynote speakers, who will share their best

practices from their healthcare institutions, will present priorities, challenges and opportunities linking healthy food and wellbeing. After the presentations, an open and constructive group debate will take place where all participants will be welcome to showcase their experiences. Main conclusions and next steps will be drawn from the outcome of the group debate. Facilitator Grazia Cioci (Facilitator) (Deputy Director of Health Care Without Harm (HCWH) Europe) – a European NGO whose mission is to transform healthcare worldwide so that it reduces its environmental footprint, it becomes a community anchor for sustainability, and a leader in the global movement for environmental health and justice.

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## Session O4.10: CHPS Symposium for Junior Researchers: How do I present my HPH research? - A hands on session on presentation technique for junior researchers

### CHPS Symposium for Junior Researchers: How do I present my HPH research? - A hands on session on presentation technique for junior researchers

#### BERN JENSEN Thor, SVANE Jeff Kirk

Anyone can present, but presenting something well is a science that takes practice. In this short session, junior researchers can work with the topics of: defining the intention of their presentations identifying, structuring, formulating presentation of content remembering and "performing" their presentations on stage the presentation situation and the audience Presenting your results is an important part in most research projects, and a good presentation is important for delivering your messages effectively and convincingly. However, presenting research results can be daunting for students and junior (even senior) researchers, and presenting results in the best way possible can be challenging without the right tools and know-how. Drawing on WHOCC's curricula for PhD student courses, this CHPS session will give the participants a condensed crash course on planning, making and performing oral presentations of research results. The participants will be introduced to basic tools and theory, practical tips and helpful pointers.

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## Session M1.1: Health promoting health services

### The role of supervisory board in the hospital management system in Kazakhstan

**ARINGAZINA Alтын, SEIDUALIYEV Gabit, DYUSSENOV Rassul**

#### Introduction

The State programme of healthcare for 2016-2019 envisages development of corporate management to increase efficiency of governance and financing the hospital management system in Kazakhstan. The corporate governance includes a number of interrelations between the organization's management, supervisory board, and decision makers. Regulatory and legal framework for further enhancement of health organizations management will be the development of the operating autonomy through the introduction of new organizational forms in the public health sector. This will create a progressive motivation of owners, and employees of healthcare organizations in the sustainable development and improvement the quality of services.

#### Purpose/Methods

The purpose of this study is to describe opportunities and challenges for achieving development of healthcare in Kazakhstan, and efforts now under way to meet the patients' needs in primary healthcare.

#### Results

The basic functions of supervisory board is approval of strategic development plan, basic statements that regulate key indicators of operational plan of a medical organization, development of offers on priority directions of the activity. The advantages at forming supervisory board in medical organizations: effective forming of organization's development strategy; a clear distribution of roles and responsibilities between leaders; increasing patient confidence, consumer society; adaptation to unpredictable changes; increasing the attractiveness of medical organizations; the ability to evolve with the changes of external factors; effective planning of anti-crisis measures.

#### Conclusions

Expected results from the implementation of corporate governance in healthcare organizations are high level of strategic planning, budgeting and spending; improving management transparency, accountability to the authorized body; strengthening internal control and risk management; improving the efficiency and effectiveness of financial and economic activities of hospitals.

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## Three years derivative study of advanced HPH quality plan

**SHIEH Ying-Hua, LIAO Wen-Chia, LIU I, CHAN Hsiao-Wen**

#### Introduction

Wan Fang Hospital had participated in 2014 WHO-HPH advanced quality plan and had been awarded of gold level by WHO. A follow-up research not only continued previous health promotion action in hospital but also extended the project to community and school.

#### Purpose/Methods

We collected participants from Out-patient-department and nursing home, totally 120 patients was included in 2014, 304 patients was included in 2015, and 420 patients was included in 2016. A total of 361 patients had received health personal health promotion prescription given by the family medicine doctor, including exercise, weight control, and smoking cessation. The numbers of staffs in this project increased from 52 to 98 within 3 years. We continued to hold health promotion activities and lectures from 2014 to 2016, and extended health promotion strategy to community and school.

#### Results

Patients who received 3 education sessions would increase 23% of smoking cessation rate compared with patients who received one. Smoking rate of staffs was decreased from 9% to 5%. Staffs with exercise habit increased from 31% to 67.5%. Dietitian was assigned to help 10 restaurants around schools for better nutrition information and calorie control. We held 10 lectures of health education about weight control to high school students and junior high school students every year, including video-assisted education, and a total of 20 lectures was held in 2016.

#### Conclusions

A three years derivative study of advanced HPH quality plan was continued after the 2014 HPH project, multi-dimensions toward out-patient-department, in-patient-department, community, and school was established from further comprehensive health promotion strategies. This research showed the persistent health promotion education and lectures toward patients and staffs could improve health status and provided healthy environment.

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## Evaluating the Service Quality of Emergency Rooms When a Questionnaire Has the Relational Structure among Items

**SHIEH Jiunn-I, WU Hsin-Hung, HUANG Kuan-Kai**

### Introduction

Space functions and quality of service attitude directly affect the overall efficiency and effectiveness in hospital's emergency rooms, while the poor design and service quality reduce the efficiency of services and satisfaction. In addition, poor service quality increases the patient treatment time and psychological stress. Therefore, it is essentially important to assess patients' perception of emergency rooms in terms of line planning, medical professionalism, efficiency, and services.

### Purpose/Methods

The purpose was to evaluate the service quality of emergency rooms of CMU Hospital in Taichung City, Taiwan. The questionnaire based on SERVQUAL model with nineteen questions was analyzed by derived importance-performance analysis (IPA) based on modified DEMATEL method. The survey was taken on Oct. 1- Nov. 15, 2015 with 250 patients or their families, and a total of 202 valid questionnaires were received and validated, representing an 80.8% return rate.

### Results

The results show that "Clearly marked indication signs in the emergency room", "Good communication skills of medical staff" and "Solving problems in real time by medical staff" were the major strengths, whereas "The apparent extent of the entrance to the emergency room", "The patient's waiting time for emergency medical treatment", "The patient's waiting time for picking up the medicine" and "Active care of the patient's individual needs by medical staff" were the major weaknesses of emergency rooms in this hospital.

### Conclusions

This case study uses derived IPA based on modified DEMATEL method to evaluate service quality of emergency rooms of CMU Hospital. To maintain the competitive advantage, the management team needs to concentrate on these three major strengths. On the other hand, if the management team is to remove customer dissatisfaction immediately, four major weaknesses should be placed in the highest priority for continuous improvement. In doing so, the management team can significantly improve patients' acquisition and retention.

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## Applying Team Resources to Reduce Incidences of Medical Adverse Events

**CHANG Shu-Nuan, TENG Heng-Yi, WU Mei-Chuan**

### Introduction

The goal of patient safety is to prevent unnecessary harms for patients during healthcare. Medical adverse events are usually resulted from a series of errors but not a single issue. Medical errors mainly caused by systemic problems which should be reviewed and corrected to suppress the incidence of medical adverse events. By setting up a reward system of incidence reporting, the errors can be disclosed, analyzed, reviewed, and

learned earlier to reduce and prevent the incidence of the events.

### Purpose/Methods

A team resource management (TRM) model was constructed by various professions combining management department, physicians, PGYs, nurse practitioners, nurses, nutritionist, and personnel of discharge preparation. Several skills were adopted including TRM STEP, situation monitoring & mutual support, shared mental model, and CUS. An invisible but closely network of team was set up to elevate the cognition of TRM and to reduce the consequence of medical adverse events during hospitalization.

### Results

According to the TPR reporting in 2015, 5 and 1 events were reported as SAC grade 3 and 4 by our hospital, respectively. One event (20%) with grade 3 was reported by our division. We applied TRM skills and using the method of team goalkeeper to overlook patient safety. We also arranged classes for TRM regularly to educate medical staff so as to facilitate better communications between different professions. Results revealed that no (0%) medical adverse events were reported.

### Conclusions

Mal-communication between medical teams is an important issue for medical adverse events. Applying TRM method, arranging TRM education, building effective communications, shared mental model, and mutual support are all effective ways to improve patient safety. A three-way win is reached as relief of the burdens of healthcare, family, and society.

### Comments

Medical adverse events bring huge impacts on the patients and their families. It prolongs the length of hospital stay and makes enormous societal costs. Patient safety is the key index of healthcare quality. Effective communication can reduce adverse events during hospitalization and suppress healthcare costs. Enhancement of the cognition of TRM of the nursing staff and team cooperation can elevate the quality of care. It is hoped that every patient receives comprehensive cares during hospitalization.

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## Promoting health: professional expertise in supporting changes in high-risk lifestyles

**BOSI Sandra, AMEGLIO Mateo, FORZA Giovanni, GIANNINI Adriana, CHIARENZA Antonio, ZIRONI Francesca, DI CLEMENTE Carlo**

### Introduction

Expertise in supporting changes in high-risk lifestyles by healthcare workers in all the services is vital for disseminating the motivational approach in accordance with the Trans-theoretical Model of Behaviour Change (TMC). The project of the

Reggio Emilia Health Authority (RE-HA) and LILT, conducted as part of the CCM (Centre for disease control) of the Italian Ministry of Health in 2015, with the Regional centre Luoghi di Prevenzione (LdP), includes: •Dissemination of minimal advice in inter-sectoral network situations by healthcare workers, through e-Learning and in-depth analysis classes; •Adoption of second-level structured counselling measures by different services.

#### Purpose/Methods

The e-Learning training course has 50 CME credits, 7 modules and two classroom days; it is provided by the collaboration of the University of Maryland (C. DiClemente) and LdP. The motivational approach improves the operators' abilities to refer at-risk users: •to second-level facilities for informational-motivational support groups, to a telephone helpline, to the map of local opportunities

#### Results

From 2013 to 2016, 506 professionals including 110 occupational doctors have taken the e-Learning training course from 16 Italian regions. A pilot trial conducted in the RE-HA led to a 50% increase in adherence to smoking cessation and to a 70% increase in adherence by users interested in changing their habits with regards to physical activity and eating behaviour.

#### Conclusions

Professionals acquired expertise to promote changes in users' high-risk lifestyles through the TMC in different settings (workplace, cancer screening and group medical practices/health centres). Effectiveness analysis of outcomes of the motivational actions carried out by workers and educational effectiveness outcomes were conducted. E-Learning courses carrying 24 CME credits are currently underway for specific healthcare professionals, with some having already almost completed the experimentation stage.

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## Comparison of SHARE Caring Behavioral Differences Among Nursing Personnel in Different Medical Specialty in a Teaching Hospital in Northern Taiwan

**HSU Tzu-Chuan, HUANG Hui-Ting, CHIU Mu-Jung**

#### Introduction

Caring is the core of nursing behavior, and at Taiwan Adventist Hospital, SHARE represents the principles of patient care. Each of the letters carries a specific meaning: S for sense people's needs before they ask, H for help each other, A for acknowledge people's feelings, R for respect the dignity and privacy of others, and E for explain what is happening. The objective of SHARE is to offer humanitarian and holistic care to patients and their families.

#### Purpose/Methods

A qualitative study was conducted with 16 volunteered nurses from the internal medicine, surgical, intensive care, and obstetrics and gynecology divisions of a teaching hospital in northern Taiwan; the nurses were interviewed in a total of four focus groups with each session spanning from 30 to 60 min. The recorded interviews were transcribed into text and then coded based on the research questions and the findings of a literature review.

#### Results

(1) Intensive care nursing personnel most frequently expressed "H", and lacked expression of "A". (2) Internal medicine nursing personnel most frequently expressed "S", and lacked expression of "E". (3) Surgical nursing personnel most frequently expressed "E", but lacked expression of "A". (4) Obstetrics and gynecology nursing personnel most frequently expressed "R", but lacked expression of "S". (5) Pediatric nursing personnel most frequently expressed "S", but lacked expression of "H".

#### Conclusions

These results revealed notable differences in the expression of patient caring among the nursing personnel of different medical divisions. Because most patients in the intensive care unit are suffering from critical illnesses, nursing personnel should focus on applying their physical care skills to help these patients feel the meaning of caring. Nursing personnel's caring behaviors vary according to their specific medical division, and therefore, in-service nursing training on individual-based caring should be designed and developed for specific medical divisions.

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## Session M1.2: Environment and workplace health promotion

### Utilizing Portable Air Scrubbers for Removal of Fine Dust in a General Hospital

**SHIN Dong-Hun, KIM Hyun-Chung, SONG Jisoo, KIM Jong-Kook, CHOI Bomoon**

#### Introduction

Air pollution has been aggravated these days in Korea, and most hospital buildings in Seoul are investing a good deal of money to install new air filter systems. Our main building was built in 1958, with filter system not suitable for nowadays. Equipping a high-tech new filter system in this building does not seem efficient as our institution is going to be relocated in 2020. So we came up with a new concept of solution, that is to utilize now-non-operating portable air scrubbers for fine dust removal.

#### Purpose/Methods

We have 28 portable air scrubbers non-operating in ordinary days, which were used during 2015 MERS-CoV(Middle East Respiratory Syndrome-Corona Virus) epidemics. Those are



equipped with two high-capacity particulate pre-filters and a HEPA filter (99.97% filtration capacity). To use them for the new purpose of removing fine dust, they were fumigated with hydrogen peroxide for disinfection of any virus and then their three layers of filters were replaced. The outer duct of those scrubbers were redesigned in order to circulate the indoor air. We set the modified devices in five different locations of the building and measured air index before and after the operation at day one and day six.

### Results

The fine dust index was greatly reduced from 64.5 µg/m<sup>3</sup> to 29.4 µg/m<sup>3</sup> at day one and to 34.1 µg/m<sup>3</sup> at day six, while other indexes such as temperature, humidity, and air pressure showed no difference.

### Conclusions

Using portable air scrubbers is recommendable for the purpose of removing fine dust when there is no suitable air filter system in a hospital building.

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## An Empirical Study on Employee Turnover: Associations Between Personality Traits and Job Characteristics

**WANG Chia-Fen, LAN Yu-Li, CHEN Chien-Chih, HUANG Hui-Ting**

### Introduction

The cost of leaving a job, about 1.2 to 2 times the annual salary of resigned employees, with an average of 1.5 times (Robbins, 1995). Fitz-enz (1997) also suggested that cost estimates of brain drain mean that an average of 10 employees leaving professional management positions would result in at least a \$ 1 million loss of the agency and direct costs of personnel would be reduced by the cost of calculating the cost of a one-year Wages and profits lost, and may even be lost to two years of salary and profit.

### Purpose/Methods

This study investigated associations between the personality traits and job characteristics of employees who left their jobs. Data of newly hired employees who had worked in the case hospital for no more than 5 years were collected. The demographic data of these employees were retrieved and exported from the personnel management system; furthermore, the personality trait data that each of these employees had reported in a questionnaire on the day of onboarding were collected. The directors of various departments were then invited to complete a departmental job characteristic scale using the Delphi method.

### Results

(a) A total of 323 valid questionnaires were returned. (b) The average score of personality traits was 2.83 points, with "social skills" and "energy spent" scoring the highest. (c) The average

score of job characteristics was 4.16 points, with "feedback from work" scoring the lowest. (d) Personality traits affected employee preferences for job characteristics.

### Conclusions

This study confirmed that the goodness of fit between personality traits and job characteristics substantially influenced employee turnover. The results suggested that, in the context of job design and arrangement, hospital managers should consider the goodness of fit between the personality traits of employees and the requirements of the job to create favorable medical environments and establish satisfactory interactions with the employees. The results can serve as a reference for subsequent studies.

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## Organizational effectiveness of Employee Assistance Programs (EAPs) in the hospital: a pilot study in Taiwan

**WANG Chiao-Chu, CHEN Ming-Ting**

### Introduction

The extent to which the staffs feel anxious and depressed in the hospital could be critical to turnover rate. However, very limited number of hospitals has taken required Employee Assistance Programs (EAPs) to help their employees dealing with pressure in Taiwan. EAPs are considered as an effective way to alleviate the stress of the staffs who work under circumstances such as the high-tech Company or catering industry demanding highly concentration to respond within seconds.

### Purpose/Methods

The purpose of this study was to investigate whether EAPs can lessen the pressure of employees who work in the hospital measured by stress, anxiety, and depression as well as lower the turnover rate. We conducted One Group Pretest Posttest Design to test our hypothesis and the sampling period started from January 1, 2015 to September 30, 2016, which included 185 staffs working at a regional hospital in central Taiwan. Demographic data were also collected. Subjects were asked to complete the Chinese version of Generalized Anxiety Disorder-7 (GAD-7) and Brief Symptom Rating Scale (BSRS-5). Then we calculated related scores to perform a t-test and compared the difference regarding the rates of resignation before and after the EAPs intervention.

### Results

The GAD-7 scores after EAPs were significantly lower than ones before ( $p < .001$ ). Moreover, The BSR-5 scores after EAPs also expressed the similar result ( $p < .001$ ). Nevertheless, we did not find any significant difference in the resignation rates between the pre-intervention and post-intervention, which were 11.67% and 8.41%, respectively. Finally, the scores of stress from work decreased significantly after EAPs ( $p = .009$ ).

**Conclusions**

We found staffs after EAPs exhibited lower anxiety, depression, and stress, suggesting the professional counsel and mental health training can benefit their mental health. Therefore, the study may contribute to the management of hospital about the importance of EAPs.

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## The correlation between occurrence timing of dispensing near misses and workload in Taiwan

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CHAI Pony Yee Chee, CHAN Yuk-Ying**

**Introduction**

Near-miss dispensing is defined as the dispensing error detected inside pharmacy without delivery to patients. Identifying the causes to the dispensing near misses can point out and improve vulnerabilities in health services systems, but whether occurrence timing of near-miss dispensing correlated to pharmacy workload remained under-researched in Taiwan.

**Purpose/Methods**

This study aimed to describe the occurrence timing of dispensing near misses and compare the dispensing workload in different occurrence timing. We analyzed data of prescriptions and spontaneous reports of dispensing near misses from the electronic self-reporting system from July 1 to October 31, 2016 in one regional teaching hospital outpatient pharmacy in Taiwan. We defined the prescriptions per each dispensing pharmacist in each hour as the dispensing workload, and calculated the number of near-miss dispensing per each pharmacist in each hour.

**Results**

We included 141,811 prescriptions and 163 (0.11%) of them were reported to be the dispensing near misses. Mean (SD) dispensing workload per hour was 48.43 (11.83), and the number of dispensing near misses per pharmacist in each hour was 0.019 (0.005). Near-miss dispensing more frequently occurred at 9:00-10:00 am (0.025) and 2:00-3:00 pm (0.024) which were relatively higher dispensing workload per hour with 56.35 and 46.41 prescriptions, respectively.

**Conclusions**

We found there is different occurrence timing of near-miss dispensing, and it may be associated with higher dispensing workload at these intervals. For ensuring patient safety, pharmacy systems should be reoriented to eliminate to excessive dispensing workload within different hours.

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## Knowledge, Attitudes, and Behavioural Intention Toward Promoting Pulmonary Rehabilitation for Patients with Chronic Obstructive Pulmonary Disease Among Nurses

**GUO Su-Er, SHEN Hsueh-Chen**

**Introduction**

Background: Pulmonary rehabilitation (PR) is the best strategy to effectively manage chronic obstructive pulmonary disease (COPD), but the utilization rate is low.

**Purpose/Methods**

Purpose: This study aims to explore and analyse PR-related knowledge, attitudes, and behavioural intention toward PR promotion, and investigate the correlates of promoting PR behaviour intention among first-line nurses. Methods: This study is a cross-sectional, correlational design, and recruited participants from December 2014 to July 2015. It focused primarily on internal nurses at three hospitals in Midwest Taiwan. Data were collected by anonymous, self-administered questionnaires and were analysed by multiple linear regressions.

**Results**

Results: Although three groups (Chest Medicine Ward, General Internal Medicine Ward, and Intensive Care Unit) showed no differences in PR knowledge, attitudes, or behavioural intentions, all three groups were clearly not sufficient in PR knowledge and skills. The accuracy rate of PR knowledge was 12-13%, and the ability of self-evaluated PR skills was less than 50%. However, self-efficacy of promoting PR was above the medium level at 57-60%, and the aggressiveness of attitudes and behavioural intentions was higher than 70%. Behavioural intentions of the three groups of nurses were influenced by behavioural attitudes. Moreover, the multiple linear regression showed that behavioural intentions of nurses in Chest Medicine were not only influenced by behavioural attitudes, but also PR skills and self-efficacy, with an explanatory power of 33.3%.

**Conclusions**

Conclusions: The results of this study discover that attitude, skill, and self-efficacy heavily influence pulmonary nurses in promoting PR. However, PR knowledge and skills are still low. We suggest the future arrangement of PR practical training courses, not only teach PR-related knowledge, but also to focus on rehearsing skills in order to strengthen practical ability, and further improve their behavioural intention toward PR promotion.

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## Session M1.3: Health Literacy and communication

### Experiences of healthcare providers in the implementation of health literacy practices in Taiwan

**CHANG Mei-Chuan, WANG Ying-Wei, WEI Mi-Hsiu, HSIEH Jyh-Gang**

#### Introduction

Low health literacy is associated with several adverse health outcomes. Healthcare providers are responsible for helping healthcare consumers to access understand and appraise health-related information and then to act on what they have learned.

#### Purpose/Methods

The study evaluated the experiences of healthcare providers in the implementation of health literacy practices. Convenience sampling was used to recruit forty healthcare providers at four health promoting hospitals in Taiwan. In five focus groups, participants described their experiences in promoting health literacy. Tape-recorded interviews were transcribed and analyzed via content analysis.

#### Results

The following five themes were identified: 1) facilitating access to health-related information by providing pathways, screening information, providing language assistance, providing glasses or hearing aids, and assessing information needs; 2) helping consumers to understand information by assessing their comprehension, answering questions, simplifying communication (using simple concepts, plain language, examples, repetition, and breaking down ideas), utilizing communication aids, verifying comprehension (feedback survey and teaching back), and assistance seeking; 3) helping consumers to appraise information by discussing the accuracy of information, reiterating explanations, and maintaining consistency in explanations among professionals; 4) assisting in the implementation of information by empowering consumers, confirming that information is acted upon, and strengthening motivation; 5) nurturing a positive attitude toward the development of health literacy by demonstrating respect for consumers, trying to see things from the perspective of consumers, and continuously learning about health literacy practices.

#### Conclusions

These results provide a valuable reference for professionals involved in the implementation of health literacy practices.

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### Navigation as a form of communication in the university hospital

**SANTIÑA Manel, GARCIA Marta, ROEL Elena**

#### Introduction

Patients have different and variety appointments in one tertiary hospital of high technology consequences of their health status. Patients sometimes have difficult to arrive at their appointments due to structural complexity that have the high technological acute hospitals. The objectives of this study is to know if the signals in the hospital its facilitate the access of the patients to the medical appointments with an special analisis of the situation of the navigation to arrive at the vaccination center

#### Purpose/Methods

The methodology that we used in this stude it has been based on the adaptation made by the HPH Catalan Network of a tool created and evaluated by Professor Rima Rudd of the Harvard University: First Impressions & Walking Interview the "Guided Tour" . The assessment of the situation was done with the participation of two evaluators. One evaluator acted as an observer and the other acted as a guide. The observer had the objective to walk through the hospital trying to arrive to the vaccination center. The observer was a person who did not know the hospital and neither the vaccination center. The guide had the function to take note about the problems of the observer.

#### Results

There are no graphic or visual information or maps leading to the Hospital from public transport stops. Neither from the exits of the car parks. In the signals of the Hospital Hall there are not indications of where is the vaccination unit and neither the ambulatory care center . The signals in the building where is the vaccination unit make difficult understand where this unit is.

#### Conclusions

It will be necessary to improve the signals because they are some aspects that difficult the navigation in the hospital. The navigation from the Hospital Hall to the vaccination center is impossible if we don't ask the information service. Using methodology of assessment of the navigation it is possible to know the situation and to know what is necessary to improve

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### Health Literacy and Communication Quality in Health Care among Immigrants in Austria. Findings from the „Austrian Health Literacy Immigrant Study.

**GANAHL Kristin, PELIKAN Jürgen, DAHLVIK Julia**

#### Introduction

A growing number of research demonstrates that poor health literacy is associated with increased use of health services, decreased medication adherence, poorer health status and

higher mortality and is more common among racial/ethnic minorities, elderly persons, and patients with chronic conditions. Part of this relationship could be a result of poor communication quality within the health care setting, and this may be especially relevant for racial/ethnic minorities. In 2013-2014 Austria's first study on immigrants' health literacy was realized which focused on two major immigrant groups: people from Ex-Yugoslavia and Turkey.

#### Purpose/Methods

Following a two-phase mixed method approach, (exploratory sequential design) first qualitative exploratory data (focus groups and expert interviews) were collected and analysed. Subsequently these findings were used for developing questionnaire that was conducted in telephone survey, reaching 625 immigrants (325 Turkish and 300 Ex-Yugoslavian) in Austria.

#### Results

Immigrants from Turkey perceive the communication in the health care setting as less respectful as immigrations from Ex-Yugoslavia. The relationship between respectfully perceived communication and health literacy is similar in both immigrant groups: health literacy is linked to respectful perceived communication. Discrimination and disrespectfulness had been identified as major problems for both immigrant group concerning their health literacy levels.

#### Conclusions

The communication quality with immigrants in the Austrian Health Care System remains an area for improvement. Experts see an urgent need for improving communication in health care and the provisions of easily understandable information (i.e. information in native language, translation and interpreting services, ...). Improving the communication quality in health care might mitigate the effects of limited health literacy and on the other hand improved health literacy might also enhance the perceived communication quality in the health care system.

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## Better care for the aged – An explorative study of experiences of young medical staff posing as simulated elderly care receivers in an Aging Educational Program.

**CHEN Ching-Yuan, CHIEN Sou-Hsin,  
CHANG Pin-Yi, LI Shu-Ting, LAI Yi-Ling,  
HSU Lin-Ying, LIU Yi-Hua**

#### Introduction

As Taiwan population ages, the increasing disease burden will be accompanied by higher demand on health care. Although there's an increasing debate on the relative roles of government and family to address the needs, but yet elderly parents have traditionally been dependent on children's capacity to provide informal care. Thus, a lack of knowledge of aging or hold

unfavorable attitudes toward elderly people could influence their willingness to care for them.

#### Purpose/Methods

This study aimed to examine the impact of an Aging Educational Program (AEP) on knowledge of aging and attitude towards elderly for young medical staff. AEP consisted lifespan courses including changes in physical and mental health, experiencing as elderly care receivers, discussion, sharing from lived experience and individual reflections. Both by quantitative and qualitative methods were used for data collection.

#### Results

78 participant's average age of 34 years and 52% are nurses. In-depth interviews showed the increase in feelings of empathy, understanding, and concern for elderly. The most significant feelings on aging process are low mobility (42.5%), low vision (39.7%) followed by hearing loss (8.2%). Moreover, more than 10% of clinical staff perceived a need of change on their clinical practice by being more patient, slower the pace of service, design age-friendly tools, and amenities.

#### Conclusions

Adequate education and preparation in meeting the needs of the aging population are necessary. This study results in highlight as new teaching and educational strategies to create positive change in knowledge and attitude towards aging. Aging Educational Program bridges the generation gap by providing experience-based-learning to provide effective care services to the aged.

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## Social Media Marketing: Profile of Puerto Rico Hospitals

**VAZQUEZ Dharma, DE FRIAS-TEJADA  
Patricia**

#### Introduction

Puerto Rico's healthcare industry is continuously seeking ways to attract patients to its institutions. While the use of Internet sites has transformed the dissemination of health information, the industry is trailing in the newer social media options that are excellent tools to promote community health and to establish strong links with the surrounding community and other target populations. Hospital webpages serve to promote a hospital-patient relationship by providing information about facilities, doctors, education and other relevant health issues, but they lack the real-time power of social media.

#### Purpose/Methods

The purpose of this study is to identify the number of hospitals by ownership that are using Facebook, Instagram, Twitter and Youtube as tools to market their services and promote community outreach. The sampling frame for this study was all hospitals identified in the Hospital Registry and Other Healthcare Facilities (2016) of the Puerto Rico Health Department. From a universe of 68 hospitals; a simple random sample of 26 hospitals was studied with a focus on social media content. .

### Results

This study found that Facebook was the most commonly used social media by 50% of the hospitals, followed by YouTube by 39% and Twitter and Instagram by 15%. It was observed that private hospitals used more social media than government hospitals. The not-for-profit hospitals were the highest users of Facebook (73%) as opposed to 44% of for-profit hospitals. Twitter and Instagram were found to be present mostly in for-profit hospitals, by 22% and 33%, respectively.

### Conclusions

This is the first descriptive study on the use of Social Media by hospitals in Puerto Rico. The results are consistent with studies done in the United States. Not-for-profit hospitals use more social media than for-profit hospitals. These institutions fail to take advantage of the ability of such platforms to enhance customer service, and build community networks and liaisons with a real-time presence delivered by Twitter, Instagram. Patient privacy must be explored.

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## Session M1.4: Health promotion for the youth

### Using lessons from the past to design patient safety in the future in maternal-child care

**BUKHOLM Ida, BUKHOLM Geir**

#### Introduction

Patient harm and adverse events in maternal child-care have often a huge impact on the families and the society. It is therefore of most importance to learn from the past patient injuries and patient harms to design a better care in the future.

#### Purpose/Methods

We have analyzed patient reported claims to the Norwegian System of Patient Compensation (NPE) for the last 5 year to identify areas in the care where quality improvement work may lead to better care and reduce patient harms.

#### Results

During the period 2011-2015, NPE received 658 claims. Of them 159 were compensated, while 499 of the cases were declined for compensation. Injuries to child were as follows: 50 children got brain damage; in 42 cases death occurred either before or just after the delivery; seven children got nerve injuries; and in eight, there were other harms. Injuries to the mother were as follows: damage to the perineum in 23 cases, infection/sepsis in five cases, two deaths, and four experienced massive bleeding. In this period 247 527 448 million NOK were paid as compensation, almost 50 million per years.

#### Conclusions

Health care related injuries to mother-child are significant. The impact of these injuries is much higher, because when the person is affected as a newborn child, the injury will affect rest of this

person's and the injury will also have impact on the society. The numbers show that annually 50 children get severe brain damage by a system, which is supposed to help. Focus on and prevention of patient harms is especially important here, and we should analyze these claims thoroughly to design a better health care in the future. It will be interesting to discuss at the conferences how other HPH member countries are working with this topic.

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## Combining Biomedical, Nutritional and Physical Fitness Parameters in a School-based Intervention Study – Preliminary Data from the MoYo-Study Salzburg

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#### Introduction

Onset and progression of the metabolic syndrome (MetS) and associated diseases are dependent on dietary habits, physical activity and other life-style factors. Early prevention is important to counteract the development of such non-communicable diseases. The MoYo-project aimed to investigate the health status of adolescents and the effect of knowledge transfer and self-empowerment regarding a balanced diet on MetS-associated biomarkers, nutrition preferences and physical fitness, in order to evaluate the feasibility and effectiveness of health promotions. Preliminary results are presented.

#### Purpose/Methods

Body mass index (BMI), waist-to-hip ratio (WHR) and biomarkers for carbohydrate and lipid metabolism were determined for 110 pupils (14-17a; female + male) before (T0) and after (2 and 6 months (=T1 and T2)) intervention (workshops about nutrition and laboratory parameters). Nutrition preferences were assessed using standardized items of the AD-EVA questionnaire. Physical fitness was measured by standardized, age- and percentile-matched physical fitness tests. Food intake and physical activity were recorded by the MoYo-App. Changes in the intervention group were compared to an age- and gender-matched control group.

#### Results

Paired difference tests (T0, T2) indicated an improvement of the WHR ( $p=0.022$ ) and a reduction of triglycerides ( $p=0.033$ ), cholesterol ( $p=0.006$ ) and LDL ( $p<0.001$ ) levels in the intervention group. These changes were not detectable in the control group. BMI, glucose, HbA1c levels and the sum score of



the physical fitness did not differ significantly between groups and over time. Nutrition preferences tended to improve in a subgroup.

#### Conclusions

It was shown that an interdisciplinary approach for health promotion projects is of high value. Even though higher numbers of tested persons need to be included to confirm the current results, the data indicate that the developed workshop is of use for intervention and prevention programs.

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## Taiwan Medical Program :The Prevalence of Rheumatic Heart Disease among School-aged Children in Kiribati: a preliminary report

**HSU Wan-Ti, CHEN Ming-Jen, TIRA Teatao, HSU Yung-Wei, CHANG Wen-Han, SHIH Shou-Chuan**

#### Introduction

Despite the global burden of rheumatic heart disease (RHD) has declined dramatically, RHD remains an important issue in developing countries. Echocardiography is a powerful screening tool for early detection. Diagnosis can be made according to criteria published by World Heart Federation published in 2012. Secondary prophylaxis with penicillin is recommended to stop RHD progression. Disease burden of RHD in Kiribati, a pacific island country, remains unknown. The purpose of this project is to identify students with definite or borderline RHD, and to evaluate the prevalence and patients' characteristics.

#### Purpose/Methods

A two-phase school based screening was conducted in six schools in Tarawa, Kiribati between April 12-18 and October 3-8, 2016. Form 1 to form 3 students were screened by two pediatric cardiologists and two nurses from Taiwan, and six local health workers. A questionnaire was used to collect personal information, including history of acute rheumatic fever (ARF), living conditions and economic status. An echocardiography was used to classify children into four groups, negative, borderline RHD, definite RHD, and congenital heart disease (CHD). Secondary prophylaxis with penicillin was given to children diagnosed with borderline and definite RHD. Children with CHD or valvular heart disease requiring surgical intervention were referred to Taiwan.

#### Results

A total of number 1688 children aged between 9 to 19 were screened. Fifteen cases of definite RHD (8.88 per 1000) and 20 cases of borderline RHD (11.84 per 1000) were found, 42% were reported to have history of ARF. The estimated prevalence of RHD among form 1 to form 3 students was 21.32 per 1000. In children negative of RHD, 25.2% had positive ARF history. 26 children (15.40 per 1000) were diagnosed with CHD.

#### Conclusions

The estimated prevalence of RHD in Tarawa, Kiribati is estimated to be 21.32 per 1000 children aged 9 to 19 years old, higher than in New Caledonia. The prevalence of CHD in the age group is 15.40 per 1000.

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## The Association between Internet Usage Habits and Mental Health Condition among the Youth: A Cross-Sectional Study in a Medical Center in Northern Taiwan

**YEH Yu-Chun, KUO Hsiu-Wen, CHEN Chih-Dao**

#### Introduction

Internet use has become ubiquitous among adolescents around the world, and the impact of internet usage has been more valued nowadays. However, there were limited studies on relationship between psychological issues and internet involvement among adolescents in Taiwan. In this study, we aimed to investigate the correlation between internet usage habits and mental health condition in the youth population.

#### Purpose/Methods

People aged between 10 and 19 years who visited youth-friendly clinic in a medical center in Northern Taiwan from January 2012 to December 2015 were eligible. A total of 355 juveniles with a mean age of 15.53 years were enrolled. Mental health condition was classified into normal, mild, moderate, and severe mood disorder according to the total scores on BSR5-5. Internet use habits were evaluated in terms of average daily online time, constant desire for internet, and making friends online.

#### Results

The prevalence of youths with excessive online time was significantly higher among moderate-to-severe mood disorder group than among normal-to-mild mood disorder group (45.2% vs. 20.6%;  $p < 0.001$ ). Sixty three percent in the moderate-to-severe mood disorder group had constant desire for internet, as compared with 49.5 percent in the normal-to-mild mood disorder group ( $p = 0.039$ ). The proportion of juveniles who made online friends was higher in the moderate-to-severe mood disorder group than in the normal-to-mild mood disorder group (37.8% vs. 22.7%;  $p = 0.008$ ).

#### Conclusions

In this hospital-based sample, significant correlations were found between active internet usage habits and higher severity of mood disorder in teenagers, thus constituted a public health issue in Taiwan. These results not only increased public awareness of coexisting psychological problems and excessive online behaviors, but also represented a foundation for future study of new preventive strategies nationwide.

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## The problematic internet use in adolescents predicts self-harm and suicidal behaviors one year later

**PAN Pei-Yin, YEH Chin-Bin**

### Introduction

Internet addiction is an emerging disorder with growing public health concerns for its comorbid psychiatric disorders and associated function impairment. It showed that adolescents with pathological Internet use have a higher risk of self injury behaviors. However, there is scarce longitudinal study investigating the relationship between Internet addiction and suicidality. Therefore, this study aimed to investigate the role of Internet addiction on the development of self-harm/suicidal behaviors among adolescents one year later.

### Purpose/Methods

A one-year, prospective cohort study was conducted in a senior high school in Taiwan. The sample included 1861 adolescents with mean age 15.9. There were 1735 respondents (93.2%) classified as having no history of self-harm/suicidal attempts in the initial assessment. Chen Internet Addiction Scale was used to identify the individuals with problematic internet use. The participants were evaluated for suicidality again one-year later and the "noncase" cohort was selected for statistical analysis.

### Results

Internet addiction was significantly associated with the development of self-harm/suicidal behavior after adjusting for potential confounding factors (sex, poor sleep quality, depression and psychological health) at baseline evaluation. Moreover, those adolescents who used the Internet pathologically had the greater relative risk for newly emerged self-destructive behaviors (incidence rate ratio, 2.0; 95% CI, 1.0–4.0,  $p = 0.048$ ) than those without Internet addiction.

### Conclusions

Our findings indicate that Internet addiction is prospectively associated with incidence of self-harm/suicidal behaviors in adolescents. Screening out the students with pathological Internet use in school setting is considered a crucial approach for early identifying the at-risk individuals and provide intervention to prevent suicide in this population.

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## Analysis of Adolescent Health Promotion and Multidirectional Intervention in Taipei

**SHIEH Ying-Hua, CHU Bo-Yu, CHAN Hsiao-Wen**

### Introduction

In Taiwan, studies have revealed over 17% of unmarried pregnancy and over 29.8% of overweight presence in the age group of 15-19 year old adolescents. These revealed lack of education in sex-related knowledge and healthy diet in Taiwanese adolescents. Wan Fang Hospital's Family Medicine Department has been providing education among students especially in the areas of adolescents' physiological and psychological health.

### Purpose/Methods

We had undertaken "Adolescent Health Promotion Project" every year since 2011. The department has set up adolescent clinic and "Physician Liaison Service" in five schools in Taipei City. In 2016, twenty adolescents' health promotion seminars about sex education and weight management were conducted, with 3472 students involved in the program. Furthermore, a short film focusing on sex education and weight management was also produced and distributed among schools and uploaded to YouTube for adolescents. Referrals of cases back to the hospitals have also been promoted in schools.

### Results

In 2016, a total of 96 out-patient department sessions for adolescents were set up and 171 patients had visited in one year period. Majority of the concerns were about physiological changes (body image, menstrual disorder, depression, anxiety, and sexual problems). Also, 97 adolescents used "Physician Liaison Service" due to similar concerns/issues. Health promotion lessons were conducted at 5 schools, with total of 3472 students involved.

### Conclusions

Even though sexual problems were generally not the greatest issue in schools, there were still great needs for the parents to be involved and work with schools and hospitals to promote safe sex education. We have promoted adolescent health issues with multidirectional intervention in five ways: 1) Health promotion seminars; 2) films regarding sex and overweight education; 3) Physician Liaison Service; 4) hospital referral system; 5) more lessons related in unmarried pregnancy.

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## Session M1.5: Age-friendly care

### Application of the guided care model to support self management of older persons with multimorbidity in a community of Khon Kaen province, Thailand

**WONGARSA Patcharaporn**

### Introduction

In the situation of aging society, multimorbidity is a major problem of older persons that needs specific health services. The Chronic Care Model was applied to improve outcomes of patients with chronic illnesses effectively. The Guided Care Model was developed from the Chronic Care Model for older persons with chronic conditions and complex health care needs. This model needs to be tested in different context, especially in older persons with multimorbidity in Thailand.

### Purpose/Methods

This action research was aimed at applying the Guided Care Model to provide specific care service for older persons with multimorbidity in a semi-urban community of KhonKaen. The study was conducted during November 2013 to January 2015. The participants included health care personnel and multidisciplinary team. Key informants included older persons, caregivers and community members. Qualitative data were obtained by focus group discussions, in-depth interviews, observations, document reviews, and field notes. Content analysis was used to analyze qualitative data and quantitative data were analyzed by descriptive statistics.

### Results

Older persons with multimorbidity in this community need specific health services due to complex health problems, and limitation of functional ability. The application of the Guided Care Model for older persons with multimorbidity in this community consisted of four steps: 1) Introduction of the concept of the Chronic Care Model and the Guided Care Model to the team. 2) Brainstorming to create a mutual goal and plan to apply the Guided Care Model. 3) Implementation of the Guided Care Model. 4) Summarization and evaluation of the health care services applying the Guided Care Model.

### Conclusions

Findings from this study showed that the Guided Care Model had been applied successfully in a primary care unit. Specific health services, guided care nurse and guideline of care for older persons with multimorbidity in the community were developed.

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## 6 Years Follow Up Analysis of Integrated Health Promoting Elderly Care

**SHIEH Ying-Hua, GAO Ai-Xuan, LIAO Wen-Chia, LIN Zheng-Qing, CHAN Hsiao-Wen**

### Introduction

It is estimated that by 2018, Taiwan elderly population will exceed 14%. According to the Department of Health survey, more than half of these elderly have three or more chronic diseases and 81% of them are bothered by them. If there were integrated healthcare services for these elderly, in addition to reducing number of outpatient clinic visits, investigations ordered and multiple drug prescriptions, it can also improve the quality of medical care and patients' lives.

### Purpose/Methods

The study population includes patient who received more than 50% of total outpatient visits (Loyal-patients) at Family Medicine Department Integrated Health Promoting Clinic, during January 2010 to June 2016. Each patient was assessed by Family Medicine and Geriatric physicians (other specialists were also involved if needed), a care plan was then developed and followed up by a case manager. A maximum of 25 patients were allowed for each Clinic and in order to avoid issues of repeated investigation and drug prescription, computer alerts were set up.

### Results

A total of 8,735 Loyal-patients visited the clinic during the study period. Patient Satisfaction Survey showed more than 90% satisfaction with the services provided. The average number of monthly outpatient clinic visits decreased from 3.71times to 2.37 times (36% reduction) and the average number of medication prescriptions per person per month also decreased from 7.96 types of medications to 7.46 types (6% reduction). Furthermore, number of Loyal-patients increased by 8.6% (from 8,049 to 8,735 patients).

### Conclusions

The implementation of Integrated Health Promoting Program has significantly reduced number of outpatient clinic visits and multiple drug prescriptions. Apart from this program, our hospital also pays special attention to integration of various resources to improve health care quality as well as focuses on promoting a healthier community (e.g. advocating cigarette smoking cessation, weight loss and healthy lifestyle).

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## Burden of comorbidities in elderly patients hospitalized with heart failure

**OMERSA Daniel, LAINSCAK Mitja, ERZEN Ivan, FARKAS Jerneja**

### Introduction

In heart failure (HF), comorbidity burden and prognostic risks increase with age. Studies investigating comorbidities and their prognostic implication on outcome in elderly patients from large datasets are lacking, particularly in central and east European countries. Our aim was to analyse the prevalence of comorbidities and their impact on mortality and readmissions after first HF hospitalization in patients aged 65 years or over.

### Purpose/Methods

In this observational epidemiologic study, Slovenian national hospitalization database was searched for HF patients aged 65 years or over with first HF hospitalization between 2008 and 2012. Prevalence of comorbidities and their associations with all-cause mortality and readmissions were compared in young-olds (65-74 years), middle-olds (75-84 years), and old-olds (over 85 years), using multiple Cox proportional hazards models.

## Results

Overall, 36,824 patients were included (median age 80 years, 41% men, 20% in-hospital mortality). The proportions of young-olds, middle-olds, and old-olds were 26%, 48%, and 26%, respectively. Non-CV disease was the most common main diagnosis for first HF hospitalizations. Proportions of main diagnosis for first HF hospitalization have increased with older age group for both non-CV disease and HF on account of non-HF CV disease. Among comorbidities, arterial hypertension (60%), pulmonary disease (44%) and atrial fibrillation (38%) were the most prevalent. Distribution of comorbidities was affected by different age groups. Importance of comorbidities as a predictor for mortality faded with increasing age while only small decrease in hazard ratios for readmissions were seen.

## Conclusions

Comorbidity burden in elderly patients with HF is increasing with age. Selected comorbidities are important predictors for mortality and readmissions in elderly.

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## Using Multidisciplinary Intervention to Reduce the Fall Incidence Rate of elder Inpatients in Neurology and Neurosurgery Wards- Innovation: The Avenue of Stars from Bed Inductively Powered Lighting Device

**CHENG Shun-Yi, CHEN Yen-Hsi**

### Introduction

Background: Our unit is the ward of Neurology and Neurosurgery Department. The fall rate in the wards was 0.18 % in 2015, the highest of the hospital, among which there was a case causing serious injury. According analysis, the most common reasons of inpatients fall are lacking of muscle endurance and cognitive deficits of the patient and families, and nurses using inappropriate aids to care guidance that seriously affecting the medical quality.

### Purpose/Methods

The purpose of this project was to apply multidisciplinary to reduce fall rate in Neurology and Neurosurgery wards. And this post would show how we prevented inpatients fall accident occurred. This program using multidisciplinary intervention including: (1) Fall prevention nursing and care givers education. (2) Cross-medical team intervention in health education guidance. (3) Applying 「No-Lift policy」 interventions to caregivers and show them how to works. (5) Health education poster presentation in rehabilitation center. (6) Establishing the night shift increase the frequency of visits. (7) Innovation : 「The Avenue of Stars」 - from Bed Inductively Powered Lighting Device」, that improved lighting equipment.

### Results

This program successful reduction of the fall rate to 0.09% in 2016 Jun-Sep.

## Conclusions

The conclusion shows that using using multidisciplinary intervention can effectively reduce the fall rate of patients and improve the medical quality by introducing fall prevention nursing education and case intervention.

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## Screening late-life depression via different pathways in a general hospital

**FANG Chun-Kai, HU Jen-Chieh**

### Introduction

Late-life Depression is an important issues in hospitals. In Taiwan, the older group was the highest suicide rate among all age groups. How to find the target older patients in the hospitals should be considered in clinical practice.

### Purpose/Methods

The clinical project was practiced on Mackay Memorial Hospital and supported by New Taipei City Government from June to November, 2016. We invited all elders among the Health Evaluation Center (HEC), outpatient clinics, and inpatient units, but excluded cancer diagnosis because we had the other projects. The instruments included the Distress Thermometer (DT) for overall screen and the Patient Health Questionnaire -9 (PHQ-9) to screen depression if DT  $\geq$  5. Case management was provided if DT  $\geq$  5 and psychiatric service was consulted if PHQ-9  $\geq$  10.

### Results

There were 3626 elders screened, including 803 from the HEC, 1632 outpatients and 1191 inpatients. In the HEC group, 9 elders (1.12%) were DT  $\geq$  5 and 3 (0.37%) were PHQ-9  $\geq$  10. In the outpatient group, 146 elders (8.95%) were DT  $\geq$  5 and 36 (2.21%) were PHQ-9  $\geq$  10. In the inpatient group, 131 elders (11.00%) were DT  $\geq$  5 and 28 (2.35%) were PHQ-9  $\geq$  10. Elder outpatients of gastroenterology had the highest prevalence of distress (21.94%), but elder outpatients of endocrinology had the highest of depression (4.10%). Elder inpatients of orthopedics had the highest of distress (16.96%), but elder inpatients of gastroenterology had the highest of depression (4.30%).

### Conclusions

Elders from the different pathways and departments had the significant differences among distress and depression. However, we found the sever gaps from distress to depression in all groups. We should consider the other possible problems in the gaps, such as anxiety, psychosomatic disorder, demoralization syndrome et al.

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## Session M1.6: Promoting health at the workplace

### The health promotion in hospital

**YANG Ming-Chih, HO Teng-Wei, LIN Min-Hua, JIANG Wan-Jhen**

#### Introduction

In order to be an excellent health promotion hospital. We use "physical and mental health and safety needs survey" questionnaire in May 2015. It help us to understand what kind of subject to be strengthened? The feedback of our colleagues is to construct sports center and held exercise lectures and activities.

#### Purpose/Methods

New sports center is opened In March 2016. providing spacious space, more diverse sports facilities. We invited colleagues of rehabilitative department as a lecturer to guide the correct use of sports equipment. We held different kinds competition to attract colleagues to participate in it. Provide coaches, venues and facilities to create a sporting atmosphere. We also established social activities such as aerobic dance ,karaoke ...etc.

#### Results

We do the same questionnaire in 2016 May. There are three major issues of physical and mental health promotion needed to do. First is the promotion of sports ,The second is the stress adjustment and mental health, The third is the promotion of healthy diet. The satisfaction of the sports environment provided by the hospital increased from 38.2% to 77.4%. In addition, there are 70% staffs think the establishment of sports centers is helpful to employee in the behavior of health promotion.

#### Conclusions

After twice questionnaire survey and analysis, the demand of employee health promotion is not limited to the construction of sports center. In the future, we will use the five major charters of the Ottawa Charter to introduce innovative and rewarding practices in athletic program. As a result employee will gradually develop the habit of participating athletic activities.

#### Comments

We will plan counseling space to provide staff pressure adjustment in the future. Let employees be healthy and strong, with thankful in their mind to provide efficient and safety services in hospital.

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### The health parameters, workplace health promotion needs assessment and perceived mental health in the financial holdings in Taipei, Taiwan

**CHOU Wan-Yun, WEI Fang-Chun, YANG Yi-Chu**

#### Introduction

Creating healthy workplaces is becoming more common. Workplace health promotion (WHP) has been shown to prevent occupational disease and workplace injury as well as increase health productivity. Organizations and occupational health professionals could use health need assessment to determine if workplace health interventions were needed.

#### Purpose/Methods

This cross-sectional study aimed to investigate the relationship of health parameters, workplace health promotion needs assessment, and perceived mental health in a certain financial holdings in northern Taiwan. All 105 participants were asked to complete health examination and a self-administered questionnaire. The examination measured fasting blood sugar, total cholesterol, blood pressure, waist circumference and body mass index (BMI). The questionnaire included demographics, the Chinese Health Questionnaire (CHQ-12) and the Diet Behavior Questionnaire.

#### Results

Results showed that perceived mental health was positive among subjects. The mean BMI among these 105 workers was 23.2 ( $\pm 3.8$ ) kg/m<sup>2</sup>, with 12 workers (12.5%) scoring over 27 kg/m<sup>2</sup>. Waist circumference was significantly positive correlated with blood pressure, fasting blood glucose and BMI. Compared with aspects of health needs, over 50% of employees need a physical fitness program. The examinations of fasting blood sugar, total cholesterol, blood pressure are especially needed for age over 46 of years. With these two health promotion programs, they can promote their health behaviors and improve work efficiency.

#### Conclusions

Aside from regular health examinations, BMI and waist circumference may be used as brief indicators for assessing health status. Following investigation and assessment, a workplace health promotion program for a certain financial holdings was designed as an intervention for promoting health-related physical fitness, an examination measure of fasting blood sugar, total cholesterol, blood pressure and to establish a self-management model in the workplace.

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### The study of work strain on nurses of shift work

**YEN Chiaming**

#### Introduction

The nursing is a kind of shift work , the operating time changes unceasingly. That not only destroys the biological rule, but also disturbs the day-night rhythm. Diagnosis by feeling the pulse is a kind of important method for Chinese medicine. It is also a kind of unique method for diagnosis, prognosis, and judgment the condition of the patient. There is very widely use of HRV in a lot



of research. In actually, it is a kind of simply, non-invasive tool for the observation of the activity of autonomic nerve. We will quantify the Empirical datum, which was collected from HRV and the instrument that can be diagnosed the differential of pulse. To find out the correlation between the change of autonomic nerve and the pulse in shift nurses. We also can afford the measure improving the working conditions.

#### Purpose/Methods

33 nurses were enrolled this study. They were separated into 3 groups which depend on the care unit ( OR, ICU, WARD) they were belonged. The ANS watch was adopted for measuring HRV and pulse diagnosis at the day-shift, before and after the 1st day of night shift, before and after the 5th day of the night-shift.

#### Results

In the three groups ( OR, ICU, WARD), only the age of OR is different from others ( $p=0.0037$ ). The data of HRV were not much different from the 1st to the 5th days before and after the night-shift work, in the three groups. The Data of heart rate in the 5th day of the work were showed statistical differences ( $p=0.045$ ). Before and after the 1st day night-shift, In the group of ICU, the length of pulse is higher than other two groups ( $p=0.0452$ ). The HR of OR was showed statistical differences after the 1st and 5th night-shift ( $p=0.0217$ ).

#### Conclusions

There is no significant difference in pulse diagnosis in three groups. We find some parameters of HRV were predominately related to age. And the parameters of HRV are independent of work unit, work strains, the duration of night-shift, the time of measuring.

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## Effect of de-stressing activities in employees' tendencies to remain or to leave

**LEE Kuan-Hui, LEE Chin-Feng, HUANG Hsin-Ying, WOO Peter, CHEN Yi-Chih, TSOU Jhi-Chyun**

#### Introduction

To avoid losing outstanding employees in organizations, it is indispensable to pay attention to frustration in employees and its cumulating long term consequences. Therefore, to understand the essentials of employees' tendencies to remain or to leave can enhance organizations to retain outstanding employees and let them work joyfully.

#### Purpose/Methods

Since 2011, different subjects of de-stressing activities were assigned every year. From September in 2016, random questionnaire sampling was used in retrospective survey. Likert scale of 7 was used for measuring, allocating 1 to 7 points depending on 'very agree' to 'very disagree' levels, the higher the score corresponding to a higher tendency to remain or to leave.

#### Results

During the past 5 years, 8 different subjects were held. A total of 87 questionnaires were sent out with 28 retrieved which were all valid. Descriptive analysis showed 46% of participants were in the Administrative Department while 35% were in the Nursing Department. After gathering statistics, tendency to remain had an average score of 4.94, with the highest score 5.58 in the item 'My hospital is the ideal working place'. Tendency to leave had an average score of 3.82, with the highest score 4.19 in the item 'If working environment is similar, I don't mind working in other hospitals'.

#### Conclusions

In recent years, we empathize the stress in job and daily life of our colleagues. Therefore, a series of de-stressing activities were actively conducted, hoping to relieve the mental stress of employees. In our study, for those employees who participated in de-stressing activities, the tendency to remain is above average while the tendency to leave is below average. However, participants represent only minority of our total employees. We suggest expanding our subject candidates in the future and implement pre-test survey before activities so as to reinforce its extrapolation and comparison.

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## Dispensing workload at hospital outpatient and emergency pharmacies in Taiwan

**CHAN Yuk-Ying, SHAO Shih-Chieh, LAI Edward Chia-Cheng**

#### Introduction

The National Health Insurance program in Taiwan began in 1995 and adopted a fee-for-service reimbursement mechanism under a fixed annual budget. Many health care providers had been reported to suffer from excessive workload under this health services system, but little evidence was found in pharmacists.

#### Purpose/Methods

To evaluate the pharmacist's dispensing workload at outpatient and emergency department of hospitals in Taiwan, we analyzed the electronic databases of 4 hospitals from Chang Gung Memorial Federation consisting of 2 medical centers and 2 regional hospitals from 2010 to 2016. We defined the dispensing workload index (DWI) as the ratio of optimal manpower to actual manpower and DWI greater than one was regarded as overload. Based on the guideline of accreditation in Taiwan, the optimal manpower at outpatient department was defined as 70 and 80 prescriptions per pharmacist per day in medical centers and regional hospitals, respectively. The optimal manpower at emergency department is 100 prescriptions per pharmacist per day whatever in both medical centers and regional hospitals. We evaluate the monthly DWI of each department and each hospital level.

#### Results

From 2010 to 2016, we found the DWIs were greater than one at outpatient pharmacies every month and the mean (SD) monthly

DWI was 1.47 (0.07) in medical centers and 1.30 (0.09) in regional hospitals. We found the mean (SD) monthly DWI of emergency pharmacies was 0.51 (0.03) and 0.42 (0.04) in medical centers and regional hospital, respectively. The DWI of outpatient pharmacies increased 4.91% and 18.36% in medical centers and regional hospitals, respectively. The DWI of emergency department decreased 2.34% and 5.99% in medical centers and regional hospitals, respectively.

### Conclusions

We found the dispensing overload did exist in outpatient pharmacies but not in emergency pharmacies in both hospital levels. The allocation of pharmacist manpower and the design of workflow procedure may need further discussed to promote workplace health.

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## Session M1.7: Community health promotion

### The ABC of health

**SEVERI Carla, MONICI Lucia, FABBRI Alessandra, CASONI Carmen, BARRUS Araceli, BONVICINI Francesca**

#### Introduction

In 2011 immigration legislation also introduced a close link between entry/stay in Italy and knowledge of the Italian language and civic education, with a test of the level of knowledge of the language both for obtaining a long-term residence permit and for confirming the permit of first time applicants. The courses are an opportunity for migrants to explore topics of interest such as health protection and in particular prevention, an area in which it is difficult to involve these citizens through standard information channels

#### Purpose/Methods

Representatives of some literacy schools and Provincial Adult Education Centres in the municipalities with higher numbers of resident immigrants were contacted and meetings were held in the presence of linguistic/cultural mediators. Face-to-face lessons were held and native language material was provided on the topics covered. The specific focus on female immigrants led to the organisation of dedicated meetings. The topics covered were: - How to access basic healthcare services - Prevention of infectious diseases - Women's health - Diet - Safety at work and prevention of accidents at home Where possible, the meetings were held in the Case della Salute (local health reference points) and participants were given the opportunity to have diphtheria and tetanus vaccinations and tuberculosis tests

#### Results

Since 2009 we have held 67 meetings in which 1796 people have taken part. The municipalities involved are Reggio Emilia, Campegine, Cavriago, Guastalla, Luzzara and Novellara

### Conclusions

The activity performed in the Provincial Adult Education Centres (CPIA) has enabled a very large catchment area to be reached. Running the courses in familiar locations and the presence of tutors have guaranteed the credibility of the information provided and also given us the possibility of having feedback on the subject.

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## A Campaign to Build a Safe Community

**LEE Hsiang-Lin, WENG Pei-Hsuan, CHEN Yi-Ching, LO Chia-Lin, HUANG Hui-Ting**

#### Introduction

A safe community offers a secure shelter for everyone. However, there are many hidden hazards in the living environment that may put our health in danger, and children and elderly are especially vulnerable. In view of several recent unfortunate accidents, Taiwan Adventist Hospital launched a campaign to promote community safety.

#### Purpose/Methods

In order to build a child-friendly neighborhood, our trained staff inspected the environment of elementary schools and kindergartens, along with houses with kids to make safety improvement plans. For elderly more than 65 years-old, we launched a 12-week fall prevention exercise program. To prevent polypharmacy, our pharmacists visited elderly who lived alone and reviewed their medication use. The pharmacists also helped to reconcile the medication lists from different hospitals by health insurance IC cards. We also held CPR and AED training lessons for laymen. For senior drivers more than 75 years-old, we helped to screen their cognition using short-term recall and clock-drawing test.

#### Results

We visited 3 schools and 50 houses to improve domestic safety for children. About 46% of houses lacked electric sockets with socket locks, 40% were not equipped with fire alarm systems, and 33% had electric wires or curtain ropes in places which might cause tangling and suffocation. For elderly, the mobility, balance and flexibility significantly improved after exercise intervention, assessed by 2 minute step test, timed up and go test, and back stretch test. The pharmacists completed 7 home-visits and 142 medication reconciliation services to reduce polypharmacy. Nine CPR and AED training lessons were held for 562 individuals.

#### Conclusions

This community safety campaign is a pioneer program trying to promote community safety. Many safety measures have been undertaken after our efforts. We hope to keep educating people in the community to make our environment a better place to live.

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## Health effects of the Greek financial crisis

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### Introduction

Every economic crisis, to a greater or lesser degree, reduces the GNP, causing loss of family and personal income of most citizens, increasing unemployment and the risk of job loss, worsening the living and working conditions, limits social benefits and insurance coverage, hinders the operation of health services and the access of citizens to these. Economic crisis in Greece has led to an inexorable financial burden for Greek citizens, which, in turn, has had an adverse impact on their health.

### Purpose/Methods

The national household survey Hellas Health VI was conducted during April 2015 and covered both urban and rural areas of the 13 geographical regions. The sample of 1001 individuals, aged ≥18 years old, was selected using a three stage, proportional to size sampling design and was representative of the Greek population in terms of age and residency. Telephone interviews were conducted according to the ESOMAR code of practice.

### Results

37% of the participants stated that the economical crisis affected their health significantly. 26% stated deterioration in their health and 55% expressed deterioration in their mental health. The majority of them were students, freelancers and pensioners. The main reasons that were stated about deterioration of health were the deterioration in quality of life (68%), in mental health (56%), in health care access (26%), in pharmaceutical access (23%), as well as due to deprivation of the essential needs (29%).

### Conclusions

The financial crisis has posed major threats to health. The harmful effects of austerity are linked to deterioration in quality of life and in the overall mental health of Greek citizens. The relationship between income and health is underlined in this study, due to the fact that 25% of the participants reported that their health affects their income. Policy makers in order to face the economic hardship have to implement human-centered approaches and protect the vulnerable population.

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## A nursing experience of helping a vulnerable handicapped person to reintegrate back into society

**CHEN Ming-Yu**

### Introduction

Disparities in the health of vulnerable populations are getting more and more attention. Disparities occur across many dimensions, including socioeconomic status, location, and disability status. Ministry of Health and Welfare alone can not solve the problems. National strategies to reduce disparities in the health of vulnerable populations need to be adopted. The public health nursing is the core function of the community health care. To help patients of the community to manage their health and cognitive their role of the families is the responsible of the community health care.

### Purpose/Methods

From November 2014 to August 2015, the medical team of the Taichung Hospital set out a series of strategies and actions to achieve its goals, including frequent home visit to discuss the influence of physical and psychosocial outcomes on the health self-management; encouraging family members to play a part of the action plan to build self-confidence of the patient; educating high-risk and vulnerable families concepts of the health self-management by the health management program to change bad habits and health care seeking behaviour; and integrating the public health system and the social welfare resources to assist the vulnerable people to rebuild the self-confidence and self-value in order to reintegrate back to society.

### Results

the outcomes describe the patient has significant positive change in the health self-management and the quality of life. The patient's emotion control is getting better and full of energy. The most important thing is that most of the patient's chronic conditions are under control.

### Conclusions

The results demonstrate the necessary of the community health management. Helping vulnerable handicapped people to reintegrate back into society, improving the health of the poor, and breaking the vicious circus of poverty and illness would be the first priority of the community medical team.

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## Internet-facilitated, cell phone short message service(SMS) incorporated, voluntary counseling and testing (VCT) clinic –based HIV testing among high sexual transmitted diseases (STDs) risk populations at a medical center in southern Taiwan

**TSAI Hung-Chin, WU Kuan-Sheng, SHIU Min-Hong, LEE Susan Shin-Jung, CHEN Yao-Shen, CHENG Jin-Shiung**

### Introduction

A total of 32,817 adults in Taiwan were reported as being infected with HIV-1 by the end of 2016, most of whom (19,589; 59.69%) were men who have sex with men (MSM). Facilities offering voluntary counseling testing (VCT) at no cost at the point of delivery were established in 1997, and have been sponsored continuously by the Taiwan Center for Disease Control (CDC) since then as a key strategy to promote access to an early diagnosis, to prevent infection with HIV and other sexually transmitted diseases (STDs), and to stimulate referral to treatment and follow up. The Taiwanese government has provided anti-retroviral therapy free of charge since its introduction in April 1997. The aim of this study is to evaluate the effectiveness of Internet-facilitated, cell phone short message service (SMS) incorporated, voluntary counseling and testing (VCT) clinic-based HIV testing among high STD risk populations in Kaohsiung, Taiwan.

### Purpose/Methods

From 2010 to 2016, Banners with VCT information were put at the front pages of gay websites, short message service (SMS) was sent to those people participated in gay parade. VCT was conducted at MSM gay bar/sauna and on line VCT system was established to make appointments. Free condoms and lubricant were available on site. Those who sought VCT services completed a questionnaire and a blood draw to test for HIV. Those who tested positive for HIV were immediately referred for evaluation of treatment at our VCT site.

### Results

A total of 26,943 clients received VCT in 2010 to 2016. The positive rate for HIV-1 was 2.82% (760/26943). Almost 75% of the VCT clients had enrollment for care. Ninety percent of the VCT clients got their HIV test results within 24 hours. The satisfaction rate for the VCT program was 90% by our questionnaire.

### Conclusions

Internet-facilitated promotion, as well as rapidly and friendly VCT clinics-based HIV testing among high STD risk populations is flexible and powerful method for health promotion in our community.

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## Session M1.8: Chronic disease management

### Hospital-based program for body weight control and correction of metabolic syndrome

**TSENG Chi, LIU I-Li, CHUO Ying-Hsiang, LI Wan-Ju, HUANG Hui-Ting**

#### Introduction

Obesity as one of the predisposing factors of chronic diseases and cancers. According to a general survey in Taiwan, the

prevalence of overweight was 51.1% among male and 35.8% among female residents. Taiwan Adventist Hospital has initiated a unique weight control program to help participants to reduce their weight, waist girth and risks of metabolic syndrome since 2007.

#### Purpose/Methods

The program is an eight-week course started with an assessment of participants' body figure, physical fitness test and blood biochemistry followed by individual diet instruction and physical activity prescription by dietitians and gym trainers. The individual instructions were adjusted according to weekly records of diet, exercise, body weight and blood pressure change. The effects were determined by reassessment of the same parameters at the end of the program. One year after the program, a follow-up questionnaire was collected to re-evaluate the participant's diet and exercise habits and body figure to prevent recurrence of overweight.

#### Results

Seventy-four participants in 2015 had improvements in parameters of metabolic syndrome including 2.3 kg of average weight loss, 2.4 cm decrease of waist circumference, 1.7 kg reduction of body fat, 9.7 mmHg and 5.3 mmHg less of SBP and DBP, 1.9 mg/dl reduction of FBS, 1.6 mg/dl reduction of fasting insulin level, 13.3 mg/dl decrease in TG. 51 questionnaires were collected one year after the program in which 86.3% participants were still keeping weight record, 76.4% eating adequate vegetable and fruit every day, 84.3% not eating fat-rich food, 76.4% restrained from snacks, and 74.5% were still complying with regular exercise.

#### Conclusions

The results demonstrate that this unique program is effective in improving the participants with metabolic syndrome. This program was designed to provide group education and individualized instruction in both diet and exercise habits. It is proved to be time saving and sustainable that the participants will not go back to unhealthy lifestyle.

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## Impact of the Health Promoting Hospitals initiative on quality of diabetes care: a panel-data analysis of diabetes-related examinations in Taiwan

**LEE Chiachi Bonnie, CHEN Michael S.**

#### Introduction

In Taiwan, diabetes is the top 5th leading cause of deaths. Favorable diabetes care outcomes can be attributed to diabetes care process and structure, as proposed in the Donabedian's structure-process-outcome model. The Health Promoting Hospitals (HPH) initiative aims to build a supportive infrastructure for improving quality of care.

**Purpose/Methods**

This study aims to examine the effects of the Health Promoting Hospitals initiative on diabetes-related examination rates in Taiwan, using a panel-data analysis. 79 health promoting hospitals firstly accredited between 2008 and 2013 are included in the study. A fixed-effects model is applied on a panel data involving cross-sectional and time-series data from 2006 to 2016. The outcome variables are regressed on the dummy representing the adoption of HPH by the hospital, and on all the covariates (including average age of patients and hospital characteristics); a dummy for each hospital is included to account for the unknown factors of the individual institutions. Diabetes-related examinations include HbA1c test, fasting lipid profile, ophthalmoscopic examination, and urinary protein excretion tests. Data of diabetes examinations will be collected from the website of the National Health Insurance Medical Care Quality Information Disclosure, a quality assurance function for the NHI service.

**Results**

The analysis is expected to shed light on the effects of adopting HPH initiative on the practice of diabetes care in Taiwan. Based on our own previous research, the HPH initiative has led to multi-dimensional effects on capacity building to strengthen quality of care in Taiwan's hospitals. This study will add one more piece of evidence to the impact of the HPH initiative.

**Conclusions**

The adoption of the HPH initiative is expected to encourage the participating hospitals to strengthen their preventive practice. As diabetes is a disease whose prognosis is highly dependent on health behavior, better preventive practice shall lead to better prognosis thereof.

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## Impact of a theory-based multi-component lifestyle intervention to control abdominal obesity and cardiovascular risk factors: 12-month results of a randomized clinical trial

**KIM Hyekyeong, NAH Eunhee, KIM Myung, KIM Hyeyun, LEE Ji-Eun, SUN Yingning**

**Introduction**

The prevalence of obesity and metabolic syndrome is rapidly increasing worldwide. A comprehensive program of lifestyle modification is considered the first option for losing weight and decreasing cardiovascular risks.

**Purpose/Methods**

The objective of this study was to evaluate the effectiveness of a theory-based lifestyle intervention in decreasing risks for abdominal obesity and cardiovascular diseases. The participants were 370 adults (aged  $\geq 30$ ) have been identified with abdominal obesity (182 intervention group and 188 comparison group) and

additional cardiovascular risk factors. The intervention was developed as multiple behavioral intervention which combined individual health counseling with education and monitoring. Social cognitive theory and TTM were applied to develop intervention strategies. The comparison group was provided with minimal information. Health examination were measured at baseline, 3-month, 6-month, and 12-month at health promotion centers at Korea Association of Health Promotion in Korea both in 2013 and 2014.

**Results**

The prevalence of abdominal obesity was reduced up to 27.8% (from 99.0% to 71.2%) in the intervention group and 20.3% (from 98.7% to 78.4%) in the comparison group after the 6-month intervention. In terms of cardiovascular risk reduction, significant improvements were found in BMI ( $P < .0001$ ), waist size ( $P < .0001$ ), systolic and diastolic blood pressure ( $P = .0012$ ,  $P < .0001$ ) and HDL cholesterol ( $P < .0001$ ) among the participants of the intervention group after the intervention. In contrast, only BMI and diastolic blood pressure were improved significantly ( $P < .0001$ ,  $P = .0033$ ) among the participants of the comparison group.

**Conclusions**

Lifestyle intervention program was found to be effective for the reduction of abdominal obesity and cardiovascular risks of Korean adults. However, additional studies are needed to identify factors that could contribute to the improvement of obesity and related health risks.

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## Factors Associated with Sleep Quality among Mid-Aged Women with Poor Self-Reported Sleep Quality

**JOU Hei-Jen, SIAO Ruo-Yan, CHEN Yi-Ching, CHIEN Pei-Li, TSAO Lee-Ing, LIU Chieh-Yu**

**Introduction**

Sleep disorders among middle-aged women are regarded as a common symptom of menopause or menopausal transition. This study was aimed to investigate factors associated with sleep quality among reproductive age (RA), peri- and post-menopausal women with poor self-reported sleep quality in Taiwan.

**Purpose/Methods**

129 women aged 45-60 who self-reported with poor sleep quality and were screened using Chinese version Pittsburgh Sleep Quality Index (C-PSQI)  $> 5$  points, were recruited from a women health outpatient in one regional teaching hospital in Taipei City. Participants were administered the C-PSQI, Greene Climacteric scale (GCS) and demographic questionnaire.

**Results**

The results of general linear model (GLM) showed that the perimenopausal and postmenopausal women did not show





significant difference from RA women for subjective sleep quality measured by C-PSQI, after adjusting for age, educational levels and employment status. However, heavier psychological symptom significantly resulted in worse sleep quality ( $p < 0.001$ ) under multivariate model analysis. Besides, perimenopausal women and postmenopausal women had significantly longer sleep latency than RA women (26.61 and 27.562 mins,  $p < 0.05$ ).

### Conclusions

The health policy authority may need to provide more medical resources for the health promotion of mid-aged women, especially for psychological care, rather than relying solely on reimbursement for episodic care.

### Comments

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## The relationship between metabolic syndrome and mild cognitive impairment

**TSAI Chung-Hung, WU Jin-Shang, YANG Yi-Ching, CHENG Ya-Ling, CHANG Chih-Jen**

### Introduction

The metabolic syndrome (MetS) is a clustering of cardiometabolic risk factors. As well as cardiovascular disease, several studies suggested associations between MetS and cognitive decline and dementia. Mild cognitive impairment (MCI), a kind of predementia syndrome, is the most widely used term to describe non-demented persons with no significant functional disability and a mild memory or cognitive impairment. Only a few recent studies investigated the possible association between MetS and MCI, and contrasting findings existed. Moreover, the relationship between MetS and MCI or cognitive decline in Chinese population has been less reported. In addition, a recent systematic review paper showed that Montreal Cognitive Assessment (MoCA) has a high sensitivity and specificity to distinguish MCI from normal aging.

### Purpose/Methods

Subjects were enrolled in the outpatient clinic, department of Family Medicine, National Cheng Kung University Hospital. Each participant completed a standard questionnaire and 15-item short-form geriatric depression scale (GDS-15). The Taiwanese version of MoCA consists of 7 domains and a total scores of 30.

### Results

From February 1 to July 31, 2015, a total of 84 participants with a mean age of 63.1 year-old were recruited to our study. Participants with MetS had a higher BMI, WC, FPG, and GDS-15 scores than those without MetS. The total and sub-domain scores of MoCA were lower in the MetS group than non-MetS group, and the prevalence of MCI was higher in the MetS group than non-MetS group. However, no statistically significant difference existed. In multivariate analysis, after adjusting

clinical variables, there was no no significant difference between MetS and MCI, though a positive association was noted between obesity and MetS.

### Conclusions

This study demonstrated no significant association between MetS and MCI. Because of small sample size, this is only a pilot study. Further study with larger sample size is needed.

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## Session M1.9: Healthy nutrition

### Effects of Using Situation Simulation Program in Nutrition Education on Healthy Eating Behaviors in Elementary School Children

**CHANG Pei-Tzu, YANG Yu-Ru, YEUNG Chun-Yan**

### Introduction

According to the Nutrition and Health Survey in Taiwan (NAHSIT 2001-2002) statistics, one in three boys and one in four girls in elementary school had overweight or obesity. The purpose of this study was to use Situation Simulation Program and shopping practice to boost the elementary school children's nutrition knowledge, eating principles and behaviors.

### Purpose/Methods

Thirteen elementary school children voluntarily participated in this program. We measured their height and body weight before nutrition education intervention. Children were asked to fill out a questionnaire measuring their nutrition knowledge and practice before and after the intervention in order to evaluate its effectiveness. The teaching sessions of three days nutrition education intervention included learning healthy body control, healthy eating principles, healthy eating behaviors (my plate), nutrition facts labels and Traffic Lights foods. After completing the sessions, children were assigned a task with a convenience store shopping practice. Children experienced various typical grocery products like milk, juice, cookies, etc and what they chose were recorded.

### Results

Among the 13 children (8 boys and 5 girls), mean age  $9.2 \pm 1$  years, mean height  $140.7 \pm 9.2$  cm, mean weight  $46.9 \pm 8.4$  kg were recorded, 6 children were overweight based on their age. The overall mean scores of nutrition knowledge were improved after education intervention. Furthermore, the attitudes toward checking nutrition facts label before making a decision and having a daily balanced diet were improved as well after intervention. On the Traffic Lights foods selection, 85% of children chose green light foods, 15% yellow and none red.

### Conclusions

The Situation Simulation program had immediate effect and helped children to improve nutrition knowledge and correct



eating behaviors. We thus highly recommend this program to children in elementary school. This health-promotion program could boost children's learning and enhance their confidence.

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## Improve Hospital Staff's Diabetes Diet through "Lunch with Dietitians"

**KANG Chen Chen**

### Introduction

Our hospital staff put lots of effort into their patients' healthcare. However, they often forget to have a healthy diet themselves. Thus, we would like to break our usual routine and ask our staff to have lunch with a group of dietitians. We hope to create a balanced diet for Diabetes through showing different types of ingredients and sharing personal diet experiences.

### Purpose/Methods

During the year 2015, we held the program "Lunch with Dietitians" during the staff's lunch break. This program included two one hour classes. The participants were pre-tested before the first class. They were also offered Diabetes meals while having an open discussion in class. Each participant was assigned to record their "daily dietary record" after class. In the second class, the staff brought their own "Diabetes Meal" and discussed their dietary records while having lunch together. At the end of the course, the participants were given a post-test.

### Results

We tried to tell how well the participants have learned about Diabetes diet from the result of the pre-tests and the post-tests. There were 81 employees in total, including 43 administration staff, 19 nursing staff, and 19 medical personnel. The average pre-test score was 35.7 for the administration staff, 56.8 for the nursing staff, and 47.4 for the medical personnel. As for the result for the post-test, it was 80.5 for the administration staff, 80.5 for the nursing staff, and 98.4 for the medical personnel. The overall average of the post-test was 86.5. There was an obvious improvement in the test result.

### Conclusions

In conclusion, our findings show, that through the interactive course exploring a healthy diet, and by sharing personal experiences about food between the dietitians and employees, it helped the hospital staff understand what constitutes as a healthy diet for someone with Diabetes.

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## Calcium intake estimations through a novel implementation of the IOF questionnaire in a Greek rural area

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### Introduction

Osteoporosis and low bone mass are well correlated with physical activity and nutrition. There are key nutrients for bone health like calcium, Vitamin D, magnesium etc. The dietary guidelines recommend 1200 mg of calcium for women > 50 years of age. We know that calcium absorption from dairy products is about 32% and from vegetables ranges from 5 to 60%. There is a controversy over calcium supplementation and risk of cardiovascular events, especially after the MESA study.

### Purpose/Methods

The purpose of our study was to estimate diet calcium intake and see if its recommended levels of 1200 mg are met for women older than 50 years of age in order to improve guidance of their calcium intake dietary habits. The recently validated Greek edition of the IOF calcium questionnaire gives us accurate nutrient composition information for over 65 foods. We used it for the first time in our rural area region in order to estimate more accurately the daily calcium intake of our target population of 127 Greek women. Young doctors and nurses under specialist doctor supervision performed this duty.

### Results

We assessed total calcium intake from diet and Ca supplements and stratified our women's (w) sample (mean age : 61,22 years) into quantiles 1: 21 (w) < 435 mg 2.34 (w) between 435-650 mg 3. 34 (w) between 650-936mg 4. 29 (w) between 936 -1453 mg 5.9 (w) >1453 mg. Unfortunately only 15 (w) (11,81%) had optimal calcium intake, 12 (w) were taking calcium supplementation. Their total average intake was 791,8 mg of calcium. We have found that 70 (w) and 59(w) were not consuming milk and yogurt at all, respectively.

### Conclusions

This study revealed that more than 88% of this population of women has failed to meet the recommended calcium intake from food sources. Although this food frequency questionnaire seems difficult to be filled by community dwelling women it uncovered dietary sources of calcium better than older semiquantitative questionnaires and paved a new way of the necessary targeting messages, especially for dairy products.

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## Session M2.1: Reorienting health services

People in need; public-private integration and response to health needs

**FORNACIARI Rossano, CASTAGNI Ilaria, NASI Emanuela, MAZZOCCHI Angela, SACCANI Angela, FRANZINI Alessandra**

### Introduction

People can be defined as being in need when, in addition to lacking economic resources, they lack social drivers towards self-development and self-determination due to factors such as losing their job, difficulty in accessing healthcare services and fragile family networks. These elements of fragility are detected not only by the Municipality's social services but also by the Caritas counselling centres. Since 2010, Caritas has been working in partnership with the local Health Authority and the non-profit foundation Fondazione Franzini to deliver medical examinations and healthcare to people in need.

### Purpose/Methods

Those who access the two dedicated surgeries for the provision of healthcare assistance to people in need (local Health Authority and Caritas, which have been collaborating since 1998) often require specialist medical examinations and tests which the two main facilities are unable to deliver. In such cases, after their social situation has been assessed and it has been found that the public health service is not providing for their inclusion in the delivery of essential and ongoing care, the Franzini Foundation steps in.

### Results

Since 2008, the Franzini Foundation has delivered 3,800 medical services - including diagnostic tests, specialist examinations, blood tests and surgery - to 240 people in need. The services are delivered in a private hospital used by the Foundation and are performed for free by professional healthcare staff. The beneficiaries of these healthcare services have usually been North African men, followed by East European women, with Italians also steadily increasing (2.9% in 2014 and 5% in 2015).

### Conclusions

The aim of focussing our healthcare activities on providing assistance to people in need has yielded good results in our local area's experience; the "interwoven" network between social needs assessment services and basic healthcare providers (local Health Authority, Caritas and Franzini Foundation) should continue to aim towards improving the pathways for empowering people.

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## Economic evaluation of Minor Ailment Schemes (MAS) in the UK

**SCHNEIDER Peter, RENNER Anna-Theresa, BOBEK Julia, VOGLER Sabine, OSTERMANN Herwig**

### Introduction

Self-care is considered as a possibility to empower patients and to achieve possibly efficiency gains. However, there is a lack of evidence whether, or not, self-care initiatives can contribute to achieve efficiency gains. The aim of this research is to perform an economic evaluation of the Minor Ailment Schemes (MAS), a self-care initiative in the UK.

### Purpose/Methods

To assess potential savings of the MAS through an economic evaluation we surveyed medical and non-medical costs and benefits under three different scenarios (GP consultation, self-care with medication, self-care with home remedies). We applied this framework to evaluate the effects of the MAS with regard to the treatment of five common minor ailments (Athlete's foot, cold, cough, heartburn and lower urinary tract infection) from four different perspectives (patient, payer, provider and society).

### Results

The evaluation shows that patients would be better off shifting to utilisation of MAS, particularly patients who pay prescription charges. From the pharmacists' perspective MAS could lead to higher costs due to continuous training and a more time needed for consultation. The results from the physicians' perspective were mixed depending on the payment mechanism and on the alternatives physicians used out of the freed resources. From a societal perspective, a positive net welfare impact will only be achieved if more than a fourth of the patients with minor ailments use the MAS.

### Conclusions

MAS may have the potential to achieve positive net societal benefits and can have a role to play in the optimisation of health care systems. However, it needs to be considered that MAS may lead to negative net benefits for some stakeholders. Furthermore, MAS are embedded in the UK health care setting and its effects are determined by internal factors (e.g. "self-care culture") and external factors (e.g. policies). It is thus recommended carrying out a thorough analysis of the health care setting to which the self-care initiative is planned to be transferred.

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## Assessment of an assistance therapeutic diagnostic path for patients with heart failure – a qualitative research

**DALL'ASTA Ilaria, RIBOLDI Benedetta,  
CHIARENZA Antonio, GRECI Marina,  
STORANI Simone, PINOTTI Mirco**

**Introduction**

In Europe, chronic diseases cause 86% of deaths, are disabling and have a strong influence on quality of life. To manage chronic diseases it's necessary a structured care model with local resources, oriented to the rehabilitation and maintenance of health and which should involve patients actively. For patients with heart failure the AUSL of Reggio Emilia has developed an assistance therapeutic diagnostic path (PDTA) which guarantees a total response to patients' needs.

**Purpose/Methods**

The PDTA was implemented in May 2016 and in September the directing group has decided to organize focus groups to gather the opinions of patients and staff involved in order to improve the new born path on the basis of their needs and expectations, to make it clear, practical and suited to the needs of the users

**Results**

Strengths: Patients feel more important and feel best both from a psychological point of view (more confidence in the professionals and greater calm) and physical point of view (improvement of their health conditions thanks to the possibility to have someone to refer); they would like to have more information about what they can and cannot do at home (es. Alimentation, physical activity, ecc..) Critical issues: professionals have difficulty to involve a large number of patients and to use the specific computer application: they do not feel adequately trained, difficult for them to use, not suitable for PDTA (missing functions considered necessary);

**Conclusions**

The results of the FG analysis will be used to implement actions for improvement such as: -Organization of meetings between the director group and the local reference groups set in every health districts; -Organization of meetings between local reference groups for an active discussion on the work done; -Establishment of a technical group (10 people) aims to improve the computer application; -Organization of patients groups with physiotherapist and dietician to be more informed about correct life style that can help them to manage their chronic disease.

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**The relationship between dispensing workload and the quality of clinical pharmacy services in Taiwan**

**SHAO Shih-Chieh, CHAN Yuk-Ying, LAI Edward Chia-Cheng**

**Introduction**

Pharmacists play crucial roles in maintaining the appropriateness of prescriptions and dispensing accurate medication to patients; however, since there have been rising prescriptions worldwide,

it is necessary for health services researchers to assess the impacts of workload on the quality of clinical services from the perspectives' of pharmacists.

**Purpose/Methods**

To evaluate the trends between the dispensing workload and the quality of clinical pharmacy services in outpatient pharmacy of hospitals in Taiwan, we analyzed the volume of prescriptions and spontaneous reports from the databases of 8 hospitals under Chang Gung Medical Foundation from January 2010 to August 2016 in Taiwan. We defined the daily number of outpatient prescriptions per pharmacist as dispensing workload. Two indicators were used as the definition of the quality of clinical pharmacy services, one is a positive indicator, the daily number of cognitive pharmaceutical services provided to doctors by each pharmacist, and the other is a negative indicator, the daily number of dispensing errors caused by each pharmacist.

**Results**

We included 218 outpatient pharmacists with a total of 37,324,697 prescriptions during the study period. The daily pharmacist's dispensing workload increased from 96.1 to 109.4 prescriptions between 2010 and 2016. Two indicators of the quality of clinical pharmacy services were both positively correlated with dispensing workload. The daily number of cognitive pharmaceutical services provided to doctors by each pharmacist and dispensing errors caused by each pharmacist both increased from 27 services to 28 services 100,000,000 prescriptions and 5 errors to 14 errors per 100,000,000 prescriptions, respectively.

**Conclusions**

We found cognitive pharmaceutical services and dispensing errors were both positively correlated with the dispensing workload of pharmacists; however, it may reflect the fact that the increased dispensing workload may exert more impacts on dispensing errors based on the our findings.

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**Investigation of effectiveness of an innovative design "Stoma Cleaner" for tracheostomy users**

**CHEN Ying-Li, LEE Cheng-Yung**

**Introduction**

With the advent of medical technology, people can survive well with the tracheotomy tube. Currently, there are various designs for specific treatments. The evidence indicates sputum or saliva can be discharged through tracheostomy tube more easily than orotracheal tube. However, patients frequently get respiratory infections and hospitalization caused by sputum or saliva retention around stoma area. We design a sputum collector "Stoma Cleaner" (SC) which is connected to tracheostomy tube and intended to reduce sputum retention and avoid infection.

**Purpose/Methods**

A total of 20 nursing residents were introduced to use Stoma Cleaner (SC) in January to June 2016. These subjects were well

informed of and instructed how SC functioned and managed. A thorough survey was made including satisfaction, comfortability, convenience, and accessibility in July 2016.

### Results

After 6-month use, the survey revealed positive feedback. Compared to old fashion designs, the subjects responded 96% satisfaction, 92% comfortability, 94% convenience, and 89% accessibility.

### Conclusions

The results indicate the Stoma Cleaner is significantly better than the others. That is, this positive feedback implies infected experiences is very common among tracheostomy users. Concerning the safety of patients and users, the improvement of stoma clearance probably reduces infection. If possibly being promoted in the hospital, the stoma design makes benefits especially better health quality and safety.

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## Session M2.2: Migrants' health and alternative forms of health services

### Health Check-up Support Improved Health Associated Motivation in Beneficiaries of Basic Livelihood Act; The Coalition Experience of SMG-SNU Boramae Medical Center\_(SMG-SNU BMC) with Three Districts' Self-Help Centers in Seoul

**LEE Jaekyung, OH Bumjo, KIM Ji Won, SON Hwancheol, KIM Byeong Gwan, KIM Sookyung**

#### Introduction

Low economic status is an important determinant of access to health care. It has potentially deadly consequences as it hampers early detection of major diseases such as cancer. Besides, the economically disadvantaged tend to show low level of motivation to improve their own health.

#### Purpose/Methods

We aimed to provide health check-up to conditional beneficiaries of national basic livelihood act (Korean-CBNBLA), those who receive the subsistence on the condition that they participate in the regional governments' self-support projects. Welfare officers selected volunteers in three districts of Seoul (Dongjak-gu, Gwanak-gu and Geumcheon-gu) and referred them to SNU-SMG BMC. The hospital's social work department supplied the budget for check-up: participants paid only a minimal amount, if needed. We screened and diagnosed, and

treated adult diseases so that they can maintain sound health condition with proper insight.

### Results

42 participants (33 females and 9 males) received the health check-up in 2015. The mean age was 51.33 years old. The mean charge was 370USD per person. The hospital paid 14,230USD and the examinees paid 32USD per person in average. 86.5% of participants found a certain disease or condition and 92% of them were satisfied with the service they received.

### Conclusions

Through this program, they could screen their diseases and receive tailored consultation to enhance their insight into health. Participants with abnormal result were referred to the specialist for further management. Budgets and shortage of time were limitations to access additional diagnosis and treatment.

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## Discussion on professional volunteer service in hospital

**XI Xiaolei, ZHANG Xiaobo, XIA Qing**

#### Introduction

Voluntary service is the organization behavior, through various kinds of service action to realize and reflect its own service and contribution to the cause of the society. The hospital volunteer service as an important social support for children and families voluntarily, plays an important role in the communication between the hospital and the public, and promote the integration of social resources and services to patients and their families, has its unique features to build a good doctor-patient relationship.

#### Purpose/Methods

Carry out "365" volunteer service in the hospital, every volunteer use their professional knowledge to guide and help children and parents to complete the reservation, diagnosis and treatment. Put forward suggestions to improve the patient experience and satisfaction.

#### Results

"365" volunteer service team has been established for four years, the cumulative volunteer hours more than 4 thousand hours, put forward suggestions and opinions on the more than 600, more than 500 members in the volunteer to carry forward the spirit of "dedication, friendship, mutual assistance and progress, the popularity of the concept of voluntary service, deepen the volunteer service work. Activities to get the children's families, the community and the medical staff's appreciation.

#### Conclusions

Carrying out professional volunteer service in hospital is beneficial to improve the quality of hospital service, promote the public awareness and understanding of hospital and medical workers. It will promote the harmony between doctors and patients.



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## Alternative forms of health services

### YLITÖRMÄNEN Tuija

**Introduction**

The aging of the population, the increase of health care expenditures and the limited financial resources emphasize the need for further development and reorientation of health services. To ensure the availability of services in the future new and alternative forms of services must be produced, such as mobile and electronic solutions. South Karelia Social and Health Care District in Finland (Eksote) has reorganized and developed its services. It produces health services, family and social welfare services that promote health and wellbeing to its residents within the region.

**Purpose/Methods**

The purpose with the alternative form of services is to reduce inequality, enhance client centered care, promote participation and support self-care. Electronic services which can be accessed from home and facilitating easy services are being developed systematically for an online service portal. The residents can e.g. discuss with a health care professional via a safe messaging system, book appointments and find self-care support information on the web portal.

**Results**

The new services have been received well by the residents. The mobile services support the operation of the wellbeing centers and low-threshold service centers. Clinic vans provide nursing, oral health and laboratory services to the district's remote areas and an operating model has been developed, where urgent care, prehospital care stand-by and home care services are provided at home as needed. The number of users of Eksote's online safe messaging system in 2016 is about 26 900, which is 5% of all the outpatient visits in primary health care. The utilization rate of the clinic vans is yet about 1-2%.

**Conclusions**

More emphasis is placed on health promotion and self-care in the future. The residents will take more responsibility of their own health and well-being and therefore a variety of social and health care services is needed. However, further support and guidance to the alternative forms of health services is highlighted.

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## Establishing a state-national clinic for illegal immigrants In israel

### GAMZU Ronni

**Introduction**

Since 2009 Israel was flooded with illegal immigrants from Sudan and Eritrea, most of them (tens of thousands) inhabited in the Tel Aviv area. According to the Israeli healthcare Act they are not entitled to any health services besides emergency treatment once a person approaches a public ER. These circumstances developed to a burden on public hospitals in the Tel Aviv area as well as inappropriate community care and public health.

**Purpose/Methods**

To develop a state national clinic that will provide all necessary community medical care as well as specialists in chosen medical fields that offers high quality, reasonable access within the center of the immigrants living area, funded by the ministry of health and operated by a medical private provider.

**Results**

The clinic was established in 2013 and now serves a population of more than 50,000 persons with around 27,000 active medical records. It provides around 4,000 patient encounters or medical procedures a month, concluding 2016 with approximately 45,000 encounters. Besides GP's there are around 40 specialist some are volunteers that assist in the consultations. Eritreans are employed in the clinic and assist in translation and cultural issues. Mother and child clinic and public health services are as well accessible.

**Conclusions**

In countries with illegal immigrants that the law does not provide entitlement for medical services, still is the duty of ministries of Health to provide medical services and allocate the resources from the moral standpoint and the duty to maintain public health.

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## Session M2.3: Maternal and child health promotion

### Effects of yoga on stress, stress adaption and heart rate variability among career women in Taiwan - A randomized controlled trial

#### SHIU Shau-Ping, LIN Shu-Ling, TENG Heng-Yi

**Introduction**

The work-related stress directly affects the physical and mental health of career women, and indirectly the organization and even the family member they care for. This study was to examine the effects of yoga exercise on work-related stress and stress adaptation among career women.

**Purpose/Methods**

This is a parallel-arm randomized controlled trial comparing the outcome of participants who were randomly assigned to the



experimental group (yoga, with 30 participants) with the outcome of those assigned to a control group for 12 weeks. The participants attended a regular 90-minute yoga class once a week. We measured work-related stress relief, stress adaptation and autonomic nerve activity improvements after classes.

### Results

The results showed that participating yoga classes experienced a significant reduction in work-related stress ( $t = -6.25$ ,  $p < 0.001$ ) and a significant increase in autonomic nerve activity ( $t = -2.79$ ,  $p = 0.006$ ). In addition, compared to the control group, the participants in the yoga group significantly decreased their work-related stress ( $t = -3.26$ ,  $p = 0.004$ ) and significantly increased autonomic nerve activity when controlling the pre-test scores of work-related stress.

### Conclusions

After participating in 12 weeks of yoga classes, career women experienced a reduction in work-related stress and an increase in autonomic nerve activity. They were able to relax and feel calm from the structured questionnaire of measured responses. These results can be used to help other related career women to reduce their work-related stress and balance of sympathetic and parasympathetic nerve activity.

### Comments

Yoga is an effective activity for career women to help decrease stress and improve their health status. Medical institutions may consider offering regular yoga classes for career women as a means to assist them in learning skills of physical, mental, spiritual relaxation, and this can promote quality of care to their workplace and family members.

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## All-Encompassing Healthcare for Menopausal Women—The Experience of a Community Hospital in Taiwan

**JOU Hei-Jen, CHIEN Pei-Li, CHOU Li-Yun, SU Chu-Hui, CHEN Shih-Ming, LING Pei-Ying**

### Introduction

The population of peri- and postmenopausal women increase rapidly in our aging society. Menopausal women face many biological and psychological problems associated the rapid decline of female hormone, including menopausal symptoms (ie. hot flushes, mood swings, palpitations, night sweating), as well as late biological changes associated with menopause (ie. bone loss, atrophy of skin, atrophy of urogenital system). Providing an all-encompassing health care service to improve life quality is an important issue for peri- and postmenopausal women. The health promoting services include screening for cancer or chronic diseases, and giving psychosocial support for peri- and postmenopausal women.

### Purpose/Methods

We integrated the resources of the hospital to provide all-encompassing services for postmenopausal women, including hormone therapy clinics, clinics for cancer screening and osteoporosis screening, nutritional counseling, exercise program, and self-growth group.

### Results

The menopausal clinics provide hormone therapy, cancer screening, osteoporosis screening and counseling on nutritional supplements for peri- and postmenopausal women. The exercise programs are designed to build physical strength and endurance, prevent muscle loss and bone loss, prevent frailty, and improve balance. The self-growth group provides group activities for social interaction, psychological support, and empowerment.

### Conclusions

The all-encompassing strategies work effectively for health promotion and maintaining the quality of life of peri- and postmenopausal women.

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## The trend of antenatal screening tests for Down's syndrome: The experience at a community hospital in Taiwan

**JOU Hei-Jen, HUANG Hsu-Kuang, CHEN Shih-Ming, LING Pei-Ying**

### Introduction

Antenatal diagnosis of Down syndrome is an important issue of antenatal care. The diagnosis depends on invasive procedures such as chorionic villus sampling (CVS) or amniocentesis which may be accompanied with severe complications. Therefore, several screening tests have been developed to identify the high risk pregnancies in order to reduce the need of invasive procedure. In 2015, a new non-invasive antenatal test (NIPT) with higher specificity was introduced to our hospital as a screening test for Down syndrome. Our purpose is to report the trend or revolution of the antenatal screening tests for fetal Down syndrome at our hospital.

### Purpose/Methods

We reviewed the registration databank at the cytogenetic laboratory of our hospital to record the number and the results of various antenatal screening tests for Down syndrome in the past three years, including integrated test (combined with first trimester serum markers and ultrasound measurement of fetal nuchal translucency), second trimester serum test and NIPT. We also reviewed the indications and results of amniocentesis, and the delivery book was reviewed to find the delivery of babies diagnosed with Down syndrome. The trend of the variant tests was then analyzed.

### Results

There was a clear trend that initially most mothers received integrated tests in the first trimester, and then more and more

mothers received NIPT after its introduction. During the same period, the number of amniocentesis decreased significantly.

### Conclusions

More mothers chose NIPT as a screening tool for Down syndrome in spite of its higher price. These results may indicate that both doctors and mothers expect a more precise screening tool to avoid unnecessary invasive procedure.

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## Level II Fetal Ultrasounds: Optimizing Prenatal Care at a Regional Community Hospital in Taiwan

**LING Pei-Ying, HSIAO Yu-Jie, LIN Kuan-Hung, JOU Hei-Jen, CHEN Shih-Ming**

### Introduction

About 3% of newborns are affected by birth defects, the leading cause of infant deaths. Ultrasound is the main diagnostic tool in the prenatal detection of congenital abnormalities. The majority of level II fetal ultrasounds / fetal anomaly scans are performed between 18 and 23 weeks for detection of fetal structural abnormalities. This important health promoting service should be available to all pregnant women for the promotion of the quality of both maternal and infant health.

### Purpose/Methods

We offer all pregnant patients at our regional community hospital a fetal anomaly scan conducted by Maternal-Fetal Medicine specialists. Our maternal / infant health promotion policy include giving patients information on availability / benefit of the exam at regular prenatal visits and monthly expectant mothers' classes. Exams are offered at an affordable and relatively lower cost. We calculated the proportion of prenatal patients undergoing fetal anomaly exams at our hospital during a 6-year period, 2000 to 2015.

### Results

We integrated the various resources of our hospital: outpatient prenatal care patient education by the obstetrician / nurse / health counselor, expectant mothers' classes, and fetal anomaly exams. Most of our patients undergo the fetal anomaly scan at our hospital, and are counseled and / or given appropriate referrals when fetal anomalies are detected. The rate of patients undergoing the fetal anomaly scan increased from 72.8% to an average of about 82% during this 6-year period.

### Conclusions

Our hospital's integrated maternal health promoting services aim at making level II fetal ultrasounds readily available to all pregnant women, resulting in the majority of our patients undergoing the exam. This exam helps expectant parents determine the type of prenatal care that may be required, and helps prepare the parents for the future of the pregnancy. We hope to not only sustain but also expand this maternal / infant health promoting service at our hospital.

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## A cohort study of postpartum weight retention risk factors in Taiwan

**SHAO Hsin-Hui, HWANG Lee-Ching, HUANG Jian-Pei, HSU Hsin-Yin**

### Introduction

Overweight and obesity are risk factors of numerous chronic diseases. Excessive postpartum weight retention is related to long-term weight gain, which affects the health of women. The purpose of this study is to identify risk factors of postpartum weight retention in Taiwanese women, thereby providing guidance for preventive strategies.

### Purpose/Methods

A cohort study involving 461 women who gave birth at a medical center in Taipei between March 2014 and March 2016 was conducted. The participants completed a questionnaire within 1 month of delivery, and their 6-month postpartum weight was tracked through email or phone calls. A chi-squared test and one-way analysis of variance were subsequently conducted to analyze the correlation between several variables and postpartum weight retention. Finally, multivariable logistic regression analysis was performed.

### Results

The results showed that the average gestational weight gain was  $12.8 \pm 4.1$  kg, and that 1-month and 6-month postpartum weight retention were  $4.6 \pm 3.5$  kg and  $2.1 \pm 3.3$  kg, respectively. Following the multivariable analysis, the variables significantly correlating with 1-month postpartum weight retention of over 4.5 kg included high gestational weight gain (adjusted OR: 1.92 [1.70–2.17]), low prepregnancy BMI (adjusted OR: 0.85 [0.77–0.94]), and lack of exclusive breastfeeding (adjusted OR: 0.55 [0.32–0.94]). The variables significantly correlating with 6-month postpartum weight retention of over 2 kg included high gestational weight gain (adjusted OR: 1.30 [1.22–1.39]) and lack of exclusive breastfeeding (adjusted OR: 0.37 [0.24–0.58]).

### Conclusions

Our study found that women with higher postpartum weight retention had higher gestational weight gain, lower prepregnancy BMI, and lower rates of exclusive breastfeeding. According to these results, we believe the key to reducing postpartum weight retention is to control gestational weight gain and engage in exclusive breastfeeding as much as possible.

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## The Function of Health Promoting Hospital for Children & Adolescent life style adaptation

### The Function of Health Promoting Hospital for Children & Adolescent life style adaptation

**KIM Kue Sook, LEE Ji Hong, LEE Yu Jeong, KIM Hyon Jung, LEE Mihye, BAG Jiwon**

#### Introduction

In 2014, the total population of the country increased by 2.1% from 50.442 million in 2010, while the youth population (9-24 years) decreased by 6.0% to 9,838,000. In 2013, 9.7% of elementary (16.3%), have drinking experience, while boys (25.2%) and girls (33.6%) have more use than other functions among elementary, middle, and high school students with mobile phones there was. Male and adolescents were mainly engaged in computer games (55.0%), watching TV and DVD (52.0%), while female teenagers watching TV and DVD (63.6%), social work (38.8%). These lifestyle habits affect the health status of the students. Therefore, this study aims to identify the health condition of students and to suggest a customized education and management plan accordingly.

#### Purpose/Methods

We analyzed 2,423 students who were enrolled in a health examination in 2016 at a hospital in Seoul to identify their actual health status.

#### Results

As a result of analyzing the student health checkups, 13.5% of all students were obese, and 13.0% were female students and 13.8% were male students. 4.1% of female students with vertebral abnormality, and 1.7% of male students. At the systolic blood pressure, 4.7% for hypertension suspicion group and 3.8% for hypertension risk group; at the diastolic blood pressure, 17.65% for hypertension suspicion group and 5.7% for hypertension risk group; showed higher rate on hypertension suspicion and risk group at diastolic blood pressure. In addition, 10.8% of skin diseases such as atopy, which is affected by living environment, and 13.7% of ENT diseases such as rhinitis.

#### Conclusions

The results of this study show that the students have a high prevalence of obesity, spondylosis, hypertension, skin disease and rhinitis due to smartphone usage and lack of exercise. It is necessary for individuals, families, schools and societies to have active cooperation and participation in healthy school building project by HPH so that the habits of youth can be changed in family life, school life, and social life.

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## Session M2.4: Promoting the health of the elderly

### Active Aging - Active program for Elderly Patients

**HAN Hui-Mei, WU Chin-Yen, CHUNG Min-Shan**

#### Introduction

Immobilization caused complications is common issue in elderly patients period hospitalization. The immobilization brought on body function decline, loss of independence, increased risk of chronic disease and mortality. However, many people consider bed ridden is useful for the disease stabilized and cure. Although, studies proved the activities improve physiological function, decrease the incidence of osteoporosis and decrease the mortality causes by cardiopulmonary disease.

#### Purpose/Methods

The active program was established by medical doctors, nurses, physiotherapist, and social worker. We performed this active program on internal medical patients who were ambulation with wheelchair after education to nurses about active program and elderly ambulation. This daily active program used the active equipment with bright color, combined music and exercise, the gift that participants could receive after redeeming reward points to encouragement elderly patients to join it. The active program was to be 30 minutes per session, five times per week. This program increased exercise intention, prevent immobilization complications, and promoting physical and psychological health status.

#### Results

Between August 15th and October 15th, 2016, 2696 patients join the program. By means of providing this program, 94% participants who were exercise over 30 minutes per day, 100% participants who keep or enhancing the muscle power of upper extremity more than 3 points, the satisfaction of this program was 96%, and these participants who never fall period hospitalization.

#### Conclusions

Clinicians have immediate access to the risk characteristics of elderly patients and help to provide preventative measures to decrease the risk of disability. The program supported by a team of medical professionals, who help the elderly to leave the bed and exercise. We used reward to increase the willingness. Promote the achievement of goals, physical and psychological health status of elderly and quality of life.

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## Age-friendly health care promotion, seniors pleasant life – the example of a community-based Catholic hospital in Taiwan

**LIAO Ling-Ling, CHAN Li-O, LIOU Wen-Chin**

### Introduction

St. Joseph Hospital passed the National Health Agency's "Age-Friendly Health Care Hospital" in Taiwan in June 2015, and we are fully committed to implementing this service philosophy.

### Purpose/Methods

"HAPPY" is the main core purpose of our 2016 Elderly Friendliness Program, which includes five major programs: Health: Encourage hospital staff to develop specific health care solutions from the perspectives of disease awareness, preventive health care, diet regimen, and mental health. Action: To help elderly people get active aging of knowledge and skills, and maintain good physical function and social participation. Program: To strengthen the professional skills training for senior citizens in health care, encourage the elderly to learn diversified health knowledge and participation in social activities. Play: Use role-playing to increase fun and organize an elderly life experience camp - "When I am old." Assist older persons in organizing senior health promotion groups. Younger: Let the elderly understand the new technology products, social networking platform, fashion and leisure trends, increase the interest of life.

### Results

1. In 2016, we held a total of 638 person-times in 4 social gatherings, 1 large-scale event, 9 study sessions and 1 senior life experience workshop. 2. Organize the "Happy Elderly Club", a monthly fixed-party experience sharing: "Eat Well", "Sleep Well", "Have Fun", and "Open Mind". 3. On Saturday afternoon, October 1, 2016, members of the "Happy Elderly Club", dressed up for themselves and gathered in the lobby of the MRT station. Suddenly, the sound of flute sounded from a corner "Amazing grace", everyone holding hands singing and dancing for a very interesting flash mod.

### Conclusions

Elderly is our learning object and example, what kind of care model is the most friendly and most elderly needs? The answer is that only elderly people can tell us. We should create a good platform, so that they can be happy to share, and create a happy participation process is very important.

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## Investigation of effectiveness of innovative "add on design" for wheel chair users to enhance quality of long term care

**CHEN Ying-Li, WU Chun-Chieh, YEH Kuo-Chi, WU Meng-Ping**

### Introduction

Wheel chairs are the most utilized assisting utensils other than beds for disabled individuals. Yet seldom innovative design meant to help them to achieve better quality of care. After close observation and brain storming, we developed an innovative "Add On Design" for wheel chair users to get more secured sitting position and capable to accommodate heat or cooling pad, massage pillow or vibration plate etc to accomplish rehabilitation or muscle massage without other person's assistance. It saves time for caregivers to work on other responsibilities. Unexpectedly, the care givers show more interest on "Add On Design" than the disabled wheel chair users.

### Purpose/Methods

We recruited each 35 wheel chair users from Home Health Care and Long Term Care Facilities from December 2015 to July 2016. Patients and their caregivers were instructed clearly how to use the "Add On Design" to assist patients underwent rehabilitation or massage. Their performance were monitored and corrected if there were any mistake monthly. It was readjusted and renovated 3 times as feedback from the users and the caregivers during the investigation. 2 satisfactory surveys were performed during the readjustment and renovation period of investigation.

### Results

The rate of recovery of satisfactory surveys were both 100%, the satisfactory rate friendly operation, safety, comfort ability, satisfaction of material and overall satisfaction all raised from 88.5 to 97.5%, 91.5% to 96.5%, 89.0% to 97.5%, 92.0% to 98% and 93.0% to 99.0% respectively. The results seems so encouraging that we are planning to spend more time to elaborate a better "Add On Design" to wheel chair users.

### Conclusions

"Add On Design" gives actual assistance to wheel chair users' more secure on sitting position and rehabilitation. It also provide more free time and hands to caregivers to work on their other responsibilities. It is not surprised that the care givers show more interest in "Add On Design" than the wheel chair users.

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## An exploratory study of "Integrated home care program" reducing hospitalizations and emergency room visits in the elderly

**LIN Chia-Hsuan, CHEN Ming-Chen, HO Chin-Yu, KO Yun-Chen, LEE Jiunshiou, YU Wen-Ruey**

### Introduction

Aging population became an important issue worldwide. More and more elderly people became disable and had problems to go



to hospital due to physical restriction and lack of family support. A whole new service model of "integrated home care program" was set up in Taiwan. In addition to the existing home care services, physicians could prescribe in patient's residence during home visits.

#### Purpose/Methods

The objective of this study is to analyze the impact of this whole new home care services program on elderly. The "integrated home care program" was set up in March, 2016 in Taiwan. Elderly ( $\geq 65$  years) with physical disabilities and medical needs were enrolled in our analysis from March to July of 2016. Hospice cases, mortality in a short period, hospitalizations for rehabilitation or scheduled procedure, emergency room (ER) visits for catheters replacement were all excluded. We compared the total numbers of hospitalizations and ER visits within 3 months before and after the program intervention.

#### Results

A total of 116 subjects, mean age 84.7 years old, female/male 77/39, and cerebrovascular accident was the most common primary diagnosis. After receiving "integrated home care program", hospitalization was reduced from 56 to 35, ER visits reduced from 54 to 37. We found a 37.5% and 31.5% clear reduction in hospitalizations and ER visits.

#### Conclusions

"Integrated home care program" reduced the rate of hospitalizations and ER visits in elderly people with physical disabilities and medical needs. More prospective studies are needed to evaluate the exact factors of "Integrated home care program" on lowering hospitalizations and ER visits.

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## Setup a home-based medical environment for the elder patients can effectively and sustainability rehabilitation after spinal surgery

**YEN Ya-Hui, CHEN Hui-Guan, LIU Hui-Ling, CHUANG Shu-Ting, CHIEN Sou-Hsin**

#### Introduction

The elderly population in Taiwan has reached 12.8%. More than 80% of patients undergoing spinal surgery are elderly. Patients need to do rehabilitation for body balance and muscle strength training after surgery. However, 45% of the elderly cannot be sustained rehabilitation due to lack of motivation. We setup a home-style living room in the ward for patients could enhance motivation for rehabilitation effectively and establish safe activities habits.

#### Purpose/Methods

For enhancing the safety activities of patients after surgery, and sustain rehabilitation after discharge. We setup a home-style living room in the ward where has rehabilitation tools, such as simple stairs, balance bar with cushion board. On the wall, we display posters to show how to perform physical activity

correctly. Auxiliary equipments are provided. Nurses and rehabilitation therapists will join and instruct. There were 182 of participants in this study since March 1 to June 30 in 2016.

#### Results

The questionnaire analysis results showed the satisfaction of medical environmental facilities increased from 90.6% to 94.7%. The satisfaction of health care service increased from 94.2% to 97.3%. The average length of hospital stay was reduced from 7.5 days to 5.6 days. Most importantly is the incidence of falls was reduced from 0.19% to 0.09%. Overall, there were significant improvements in satisfaction of medical environment and services; also the length of hospital stay and the incidence of falls were decline.

#### Conclusions

The rehabilitation unit was modeled as a living room and setup in the ward. It could save the time for patients from rehabilitation to the ward also the elders can be gathered in there do interact, share experiences and encourage each other to motivate individual activities. In virtually, the elders constructed a continuous rehabilitation habits for discharge also shorten the length of hospitalization and enhance the safety activities for quality of life.

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## Session M2.5: Patient health promotion

### Reducing pain after surgery, a simple intervention program

**BLOCH Yuval, SELLAM Iris**

#### Introduction

Assuta Medical Centers regularly conducts telephone follow-up calls to all post-operative patients discharged from the hospital to ensure patients' recovery and to identify signs requiring urgent medical attention. Previous analysis of follow-up calls has revealed that the most frequently reported warning was surgery-related pain after hemorrhoidectomy and anal fissure repair (H&A). Further examination of patients' records showed that most patients did not receive a written prescription for pain management. In more than 60% of cases the discharge letter only instructed the patient to take "pain killers according to need", and some did not address pain management at all.

#### Purpose/Methods

We constructed a protocol for pain management after H&A by reviewing the medical literature in this field and consulting with experts. The protocol was validated by the Department of Clinical Pharmacology of Assuta. Next, we printed a prescription form listing all recommended treatments. The main form had 2 detachable appendices: one containing instructions to the surgeon and the other containing patient information. The form is attached to the patient's file. During patient admission, the surgeon is requested to sign the prescription. The prescription is

administered as part of the nurse-patient education during discharge.

### Results

An intervention program was initiated in 2014, first as a pilot, and then activated throughout the Medical Centers' network. An analysis of the latest follow-up data showed a decrease of 45% in pain-related alerts after H&A compared to data collected before the intervention.

### Conclusions

We introduced a simple yet effective strategy for improving pain management in surgical patients. Because the intervention is based on an administrative strategy (i.e. a readymade prescription that is incorporated into the admission procedure) rather than on staff education alone, we believe that the program's positive effect will be prolonged and constant.

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## Kaohsiung Veterans General Hospital Patient-centered interventions to improve medication reconciliation by Implementing NHI-PharmaCloud

**CHIN Yu-Chieh, LEE Chi-Tai, LEE Eric Kin-Lap, CHENG Jin-Shiung**

### Introduction

The Taiwan National Health Insurance healthcare system, promises equal access to healthcare for all citizens. However, some patient visit the doctor frequently than need, some healthcare providers took advantage of the system by offering unnecessary services to patients and then billing the government. VGHKS has implemented patient-centered interventions using NHI-PharmaCloud, an online system designed by the Taiwan NHI of that could help to improve medication reconciliation effectively.

### Purpose/Methods

The study aim is to evaluate how the system could be used to provide a safer drug usage and correct medication for patients at all transition points in VGHKS. Firstly, we facilitated the access of computer operation for physicians. Furthermore, we provided several health education lectures about medication reconciliation and encouraged the public to participate such an innovative medical and educate our pharmacists to put it into practice certainty. Drug related problems and medication problems were collected and analyzed.

### Results

After implementing this service, the access rate of NHI PharmaCloud among the health-care providers i.e. doctors and pharmacists has significantly increased up to 76%. Also, about 986 patients were followed and were undergoing the medication reconciliation and about 110 problems were found in which the majority of them was excessive drug dosage. Through the pharmacists' effort, 40% of medication problems were well-tackled.

### Conclusions

Recently, the awareness of necessity of patient-centered care has been gradually recognized. VGHKS, which is a 1500 -beds Government hospital, has an responsibility for guaranteeing patients' safety. After our efforts to patient-centered care by utilizing PharmaCloud, the achievement can be found in our results. We hope we can consummate our medical care to develop a safer medical environment for all the patients in the future.

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## Effectiveness of BSRS-5 in high suicide risk patient care-An example for Taipei TzuChi Hospital

**CHEN Chu-Yueh, LIU Yi-Ting, WU Chiu-Feng, CHAO You-Chen**

### Introduction

Many factors involved in suicide none of the single factor can explain the variability. Our study is designed for "selective" and "indicated" segments, utilize "Brief Symptom Rating Scale - 5"(BSRS-5 see attachment) as a tool to screen and identify high suicide risk inpatient, provide immediately intervention and care.

### Purpose/Methods

Used BSRS-5 a self-administered questionnaire, to evaluate five psychiatric symptoms (Feeling tense, Feeling blue, Feeling easily annoyed or irritated, Feeling inferior to others, Trouble falling asleep) let patients recall the past 7 days (including assessment day), the degree of distress or disturbance, For suicide prevention, a supplemental independent question to evaluate suicidal tendency, screened inpatient (except psychiatric inpatient), 1st evaluation will be conducted within 8 hours after admission. If the total score of the first 5 questions  $\geq 10$ , or the 6th question  $\geq 2$  then the system will alert the doctor for more emotional care, and provide interprofessional practice.

### Results

Screened patients were 5,044, the screening rate was 92.1% of the total inpatients, excluded those can not be assessed and invalidated data, the effectively screened 4,301 patients, including emotional distress  $\geq 10$  (157), suicidal tendency  $\geq 2$  (73) and combined emotional distress  $\geq 10$  and suicidal tendency  $\geq 2$  (45). Invited psychiatric physician, social worker and psychologist to provided consulting and treatment. For the same emotional distressed patients when discharged, emotional distress  $\geq 10$  (70) persons) suicide tendency  $\geq 2$  (46) for combined emotional distress  $\geq 10$  and suicide tendency  $\geq 2$  (28), Both emotional distress and suicide tendency rates are reduced significantly.

### Conclusions

The BSRS-5 scale was used to provide a clear understanding of the mental state of the inpatients and their care needs. Proved that this team and method effectively reduced emotional distress factors, increased problem solving and of psychological and physical adaptabilities.

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## Reward has long Term Effect on Improving Referral to Smoking Cessation

**WU Hsien-Lin, LEE Hsiang-Lin**

### Introduction

Identify and motivate smokers to quit smoking followed by referral is suggested in guidelines. The task was conducted by physicians and nurses. The computer system may assist in this work. Our computer system requires the physician to identify smokers before completing records. Once smokers expressed willingness to quit smoking when asked about it and recorded on system. The system will print out a referral sheet to our stop smoking unit. However, clinicians are not ready to do this work at our hospital.

### Purpose/Methods

To identify if reward those who referred smokers to cessation intermittently will have long term effect on referrals. We reward nurses and physicians with money once in last year and once more this year. The amount of referral to smoking cessation unit was recorded every month. To find out if reward intermittently has long term effect on referral.

### Results

The number of referrals increase rapidly after the first reward and lasting all the year. After the second reward, further increase was seen.

### Conclusions

Intermittent rewards are helpful to increase smoking cessation referral and has long term effect.

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## Session M2.6: Workplace health promotion

### Hospital assists employees of enterprise in health promotion

**TSENG Chi, TSENG Jui Mei, YANG An Ko, CHUO Ying Hsiang, HUANG Hui Ting**

### Introduction

With the changing of social forms, the types of business are diversified. In addition to manufacturing, a variety of services compose new business models. Employees' health affects not only the productivity, but also affect the quality of service. To

create a healthy workplace can reduce costs, increase the output value, boost staff morale and enhance corporate image. Health promotion requires a variety of medical care and physical specialties, however most of general enterprises lack of medical care professionals.

### Purpose/Methods

The health promotion needs of employees were sought out by the enterprises. Company A, average age of employees is about 35 and lacking of exercise. There are beverages and snacks vending machines in their workplace. Taiwan Adventist Hospital Gym hold 12 exercise courses in the company in 3 months. The dietician classified vending machine food to red, yellow, green lights, and the information was posted up beside the machines. Company B, average age of employees is about 59 and 49% BMI > 27. Our team provided some diet, exercise and fitness courses and designed 1500 calorie diet menus.

### Results

Company A: Sixteen employees joined in all 12 exercise courses. Exercise more than 3 times a week is from 13% to 40%. 47% felt physical pain mitigated. The red-yellow-green light posters indeed influenced employees buying decisions and the vendor replaced some healthy items. Company B: 31 employees before and after test results showed that average weight loss was 1.2 kg but not significantly (P=0.08). The average waist decreased 4.3 cm significantly (P=0.00).

### Conclusions

This hospital-enterprise cooperation provided professional and diversified health promotion activities which were in line with employees' needs. Employees could also enjoy a healthy workplace and learned how to live a healthy life style easily. We look forward to more hospitals and enterprises to work together for the health of employees.

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## The effectiveness of the TCHP in implementing the Workplace Health Promotion Management Program

**LAI Chiu-Jung, LIU Huang-Yin, LIAO Men-Hua**

### Introduction

Since in 2005, Tzu Chi Hospital has adhered to the philosophy of "Protecting Life, Guarding Health and Protecting Love" by Master Cheng Yan. He has also cooperated with the Occupational Safety and Health Administration of the Government and the relevant labor units to implement the Workplace Health Promotion Management Scheme. According to the Ottawa Charter for Health Promotion: Health promotion is a process that helps people better understand and improve their health. Through the three-level five of the prevention, protection, health education to promote staff physical and mental health and ensure workplace safety.

**Purpose/Methods**

The establishment of committees and executive officers, the implementation of occupational health promotion operations in four broad categories: 1. Secondary prevention and medical care 2. Special protection, including maternity protection programs, human hazards, the implementation of their duties suffered unlawful abuse, abnormal workloads to promote disease, Noise and free radiation 3. Disease prevention 4. Health promotion activities.

**Results**

The results of health examination showed that BMI, waist circumference, blood glucose before meals, total cholesterol and liver function were higher than the standard. A total of 25 noise detection, three were included in the three management, site visits and the hearing protection of workers with the use and inspection guidance. For health promotion activities, the average satisfaction of each event 88% -92%

**Conclusions**

Employees are the most important asset of the organization and implement the Workplace Health Promotion Management Program, which not only protects the health of workers and enhances the quality of the organization. To employees, to provide a safe and healthy working environment, full of love in the atmosphere of work, can improve staff morale and quality service, and the establishment of the body is the image of caring, and health promotion hospital for the purpose of the goal.

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## The Impact of “AssutActive” interventional program on job satisfaction, burnout level, lifestyle choices and perceived health condition of a hospital’s personnel

**BRONNER Karen, NASER Achmed,  
MORAN Daniel S.**

**Introduction**

Insufficient physical activity is one of the 10 leading risk factors for global mortality and a well-recognized risk factor for the onset of a wide range of chronic diseases. A health risk assessment carried out among the employees of Assuta Medical Centers revealed that only 15% of the staff adheres to the medical recommendation of performing at least 150 minutes of moderate-intensity physical activity per week. In light of this finding, an interventional program, named “AssutActive”, aimed at offering free group training to Assuta personnel, was implemented.

**Purpose/Methods**

To assess the influence of participation in the “AssutActive” intervention on job satisfaction, burnout level, lifestyle choices and perceived health condition, to compare these parameters in active and non-active employees, and to identify barriers for non-adherence to the program

**Results**

Compared to employees who did not participate in the program, the active group had higher workplace satisfaction level ( $p < .001$ ), lower burnout and fatigue levels ( $p < .01$ ), better perceived health ( $p < .01$ ), lower body mass index ( $p < .05$ ), fewer chronic diseases and lower drug consumption ( $p < .01$ ), lower consumption of alcohol and tobacco products ( $p < .01$ ), healthier eating and sleeping habits ( $p < .001$ ), and higher engagement in physical activity beyond work hours ( $p < .01$ ). The main barriers for non-participation in the program were an unsuitable lesson schedule (62%), lack of desire for physical activity (61%), lack of time (53%), fatigue (44%), prior family commitments (39%), non-payment for activity time (35%), and unawareness of the program (27%).

**Conclusions**

The hospital proved to be a successful setting for promoting active living. Creating a work environment that promotes physical activity resulted not only in fostering engagement in physical activity during work and leisure, but also had a positive impact on individuals' mental health and adaptation of a healthier lifestyle.

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## Hospital Employees’ Exercise Program with Minimal Guidance Improved Well-being Sense and Fitness.

**KIM Jihyun, LEE Jaekyung, SEONG  
Yongwon, PARK Minhyun, SON  
Hwancheol, KIM Byeongwan**

**Introduction**

Hospital staffs are often exposed to physical and emotional challenges during the work. The lack of exercise can decrease their fitness and increase the risk of adult diseases. The shortage even can curtail their work satisfaction and the quality of life. Besides, work place self-help projects can cause additional stress to the participants, especially when the goal is too high.

**Purpose/Methods**

The main purpose of this program is to encourage participants' attendance, to reduce weight, to improve the physical development score and the well-being sensation of hospital staffs. Thirty-three volunteers applied to the program by intranet mail. They performed baseline InBody<sup>®</sup> measurement and psychological general well-being index (PGWBI) questionnaire and set as primary goals. They were encouraged to consume more than 300kcal/visit more than three times a week during the 10 weeks' program. Participants used aerobic exercise equipment in the staff health training center and recorded the calorie consumption on the progression chart per visit. Individuals were encouraged to have a sense of achievement and royalty by self-recording while the team shared the progression record. They had InBody<sup>®</sup> test and a progression report with a reward coupon at 6th weeks. After 10 weeks of exercise, closing

test was performed in the same manner as the baseline. Mostly improved 10 participants got rewards by goal achievements.

### Results

Twenty-one participants completed the program by attending 24 or more sessions during the program (more than 80% attendance). The average body weight was reduced by 2.76 kg, body fat was decreased by 1.82 kg compared to the pre-exercise profiles, Physical developmental score increased by 0.42. The PGWBI score was increased by 9.29 points.

### Conclusions

Through this minimally guided exercise program, the physical status and satisfaction of the hospital staffs were improved. To set achievable goal and light encouragement from the team leader and peer-group is guarantee to complete the project.

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## Can watchful eyes help workers lose weight?

### LIU Hsiu-Chin

#### Introduction

Obesity is a risk factor for cardiovascular disease and work absenteeism. In response to this health concern, workplace health-promotion programs have become increasingly common. This project implemented a workplace weight-loss program to maintain a healthy weight, thereby optimizing productivity and reducing absenteeism. In doing so, this project investigated whether daily monitoring of a person's weight impacted their weight loss.

#### Purpose/Methods

To test whether increased monitoring frequency can motivate overweight workers to efficiently lose weight, we implemented a workplace exercise program. The project duration was 12 weeks, during which time two diet lectures were provided to both groups. The following procedure was followed: 1. Group A (N=17): checked body weight daily; required to climb stairs from the 1st to 7th floor (2 to 7 times daily) or walk 5000~15000 steps, both increasing incrementally over 12 weeks. Body weight and exercise were checked in person daily by the company's nurse. 2. Group B (N=66): free to create their exercise plan; body weight checked weekly, and data emailed to wellness center.

#### Results

We found that monitoring body weight and exercise daily was effective in motivating overweight workers to lose weight. The results are as follows: Group A: achieved an average weight loss of 4.8kg, with average reductions in: triglycerides (18), cholesterol (2.3), GPT (0.7), and LDL (0.2); increased HDL (2.0). Group B: achieved an average weight loss of 3.4kg; however, other reductions occurred only for cholesterol (1.3).

#### Conclusions

This study demonstrated that monitoring is effective for reducing weight, triglycerides, GPT, cholesterol, LDL, while increasing HDL. Accordingly, the company wellness center is actively promoting this program company-wide. The experience gained from this

project suggests that such programs should be implemented as an integral part of a company's corporate culture.

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## Effectiveness of the "Healthy Mackay Staff Image" Contest

**LEE Shu-Chen, HUANG Wei-Hsin, LIN Hsiu-Mei, HWANG Lee-Ching, LIANG Li-Jen, CHEN Yu-Hua, HU Nai-Fang, CHUANG Jui-Yun, CHANG Chia-Mei, CHEN Chiu-Chen, CHANG Betty Chia-Chen**

#### Introduction

Staff are the most important investment of the hospital, and are the main promoter behind a HPH. Therefore, hospital should not only care for the patients' health, but the health of the staffs as well. Our hospital's community health center collaborated with the occupational safety division in holding the "Healthy Mackay Staff Image" contest in hoping each division in the hospital will lay the foundation for a healthy workplace.

#### Purpose/Methods

The aim of this project is to encourage staffs to maintain healthy habits and create a healthy workplace by inducing the concept of weight management, and exercise. The first phase was promoting the idea to staffs. The second phase was participant enrollment and initial evaluation. The third phase was the actual activity, which lasted 8 months. The final phase was assessment of the final outcomes. Prize money was given to those with outstanding results, and bicycles were also provided as raffle prizes for the participants.

#### Results

A total of 820 people signed up for the event. Results found that health status increased by 0.19 point and psychological status increased by 0.44 point, both reaching statistical significance. A total of 1487.8kg of body weight was lost, on average 1.81kg per person. We also found participants to have less late-night supper habit (-0.09 point), snacking habit (-0.14 point), beverage drinking habit (-0.11 point), more food label checking habit (+9%), low-calorie food selection (+15.1%), vegetable eating habit (+0.07 point), fruit eating habit (+0.12 point), exercising habit (+0.25 point) and exercising time (+4.3 min), all reaching statistical significance.

#### Conclusions

"Healthy Mackay Staff Image" contest helped improve the physical health, psychological health of staffs. This activity had the most number of participants among all previous health promoting activities. In the future, we wish to continue this tradition and further stress individualization of the health promoting activities for each division.

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## An Exploration of Compassionate Care at Hospice Units in Taiwan

**CHEN Meihui, YANG Mei-Lin**

### Introduction

This study was motivated by the researcher's experience of working in end-of-life care and by the literature review which revealed a gap in the knowledge and understanding of the role of nurse in managing the life-limiting illness in Taiwan.

### Purpose/Methods

**Purpose:** The purpose of this study to conduct a systematic review to help us to understand the following issues: What is nurse' roles in hospice palliative care? How is the nurse' roles in hospice palliative care? **Methods:** A systematic review was undertaken in 2016. Studies of English and Chinese language publications related to hospice palliative care and nursing. An electronic search was conducted including the databases CINAHL (Cumulative Index of Nursing and Allied Health), PUBMED, MEDLINE, Social Science Citation Index, and Taiwanese and Chinese databases. I use "PRISMA 2009 Flow Diagram" to help me to select the critical reviews. This 34 paper is final identifying related studies.

### Results

13 of these 34 articles talk about nurses' compassion in hospice palliative care. Most of them are qualitative study. These 13 articles related to nursing compassion in hospice palliative care, including the following four themes.

### Conclusions

Data collection used semi-structured face-to-face interviews. Theoretical sampling was used to recruit participants with working experiences in clinical end-of-life care. It recommends that the findings inform the future education of nursing students and staff in hospice end-of-life care in Taiwan.

### Comments

Compassionate care is an important role in hospice palliative care, hospice nurse play an important role in compassionate care. An appropriate end-of-life curriculum of hospice palliative training program is very important in the future.

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## Session M2.7: Mental health and psychiatric care

### Exploring Relationships among Uncertainty, Social Support and Hope in Hepatoma Patients

**SONG Truey-Yeh**

### Introduction

Patients with hepatoma are often suffering from much physical and psychological impact in the disease course. Hope is an effective coping strategy for facing the serious pressure or crisis, and is possible to affect the quality of the life for cancer patients.

### Purpose/Methods

The purpose of this study was to explore relationships among uncertainty, social support, and hope in hepatoma patients. This study used the cross-sectional design with convenience sampling. One hundred and six subjects with hepatoma under hospitalization were recruited from one medical center in Taipei from January, 2013 to December, 2014. Instruments were structured questionnaires including: Personal Demographic Data, Mishel Uncertainty in Illness Scale, Social Support Scale, and Chinese Version of Herth Hope Index. The questionnaire results were statistically analyzed by SPSS20.0 software. Measurement data and categorical data were shown. The collected data was analyzed by descriptive statistics, Pearson product-moment correlation, independent t-test, one-way ANOVA, and multiple regression.

### Results

The results indicated that: (1) The level of hope was medium ( $M=32\pm5.4$ ); the level of uncertainty was medium ( $M=65\pm12.3$ ); the level of social support was above the medium ( $M=64\pm10.5$ ). (2) Uncertainty was negatively correlated ( $r=-.78$ ,  $p<0.05$ ) to hope. (3) Social support was positively correlated ( $r=.63$ ,  $p<0.05$ ) to hope. (4) There was no correlation between uncertainty and social support. (5) The significant predictors of overall hope were, social support, religion and disease status. These three predictors explained 60.4% of the total variances in overall hope. Social support was the best predictor and explained 40.1% of the total variances.

### Conclusions

The results of this study could help nurses to understand the level and relationships among uncertainty, social support, and hope in hepatoma patients. It could also provide guidance to interventions in clinical care and research in the future.

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## Health promotion project for chronic psychiatric patients

**KUO Mei-Wen, CHANG Heng-Ming,  
HUANG Wen-Ling, TENG Heng-Yi**

### Introduction

Oral hygiene is often ignored by psychiatric patients. Studies indicate that poor oral hygiene is a common and serious problem among psychiatric patients and is needed to be prevented and intervened. This project aims to improve oral hygiene of chronic psychiatric patients to reduce dental plaque and enhance knowledge, attitudes and behavior of oral health in order to promote their physical and mental health.

**Purpose/Methods**

Analysis of the situation, we found following problems: there were not oral health education and oral hygiene supervising execution time; patients don't have the motivation and habits of brushing, and they don't have complete appliances. Nurses did not know Bass brushing technique. The measures we took as follows: 1.group education of oral health 2.playing brushing song at brushing time 3.token system 4.post pictures of Bass brushing technique in bathroom 5.providing complete brushing tools to patients 6.nurses learn Bass brushing technique.

**Results**

Patients' Quigley-Hein Plaque Index drop from 3.5 to 2.5, improvement rate was 28.57%; the score of oral health knowledge assessment has improved from 40.52% to 73.28%; the score of oral health attitude assessment has been raised from 64.40% to 77.59% ; the score of oral health behavior assessment has been promoted from 23.65% to 71.43%.

**Conclusions**

"Playing brushing song" can remind patients to brush and "token system" is indeed a good way to increase the patients' motivation of brushing. By the way, nurses learning Bass brushing technique can enhance the patients brush skills. The results of this program showed improvements in the oral hygiene of patients with chronic psychiatric patients. This program can be fully utilized in chronic psychiatric wards.

**Comments**

The program is therefore recommended to all wards with chronic psychiatric patients .

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## Effects of Mindfulness-based Cognitive Therapy for Patients with Remitted Depression

**LIN Yi-Chun, LIN Chun-Chun, WANG Chia-Fen**

**Introduction**

Mindfulness-based cognitive therapy (MBCT) is a psychological therapy integrates cognitive therapy with Mindfulness-Based Stress Reduction. It was developed to reduce recurrence of depression. Different to cognitive therapy, MBCT makes no attempt to change the negative thinking directly, but through practice change participants' relationship with thoughts, feelings and body sensation, so that they may realize their thoughts are merely thoughts. Our present study aimed to explore the effectiveness of MBCT with remitted depression and their life adjustment after treatment.

**Purpose/Methods**

The purpose of our research aimed to explore the effects of 8 weeks MBCT group intervention in those patients with remitted depression from outpatient psychiatric clinics in a general hospital. Before and after treatment, all participants filled out self-reported questionnaires designed to evaluate their mood, cognitive components and changes of metacognitive self-

awareness. Research methods: scales of personal information, Beck Depression Inventory- II, the habit of negative self-thinking scale, mindful of attention awareness scale, self-monitoring awareness scale.

**Results**

Eight of 10 patients completed 8 weeks MBCT intervention and two assessments, male and female were half and half, age were 42 to 64, the average of age was 52. After treatment, Patients' subjective stress feeling had significantly lower, self-monitoring awareness had significantly higher, the habit of negative self-thinking was nearly significant lower, but they had no difference in depression (maintain at the range of minimal) and mindful of attention awareness.

**Conclusions**

The results of our research reveal after MBCT treatment, participants' subjective stress feeling got lower, the habit of negative self-thinking was reduced, self-monitoring awareness was increased, after all the mood maintained at the range of minimal depression. MBCT may be the cost-effective approach to relapse prevention for people with recurrent depression.

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## The Exploration of the Anxiety Perceptions among New nurses in the First one year of Employment

**LIN Yueh-E, SHIEH Sue-Heui, WU Shu-Fang Vivienne, HSIEH Hsin-Tzu**

**Introduction**

The anxiety is an important issue of medical care facilities for new staffs. The new staffs are the first-line workers and provide nursing care for the patients. It is an important to understand the change of anxiety during the one year of employment

**Purpose/Methods**

The result showed: 1The purpose of the study was to explore the anxiety changes and relative factors in the one year of employment of an individual new staff. This study was designed as a longitudinal study. we received IRB for this study.The samples collected were 200 new nurses. Every new nurse answered a questionnaire with Beck Anxiety Inventory Questionnaire, and data collected from the first week, the 1, 2, 3, 6, 9, and 12 month

**Results**

The result showed: 1.there were significant differences between seven stages anxiety the first one year of employment (11.51±9.40, 13.70±9.65, 14.55±10.79, 12.39±10.15, 11.27±10.37, 11.81±10.31, 10.52±9.07 respectively) (Wald  $\chi^2=31.14^{**}$ ,  $P<.05$ ). 2.The first week, the new staffs just learned lecture and environmental orientation with less anxiety, but they learned patient care progressive after one week, and had the largest anxiety when they tried to care patient independently in the secondary month. 3.There were many anxiety, ex. unable to finish their work on time, relationship with patient, colleagues or managers, and fast nursing work place etc. 4.After passing

through the training stage to be a formal staff (about 3 months), new staffs would be able to adapt the new job and reducing anxiety

### Conclusions

The results indicated that it's an important stage of retention for new staffs during the first 3 months of employment. It not only helped administer understand their anxiety change during the first one year, but also provided the reference for retention of new staffs

### Comments

It is our desire that the results benefit the policy making in health care organizations in the future. In addition, we hope to reduce the job anxiety and creating a health workplace health promotion in healthcare for all new staffs

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## The Study of Helping Disaster earthquakes' Mental Health by Precede Model

### SU En-Ping, LU Huei-Lan

#### Introduction

Taiwan is located in the Western Pacific seismic belt, In September 21,1999 then the Taiwan health unit was formally focus on mental health in post-disaster reconstruction The importance.February 6,2016 in southern Taiwan again 6.6 earthquake, the death toll of 117 people,the hospital for the Ministry of Health and Mental Health special hospital, within 24 hours of the earthquake immediately set up mobile care station stationed in the affected areas,to help the people.

#### Purpose/Methods

This study we assessed earthquakes mental health problems by the environmental diagnosis of Precede Model to helping them to pass through psychological trauma and to promote mental health. We interview for cases with mental illness, earthquakes' family and cases who would like to interview.to accomplish induction and analysis of qualitative research.

#### Results

We interviewed 8 cases with mental illness,This study inducted and analyzed that disaster had problems of (1) Lonely:In particular, leaving the old man has nothing left consciously.(2) guilt:The father said that no early call the child home to the New Year;sister said that if removed from the building, It will not happen.(3)Indifferent:do not want to talk to people.(4)Angry:not the first to rescue their own floor.Urgent hope search and rescue team to give priority to deal with.(5)helpless:they were empty-handed after earthquakes.

#### Conclusions

We found that if earthquakes' family who witness the death was much harder to pass through the pain. We also noticed that cases who had to flee for their life were easier having nightmare and insomnia.However,in Taiwan,the general acceptance of going to the mental hospital while had mental disease was limited.This

study showed that it was more effective to invest in mental reconstruction by using the environmental diagnosis of Precede Model to assess disaster earthquakes' problems.This also could be the rescues standard for mental health promotion in future.

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## Session M2.8: Promoting a healthy lifestyle

### Effects of Yoga Exercise on low back pain for Pregnant Women

### LIU Wen-Chi, LIU Hsueh-Erh

#### Introduction

More than two-thirds of pregnant women experience low back pain. Most often the pain appears in the later months or becomes worse as pregnancy progresses.The purpose of this study was to examine the effects of yoga exercise on lower back pain

#### Purpose/Methods

The study employed a Quasi-experimental research design in with 60 pregnant women (yoga exercise group 30;control group 30) pregnancy 20-24 weeks were purposively sampled from one northern regional teaching hospital . The yoga exercise program was practiced by the exercise group two times per week for a consecutive 4 period each 60 minute yoga exercise.

#### Results

The results of the study are as the following : first after having yoga exercise for 4 weeks the pregnant women(yoga exercise group 30) in experimental group respond significantly faster than those in controlled group in VAS( $p < .005^{***}$ ).

#### Conclusions

Low back pain is a significant distressing factor to pregnant women and should not be ignored as a normal consequence of becoming pregnant. Treatment options for low back pain consist mostly of postural education and rest. Yoga Exercise programs are available to prevent back pain and alleviate pain if it already exists.

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## Adults Obesity, Hypertension, Diabetes Prevalence from one of the Health Promoting Hospital

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### Introduction

Obesity, hypertension and diabetes are major risk factors for cardiovascular diseases such as stroke, myocardial infarction, congestive heart failure, kidney disease and peripheral vascular disease. Obesity, hypertension, and diabetes can be managed through continuous improvement of lifestyle. Prevention and treatment will reduce the national health expenditure as well as individual health. The purpose of this study is to investigate the status of obesity, hypertension and diabetes mellitus in adults who undergo screening.

### Purpose/Methods

The criteria for obesity presented by the Korean Society of Obesity is BMI 25kg/m<sup>2</sup> or higher. The criteria for hypertension suggested by WHO are a systolic B.P. of 140mmHg or more and a diastolic B.P. of 90mmHg or more. The criteria for suspected diabetes were defined as the fasting blood glucose level of 126mg/dl or higher. The data were analyzed to identify 1,574 subjects who were diagnosed with obesity, hypertension and diabetes mellitus at Seoul Dong-bu Metropolitan Hospital from January 1 to November 18, 2016.

### Results

The mean age of the patients was 53.08 years(SD±15.02), 54.1% of women, mean BMI of 23.92(SD±3.35), obesity prevalence of 37%, prevalence of hypertension was 11.4%. The prevalence of diabetes was 9.4%. There was also a significant correlation between BMI and hypertension ( $r=0.233$ ,  $P<0.001$ ) and diabetes ( $r=0.254$ ,  $P<0.001$ ). Hypertension and diabetes ( $r=0.137$ ,  $P<0.001$ ) There is a correlation.

### Conclusions

The results of this study are similar to national statistics. Individuals are required to monitor to prevent obesity, hypertension and diabetes through annual public health checkups, and the state should continuously monitor the results of the public health checkups and propose management measures to lower the prevalence rate. It is necessary to combine with existing HPH project to manage life style diseases by monitoring steady complex screening results.

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## Alcohol intake (amount and frequency) among Japanese adults participating in health check ups

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### Introduction

Drinking alcohol is common during social gatherings and other occasions in many countries. Moderate intake of alcohol (low-dose drinking) has also been associated with lower mortality risk in many studies. Nevertheless, the consumption of alcohol, especially in large amount, also carries a risk of adverse health events including gastrointestinal bleeding, cancer and other chronic diseases.

### Purpose/Methods

We aimed to investigate the drinking habits (alcohol intake) of Japanese adults receiving health check-ups. Three hundred and five adults who participated in health check-ups at our hospital were surveyed and included in this study. Only individuals who agreed to fill in additional questionnaire forms were included. Drinking habits such as the frequency and amount of alcohol intake, participant's physical data such as body mass index and mean arterial pressure were analyzed.

### Results

28% of participants were frequent drinkers (everyday), 26% were modest drinkers (sometimes) while the remaining 46% drank mildly or not at all. 54% of respondents had less than 2.2 drinks (22g of pure alcohol) per day, 33% had 2.2 to 4.4 drinks and 13% had more than 4.4 drinks. Analysis showed that increase in frequency or amount of alcohol intake had no correlation with the body mass index. There was a mild association between alcohol intake and mean arterial pressure.

### Conclusions

Alcohol intake among participants of health check-ups in a Japanese population did not seem to contribute to obesity levels as defined by body mass index. However, increase in alcohol intake may have some detrimental effect as demonstrated by the mild association with blood pressure and subjective symptoms of respondents. Moderate intake is still recommended for this group.

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## Vision alteration by life style change in youth from one of the Health Promoting Hospital

**KIM Kue Sook, LEE Yu Jeong, LEE Ji Hong, LEE Kee Hyung, PARK Ho Young, RYU Heui Geun, CHOI Dae Jong, SEON Park Chun, LEE Tae Young, YOON Soo Hyun,**

## RHIM Kook Hwan, MOON Ok Ryun, CHO Seung Yeon

### Introduction

Incorrect use of smartphones and tablet PCs caused "dry eye syndrome" and "juvenile presbyopia". If you are engaged in a small smartphone screen or tablet PC monitor in the same position for a long time, you will naturally keep your eyes open and your blinking will decrease. If this condition persists for a long time, the eye surface becomes dry and dry. The purpose of this study is to analyze youth's visual acuity and to utilize it as a teaching material for youth to use smartphone and tablet PC.

### Purpose/Methods

The "normal" visual acuity follows the criteria set by Herman Snellen, based on a young person compared to a 5 minute angle on the visual acuity chart; 1.0(decimal), 0.0 LogMAR, 20/20 feet, 6/6 meters are considered to be normal. The purpose of this study was to analyze the 2,423 students who took a health examination of students in 2016 to determine the degree of visual acuity of adolescents.

### Results

Of the students who were screened determined as less than the normal visual acuity specified by Snellen; 42% were wearing eyeglasses, 17.4% were girls and 24.6% were boys. 64.8% of female students and 51.9% of male students had right eye abnormality; 65.5% of female students and 55.6% of male students had left eye abnormality. In addition, 2.4% had color vision problems and 2.1% had eye diseases.

### Conclusions

The results of this study show that more than 50% of adolescents are less likely to become worse in growth process than normal vision. Vision loss, such as hypertension, diabetes and other lifestyle diseases are often not considered to be minor. It is necessary to maintain room temperature and humidity appropriately for eye health care, to avoid using smartphones for a long time, to avoid operating too close to the smartphone, and to keep the room lighting bright.

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## Session M2.9: Improving health through tobacco cessation

### GOLD Forum; a recognition platform for Tobacco-Free Healthcare Services

## KOALICK Susann, ORIORDAN Ann, GUNNING Miriam

### Introduction

ENSH-Global Network for Tobacco Free Healthcare Services is an independent, international, non-profit association dedicated to strengthening the capacity of healthcare services in the field of tobacco control. Its mission is to promote tobacco control globally by supporting healthcare services in implementing

tobacco management with the aim of delivering safe quality care in relation to tobacco for every service user, every time and everywhere. The Gold Forum is a global platform that gives recognition to members and non-members working at the highest level of implementation of tobacco control within healthcare services.

### Purpose/Methods

ENSH-Global promotes an implementation concept that integrates relevant and key aspects of tobacco management within healthcare services. The 8 standards and Selfaudit promote a practical and systematic approach that is in line with FCTC guidelines. Membership of the GOLD Forum is achieved through participation in a GOLD Forum Process. Healthcare services that have reached a high level of implementation of the 8 standards and have had their self-audit results validated and verified within a national or regional process can participate in a GOLD Forum Process.

### Results

Since 2009, 5 GOLD Forum Processes have taken place in providing global exchange, sharing and learning on tobacco control/ management in the healthcare environments. To date global recognition for high-level implementation of tobacco control/management has been achieved by 28 healthcare services. GOLD Forum members freely share good practice in tobacco control/management and tobacco-free policies. The GOLD Forum provides an exchange platform for experiences with support and motivation for all healthcare services on a global level.

### Conclusions

The experiences provided by GOLD Forum members have and continue to inspire healthcare services interested in implementing a comprehensive approach to tobacco management. The ENSH-Global concept provides practical assistance to healthcare services where tobacco legislation is weak and the GOLD Forum provides a rich source of good practice examples and models which can be implemented in a variety of settings.

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## Poly-modal intervention and analysis of tobacco cessation program

## SHIEH Ying-Hua, CHANG Jen-Hung, CHAN Hsiao-Wen

### Introduction

Smoking is a risk factor for peripheral arterial diseases, pulmonary diseases, cardiovascular diseases, and cancer. The number of daily smokers had increased from 721 million in 1980 to 967 million in 2012. Taiwan National Health Insurance Administration started the second-generation smoking cessation program from 2012 to 2016. Wan Fang Hospital also joins the program and we would evaluate the effectiveness of the poly-modal intervention smoking cessation program.



**Purpose/Methods**

Wan Fang Hospital Family Medicine Department, has implemented various campaigns to educate people of the harmful effects of tobacco, and to motivate these users to quit for life. These campaigns include smoking cessation clinic, society education, media promotion, and putting up slogans and posters at many convenient stores. We also phoned the patients from smoking cessation clinic three months later to evaluate the results of poly-modal intervention smoking cessation.

**Results**

There is a total number of 1009 patients in smoking cessation clinic of the second-generation smoking cessation program through out the time during January, 2014 to October, 2016 in our Hospital. A total number of 1009 patients were surveyed by phone three months after the first clinic. Among these patients, there are 326 patients (32.3%) no longer smoking for at least 7 days, 347 patients (34.4%) decrease smoking, and 336 patients (33.3%) still keep smoking.

**Conclusions**

According to most of the patients, social problem is the main reason that causes failure. Moreover, the side effects of smoking cessation medications such as nausea and skin itchiness also lead to failure. However, the number of patients visiting the smoking cessation clinic has increased gradually in Wan Fang Hospital because of poly-modal intervention smoking cessation program. It has shown that more patients have mentioned the disadvantages of cigarette smoking which motivate them to quit smoking.

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## Efficacy of Initiating the smoking cessation health education program in Inpatient.

**WEI Fangchun****Introduction**

Promoting quitting smoking and training smoking cessation educators in hospital. Since the implementation of the second-generation smoking cessation program by Health Promotion Administration, both the general public and medical institutions have worked with greater vitality to practice and promote quitting smoking. Increasing cessation motivation for inpatient smokers and evaluating their nicotine dependence are essential. In this study, we aimed to explore the factors that might influence the smoking cessation effects in the inpatients.

**Purpose/Methods**

A quasi-experimental research design with a one-group repeated measure was conducted. Questionnaire comprising 1. Demographic characteristics, 2. Physiological factors, 3. Psychological factors, 4. Social Factor: social support, 5. Smoking Behavior indicators. After giving health education cessation of treatment one month, three months interviewed by telephone quitting behavior index contains daily cigarette consumption. Data will be collected at the baseline and again at the 1- and 3-month follow-up.

**Results**

We base analyses on 155 subjects, excluding 3 who were missing baseline data or verified outcomes. At 1-3 months follow-up Quit smoking was 39.8% and 41.1%. Data were analyzed using Generalized Estimating Equations (GEE) found that participants indicate that Divorced, family support, smoking cessation stages of behavior change and nicotine dependence significant differences except for Cigarettes smoked per day ( $p < .0001$ ).

**Conclusions**

Results for the Project clinic are promising for smokers, although difficulties in recruitment and high attrition are of concern. Findings and limitations are discussed and suggestions for future research are suggested.

**Comments**

Our findings confirm the efficacy of an innovative, acceptable, intervention for initiating tobacco treatment in inpatient. This study offers an additional intervention to improve smoking cessation rates. Health education reinforces and has a constant effect on the quit smoking program.

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## Tobacco dependence treatment outcomes and changes in depression levels

### STEPANKOVA Lenka, KRALIKOVA Eva, ZVOLSKA Kamila, ADAMCEKOVA Zuzana, PANKOVA Alexandra

**Introduction**

To promote and provide the tobacco dependence treatment should be a routine part of HPH activities. Fears of worsening of depression may be a potential barrier to quitting smoking. The information about the relationship between depression and smoking cessation in the literature remains unclear. The aim of this study was to assess the association between baseline depression level and those after 1-year abstinence from smoking.

**Purpose/Methods**

Intensive treatment of 2,943 patients, highly dependent smokers, in the Centre for Tobacco Dependence: Two-hour psycho-behavioural intervention plus either varenicline, nicotine replacement therapy and/or bupropion, on average 6 visits/year, 12-months CO-validated abstinence rates. Beck Depression Inventory II (BDI II) for evaluation of depression level at the baseline, and after one-year abstinence from smoking.

**Results**

Comparing patients without depression at baseline (42.1%, 399/948), the abstinence rate was similar for patients with mild depression (39.1%, 535/1370,  $p=0.143$ ) and significantly lower for patients with moderate/severe depression (27.4%, 171/625,  $p<0.001$ ). Across abstinent patients, the majority of them with baseline depression reported lower depression levels at follow-

up. Overall mean (SD) BDI-II scores improved from 9.2 (8.6) to 5.3 (6.1),  $p < 0.001$ .

### Conclusions

In our smoking cessation clinic, depression at the baseline predicted reduced smoking abstinence 1 year later. Patients abstinent from smoking experienced considerable improvement in depression. It is important to emphasize that smoking cessation can improve both physical and mental health of patients and health staff.

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## Quality improvement measures for smoking cessation services increase the performance of Second Generation Smoking Cessation Payment Scheme in Taiwan

**LAI Chih-Kuan, CHUEH Chen-Han, CHIN Yi-Hua, LO Shu-Ying, YU Li-Hui, WANG Ying-Wei, CHIA Shu-Li, HSIAO Shu-Chun**

### Introduction

Taiwan has funded a nationwide cessation service by the surcharge of tobacco products to provide behavioral counseling and pharmacotherapy for adult smokers intending to quit since September 2002. A novel subsidizing system – Second Generation Smoking Cessation Payment Scheme (SC-2) was introduced in Mar 2012, markedly reducing the out-of-pocket payment to less than 20% of the cost of pharmacotherapy. Additionally, the quality improvement measures (QIM) for smoking cessation services was launched to double the effort. The healthcare services would remove the limit of smoking cessation services case number. The service performance would be assessed according to several indicators that include number of cases serviced in the year, the follow-up of cases, the 7-day point prevalence abstinence rate (PPAR) at 6 months, etc, and those with exemplary performance will be commended.

### Purpose/Methods

The smoking cessation survey in 2015 is based on patients who participate the SC-2. This study aimed to evaluate the impact of QIM on the 1,469 healthcare services' capacity of smoking cessation service and the 7-day point prevalence abstinence rate (PPAR) at 6 months of the service users. Aggregated data derived from nationwide cessation service dataset in 2015 was employed.

### Results

The QIM encouraged cessation treatment with a 3.8-fold increase from 58,882 (non-QIM healthcare services) to 224,183 (QIM health services). It also enhanced PPAR at 6 months from 25.7% (95%CI 24.4% - 26.6%) to 26.6% (95%CI 26.0% - 27.2%). QIM healthcare services recruited more smokers than non-QIM healthcare services and had higher number of success cases (25,094).

### Conclusions

In comparison to non-QIM healthcare services, QIM healthcare not only recruited more smokers seeking effective treatment but also achieved higher abstinence. The SC-2 curbing the financial barrier of cessation treatment was a positive factor that helped deliver cessation treatment in healthcare services. It also significantly promoted abstinent outcome of treatment.

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## Using behavior modification to reduce outdoors second-hand smoke

**LIN Chi-Feng**

### Introduction

According to Adult Smoking Behavior Surveillance System (ASBS), the result shows that the rate of adults smoking is 16.4% in Taiwan. Although the smoking rate decrease, smokers still have a influence on the environment. Most smoker don't understand the rules for outdoor smoking. In 2007, the Tobacco Hazards Prevention Act of Taiwan had expanded the no-smoking places. The ASBS also show that participant had been effect by secondhand smoke in outdoor were increase from 29% in 2006 to 54.6% in 2014. According to another survey in 2014, 95.1% participants agree with part of outdoor areas are included in the no-smoking area. From both of survey, although most people support no-smoking in outdoor, they still have a half of people been influence by secondhand smoke in outdoor. The case hospital has the most ER cases in Taiwan. As part of the patient's families with smoking to reduce stress. They smoke outdoors, to cause many people to be harmed by secondhand smoke.

### Purpose/Methods

Purpose 1. The main purpose are to reduce the number of smokers in outdoor, and it hopes the public area becomes clean and has fresh air. 2. Implement strategies to reduce smoking in the non-smoking areas. Method Using behavior modification skill in the following: 1. Establishing obviously non-smoking warning and using the pressure of public and sense of shame to control smoking in public area. 2. Broadcasting no-smoking rule per-hour. 3. Persuading smoker flexibility to leave the non-smoking areas.

### Results

The strategies were implemented for one year. 1. Hospital was encouraged by non-smokers. Sustained zero complain cases. 2. The overall number of smoking in outdoor decrease 46.7%.

### Conclusions

Through the pressure of public and sense of shame can be effectively reduced about the environmental harm of second-hand smoke. The project reduce the number of smokers in non-smoking areas. In addition, public satisfaction will be increased and complaints will also be decrease. Environmental satisfaction increased from 88.04% to 90.24%.

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## Promote Oversea Smoking Cessation Service : An Experience of Taiwan's smoke-free hospital

**HSUEH Kuang-Chieh, HSUEH Shu-Chun, CHOU Ming-Yueh, HUAI Chieh-Chun, LIN Chia-Chen, LIN Jin-Ding, HUANG Hui-Ting, CHENG Jin-Shiung, JENG Shaw-Yeu**

### Introduction

Cigarette smoking is the most important preventable cause to public health in the world. More than 5.4 million people died from smoking-related diseases per year, the health impact is more seriously in the developing countries. Smoking in Vietnam is highly common, with an estimated 50% of men and 5% of women using tobacco, an estimated 15 million smokers and 40,000 people die annually in Vietnam from tobacco, it is an urgent issue to provide smoking cessation service in Vietnam.

### Purpose/Methods

In Vietnam, 2015, we provide smoking cessation consultation and free clinics with multi-disciplinary specialists. In 2016, we organized a smoking cessation team including 2 family doctors and 1 nurse, all of them had been training well for smoking cessation therapy. They excused a 3-months smoking free plan including smoke-free hospital, smoke-free workplace and school, smoke-free restaurant for local people in Ling-Ton Province of Vietnam. Smokers who accepted consultation will be follow up via phone at 3 months later.

### Results

In 2015, 209 smokers had been identified out of 2655 clinical patients at free clinical service, 90% is male and 10% is female. In 2016, the long stay smoking cessation plan had made smoking free speech to 256 peoples and recruited 57 smokers who accepted one by one, face to face smoking cessation consultation, Cigarettes reduced 44 % at 2 months follow up and smoking cessation rate is 36% at 3rd month follow up via phone without CO confirm.

### Conclusions

It is not easy to break multiple boundaries including economic, politics, man-power, language and location, to promote smoking cessation service and smoke-free environment oversea, but it is not possible. Our plan overcame lots of difficulties and found smoking cessation service including making promotion speech and face to face behavior therapy is effective for smokers to quit in Vietnam. In the future, Smoking cessation service in international level still need passion, aggressive action and more resource.

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## Session M2.10: Miscellaneous

### Balance and body control improvement using visual feedback technologies

#### PIEKUVIENE Vaida

##### Introduction

Disbalance is a common problem among stroke patients. Their perception and control of body weight center is impaired, so they experience insecurity and fear of falling down during physiotherapy. ZEBRIS – WinFDM-T system provides safety and visual feedback of balance retraining.

##### Purpose/Methods

Stroke patients with assessed static and dynamic disbalance were involved in balance retraining course in Palanga Rehabilitation Hospital. They were randomly divided in 2 groups. Control group performed traditional balance improving exercises in the gym and in the swimming pool. Experimental group performed the same exercises and dynamic motor exercises on ZEBRIS – WinFDM-T system with visual feedback. Fullerton Advanced Balance Scale, Up & Go Test, Dynamic Gait Index and Zebri WinFDM-T posturography methods were used to assess outcome.

##### Results

Improvement of dynamic balance was not significant in both groups after physiotherapy course. Static balance - body weight control, measured by ZEBRIS – WinFDM-T system and specified as path length and area, improved significantly in experimental group. The results of clinical tests (Fullerton Advanced Balance Scale, Up and Go Test, Dynamic Gait Index) were significantly better in experimental group.

##### Conclusions

ZEBRIS – WinFDM-T system used for balance retraining helps to keep vertical position with a narrow feet position, and achieve better balance in stroke patients. Visual feedback is important for proprioception improvement.

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## Using Team Resources to Elevate the Capacity of Self-Care at Post-Acute Stages

### TENG Heng-Yi, CHANG Shu-Nuan, WU Mei-Chuan

##### Introduction

Stroke is the third leading cause of mortality in Taiwan, as well as the principal cause of disabilities. Majority of the patients will be disabled after acute medical treatments. If progressive and

integral cares start at golden time of treatment, the burdens of the family and society and medical costs will be suppressed.

#### **Purpose/Methods**

The construction of post-acute care of stroke needs the cooperation from many professional teams, including physicians, and nursing, occupational, physical, speech, nutritional, psychological and discharge preparation teams. Team resource management (TRM) method was adopted to provide individual treatment plan. This helped the patients achieve significant progresses in physical, psychological, and nutritional status, and also in mobilization.

#### **Results**

A total of 12 patients were recruited between January and December 2015. TRM method was utilized plus the application of team work, patients and their families were periodically followed-up on the effectiveness of rehabilitations in order to facilitate the integration of medical resources. The activities of daily living (ADL) were evaluated. Results showed the scores of ADL increased from 35.83 in first evaluation to 53.33 in late evaluation.

#### **Conclusions**

Stroke patients in post-acute care by way of TRM methods and actively occupational and rehabilitative training can improve their ADL, increasing from 35.83 to 53.33. It helps the patients return to work and home. In addition, the burdens of healthcare, family and society will be relieved.

#### **Comments**

Acute stroke usually pose a major impact on the patient and their families. At the same time, it raises enormous societal and healthcare burdens. It is suggested that comprehensive medical networks should be built among all healthcare systems. Active rehabilitation should start at golden time of treatment, in order to return the patients to the communities earlier.

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## **Experience in caring for Sjögren syndrome patients by using an integrated health care model**

### **NI Yi-Chi, CHEN Chen-Hung**

#### **Introduction**

Sjögren syndrome (SS) is a chronic inflammatory disease that affects the exocrine glands, particularly the salivary and lacrimal glands. The prevalence of SS in the general population is approximately 0.1–0.4%, which is comparable to that of rheumatoid arthritis, although SS has a high female to male ratio of 9:1. In Taiwan, there are about 90,000 SS patients. In view of the increasing number of Taiwanese SS patients and the diversification of the disease, we have set up the "SS Association and Family Support Group" in our hospital since 2015 to achieve the goal of "health promotion", "disease prevention" and "long-term care" for SS patients.

#### **Purpose/Methods**

We enrolled and consulted different subspecialists to be part of group which included ophthalmologists, dentists, nuclear medicine doctors, neurologists, pharmacists, dietitians, nurses and social workers to be cross-group care and cooperation team. Integrated care and follow-up were performed by telephone tracking and home visits. By such way to give patients health education guidance and care. "SS Association and Family Support Group" was held which also increased awareness and participation by families.

#### **Results**

Since 2015, 157 SS patients have been diagnosed by integrated care model, with 100% of the ophthalmologists and nuclear medicine departments involved in the diagnosis processes. Referral rate for dental care was as high as 85%, referral rate of rehabilitation section 52%, nutritionist referral rate of 47%. The pharmacists also provided medication counseling which have reached in more than 90% SS patients. From 2015-2016, "SS Association and Family Support Group" was held annually. The families and patients' satisfaction was 96.2% and 93.02% respectively. At present, 327 SS patients were continuously followed up and all patients' symptomatic treatment, follow-up and self-rehabilitation were in good condition.

#### **Conclusions**

Our team provides a wide range of medical and health care services, including professional diagnosis, patient education, anti-rheumatic drug counseling, nursing care, nutrition counseling and rehabilitation program. In conclusion, our hospital could provide a good integrated health care, including comprehensive and continuous medical care for SS patients.

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## **To explore the factors influencing the willingness of receiving cancer screening tests in Taiwan**

### **HUNG Chia-Tai, LIU Ching-Ping, YANG Hsing-Yu, HUNG Ta-Chuan**

#### **Introduction**

In Taiwan, some cancer screening tests were free charged that leads cancer screening tests to be gradually accepted as a health prevention activity to early detect cancer. However, there are still some unknown factors influencing peoples to not constantly receiving cancer screening.

#### **Purpose/Methods**

The aim of this study was to explore the people's health literacy about cancer, personal physical activities, and quality of life affecting healthy behavior of cancer screening. This was a one-year survey study conducted in Mackey Medical Hospital. The recruited people were adults who could receive the free-charged cancer screening tests and completed the consent form. The questionnaires included Health literacy in cancer, WHO Quality of life-Brief form (WHOQOL-BREF), International Physical Activity Questionnaire (IPAQ), and demographic characteristics.

### Results

274 clients were recruited in nine months from January to September in 2016. The average of age was 57.7. Most were female and married. Receiving the cancer tests was mainly results from personal health awareness and suggestions from health professionals and their family/friends. 'A fear of cancer diagnosis' and 'a feeling of no need to be test' were two most concernable reasons for not receiving test. The average scores of the WHOQOL-BREF in total were 91. More than 80% of them preferred to take a walk as leisure activity. Almost 50% of them kept the sitting position more than 5 hours in a day.

### Conclusions

Most participants were retired female elderly people. Almost half of them were unable to correctly respond to Cancer Literacy, although they reported high levels in QOL and took moderate exercises weekly. The mixed concerns were noticed about results of cancer screening tests between keeping good health and a fear of getting cancer diagnosis. This study is still in process to gather more information about receiving cancer screening test in Taiwan. We hope provide results for government to empower people to autonomously promote their own health.

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## Evaluation on concomitant medication safety in patients preparing for colonoscopy

**CHEN Chia-Liang, CHAI Pony Yee Chee, SHAO Shih-Chieh, CHAN Ying-Yuk**

### Introduction

Healthcare providers need to pay much attention on patients' drug history, especially in the appropriately concomitant use of anti-diabetes drugs and anti-anticoagulants, to prevent the occurrence of adverse effect during the procedure of colonoscopy.

### Purpose/Methods

The purpose of this study is to survey the current practices on the evaluation about concomitant medication uses in patients preparing for colonoscopy. We conducted a cross-sectional study in a regional hospital in Taiwan from May to October 2016. The patients who self approached to pharmacists for consultation about how to use examination drugs before colonoscopy, was included as our subjects. Medication education is provided to the patients by pharmacists after performing medication reconciliations and discussion with the physicians.

### Results

There were 150 patients prepared for colonoscopy in the study period, 132(88%) of them received medication education from physician, and 18(12%) from pharmacists. Among these 18 patients, there were 8 patients on concomitant therapy of anti-diabetes drugs, 9 on anti-anticoagulants or anti-platelets therapy, and 1 on both. With medication reconciliation performed by pharmacists, all 18 patients received appropriate medication education regarding how to temporarily discontinue their anti-diabetes drugs and anti-coagulants for colonoscopy

procedures. After two weeks follow-up, no patients suffered from adverse events due to procedures or medication modifications.

### Conclusions

Most of the patients had received medication reconciliations from physicians, being educated how to modify the concomitant medication before receiving colonoscopy, such as anti-diabetes drugs and anticoagulants. However, this reports also highlighted the importance of medication reconciliation from pharmacists which can also provide detailed evaluations on patients who prepare for colonoscopy. Teamwork cooperation of healthcare providers does protect the patient safety.

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## Rheumatology & immunology provides diversified and long-term health promotion services in Taipei Tzu Chi General hospital

**NI Yi-Chia, CHEN Chen-Hung**

### Introduction

Taiwan's rheumatism-related diseases patients and corresponding demanding of clinical and research related to the growing accordingly, Republic of China Hunchback Linen Medicine Association. Sjogren's Syndrome is an immunity disorder caused by the disease, the ratio of the world is 0.1 to 0.4%. In Taiwan, about 90,000 patients. The predilection of "Dryness" occurs in 40 to 60-year-old middle-aged women, male to female ratio of 1: 9, with hereditary.

### Purpose/Methods

The hospital provides health check up items: Rheumatoid factor, Anti-Nuclear Antibody, Anti ENA(Sm and RNP), Anti ENA (SSA/Ro and SSB/La) & Schirmer's test and Sialoscintigraphy. 1. Physiological examination 2. Cross-team care 3. Individual care: telephone tracking, home visits, patient's family support groups.

### Results

From 2015 onwards through the patient's family support group and medical consultation service, serviced 157 patients, medical care service satisfaction rate average 96.2%. 2015-2016 organized two patient's family support group activities, family members of the patients rated this year's activities 93.02% satisfaction.

### Conclusions

"Sjogren's Syndrome" is one of the most common immunological diseases. The team provides diversified and long-term health promotion services, including professional medical examination and nursing care counseling, And take the initiative to arrange medical treatment and telephone tracking care, in order to achieve health management of chronic diseases and to promote medical care. At present, 157 cases of "Sjogren's Syndrome" were continuously followed up for medical treatment. All the cases were treated in our hospital and the symptoms were in good condition.



**Comments**

Patients must be treated for a long time to prevent their condition from getting. They also provide "Sjogren's Syndrome Care Network" for health care and chronic disease management to promote medical services, to achieve our vision: The people most trusted hospital with culture of medical and humanity.

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## Session P1.1: Past achievements and future challenges for health promoting health services

Evaluation of Hospital Leadership Policy - The Integration of the Health Promotion Hospital (HPH) strategic goal into Balanced Scorecard system.

**LIN Yu-Wen, SU Li-Ling, YANG Nan-Ping, LIN Ching-Feng**

### Introduction

Performance management system like balanced scorecard (BSC) system has become a key strategy for hospital leadership policy. Integrate the health promotion hospital (HPH) strategy into BSC system to become every department's strategic goals in the hospital provides a positive environment to ensure leadership policy accomplishment powerfully and improve the development of HPH continuously.

### Purpose/Methods

Four strategic goals including "enhance professional competency", "build a trusted, secure, effective and accessible environment", "fulfill the needs of emergency and intensive care treatment", "strengthen financial capabilities of emergency and intensive care treatment" and 15 performance indicators were developed under the four perspectives of Kaplan & Norton's BSC System - "learning and growth", "internal process", "customer" and "financial". We integrate the indicator of "push HPH" into the internal process perspective to achieve the annual strategic subject, the vision and mission of our hospital.

### Results

The HPH Policy Survey was conducted from 2014 to 2016. Results show that the hospital staffs' awareness of HPH policy increased from 90 to 93%, energy-saving policy from 93 to 95%, workplace health policy from 88 to 94%, age friendly policy from 92 to 94% and overall ban on smoking policy from 99 to 100%. Support for smoking-free hospital reached 100%. The satisfaction degree for HPH increased from 88 to 92%.

### Conclusions

Integrate the strategic goal of HPH into the BSC system to achieve the policy objective of the hospital by perspective vision and effective policy communication leads the staffs cooperatively toward the goals and creates a win-win situation for individuals and the organization. Eventually, the leadership policy can be effectiveness under the strategic management of BSC system.

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## Discussion on Executing the Strategies of Extended Health Care Service after Health Examination in Hospital

**LEE Meng Szu, WU Ming-Tsang, HSU Yu-Kuei, YANG Chen-Cheng, DAI Chia-Yen**

### Introduction

Health examination is a combination of clinical medicine and preventive healthcare as a specific service, and it can achieve the purposes of "disease early prevention and treatment". Most of the hospitals lacked follow-up services after the completion of the health examination report that would not effectively assist the customers for health management and health promotion. The purpose of this paper is to explore the specific strategies of extension healthcare service that is a followed-up the health checkup service, in order to meet the health care needs of the customers.

### Purpose/Methods

The modern health management model was used as a reference to establish both electronic health records and consulting services platform for providing health advice, health education, health promotion, health management, disease prevention, health nursing and so on, which extended to health care services for improving customer satisfactions.

### Results

After the implementation of extended health care service following health checkup, it exactly improves the health examination service benefits and satisfactions, as well as definitely reduces customer attrition rate.

### Conclusions

After the execution of health extension services following health checkup, it is not only meeting customer needs, but also promotes to the health management center operating efficiency and competitiveness.

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## Activity after Establishment of Japan HPH Network

**FUNAKOSHI Mitsuhiko, SHIMANOUTI Norio, SUZUKI Minako**

### Introduction

Japan HPH Network (J-HPH) was established in October 2015. The first year activity was publication of the network, and initial year was important to prove the meaning of the organization. Examination is made over the status of our activity to achieve goals for the first year and to set future challenges.

**Purpose/Methods**

Status of practice to achieve goals for the first year was examined. Also, 4-year plan was designed based on the 1 year practice.

**Results**

HPH members increased from 37 to 55. In terms of network operation, 4 board meetings were held to discuss plans and publication on HPH movement. The Coordinator's Workshop (March 2016) with 127 participants, and the General Assembly and National Conference (October 2016) with 320 participants were successful. For HPH Recognition Project and Researches, 2 organizations joined, and Saitama Kyodo Hospital was recognized as Gold level. For International Conference, 18 participated with 13 presentations. For publication, website was opened and 3 newsletters were published. While those were successful, some remained as future challenges: achieve something as J-HPH; organize task forces as a foundation of activities; and include managements into our activities. Such challenges were included into the 4-year plan (2017-2020) for us to overcome, together with a plan to increase membership to 100.

**Conclusions**

Our activity for the first year confirmed that the plans worked effectively. Membership seems to be increasing, because such activities are appreciated. We would like to further overcome the challenges by implementing the 4-year plan, as well as developing and distributing more tools to contribute evaluation of SDH, intervention, and building healthier community.

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## Role of Center for Workplace Health Promotion in Taiwan- a Ten-year Experiences and Achievements

**TANG Feng-Cheng, HSIEH Meng-Chen, CHANG Wei-Chen, HO Pei-Yi, LIN Li-Ju, TSENG Po-Chang, CHEN Ruey-Yu, YEH Ching Ying, CHEN Meei-Maan, CHUEH Miao-Ju, HUANG Te-Chi, WANG Ying-Wei**

**Introduction**

To encourage enterprises to promote workers' health, the Health Promotion Administration established three regional Centers for Workplace Health Promotion (WHP) since 2006. This article presents the Center's experiences and results of past 10 years in WHP.

**Purpose/Methods**

The Center recruits different companies and implements health promotion programs according to their needs. Occupational health advices and health education sheets are also provided. The Center set up the Healthy Workplace Website to advocate the concept of health promotion. The scheme of Healthy Workplace Certification (HWC) labels, including Tobacco Hazards

Prevention, Health Initiation and Health Promotion, was also conducted.

**Results**

Over 1,600 factories have been counseled. Most of them are manufacturing and large scale workplaces. Most common topic of program is regular exercise, followed by nutrition. There have been about 860,000 visits to the Website, with 7,000 of visits monthly. Totally 14,287 workplaces have passed HWC since 2007.

**Conclusions**

Workplaces in the health promotion program are mostly large scale. Large scale workplaces are usually organized and have resources. They are more capable and more willing to adopt health programs. Main topics of health lectures are exercise and nutrition. In exercise, assistive devices, such as yoga straps are often used. In nutrition, practice courses are available to help workers keep a healthier diet. Before HWC was issued, difficulties in advocating employee's health promotion were apparent. HWC adopting clear steps to be followed easily was initiated in 2007. After years' effort, more and more enterprises joined this scheme. Following the dedicated steps of this Certification system, new promoters can design effective WHP programs. The Center, with its many years of experiences, helps workplaces adopt efficient methods to promote workers' health. The future Center's expectation is to reach the goal of establishing healthy environment for all workers.

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## Session P1.2: Health promoting health services

### Hospital image and compensation/benefit system on organizational attractiveness

**YAN Yu Hua**

**Introduction**

Attracting outstanding medical professionals contributes to the creation of a medical competitive advantage.

**Purpose/Methods**

This study attempts to compare Private and Non-Profit Proprietary Hospitals in terms of the connection between hospital image and compensation/benefit system on organizational attractiveness. The questionnaire survey method was adopted in this study, with employees from two hospitals as applicants. The 1,138 valid questionnaires underwent correlation test and analysis, multiple regression, and Chow Test.

**Results**

That the organizational activeness Private and Non-Profit Proprietary Hospitals possess structural differences. In Private Hospitals, the male employees and those under the education background of university have a higher degree of satisfaction towards organizational attractiveness ( $p < 0.1$ ); the male

employees in Non-Profit Proprietary Hospitals under the age of 30 and needing to shift system have a negative impact on organizational attractiveness ( $p < 0.1$ ). Finally, for Private and Non-Profit Proprietary Hospitals alike, the corporate image and compensation/benefit system positively affect organizational attractiveness ( $p < 0.1$ ).

### Conclusions

Talents are important assets for organizational planning strategies, goal accomplishment, and acquisition of a competitive edge. It is only through the creation of a hospital image and the provision of a sound compensation/benefit system can employees create excellent medical services and can hospital competitiveness be enhanced.

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## How to improve ambulance prehospital electrocardiogram implantation rate- a 5-year city based multicenter trail

**HUANG Wei-Chun, LIOU Yi-Jyan, KAO Wen-Chu, CHIOU Kuan-Rau, YAN Li-Shuang, CHEN Hong-Long, CHENG Jin-Shiung, LIU Chun-Peng**

### Introduction

Application of ambulance prehospital electrocardiogram (ECG) in patients with ST-elevation myocardial infarction (STEMI) was shown to shorten ischemia to balloon time and avoid to transfer to hospital without cardiac catheterization lab. Furthermore, ambulance prehospital ECG may improve the outcomes of these STEMI patients. However, it remained a challenging issue to increase ambulance prehospital ECG implantation rate. Therefore, the aim of this multicenter study is to investigate to can improve ambulance prehospital electrocardiogram implantation rate in a city based program.

### Purpose/Methods

All patients with chest pain transferred by ambulances equipped with prehospital ECG system before and after intervention were enrolled from Jan 2011 to Jan 2016. The ECG implementation rate is defined as chest pain patients received ambulance ECG exam divided by all patients with chest pain. The hybrid quality improvement methods were used, including problem solving and task achievement quality improvement method. The key interventions include to set up Asian first ambulance prehospital mobile transmit ECG system and the innovative design of a ECG exam accessory device, which was patented in Taiwan and won golden award in Geneva invention and Seoul invention ( $p < 0.05$ ).

### Results

The ECG implementation rate increased from 0% in pre-interventional phase ( from Jan to Dec 2011), to 0.6% in interventional phase ( from Jan 2012 to Feb 2013) and further to 77.8% in post-interventional phase( from Mar 2013 to Jul 2017) ( $p < 0.001$ ). Total 92 patients with STEMI was identified in 1643

chest pain patients received ambulance ECG exam. In these STEMI patients, average door to balloon time was 51 minutes, average ischemia to balloon time was 123 minutes and in-hospital mortality was 0%.

### Conclusions

This 5-year city based multicenter study demonstrates continuous quality improvement method can improve ambulance prehospital ECG implantation rate.

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## How to improve the ratio of ambulance use in patients after ST elevation myocardial infarction?

**HUANG Wei-Chun, HUNG Cheng-Chung, YAN Li-Shuang, LIOU Yi-Jyan, MAR Guang-Yuan, LIU Chun-Peng, CHENG Jin-Shiung**

### Introduction

Ambulance plays a critical role in early recognition and treatment of ST-elevation myocardial infarction (STEMI). The advantages of ambulance transfer include experienced emergency medical technicians, use of automated external defibrillator and prehospital electrocardiogram. However, previous studies showed that the patients experiencing STEMI symptoms often fail to call an ambulance as recommended. This study aimed to improve the ratio of ambulance use of patients with ST elevation myocardial infarction in Kaohsiung city.

### Purpose/Methods

A multidisciplinary team among Kaohsiung Veterans General hospital, fire bureau and department of health, Kaohsiung city government was organized since Oct 2012. All patients with STEMI in Kaohsiung city were enrolled from Jan 2012 to Dec 2015. The ratio of ambulance use is defined as STEMI patients received ambulance transfer via Kaohsiung city fire bridge 119 systems. The problem solving quality improvement method was used in this project. The key interventions include establishing STEMI mnemonic phrase, filming STEMI advertisement video, using internet, broadcast and television media and press conference, producing promotional materials and STEMI promotional activities. A P-value  $< 0.05$  was considered statistically significant.

### Results

The total 4049 STEMI patients were enrolled in this study. These patients were divided into pre-interventional phase (N=972, Jan to Dec, 2012), interventional phase(N=979, Jan to Dec 2013) and post-interventional phase (N=1851, Jan 2014 to Nov 2015). The ratio of ambulance use of patients with STEMI increased from 12% in pre-interventional phase, to 13% in interventional phase and further to 18% in post-interventional phase ( $p < 0.05$ )

### Conclusions

This 4-year city based multicenter study demonstrates continuous quality improvement method can improve the ratio

of ambulance use of patients with ST elevation myocardial infarction in Kaohsiung city, Taiwan.

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## The new strategies of Integrated Delivery System may improve quality of care in the sub-acute respiratory care center

**TAI Hsueh-Ping, YU Ting-Hua, LEE David Lin, CHENG Jin-Shiung**

### Introduction

Respiratory care center (RCC) was set up by the integrated delivery system (IDS) to help the weaning of mechanical ventilation (MV) for the critically ill patients after intensive care. The quality of care is improved after our new strategies performance including standard procedure set up, inter-discipline team work, aggressive evaluation of subject's weaning protocol, infectious control and nutritional support.

### Purpose/Methods

The quality of care is compared between 2014 and 2015 in a RCC in a medical center by the retrospective data analysis including MV weaning success rate. RCC stay-up duration and RCC mortality rate after our new strategies performance.

### Results

The subject's number admission to our RCC in 2014 and 2015 are 244 vs. 329 respectively. The MV weaning success rate (no MV use after the discontinuation of any invasive or non-invasive mechanical ventilation for more than 5 days) are 2014 vs. 2015 = 61.88% ± 6.48% vs. 81.11% ± 9.77% respectively,  $p < 0.01$ . The stay up duration in our RCC are 2014 vs. 2015 = 18.06 ± 2.88 vs. 14.60 ± 3.35  $P < 0.01$  respectively. RCC mortality rate are 2014 vs. 2015 = 7.90% ± 6.46% vs. 3.76 ± 4.65,  $p < 0.05$ .

### Conclusions

The new strategies application can improve our quality of care in the weaning of MV and RCC stay up shortening.

### Comments

The new strategies application including standard procedure set up, inter-discipline's team work, aggressive evaluation of subject's weaning protocol, infectious control and nutritional support may help to improve the RCC quality of care including MV weaning success rate, shortening of RCC stay up.

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## Multidisciplinary care model can improve health-related quality of life

## in patients with pulmonary arterial hypertension

**CHENG Chin-Chang, HUANG Wei-Chun, LIN Ko-Long, CHIANG Cheng-Hung, KUO Feng-Yu, LIU Chun-Peng, CHENG Jin-Shiung**

### Introduction

Pulmonary arterial hypertension (PAH) is a complex disease with a high morbidity and mortality. Furthermore, PAH is associated with reductions in health-related quality of life (HRQL). Therefore, we investigated to improve quality of life in patients with PAH using multidisciplinary care model.

### Purpose/Methods

A multidisciplinary team was organized among intensivists, cardiologists, pulmonologists, cardiac surgeons, rheumatologists, chest surgeons, rehabilitation physicians, psychologist, pharmacologists, nutritionist, social workers and nursing staffs. The key interventions include home based rehabilitation therapy, 24 hours hot line care, PAH care nurse training program, hospice care information and consultation, psychological care and autogenic training, prompt PAH referral system, social care connections, on-line self PAH risk assessment system, on-line and innovative mobile apps patient instructions, facebook patient care group and outdoor PAH patient education program. The PAH patients were divided into three groups: pre-interventional group from May to Dec 2013, Interventional group from Jan to June 2014 and post-interventional group from July 2014 to Feb 2016. HRQL was measured using the Short Form 36 Health Survey (SF-36) in all enrolled subjects.

### Results

The average physical compartment scale of SF-36, including physical functioning; role limitations due to physical health, pain and general health improved from 49 ± 30 in pre-interventional group, to 52 ± 34 in interventional group and to 72 ± 20 in post-interventional group ( $p < 0.05$ ). The average mental compartment scale of SF-36, including role limitations due to emotional problems, energy/fatigue, emotional well-being and social functioning, improved from 54 ± 30 in pre-interventional group, to 56 ± 31 in interventional group and to 71 ± 19 in post-interventional group ( $p < 0.05$ ).

### Conclusions

The study showed multidisciplinary care model could improve quality of life in patients with PAH.

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## Use Interdepartmental Teamwork to Improving the time for Neurology's Patients Examination



## CHUNG Hsin-Ling, CHENG Hsueh-Mei, CHENG Hsiu-Ling

### Introduction

Hospital satisfaction survey noted that the waiting time for medical treatment is an important factor in determining the choice of hospital. Process of Neurology's patient examination is by doctors giving the checklists, then schedule of exam by computer or Medical Technologist notify the nursing station, not all the examination rooms located on same floors, Sometimes there is a conflict when patient temporary need an examination who are going to other examinations. Nurses also need to take some time to find the checklist from folder and contact the families of the signed consent form, besides nursing stations and examination rooms often need additional instructions or make contact with families, if there is a delay of examination then it won't be able to provide the treatment from doctors, which may make patients and their families dissatisfied. After March 2015 to May survey found that the average per patient takes 701 seconds on temporary examination.

### Purpose/Methods

The goal of the project is to reduce time requirement of temporary examination down to 350 seconds. Establish temporary examination Standard Operating Procedures (SOPs), attaching checklists to the patient's medical record in order to avoid wasting time on folder for finding checklists, when doctors explain Treatment plan to new patients also let patients or their families directly completed inspection consent form, creating a new LINE group between nursing stations and examination rooms to mutual communication and coordination strategies.

### Results

The average time required of temporary examination downs to 79 seconds.

### Conclusions

Patient-centered care could effectively improve the quality of medical care, increase patient satisfaction; the team members of intersectoral cooperation are an important part of the project, experience of the project would be serve as a reference for hospital management teams.

### Comments

During the project execution. Patients also gave good opinions about the project; therefore we have promoted it to other nursing stations.

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## Application of a SIP TEA model in team meeting to improve interprofessional collaborative practice

LEE Chia-Yi, TSOU Ching-Fen, HUANG Ya-Ling, HUANG Shu-Hui

### Introduction

Interprofessional collaborative practice in health-care occurs when multiple health workers from different professional backgrounds provide comprehensive services by working with clients and their families to deliver the highest quality of patient-centered care. But effective communication among professionals and common goals setting are challenge of collaborative practice in health care systems. The purpose of this report was to apply a SIP TEA model in team meeting to promote interprofessional discussion and goal-setting.

### Purpose/Methods

In Early Intervention Clinic of Cathay General Hospital in Taiwan, multi-professionals attended team meeting to discuss the conditions of developmental delayed children and needs of their family. The SIP TEA (sense needs, initiate team, patient-centered goals, team work) model was used for interprofessional discussion in the team meeting since Mar. 2016. After 6 months, a self-evaluation questionnaire using 5-point Likert Scale was done to evaluate the effects of SIP TEA model to improve the patient-centered care.

### Results

Eleven professionals attended the meeting and the response rate for the questionnaire was 90.9%. The rate of agree/very agree of "promote discussion", "set common goals", and "communicate among team members" were 90%, and all professionals agreed/very agreed that the model was helpful in "share information and resource", "coordinate decision and activity", "meeting results were useful to clinical care", and "play role and responsibility of own discipline".

### Conclusions

We reported a SIP TEA model to promote the interprofessional collaborative practice by sensing the needs of our clients and their family, sharing the information, and improving the cooperation, communication and integration among professionals. We believed the model was helpful to guide discussion and might improve the quality of patient-centered care, but further studies will be needed to follow the outcomes of clients.

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## A Project to Enhance the completeness of Transfer Process from Wards to the Intensive Care Unit

JAN Ya-Chuen, LIN Yueh-E

### Introduction

Accuracy and integrity in transfer process is important for patient safety. Incompletion of the process may lead to the occurrence of abnormal events and affect patient safety. The investigator found that the completion rate of the transfer process from wards to the intensive care unit(ICU) was only 74.7%.

**Purpose/Methods**

The causes of low completion rate include inconsistency of transfer process, complexity and dis organization of transfer process. The purpose of this project was to improve the integrity of transfer process from wards to the intensive care unit, so patient safety and quality of nursing care can be secured. A seminar related to transfer process was provided, a guideline for the process was established, a flow chart and work distribution were reformulated.

**Results**

The completion rate of of transfer process improved from 74.2% to 97.5%. Therefore, this project can significantly enhance patient safety and transfer integrity.

**Conclusions**

We hope this project can be a reference for intensive care unit nurses and improve the quality of the transfer process between wards.

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## Improve transfer rate of acute cerebral vascular disease patients to “Post-acute medical treatment care model”

**LIU Feng-Chun, HSU You-Chien**

**Introduction**

The disability of acute cerebral vascular disease caused burden for family and society. Taiwan National Health Insurance Administration Ministry of Health and Welfare promoted a program “Post-acute medical treatment care model” for those with stable clinical symptoms, potential of rehabilitation and sufficient family support. April, 2015 our hospital participated the pilot run of the program. Transferred those met the conditions: The acute cerebral vascular disease occurred within 30 days and transferred to downstream local hospital . Between April to December 2015, total 16 cases qualified for the program, but 6 cases did not transfer on time.

**Purpose/Methods**

4 different occupational groups: physician, nursing, nutritionist and rehabilitation involved in the process of assessment and evaluation then communicate with patient and patient’s family members to decide if the patient will be transferred to the program. the improve method was: 1.Within 1st week of evaluation request the family members to decide if they willing to transfer the patient. 2.Set up time table for assessment and evaluation, set up substitute mechanism. 3.Set up LINE group for team communication. Post updated assessment and evaluation of each occupational group simultaneously. Effectively increase the efficiency of group communication.

**Results**

Between January to September 2016, total 25 cases met the criteria of transferring, 9 cases more than 16 cases in 2015. Only

1 case (4%) failed to transfer. Compared with 2015 failed 6 cases (37.5%) the improvement was 33.5%

**Conclusions**

During the implementation of the “Post-acute medical treatment care model”, we have established an effective operation method which drastically reduced the fail rate of the transfer patient. Between 2016 January – September 9 months the failed case drop from 6 cases to 1 case, it is a significant improvement.

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## Reducing the Time Spent on One-stop Services for Injury Inspection and Evidence Collection of Sexual Assault Victims

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**Introduction**

A total of 29 sexual assault victims received one-stop services from January to December, 2013. An average of 45 minutes was spent on evidence collection. Compared with the average time spent on injury inspection and evidence collection (35 minutes) in other hospitals, the time spent on those of 12 sexual assault victims (41.38%) in our hospital was above average. During injury inspection and evidence collection, the time spent on injury inspection and evidence collection will be increased due to the complicated items of doctors’ evidence collection and nurse practitioners’ unfamiliarity with the process of injury inspection and evidence collection, which makes sexual assault victims feel more anxious and also affects the subsequent interrogation of the police. The excessively long time spent on injury inspection and evidence collection will reduce the manpower for patient care in hospital. Therefore, it is necessary to implement a special project to improve the causes of excessively long time spent on injury inspection and evidence collection.

**Purpose/Methods**

The purpose of this special project is to develop a medical package for evidence collection, prepare evidence collection cart and evidence collection pack (including the package leaflet), offer in-service education course of one-stop sample collection process, and develop strategies and methods, such as producing teaching CDs, to reduce the time spent on one-stop sample collection process for sexual assault victims.

**Results**

After the intervention of improvement measures from June 2014 to August 2015, the time spent on evidence collection of one-stop service process was reduced to 30 minutes. The “One-stop Injury Inspection and Evidence Collection Inspection Form” was used to inspect 14 people (excluding 3 people in the special project team) in the unit, and the accuracy rate reached 100%. 7 nurse practitioners who actually implemented injury inspection

and evidence collection completed the "Questionnaire on Improvement of Satisfaction Using Special Project." The results showed that the average satisfaction was 97.8%.

### Conclusions

The implementation of this special project included: developing a medical package for sample collection, preparing sample collection cart and sample collection pack (including the package leaflet), offering in-service education course of one-stop sample collection process, and producing teaching CDs. Clinically, a stopwatch was used for actual measurement and "One-stop Injury Inspection and Evidence Collection Inspection Form" to perform inspections. The results showed that, the time spent on injury inspection and evidence collection of patients was reduced, and nurse practitioners' ability to implement one-stop services of injury inspection and sample collection for sexual assault victims was improved as well.

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## Use Nursing Consultation System improves the care with Dysphagia's Patient

**CHUNG Hsin-Ling, CHENG Hsiu-Ling, WU Chiou-Yu**

### Introduction

The Nursing Consultation System began 2011, most of cares are 「assist to placement venous catheter」, on the other hand the number of disease care is little. Dysphagia can occur in all age group's patient. Dysphagia also can affect eating and easily lead to malnutrition, aspiration pneumonia. In our hospital, when Neurology patients with dysphagia, we will assessment with three-stage swallowing screen and use food thickener to help patients eating. Except neurology patients, the others take a nasogastric tube as main method; new pipeline indwelling feeding tube will increase inconvenience and burden of caring for family members. Patient Safety Annual Goals in 2016-2017 is to enhance the communication in medical staff members; therefore the most important part is to help all patients choosing safety way of eating as soon as possible.

### Purpose/Methods

1. In Nursing Consultation System, we set up a new item of 「Assessment of Dysphagia」, all ward's nurse in our hospital may make a request of it. 2. Actively promote the simple skill of 「Assessment of dysphagia」 in each ward's morning meeting. 3. Help to make an arrangement of giving care advices from Neurology senior nurse. 4. To assess each patient swallowing screen, provide dietary choices and teach their families how to modulate food thicker. 5. Taking Combined-Care and IPP (Interprofessional Practice).

### Results

It has been started since April 2016, the correct rate of dysphagia screen is 100%, the aspiration pneumonia rate of teaching families using food thickener is 0%.

### Conclusions

Using Nursing Consultation System to promote specialist nursing care to every department of hospital, effective use of specialist nursing care to improve the quality of medical care; also encourage families to actively participate in patient caring.

### Comments

Patient-centered care should be InterProfessional Practice.

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## Improving the correctness of bundle intervention for ventilator associated pneumonia in intensive care unit

**LIU Tzu-Yin, HSU Wan Yin**

### Introduction

Institute for Healthcare Improvement indicated that using evidence-based care bundle can effectively reduce the incidence of ventilator associated pneumonia. The average ventilator associated pneumonia rate was 1.01% in our intensive care unit in 2015. Through the observation and audit on the clinical practice of care procedures for endotracheal tube, we found several steps against the evidenced based care bundle. First, the head of the bed was not reached 30-45°; Second, the concentration of chlorhexidine for oral hygiene care was lower than the recommend level of at least 0.12%; Third, the compliance of daily sedation vacations and assessment of readiness to extubate were also not adequate. The overall correctness was only 49.4%. Once the patient developing ventilator associated pneumonia, the length of stay, antibiotics consumption and medical costs will increase and may cause patient mortality.

### Purpose/Methods

Aim: Improving the correctness of bundle intervention for ventilator associated pneumonia in intensive care unit to reduce the incidence of ventilator associated pneumonia. Methods: 1. Make a marker for indicating 30° of the head of the bed. 2. Hold the educational course for the oral hygiene care. 3. Establish the standard operating procedure for daily sedation vacation. 4. Implement the computer information system to remind the compliance. 5. Make a daily assessment board for invasive medical procedures. 6. Tape a educational video for preventing ventilator associated pneumonia. 7. Introduce scenario simulation teaching. 8. Apply "team resource management" and interdisciplinary model to remind the daily assessment for readiness to extubate.

### Results

We started the improvement measures since March 2016. The correctness and compliance of bundle intervention for ventilator associated pneumonia were 100% during April and September, 2016. The additional benefit was the ventilator associated pneumonia rate was 0.21% during January and September, 2016. There was only one episode of ventilator associated pneumonia.

### Conclusions

Through the interdisciplinary cooperation, effective communications, brain storming, we introduced creative intervention on care bundle for ventilator associated pneumonia which can improve the correctness and compliance of bundle intervention for ventilator associated pneumonia in intensive care unit and also can reduce the incidence of ventilator associated pneumonia. These enhance the quality of care, infection control ability and reinforce the confidence and appreciation of family to clinical nursing staffs.

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## Experience of Bundle intervention for Ventilator associated pneumonia in the ICU

### YE H Mei-Lin, LUE Ya-Meei, KU Yan-Chiou, CHENG Jin-Shiung

#### Introduction

Many intubated patients had high incidence rate of ventilator associated pneumonia (VAP) that increase of hospital care expense. Our VAP incidence density was significantly higher than the other medical centers in Taiwan. We attempted to reduce the incidence rate of VAP.

#### Purpose/Methods

Our data was carried out from Jan 2013 to Mar 2014. The VAP incidence density was 2.4‰ in our unit where we found three factors are undisrupted sedation, tilting level less than 30°, and lack of daily extubated evaluation. We set our target valve was 1.07‰ and identify all possible failures during process. The contribution factors were lack of knowledge of preventing VAP, tools, convention, and auditing system. We use e-learning program, clear labeling, information management system with automatic screening reminder, formulated routine, and establishment of audit system.

#### Results

In our unit, the VAP case numbers were from 37 (pre-improving phase from Jan 2012 to Mar 2014), to 1 (post-improving phase from Oct 2014 to Mar 2015). The VAP incidence density was from 2.4‰ (pre-improving phase) to 0.2‰ (post-improving phase), and the incidence rate was 1.07‰ and significantly difference ( $p < 0.05$ ) with target value which was better than average rate of Taiwan Clinical Performance Indicator (TCPI). The average length of hospital stay ( $8.9 \pm 0.6$  day to  $7.9 \pm 0.6$  day), length of ventilator use (7.2 to 6.8 day), and antibiotic costs (133,981 to 87,203 TWD) were decreased. The customers satisfaction rate (93.9 to 95.6%) was increased.

#### Conclusions

In order to provide comprehensive care of patients with ventilator support, we utilized eight innovative strategies (Four Taiwan first) including ICIP mandatory check function in VAP Bundle care, ventilator weaning suggest automatic screening reminder, 0.2% chlorhexidine gauze in oral hygiene, install emptying pipeline water item in ICIP VAP bundle care checklist.

### Comments

Our experience will be successively published to provide A patient's high quality intensive care.

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## A preliminary study on whether the ability of self-care can be improved by carrying out the pre- and post-test of health education instruction

### WU Shu-Chun, CHUANG Fu-Lian, KU Yan-Chiou, CHENG Jin-Shiung

#### Introduction

To teach patients do well self care are one of nurses' responsibility. The patients of day surgery need more concern whether they can take care well themselves through education by nurses before they go home. Our unit is a PACU. We often do education for the patients who have undergone day surgery. In addition to oral and handout forms, we research the effect of test for patients who have undergone day surgery.

#### Purpose/Methods

The investigation of the effect in applying pre- and post-test of educational instruction for the patients of gynecological outpatient surgery in the improvement self-care ability before and after health education instruction. There were 46 Convenient patients of gynecological outpatient surgery were collected as samples to compare with the result of pre- and post-test (6 questions) of educational instruction and to follow up their satisfaction and the amount of their phone calls from Oct. 2015 to Sept. 2016.

#### Results

Samples are all female. Average Age: 45.48 ± 11.91y/o. There score of pre- and post-test are significant difference (5.07 VS 6.0,  $p < 0.000$ ). The lowest correct rate: 52% and 59%. The questions are Q3 (the observation of the amount of Vaginal bleeding) and Q4 (The appropriateness of driving home by car or motorcycle after surgery). The result of satisfaction survey are 100% above 4 point (Likert scale: 5 point).

#### Conclusions

The implanatation of pre- and post-test of educational instruction is useful and help nurses to understand the weak point of patients' knowledge in advance. Therefore, nurses can strengthen self-care knowledge of patient and improve the ability of self care according to patients' level.

#### Comments

When patients have undergone day surgery, in addition to oral and handout forms, the implanatation of pre- and post-test of educational instruction is also a good strategy to make sure our patients who really understand the content of patient Instructions done by nurses in implementing patient-centered care. Although this method spent much time.

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## An Investigation on Reducing the Re-examination Rate for Emergency Specimen Clotting

**YANG Bey-Jing, LIN Jiann-Fu, CHANG Ya-Hsiu, WU Shu-Wei, CHIEN Tzu-I, LEE Mo Siu-Mei**

**Introduction**

Blood tests are usually basic process for emergency patients, which could offer patients' conditions for physicians to make quick judges and provide proper treatments. Re-draw Blood is required if specimen clots or exposes, the amount of specimen is not match or some other abnormal events. The blood re-drawing always causes patient's complaint. Moreover, it affects the timeliness of medical treatment. The specimen solidification rate in 2015 was 86.1%, which was the highest failure rate in the emergency department and led to 85% re-examination rate.

**Purpose/Methods**

The aim of the study is to reduce the re-examination rate caused by emergency specimen clotting. The goal of the re-examination rate is set to be less than 5%. The team members observed and discussed every case, and then interviewed the nurses responsible for taking specimen. After analyzing, the main reasons for specimen clotting were that the shaking for the test tube was not accurate after taking specimen because there was no standard process for shaking test tube and nurses were too busy, and there was no checking mechanism. To avoid specimen clotting, the standard operation for test tube shaking was defined and advocated the standard process to nurses. A portable mini-shaker was also created to assist nurses shaking specimen. Furthermore, a regular check-up mechanism and individual guidance measures were implemented to keep the specimen taking process well-performed.

**Results**

After the standard process, check-up mechanism and guidance measures for taking specimen involved, 708 specimens were collected from April to August in 2016. The re-examination rate was 0% and the clotting rate was 0% with the assistance of portable mini-shaker.

**Conclusions**

The results showed that it ensured the safety of patients and improved the satisfaction of nurse staff. In addition, the clotting rate illustrated that the portable mini-shaker was fully worthy of promotion.

**Comments**

The findings and measures could be a reference model for other medical institutions to improve the specimen taking process.

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## A patient-centered Nursing Care in Conjunction with the Multidisciplinary Heart Failure Care Team for a Patient with Severe Systolic Heart Failure

**TSENG Ya-Chun, LEE Hsiang-Chun**

**Introduction**

The subject reported here is a 55-year-old female with diagnosis of systolic heart failure. The ejection fraction of left ventricle was severely impaired as 26%. The period of nursing care was from January 14, 2016 to October 25, 2016. We used the Gordon's 11 functional health patterns assessment tool. This assessment defined some overlooked health issues for this lady including lack of physical endurance and anxiety.

**Purpose/Methods**

To relieve her anxiety, active caring with empathy was offered. We talked with the patient to understand her gap of insight about her illness and also the gap of knowledge of self-care. Step by step, we offered the heart failure-related knowledge education. A positive affirmation of disease control was gradually established. Further, we encouraged her to join our Multidisciplinary Heart Failure Team Cardiac Program including cardiac rehabilitation, exercise training, dietary instruction and guidance, pharmacologist consultation, and outpatient telecare with blood pressure and heart rate tracing and monitoring. Her cardiopulmonary function was trained in a gradual manner, with professional guidance and supervision.

**Results**

During the nine-month close follow-up, treatment and care of the patient, the team learned the patients thinking and ideas of life and death. With the above team work, her maximal exercise capacity was improved from 4.1 METs to 5.2 METs. The heart failure symptoms including weakness, fatigue, insomnia, and exertional dyspnea were improved. She participated social activities and her anxiety was improved as well.

**Conclusions**

In addition to improvements about her physical performance, her psychological health was also improved. Her insight, recognition and knowledge about heart failure were all enhanced, and the patient became actively participating the well-offered health team care. This care report presented a good example of patient-centered nursing care in conjunction with a well-organized multi-discipline heart failure care team work.

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## Effectiveness of stroke care by using post-acute care program – one hospital experience in the middle of Taiwan



## LIEN Chi-Hsun, LU Yen-Wen, CHEN Hui-Jen, HSU Hung-Yi

### Introduction

Post-Acute Care (PAC) in Taiwan is a program to care post-acute stage of stroke patients with team work. It not only uses team work between different health professionals, but combined different hospitals, medical center and regional hospital system. It's aim is to integrate the discretely previous health resources, and improve quality of care. Patients then can also receive suitable, comprehensive care and even personalized strategy helping them go through the different stages of acute stroke. In this regional group of PAC program in the mid-Taiwan, five hospitals joined together since Jan. 2014. There were 1796 patients of acute stroke, discharged with mRS (Modified Rankin Scale) between two and four. Total 116 patients participate in the PAC program till June 2016.

### Purpose/Methods

The study group included patients by using PAC criteria (mainly mRS between 2 and 4) in this team (total five hospitals) between Jan and June 2016. The compared group is patients without PAC (filled by criteria but they had no will). The primary outcome measurement is the improvements of functional score (mRS) from admission to discharge between two groups.

### Results

The mean mRS of 20 patients with completed PAC program between Jan and June 2016 is 3.80 at admission and 3.55 at discharge. ( $p=0.0008$ ,  $p<0.05$ ) (paired t test). The mean mRS of 114 patients without PAC (exclude two loss follow-up patients) between Jan and June 2016 is 2.99 at admission and 2.74 at discharge. ( $p=2.1$ ,  $p>0.05$ ) (paired t test).

### Conclusions

Patients with PAC have significant functional improvement than patients without PAC. Patients without PAC still have only mild improvement. In this result, we suggest that it is important to convince patients who are suitable but no will to participate PAC program. In conclusion, the care program model by using team work, cross professional, and cross hospitals can cover the post-acute stroke stage, improve care quality, decrease disability and also decrease resource waste.

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## Prevention of pressure sores from surgery through pressure relieving equipment

### HUANG Xiao-Ling, TSAI Yi-Fan

#### Introduction

According to an US research, 2,500,000 people suffer from pressure sores annually. Nonetheless, 95% of the pressure sores can be prevented through accurate intervention. 25% of the pressure sore occurred after surgical operation due to its long duration of anaesthesia, inaccurate position during surgery and old age of the patients (≥65). The project investigated into the

causes of pressure sores from surgery and provided suitable pressure relieve intervention, such as fat pad, high density cushion and waterbase pillow. The implementation of the equipment reduces the occurrence of pressure sore and increases the quality of caregiving after surgery.

#### Purpose/Methods

The aim for the research is to investigate into the use of pressure relieving equipment to reduce pressure sores from surgical operation. The prevention method includes two stages. First, to estimate the risk of pressure sore from operation. Second, to rank the different cases from high to low and execute the prevention methods during surgery. Educational training was conducted to the caretakers to prevent pressure sores after surgery.

#### Results

Through the two stages of prevention method, the execution rate was up to 100%. Further enhancement for pressure relieve was provided during surgery which reduced the post-surgery pressure sores to 0%.

#### Conclusions

Through educating the caretakers on methods to prevent pressure sores, it can reduce and prevent the occurrence of pressure sores after surgery.

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## The Effect of Replacing Small-Volume Nebulizers on Contamination in Elderly Patients

### CHEN Shin Yu, CHEN Yin Yin, WANG Fu Der

#### Introduction

Nebulizers are widely used in clinical for elderly patients to treat the disease of respiratory tract, which can aerosolize medicine to 0.5-10 $\mu$ m to reaching the lower respiratory tract, so as to induce expectorant action or treat the inflammatory of respiratory tract. However, nebulizers can be contaminated by the exogenous route owing to improper care, so that increase risks of oral colonization or respiratory tract infection, especially in elderly and immunocompromised patients. Currently, suggestions of papers about the frequency of replacing nebulizers are very wide, and guidelines of hospitals on nebulizers practices are also inconsistent.

#### Purpose/Methods

This study aim at investigating the effect of replacing nebulizers (at 24, 48 or 72 hours) on contamination in elderly patients. A randomized controlled trial study is conducted from July 9, 2014 to February 2, 2015 in a surgical ward of a medical center in Taipei. During the study period, include above 65 years old people with steam inhalation treatment. After participants agree to join the trail, randomise cases into 24, 48 or 72 hours group. In the protocol, researcher collect culture of nebulizers after used.

**Results**

Total 525 specimens of nebulizers are collected from 210 elderly patients. The rate of contaminated nebulizers at 24 hours is 14.1%, which is significantly higher ( $p = 0.008$ ) than 48 hours (24.3%) and 72 hours (25.6%). In multivariate statistical analysis it shows that steam inhalation increases by one day with the contaminated risk of nebulizers increased by 12% (95% Confidence interval: 1.03-1.21,  $p = 0.003$ ).

**Conclusions**

That replacing nebulizers more than two days will increase contaminated rates significantly. Therefore, health care workers should understand and comply with guidelines of steam inhalation clinical care to reduce the contaminated risk of nebulizer in elderly patients.

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## Improve the implementation rate of End of Life care for nursing staff

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Chin, CHEN Ya-Mei, LU Tzu-Chan, CHENG  
Jin-Shiung**

**Introduction**

Saving lives and curing diseases are the primary intentions in the acute wards. Nursing staff should enhance caring ability to provide completed nursing process for supported and comforted moribund patients with their families in order to painless, peaceful, and dignified final journey when facing the medical limits on terminal diseases patients.

**Purpose/Methods**

The purpose of this project is to improve the implementation rate so as to provide completed physical, mental and social health care of moribund patients for nursing staff. The reasons caused low implementation rates are inability of moribund care, incomplete nursing recording and lack of the moribund care standards in survey. The improvements are drilled in moribund care skills, took place holistic integrated care conferences, and instituted nursing care plans and moribund care routine.

**Results**

The implementation rate of moribund care increased from 19.4% to 61.6% in general. It was improved from 37.3% to 75.4% in physiological area. It was increased from 29.4 to 78.1% in mortician area. Psychological area was improved from 9.8% to 30.5%. Spiritual area increased from 3.9% to 43.9%. It achieved 100% in the satisfaction survey of nursing care.

**Conclusions**

The implementation rates of psychological and spiritual areas are displayed less than 50% in survey. It implied nursing staff should be strengthened and extended to whole caring wards in these two parts in order to practice holistic integrated care.

**Comments**

Nursing staff support to application professional knowledge and skills to enable ebbed patients and their families progress peacefully until the end. Patients were into total harmony due to survivors were followed their religion and social conventions in funeral. Nursing quality increased to reach the balance and without regret between life and death.

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## Session P1.3: Health promoting pharmacies

### HPH activity at insurance pharmacy

**KOIZUMI Reiko****Introduction**

Currently, the necessity of self-health management is required in Japan. In addition, regional insurance pharmacies are required to perform a wide range of work, from prevention to care and support to health. Due to social change and structural change of medical care, pharmacists are needed from the standpoint of prevention. Based on the concept of HPH at we had a health fair with the purpose of having local residents interested in self health management.

**Purpose/Methods**

We provided information to the local residents in advance, advertised, and grasp the basic data using health equipments (bone density measured, toe force measurement, HbA1c measurement, body composition meter, lung age measurement, blood vessel age measurement). I also took a questionnaire about health fair at an insurance pharmacy

**Results**

The participants were male (5) female (12). The test result was better than expected. From the results of the questionnaire, this attempt at the insurance pharmacy had become clear that very valuable. And that many called for continuation. We thought about this health fair.

**Conclusions**

They were able to recognize self-health condition based on the measurement result this time. And they were able to lead to behavioral change. We advised to improve by continuing. Our pharmacy hosted this kind of event made it a foothold to protect the health of local residents. The reason that the participants' results were good caused there were many participants who are interested in health. The future task is to think what can the pharmacy in order to the residents of the area not interested in health be done.

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## To evaluate the effectiveness of “correct drug use” advocacy activity conducted by pharmacists

**CHENG Hsiang-Lan, LU Wan-Chen, CHANG Ya-Hui, LEE Wei-Ying**

### Introduction

Drugs not only treat diseases but also cause illness. Therefore how to use drugs correctly to ensure its efficacy and safety is an issue that medical professionals should propagate to the public.

### Purpose/Methods

In this study, pharmacists conducted various advocacy activities in community to enhance awareness and behavior of correct drug use. Questionnaires for testing drug use-related knowledge were taken before and after advocacy activity (pre-test and post-test), another second post-test was taken one month later. These tests were used to evaluate the effectiveness of these educational interventions by pharmacists.

### Results

The average correct answer rate of pre-test, post-test and the second post-test was 46.6%, 89.6%, and 81.6%, respectively. People's knowledge of correct use of medicines can be improved after the intervention by the pharmacists, but it might not maintain over time.

### Conclusions

The advocacy activity effectively improves the public's knowledge of correct drug use, but the effectiveness slightly decreased one month later. In the future, pharmacists should continue to propagate the concept of correct drug use.

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## Taiwanese Medical Mission in São Tomé and Príncipe The Effectiveness of A Mobile Pharmacy in Mountain Café.

**HU Nan Ying**

### Introduction

São Tomé and Príncipe is an island nation in Gulf of Guinea of the west central Africa, with its population about 200,000 people. There was a health center providing medical service for 12 communities in the suburb, Mountain Café. However, it was discarded because of the financial difficulties. The Mission uses the discarded health center as the base to help those residents. Yet, the patients still need to purchase the medicine down the mountain.

### Purpose/Methods

After the evaluation, the Mission started the mobile pharmacy in March in 2016. In order to improve the medical accessibility,

each time doctors go to Mountain Café, according to the epidemiologic data from the past, they will offer some offently-used medicine based on Bamako System with local prices and locally available ones.

### Results

The mobile pharmacy currently only offer Acetaminophen, Ibuprofen, Amoxicillin, Beomhexine, Chlopheniramine, vitamin B complex and pain relief patch all with the local prices. Before the mobile pharmacy started, the average outpatient amount was 7.55 persons from June in 2015 to February in 2016. Since March in 2016, the outpatient amounts of each consultation are 17, 30, 21, 18, 16, 17 persons, 18.71 persons in average.

### Conclusions

The medical resources are deficient and unevenly distributed in the cities of São Tomé and Príncipe, except for the capital city, Agua Grande. Moreover, holistic health care is the goal of the Mission. The mobile pharmacy not only provides the medical service but continues the treatment without suspension.

### Comments

In the future, the Mission can cooperate with the local health center for offering more medicine in an effort to give better medical care for the residents in remote area.

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## Pattern of dispensing near-misses from outpatient pharmacists between 2010 and 2016 in Taiwan

**CHAI Pony Yee Chee, SHAO Shih-Chieh, CHAN Yuk-Ying**

### Introduction

Prevention of medication errors is a priority for health services worldwide. Analyzing dispensing near misses provide an opportunity to identify and correct potential errors that may jeopardize patient safety. However, there is a lack of literature reporting the pattern of near-miss dispensing in Taiwan.

### Purpose/Methods

To determine the rate and the types of dispensing near misses in outpatient pharmacies in Taiwan, we conducted the observational study from January 2010 to August 2016 under Chang Gung Medical Foundation (CGMF) which consisted of 3 district hospitals, 2 regional hospitals and 2 medical centers. We collected and analyzed data of dispensing near-misses which defined as dispensing errors detected inside pharmacy without delivery to patients from the self-reporting system in CGMF. We used descriptive statistics to meet the study objective.

### Results

We included 37,324,697 prescriptions and found 42,625 (0.11%) dispensing near misses from 2010 to 2016. There was higher reporting rate of dispensing near misses in medical centers (0.11%) and regional hospitals (0.10%), compared to district hospitals (0.17%). Among these dispensing near-misses, wrong drug quantity, wrong drugs, wrong drug strength and others

(wrong dosage form and drug mix-up) accounted for 49.8%, 41.8%, 4.8% and 3.6%, respectively.

### Conclusions

This study reported the rate of dispensing near-misses was low in outpatient pharmacies with different hospital levels in Taiwan, but we need further works to develop specific plans for reducing the risks of dispensing error in our health services systems, especially in wrong drug quantity and wrong drugs.

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## A Study on the Current Status of the shorten the time of prescription accepted at night in Chinese Medicine Pharmacy—Experience of a Teaching Hospital in Northern Taiwan

**LIN Hui-Lan, LIU Jun-Sheng, SHIH Po-Jen, LIN Yu-Wen, YANG Nan-Ping, LIN Ching-Feng**

### Introduction

A shortage of pharmacists is common in many hospitals. Staff arrangement becomes more difficult due to "Guidance Governing Outsourcing Business at Medical Institutes" (i.e. the employment of medical personnel is subject to individual medical institute) and insufficient inter-pharmacy staff support (e.g. long distance or prolonged clinical service at Department of Chinese Medicine). Our hospital initiated the shortening of the time for prescriptions accepted at night to meet the regulations for night shifts of female staff and the arrangement of pharmacists.

### Purpose/Methods

Our hospital shortened the time for prescriptions accepted at night starting from June 2015, where the daily medicine pickup hours were limited to 10pm. We used a Paired T-test to analyze the differences of 3-month and one-year service quantity, prescriptions after 10pm (quantity of medicine pick up the next day), cost down pharmacist manpower and the number of patient complaints before and after new policy implementation.

### Results

After shortening the time for prescriptions accepted at night, the 3-month service quantity as well as average one-year service number in this hospital was increased (980±40 to 999±104 (P=0.76) and 4309±368 to 4444±374 patients (P=0.38), respectively), although both did not reach significant difference. On the contrary, prescriptions after 10pm were significantly decreased (20±12 to 14±8) within 3 months, the monthly working hours of pharmacists were reduced to 75±4 hours on average, and the complaint about medication pickup was zero.

### Conclusions

Although patient number in Department of Chinese Medicine did not decrease accordingly due to the shortening of the time for prescriptions accepted at night, the risks of traffic for staffs and patients returning home were reduced. Furthermore, the working hours of pharmacists were decreased by 75 hours, which was very helpful in effective staff arrangement.

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## Pharmacy efforts to promote non-smoking among smokers

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### Introduction

In Japan, adult smoking rate is declining thanks to recent measures including Health Promotion Act; however, the rate is still high compared to other countries. Smoking is a great harm not only to the smoker but also to others nearby. Therefore, promotion of tobacco cessation leads to improvement of overall community health promotion. This is a report on a unique effort implemented by a community pharmacy to advocate tobacco cessation.

### Purpose/Methods

Duration of research: June to July, 2016 (2 months). Target: 445 smokers who are customer of the pharmacy. Method to advocate non-smoking: Based on the information learned from an awareness survey, different intervention measures were taken by pharmacist, including handing out a brochure for non-smoking, introduction of non-smoking class, recommendation to visit hospital for smoking cessation program.

### Results

In two months and out of 445 targets, our original brochure was received by 271 (60.1%). They were classified into 4 categories according to the survey: 1) Experience + / Motivation + : 39, 2) Experience - / Motivation + : 17, 3) Experience + / Motivation - : 40, and 4) Experience - / Motivation - : 124. Groups without motivation were significantly higher (x2 test, p<0.01). 166 (61.3%) read the brochure. After pharmacist's intervention, 2 took non-smoking class, 3 started effort to quit, and 1 quit smoking.

### Conclusions

By recommending smoking cessation using the pharmacy's original brochure, we succeeded in changing the behavior of smoker patients. Information published by pharmacy was extremely useful, and inspired all patients, including the ones who did not stop smoking this time, by creating an opportunity to reconsider about smoking. Next challenge is to develop an approach for a pharmacy to take against the group without motivation of tobacco cessation.

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## Session P1.4: Health literacy and health literate organizations

### Using “C-I-CARE” to Reduce the Complaint Rate in the Sub-acute Respiratory Care Ward in a Medical Center

**WANG Yihan**

#### Introduction

The occurrence of medical disputes has a lot to do with poor communication, inadequate explanation and unilateral statements of the medical staff without knowing whether the patients and their families fully understand. Poor communication is the key factor that triggers complaints. The reaction and explanation of the medical staff are usually regarded as the key elements to measure communication quality.

#### Purpose/Methods

We made improvements by developing a SOP to improve communications with the patient, providing hands-on training on how to explain conditions to patients and answer their questions, creating videos demonstrating communication skills in medical settings, and adding clear and informative signs to promote a visitor-friendly environment.

#### Results

The rate of patient complaints was effectively reduced from 2.22% to 0% and the Subacute Respiratory Care Unit received two awards for outstanding performances.

#### Conclusions

Therefore, the unit cohesion and interpersonal communication were enhanced, which also facilitated the interaction and helped the nursing staff regain the enthusiasm for nursing. It is recommended that the questions from the family in each single case should not be ignored because it can help solve the hidden problems in the complaints.

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### An Empirical Study on Value Co-creation between Health Services Consumers and Providers - Service Dominant Logic Perspective

**YAN Yu Hua**

#### Introduction

Healthcare organizations have advanced to a service-dominant logic era that dictates the positive input of resources, differentiated and customized services in order to excel in competition. The “Service Dominant Logic”, a value co-creation between service providers and customers, has attracted much

attention in the theories and practices of policy study and marketing. Value creation has to be accomplished through cooperation and the input of all sorts of production resources. As such, the creation of optimal results through the concerted effort between the physicians and the patients emerged as the shared topic of the field of medical study and practice.

#### Purpose/Methods

In this study scheme, a few vital concepts for Value co-creation by healthcare organizations will be clarified through literature review, interviews, and survey research by questionnaires.

#### Results

The substantive issues of the study are: (1) Successful medical practice leading to value co-creation relies on a mutual physician-patient relationship maintained primarily through participation and interaction. This study aims to define its potential factors and outcomes. (2) Identifying the moderators affecting the correlation between the factors and outcomes described above. Research may yield meaningful suggestions that are beneficial practically and theoretically for scholars and medical management practice.

#### Conclusions

This concept holds that physicians and patients can enhance effectiveness and satisfaction in medical service through voluntary participation in the “input, process, and output” of medical service on both sides through the complementation and interactions between the capabilities of the two. The result will be jointly created value. Likewise, healthcare organizations can also achieve the goals of value creation and cost reduction through “Value co-creation”.

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### The orientation activity of following the trace and virtue of Dr. MacKay

**PENG Jung-En, CHENG Hui-Wen, HSIAO Chia-Ying, LIN Chi-Feng**

#### Introduction

One important orientation speech called “The introduction of the 12 Virtues of MacKay” has held for many years. How to promote the introduction of virtues of MacKay, the spirit of the hospital, is an important issue to the authorities. Since 2013, the human resource department and chaplain care department cooperated to design a new program for the same purpose. The new program introduced those 12 virtues by visiting several historical architectures related to MacKay, the founder of the hospital, and designed interesting activities to express and remind those virtues to recruits through the program.

#### Purpose/Methods

By new program, we would like recruits enjoying the orientation course in a happy and relax atmosphere. We hope the new program is effective so they have lots of fun and are impressed to those virtues. The flow of activities are divided into three parts. The first part is ice breaking. The second part is historical architectures visiting. The third part is small group campaign and



presentation. Activities include ice breaking game, singing, MacKay stories sharing, poster designing and presenting. We use a way by small group campaign to run the program. By new design and new method, we hope it is not just an orientation, we expect that they will admire and agree the importance and the impact of virtues.

### Results

The new program started from 2013, and has held for 7 times. Average attending new employees are 121, and total 850 participants. Average satisfaction score is 98.5. Almost all the participants agree this program helps them increasing their knowledge and identity to the virtues of MacKay. Compare to the old program, which the average satisfaction is 84.4, the scores increase 16.7%.

### Conclusions

Changing the method changes the result. New method increases the effect and makes the orientation more interesting and successful. The program promotes new employees identity themselves to the 12 virtues of the founder, Dr. MacKay.

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## Town development with healthy life expectancy at 60 days health up ~From the result of 2015~

### HATAKEYAMA Mikie

#### Introduction

At the Kochi Medical Care and Cooperative, which is aiming to promote community health for all dwellers, members of us are working as partners to encourage residents to participate in the "Health Up 60 Day". In the community, mutual trust relationships are established through health promotion, and we are increasing participants. We will report on its achievement point based on the result of FY 2015.

#### Purpose/Methods

"Health Up 60 days 2015" sponsored by the Kochi Medical Care and Cooperative proposes ten courses of health promotion, and participants selected one and practiced for 60 days. Community members will encourage them to end from 07/01 to 11/30, 2015.

#### Results

5315 participants and 52 nominal groups supporting society (3731 and 35, respectively in 2014). The best 3 of the course was: 1st was toothbrush use, (1186 participants), the second was refresh with exercise (958), and the third was a measurement of weight (609). There were 1205 people in the 70s, 1046 in the 60s, 649 in the 80s, 499 in the 50s, 481 in the 40s, 300 in the 30s, 197 in the 20s, 264 in the 10s, 244 in under 9 year-old, 91 people in the 90s, and 1 in the 100s. 2225 of 3605 individuals who completed their course seemed to do it very well, 1063 could do roughly, 227 fairly, and 90 could not.

#### Conclusions

There are 39 branches of the Kochi Medical Care and Cooperative in Kochi Prefecture. Members of them made

applications for nominal patronage and organizations of 4808 out of 5357 participants. Multiple generations joined by urging nursery schools, elementary schools, acquaintance companies, and offices. Our members have accumulated a knowledge of health promotion every year. By augmenting the sponsoring organization and participants, we also aimed for the growth of the community health and the environment. As a result, the recognition of the members changed to "anyone can participate" and to "we should invite peoples who are interested in health promotion as well as not". In 2016, we are involved in the "Health Up 60 Day" with the participation of 10066 people and 59 nominal sponsorship. As new change, Kochi City planned "Iki Iki Health Challenge." In future, we will further cooperate with the administrative authority and expand our social network among residents, and then we will practice "making citizens healthy."

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## Group of Mindfulness-based cognitive therapy for employees with psycho-physiological stress : An outcome study.

### LIN Chun-Jun, LIN Yi-Chun, HUANG Kuo-Yang, HSU Zheng-Dian, HUANG Hui-Ting

#### Introduction

In this modern, industrialized society, psycho-physiological stress is highly related to people's depression and anxiety, which worsens our mental and physical health and affect our quality of life and working efficiency. Psycho-physiological stress was also proved to raise the social burden and medical costs. At present, handling the stress effectively becomes an urgent problem.

#### Purpose/Methods

15 cases with high psycho-physiological stress were recruited and 12 of the cases completed the 8-weeks mindfulness-based cognitive group therapy. Physical symptoms, the overall pressure of life experience, general health index, negative self-thinking, mindful attention awareness, self-monitoring awareness and total physiological energy were detected in week 1, week 8 and week 20. All the data were analyzed by nonparametric statistics and post hoc test.

#### Results

All cases' physical symptoms, negative self-thinking and self-monitoring awareness, overall pressure of life experience, general health index, overall pressure of life experience and total physiological energy improved after 8 weeks of mindfulness-based cognitive group therapy. In week 20, consecutive improvement on mindful attention awareness was revealed.

#### Conclusions

Mindfulness-based life style, which consists of beginner mind, acceptance, non-judging, patience, non-striving, letting go, trust and gratitude could help people handling psycho-physiological stress. Enhanced mindful of attention awareness and self-monitoring awareness, the flexibility to acceptance and decreased negative self-thinking raise people's ability to contain

their emotion, keep calm and solve problems while facing with their psycho-physiological stress.

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## Investigation on the Level of Awareness of the Importance of Light Management on Patient health Among ICU Nurses in a General Hospital: A Preliminary Study

**SONG Jisoo, KIM Hyun-Chung, KIM Jung-Hyun, SHIN Suu-Young, YOO Seung-Ji**

### Introduction

Environmental factors controls the circadian rhythm. Light controls temperature, sleep pattern, hormone secretion, and blood pressure by changing the circadian rhythm. Light management in the hospital setting is becoming more important. However, current ICU system focus more on managing physical factors than environmental factors. This study was conducted to investigate the level of awareness among ICU nurses on the importance of light management on the health of the patients in a General Hospital setting.

### Purpose/Methods

A survey was conducted and 31 ICU nurses working at National Medical Center answered the questionnaires. The questions asked about the nurses' awareness of light management on the patient's wellbeing and whether or not they are willing to implement light management in the ICU setting.

### Results

Ninety-three percent of the nurses answered that they are 'somewhat' aware of light management and the effects on the patient's wellbeing. None were ever trained to adjust the lighting. Only 41% answered that they actually manage the lights during their night shift. The reasons for not managing the light was due to the lack of knowledge and the urgent working conditions of the ICU. Seventy-seven percent answered that they are willing to control the lighting with proper education from the senior staff. The nurses who participated in this study answered that routine education on light management in the ICU will be helpful.

### Conclusions

Nurses in ICU were somewhat aware of the necessity of light management but most were not quite sure of the reasons. This study helped to increase the awareness of light management among the nurses. It will be a stepping stone to implementing light management for patient care.

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## Development and Validation of the Multidimensional Mandarin Health Literacy Questionnaire (MMHLQ)

**WEI Mi-Hsiu, WANG Ying-Wei, CHANG Mei-Chuan, HSIEH Jyh-Gang**

### Introduction

Despite efforts to create comprehensive measurement of health literacy, no instrument has yet been devised by which to measure multidimensional health literacy in Chinese.

### Purpose/Methods

This paper reports the development and psychometric testing of the Multidimensional Mandarin Health Literacy Questionnaire (MMHLQ), a comprehensive tool aimed at measuring health literacy in Taiwanese populations. The development process involved focus-group interviews (N = 37), item generation, expert consultation, plain language check, and field-testing. The questionnaires were filled out by adults (N = 586) recruited from eight health promoting hospitals. Needs of reading assistance, critical thinking disposition, and interpersonal communication skills were served as the validity criteria. Psychometric analysis included item analysis, exploratory factor analysis (EFA), confirmatory factor analysis (CFA), internal consistency, test-retest reliability, and criterion-related validity.

### Results

Focus-group interviews revealed the identification of five core concepts: accessing, understanding, appraising, and applying health information, and communication skills. This led to the initial generation of 95 items across the five dimensions. Consultation with experts led to the subsequent removal of redundant items, which left 50 items. The EFA of the quantitative data excluded 25 items based on statistical criteria. CFA of the remaining 25 items indicated good fit with the 5-factor model. All subscales presented high internal consistency and good test-retest reliability. Correlations between subscales and criterion measures demonstrated moderate criterion validity for the scale.

### Conclusions

The newly developed MMHLQ is a reliable and valid measure of health literacy, covering five conceptually distinct dimensions. The MMHLQ is useful in needs assessment for health literacy interventions and researches on health literacy among Mandarin-speaking adults.

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## Session P1.5: Refugees, migrants and minorities

### Wandering and Dwelling: A Discharge Preparation for One Vagrant with Pulmonary Tuberculosis

**CHEN Hsiu-Ju, PAI Hui-Wen, CHEN Wei**

#### Introduction

Vagrants, as the marginal people of the lowest socioeconomic status and a persistent problem of nations, lived in a different lifestyle with slovenly clothing, sleeping anywhere and linked with social security problems. This article is going to elaborate an event about a tuberculosis vagrant transferred to institution under his consent. Although this disposition was compulsive after all possible social-work efforts, the process of discharge preparation indeed not only solved the problems of homeless people, but also diminished the spread of tuberculosis.

#### Purpose/Methods

This article is based on the interviews recorded, verbatim drafts were coded and analyzed, the nature of problem was interpreted. Analytic hierarchy process was used to find out related problems.

#### Results

1. Tuberculosis prevention and control in vagrants: It's an important issues to block the transmission of tuberculosis. As for vagrants in communities, the best arrangement is to find social settlement and to deal with the compliance of taking medication.
2. The integration of social resources: In order to help vagrants to maintain the autonomy in their medical condition, we needed to integrate all related services in public or private sectors. Though the institutionalization would violate the human right, the case-client agreed with the discharge with medical care and less financial burden in the institution.
3. Discharge planning: It plays an important role in transitional process, which includes the connection of social resources, the specific care management, continuous care and holistic concern.

#### Conclusions

Tuberculosis is not only an issue of public health, but also the social security with vagrants involved. It's a serious topic to provide vagrants adequate medical attention to avoid outbreak of infection. The interwoven considerations have been taken about human rights, isolation, and the persuasion to modify the lifestyle of vagrants.

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## A study on mental health and religious practice of Indonesian Islamic caregivers in Taiwan

**SNG Yi Ping, KAO Cheng-Chih**

#### Introduction

Taiwan has increased aging population and need for caregivers had risen. Currently 190000 foreign workers are caregivers with 80% being Indonesian. This study aimed to explore how working in Taiwan affect foreign caregivers' mental health and change in strength of religious belief.

#### Purpose/Methods

Questionnaires of English and Indonesian were being given out at Ping Tung Christian hospital and a few nursing houses. In depth interviews were being conducted on 10 respondents. Frequencies of visit to mosque and self performing prayers were collected. Paired 2 tailed t-test was used to examine difference in strength of belief before and after they came to Taiwan. Correlation between working hours, years in Taiwan, self rated difficulty were also examined. Frequencies experiencing negative emotions were also collected.

#### Results

22 questionnaires were being collected however 1 was excluded due to difficulty comparing prayers of Catholic and Islam. Another was excluded due to incomplete response. 60% respondents visit mosque more than once a week before coming to Taiwan, however 90% never visited mosque in Taiwan. 95% pray 5 times a day in Indonesia, however in Taiwan only 35% pray 5 times a day and 30% never pray. Strength in belief show significant drop before and after they came, with mean of drop 1.65, STD=2.7 and p=0.013. Correlation of working hours (R=-0.21), years in Taiwan (R=0.23), self rated difficulty (R=0.05) and changes in strength of belief were not strongly demonstrated. 21% respondents often feel sadness and 37% sometimes feel anxious, worrisome, 58% sometimes feel restless and tensed. Respondents with changes in strength of belief said that it is due to lack of praying time, environment and teaching of Imam.

#### Conclusions

Significant difference in strength of belief in foreign caregivers was noted before and after they came to Taiwan, but related factors need further clarification. Substantial amounts of respondent experience negative emotions and related factors should be examined.

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## Identifying the optimal access time to emergency hospitals for establishing the emergency medical services underserved area in Korea

**EUN Sang Jun, KWAK Mi Young, LEE Jin Yong, KIM Yoon**

### Introduction

Timely access to definitive care is crucial for patients with emergency conditions. Delayed arrival to hospital could increase mortality and complications in emergency patients, especially for those in the underserved area. Hospitals providing emergency medical services (EMS) need to identify underserved area in their catchment area to improve equity and promote accountability in the regional EMS system. The purpose of this study was to identify the hospital access time (HAT, travel time from home to emergency hospital) affecting on mortality due to emergency care sensitive conditions (ECSCs) in order to establish EMS underserved area (EMSUA) in Korea.

### Purpose/Methods

Using the 2006-2014 National Health Insurance claim data, 445,548 emergency patients with primary diagnosis of 13 ECSCs were selected. HAT was calculated using GIS network analysis. Cumulative risk-adjusted 30-day post-discharge mortalities (PDM) for ECSCs were estimated by multiple logistic regression. HATs affecting on PDMs were screened by Change-Point Analyzer and validated by segmented regression analysis.

### Results

Increase in PDMs according to HAT generally showed bimodal pattern. The first HAT increasing PDM was 80 minutes (min) for intracranial injury, 40 min for fracture of the femur, 50 min for intracerebral hemorrhage, 60 min for cerebral infarction, 50 min for stroke, not specified as hemorrhage or infarction, 50 min for acute myocardial infarction, 80 min for other ischemic heart disease, 60 min for peritonitis, and 50 min for sepsis. The second HATs increasing PDM were ranged from 80 min to 140 min. There were no HATs significantly increasing PDM in cardiac arrest, subarachnoid hemorrhage, heart failure, and other nontraumatic intracranial hemorrhage.

### Conclusions

Our results showed that EMSUA could be established with HAT ranged from 40 min to 80 min according to ECSCs. It might give a useful information for hospitals providing EMS in identifying the EMSUA in their catchment area.

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## Session P1.6: Child health promotion

### First survey on patient safety culture in Estonia

#### SUURORG Lagle

### Introduction

The safety culture of an organization is defined as „the product of individual and group values, attitudes, perceptions, competencies in organization’s health and safety management“ (<http://www.ahrq.gov/professionals/quality-patient-safety/patientsafetyculture/resources/index.html>). Patient safety is considered as the most important aspect of quality in

the healthcare. Patient safety culture (PSC) has not been studied till now in hospitals in Estonia

### Purpose/Methods

The aim of the study was to examine PSC from a hospital staff perspective in Tallinn Children’s Hospital (TCH) and to compare the results with international data. The questionnaire Hospital Survey on Patient Safety Culture developed in the Agency for Healthcare Research and Quality was available in Internet (<http://www.ahrq.gov/professionals/quality-patient-safety/patientsafetyculture/>). The survey includes 42 items that measure 12 areas, or composites, of PSC. Translation of the questionnaire into Estonian language and pilot testing was carried out. All staff was offered voluntary participation in the study in November 2015.

### Results

All staff categories participated in the study, most of them were nurses. First PSC study showed high level of positive responses in safety culture. Results indicate that teamwork within hospital units and supervisor and manager support for patient safety are areas of strength for the hospitals, but nonpunitive responses to errors, handoffs and staffing continue to be areas for improvement.

### Conclusions

Comparing data between TCH and US hospitals showed less differences that we expected but the attitude to this matter should be cautious due to differences in healthcare systems, number of participants in surveys and experiences of staff. The rate of positive responses in TCH were in some measures higher than US, Taiwan or Dutch studies (Wagner C.jt,2013).

### Comments

This tool can help hospital and organizational leaders assess their PSC and identify areas in need of improvement. PSC study instrument was appropriate for TCH and the idea arised to use the tool for wider assessment of Estonian HPH Network hospitals safety culture

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## Using the value of badge to reduce the Losing Rate of Hospitalized Children in the hospital

### HUNG Hsiang-Ying, CHIANG Shu-Chuan, TSENG Tzu-Wei, WU Mei-Chuan, TENG Heng-Yi

### Introduction

Sick children lost in hospital Will cause sick children and parents psychological anxiety, increasing healthcare workers’ work load, leading to medical dispute and influencing job satisfaction. Using the badge on duty to enhance awareness of careers: including improving standards for nursing education. The purpose of this project has achieved by maintaining the basic needs of safety in children during hospitalization, enhance the quality of care and review the team on crisis handling.

**Purpose/Methods**

The standard process for prevention of sick children lost. Using of a special logo on the badges. At the time of admission to teach identification and purpose. Strengthening the prevention of Parental knowledge, continuously track caregivers' awareness of badges. Posting different patterns on the bulletin board every morning, and make sure the medical team wears a badge to carry out the treatment or examination. Nursing education was launched on lost prevention that included demonstration and return demonstration of preventive measurements.

**Results**

In January 2015 to December to use the value of badge for Lost prevention education, demonstration and return demonstration of preventive measurements. The Losing Rate of hospitalized children dropped from 0.03% to 0%. Satisfaction of parents with the medical team from 72% in 2015 to 95% in 2016.

**Conclusions**

Patient safety is an important indicator of medical quality. The loss of sick children during hospitalization will result in fear and anxiety of the sick children and their families. Using of badges will be able to avoid the sick children are not familiar with the hospital environment and lost. Reduce the additional medical and care resources, improve patient safety, To achieve quality control objectives, strengthen the family and children recognize the medical team and improve the satisfaction.

**Comments**

The promotion of the badge can effectively reduce the loss of sick children and enhance the trust of family members of the medical team, the establishment of a safe treatment environment, to create a friendly and institutional medical environment. We hope everyone who is in hospitalized period can obtain complete nursing care.

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## Evaluation of health promotion empowerment for the competence of correct medication among children

**WU Ju Fang****Introduction**

According to the survey of Taiwan Health Reform Foundation in 2007, it focuses on how under six years old Children take medicine. It is still over 92.8 percent of children using multiple drugs within mix powder. multiple drugs within mix powder analyze:these powders may be bitter、not easy to feed、Easy to degenerate、drugs contaminate each other in the mill、Whether the drug dosage forms are suitable for milling、dose error (the smaller the dose, the more difficult subcontracting, the higher the error value).

**Purpose/Methods**

The experimental design of the single group has been done before and after. Location Pediatric Nursing Station of the

Hospital is equipped with pharmacies to carry out health education through Power Point and short animations. Subjects in the hospital pediatric children and parents, by the pharmacist poster in advance, people voluntarily participate. Before the start, fill out the pre-test questionnaire, and then by pharmacists to brief health education drug safety, safety short play animation, is a group health education. After the end, fill out the post-test questionnaire, issued exquisite small gifts.

**Results**

Participants in 20 people, total of 20 were collected, incomplete questionnaire to fill in 6 copies, 14 valid questionnaires (70%). Participation through the health education, public safety of children pre-test and post-test analysis. Not before the group health education, knowledge of drug use,their mean scores rose respectively very understanding 71%,understanding 21%, ordinary 8%, do not understand 0% and very do not understand are 0%. After the health education publicity, Very understanding mean scores rose from 71% in the pre-test to 86% in the post-test, Understand mean scores rose 21% reduction 7%, ordinary mean scores rose 8% reduction 7%, do not understand and very do not understand are 0%.

**Conclusions**

In Taiwan, many parents lost to children medication, drug grinding powder that better than the treatment of drinking water. That each powder can be ground into the concept of powder, not knowing that each of the total drugs are not suitable for milling, but I do not know the drug "dosage form" is about the child drug safety issues.

**Comments**

To ensure the safety of children's medication, use of "special preparation for children" approved by the Department of Health as far as possible to reduce the potential risks of contamination and uncertainty of efficacy caused by self-milling subcontracting. "Children's special preparation" is designed specifically for children's drugs, most of the sweet "syrup", "chew ingot" or "oral solution ingestion" oral drugs, improve children's taste acceptance, willing to obediently with medication, Medicine can reduce children's fear of taking medicine.

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## Efficacy of Nebulized Hypertonic Saline on Children under Age Two with Acute Bronchiolitis

**LIN Hsiao-Chuan, LI Chia-Ling, CHANG Chih-Ming****Introduction**

Acute bronchiolitis is common in children under age two. One option for treating acute bronchiolitis is ultrasonic therapy with use of mucolytics or normal saline. Hypertonic saline can be an alternative therapy for acute bronchiolitis. The aim of this study is to investigate whether inhaled hypertonic saline for children under age two with acute bronchiolitis can reduce the length of hospital stays and clinical severity score compared to normal saline.



**Purpose/Methods**

We designed a study involving children under age two hospitalized for acute bronchiolitis from September 2014 to October 2015. The enrolled children were randomized into two groups. The experimental group was treated with 3% hypertonic saline with/without bronchodilator and the control group was treated with normal saline with/without bronchodilator. The length of days in hospital and the clinical severity scores were compared between the two groups.

**Results**

71 infants in total were recruited for the study. This study included 27 girls and 44 boys. 33 patients were assigned to hypertonic saline group and 38 patients were assigned to normal saline group. The average hospital stay was 5.54 days in hypertonic saline group and 5.86 days in normal saline group. There was no difference between the two arms in terms of the average hospital stay ( $p=0.351$ ,  $-0.37$  to  $1.02$ ) and the clinical severity scores (shortness of breath, wheezing and difficult breathing) on day 1 ( $p=0.680$ ,  $-0.75$  to  $1.15$ ), day 2 ( $p=0.110$ ,  $-0.18$  to  $1.72$ ), and day 3 ( $p=0.341$ ,  $-0.40$  to  $1.14$ ). No significant adverse events were reported.

**Conclusions**

The study does not support the use of nebulised hypertonic saline in the treatment of acute bronchiolitis under circumstances of routine treatment. 3% hypertonic saline for children under age two with acute bronchiolitis did not reduce the length of hospital stays and clinical severity score compared to normal saline. Further studies are required to confirm the efficacy of using hypertonic saline for treating acute bronchiolitis.

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## The correlation between oral status and maximum bite force

**SU Ching-Ming, YANG Yi-Hsin, SHIEH Tien-Yu Shieh, CHENG Jin-Shiung**

**Introduction**

It is believed that the better the masticatory system, the stronger the bite force. Bad oral hygiene will induce severe caries, tooth loss, as well as induce tooth crowding and malocclusion. It has been suggested that impaired masticatory function may lead to deficient nutrient intake and increase digestive disease, which would make masticatory deficiency quite detrimental to health.

**Purpose/Methods**

To determine correlations between maximum bite force and several variables, including age, sex, body height, body weight, caries index, occlusal pattern, vertical occlusal relationship, number of teeth in contact and maximum mouth opening, among healthy 4–6-year-old preschool children. A total of 201 preschool children aged 4–6 years were selected from two kindergartens. The collected data included the oral checking and bite force measuring records. Whole oral records and measurements of bite force were taken and analyzed.

**Results**

Growth variables, such as height and weight, correlated with sex and bite force. Although there was no significant difference in bite force among the three age levels (4, 5 and 6 years old), there were significant differences in growth variables. Oral status variables, such as the number of maxillary posterior teeth in contact and maximum mouth opening, showed significant positive correlations with bite force.

**Conclusions**

By combining the results of this study, it was concluded that associations of bite force with factors like age, maximum mouth opening and the number of teeth in contact were clearer than for other variables such as body height, body weight, occlusal pattern, and tooth decay or fillings.

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## The efficacy of intervention with creative card of vaccine at Family Physician (FM) clinic

**HO Hsuan, KUO Ting-Yu, WANG Yi-Chih, TSAI Yi-Fan**

**Introduction**

A total of 3,076 teenagers at 285 clinics from January to April/2016 in metropolitan hospital, we found 1,576 (51.2%) needed repeat consultation of immunization. It seems that it is important to provide clear information when doing immunization for teenagers.

**Purpose/Methods**

The aim of this study was to use creative card of vaccine and to maintain drug safety of teenagers in FM clinic. The content of creative card of vaccine showed picture, name, brief introduction, time of injection, side effect and attention of vaccine. We directed teenagers through creative card of vaccine and checked their understanding of vaccine before injection.

**Results**

After intervention of creative card of vaccine from May to August/2016, repeat consultation of immunization reduced from 51.2% to 5.1%. We found the correct direct rate of vaccine was raised from 85.2% to 95.8%. It showed much improvement in realization of vaccine for teenagers.

**Conclusions**

Use of creative card of vaccine as a direct way for teenagers, not only improves realization but makes drug safety.

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## The relationship between phthalate exposure and adipokine in children

**TSAI Hui-Ju**

### Introduction

A major health threat of phthalate-contaminated foodstuffs occurred in Taiwan between April and July, 2011. Phthalates, mainly di-(2-ethylhexyl) phthalate (DEHP) and/or Di-isononyl phthalate (DINP), were intentionally added to foodstuffs as a substitute of emulsifier in a variety of food categories. Phthalates are considered as endocrine-disrupting chemicals that adversely interfere sex and thyroid hormone, reproductive system. Recent studies suggested that phthalate may act as obesogens and disrupt glucose and lipid metabolism leading to increased risk of diabetes mellitus and cardiovascular disease. The purpose of this study is to investigate the relationship between phthalate exposure and adipokine, including leptin and adiponectine.

### Purpose/Methods

Children aged  $\leq 12$  years with possible phthalate exposure were enrolled in this study between August 2012 and January 2013. Questionnaires were used to collect details of exposure to phthalate-tainted foodstuffs, and blood and urine samples were collected for clinical biochemical workup. Phthalate exposure was categorized based on recommended tolerable daily intake level defined by the U.S. Environmental Protection Agency (0.02 mg/kg/day) and the European Food Safety Authority (0.05 mg/kg/day).

### Results

We analyzed phthalate intake and leptin and adiponectine of 198 children whose intake of DEHP-tainted foods was known. The significantly inverse association was found between DEHP intake and leptin (spearman correlation coefficient  $r = 0.29$ ,  $P=0.001$ ). Children in the high-exposed group (daily DEHP intake (DDI)  $> 0.05$  mg/kg/day) had significantly lower leptin level compared with the low-exposed group (DDI  $\leq 0.02$  mg/kg/day) (Mann-Whitney U test,  $p=0.001$ ). Higher adiponectine level was noted in high-exposed group compared with those in low-exposed group. ( $p=0.014$ ).

### Conclusions

The DEHP intake may be inversely associated with leptin level. The influence of DEHP on metabolic disorder is needed to clarify and follow-up of health effect is important.

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## Child Weight Control – The Family Weight Management Program

**LO Yu-Tai, CHOU Hsiu-Yu, YEH Li-Hsien,  
LIOU Wen-Chin, YANG Yi-Hua**

### Introduction

Data suggests 29% of Taiwanese primary school students is overweight or obese, 42 to 63% of whom will grow up to become

obese adults with significantly higher cardiovascular-disease risk. To create environments that support healthy eating and regular exercise which prevent overweight among children, it is important to educate both the children and their families. This program aims to improve the eating and exercising habits among overweight children and their family members in our community.

### Purpose/Methods

To assist overweight children and their family members understand the risks of obesity, and adopt healthy eating and exercising habits, a six-week Weight Management Program was held weekly to the public for free at St. Joseph Hospital, with the following classes: 1. Medical professionals teach the relationship between obesity and chronic diseases. 2.

Nutritionists teach how to choose a balanced, healthier diet. 3. Specially designed aerobic courses that promote lively movement coached by professional trainers for sixty minutes every week.

### Results

Thirteen adults (including parents and grandparents) and 15 overweight children attended the program with an overall participant rate of 86.3%. After the six-week weight management program, 15 participants (53.8%) with BMI  $> 24$  lost totally 13kg. The satisfaction rate was 100%. The most significant lifestyle changes among participants were daily water intake increased (87.0%), recognized my own BMI (78.3%), and always chose healthy food first (78.3%) according to the face-to-face survey given 3 months after the program.

### Conclusions

By combining medical, nutritional, and exercises all into one single program, we found that after six courses the overweight children and their family members were able to understand the importance of regular exercise, be more aware of obesity risk, and actively change their dietary behavior. This program has successfully educated overweight children and their families the proper eating habits of a healthy lifestyle, and has helped not only individuals but the entire families.

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## Effectiveness of Bladder Stimulation and Lumbar Massage Skills on Collection of Urine from Infants

**LU Meiyen, SHA WeiHui**

### Introduction

Urine sample is an essential method to diagnose and perform appropriate treatment for urinary tract infection. However, infants cannot control urination and low likelihood to express voids autonomously. Therefore, it seems difficult and time-consuming to collect their urine.

### Purpose/Methods

To use bladder situation and lumbar massage technique to promote urination, to facilitate early diagnosis and treatment. Based on evidence-based search strategies to perform clinical

practice, after the review on evidences of Level II literature, this study was conducted in a pediatric emergency department and comprised computer-generated random numbers used to generate clinically randomized 32 people to the control group to implement conventional care, and randomized 32 people to the experimental group to implement the intervention of bladder stimulation and lumbar massage skills.

### Results

1. The success rate of urine collection of the experimental group was 68.8%, and that of the control group was 40.6%. 2. The average time spent on urine collection of the experimental group was 11.2 minutes, and that of control group was 25.7 minutes. 3. According to the T-test, there were significant differences between the two groups ( $P < 0.05$ ).

### Conclusions

Bladder stimulation and lumbar massage skills not only improve the success rate of urine collection, shorten the time of waiting for urination, and facilitate early diagnosis and treatment. These rapid, safe, and effective skills are even more important to infants who still cannot control urination.

### Comments

Keywords: Bladder Stimulation, Lumbar Massage, Infants, Urine Collection

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## Applying the Community Partnership to Inspect the Family Living Environment of Child

**WANG Hsueh-Yin, LI Yi-Hsien, LU Huei-Lan**

### Introduction

Jianan psychiatric center has been joined the network of HPH since 2008. The pre-school children's accidental injury is still a global public health problems, beside the original promotion of children mental health services, it was the first time to hold children's home security health education and home environment site inspection. The aim of this study was to analyze the safety of home environment of the children in the first general survey and to explore the satisfaction of the residents after the improvement of their home environment.

### Purpose/Methods

A family of 3 to 6-year-old children was recruited from a small family in the southern of Taiwan from Aug. to Sep. 2016. During the enrollment period, a total of 50 households were selected to accept the home safety survey, understand the family environment of children in the security situation. 34 households of them had insecurity living environment, home visitor discussed with family about the family living environment improvement strategies in one month. After all the families had completed the improvement, the school assisted in the questionnaire survey then into statistical analysis.

### Results

The result showed that 13(26%) households living environment had no defect, 3 or less defect was 29(58%), 4 to 6 defect was 8 households (16%), among them, 27(54%) did not use electrical protective cover in living room, 21 (42%) household had no fitted with slip-resistant mats in bathroom. The remaining number of defect items is below 7. The overall satisfaction rate is 95%.

### Conclusions

Through partnership with the community and school, we will work together with schools and help them to learn about their home visits and environmental improvement programs. Through this process, students can learn more about the relationship between parents and their families. Community children's home security environment to improve the demand direction, back to the local health centers and school teachers, help follow-up community promotion and deep plowing.

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## Parents' attitudes towards bedwetting and their influence on children's daily performance

**CHANG Yu-Jun, TAI Thomson, TAI Brent**

### Introduction

Bedwetting is a disorder in which episodes of urinary incontinence occurs during sleep in children more than 5 years of age. Persistent bed wetting of children may lead to their parents' anxiety and experience both of losing confidence and expressing difficulties in the relationship between parents and children. Parental attitudes towards bedwetting will influence the children's behavior and daily performance. To understand the parents' attitudes on bedwetting and children's reactions is important.

### Purpose/Methods

To explore the parents' attitudes toward enuresis and their influence on children's daily performance, 90 children (47 boys, 43 girls) with bedwetting were recruited from a hospital in Taiwan. Parents were interviewed and completed the Behavioral and Emotional Rating Scale to evaluate the behaviour and emotional wellbeing of their children over the last three months. T-scores were used for the statistical comparison, and high scores signal good performance.

### Results

One-third of the parents adopted a positive outlook toward their child with bedwetting, whereas 42.2% reacted with anger and berated their child. The other 23.3% of the parents reacted inconsistently (ambivalence). Father's education and young age of the child were the factors that influenced parents who preferred positive approaches, such as encouragement, for coping with bedwetting. Despite controlling for the children's age, sex and the severity of bedwetting through the generalized linear regression analysis, we still found that if parents managed their children's bedwetting with anger and berated, their children's T-scores were significantly lower than those of parents

who adopted a positive outlook in affective strength and overall strength.

### Conclusions

Parental attitudes about bedwetting management may be potential factors related to development of both bedwetting and behavioral problems. More parents choose punishment and blame attitude. It can have a negative effect on the outcome of children' behavioural treatments.

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## The Parents Coping Process under the Conflicting Families with Internet Addiction Children: from the Family System Perspective

### HUANG Tzu-Hui

#### Introduction

Internet addiction had become one of the most important mental disorder in the globalized world. Adolescents are more easily been attracted by the internet, because of they have less coping strategies. So, we should put more attention on adolescent with internet addiction .

#### Purpose/Methods

For adolescents, they remained closely linked with the original families , especially in Asia. The purpose of this study is using family system perspective to analysis the coping process when parents facing family problems and conflicts . This is a retrospective study, qualitative data from 12 families who seeking for help. From January 2014 to December 2015, totally We analyzed 14 times family therapy records using content analysis. The pilot study will hope to develop the future family support services of the adolescent internet addiction families.

#### Results

The major findings of this research were as follows: (1) What you see on the behavior problem from adolescent Internet addiction is only the tip of the iceberg. (2) When using the family system perspective instead of the personality perspective , we can building better therapeutic relationships.(3) Although receiving family therapy were failed to meet their expectations to solve the problem of Internet addiction of their children, but when parents can learn to use system approach to treat their children, the conflicts between family members will be reduced.

### Conclusions

Education policy in Asia is focusing on academic achievement. It's hard for adolescent to learn to coping with their stress and negative mood. When adolescent can't get a sense of belonging or accomplishment from school, or can't get support from his family , he/she will easily tends to escape his stress by internet using. Parents and government should use system perspective to see adolescent's Internet addiction behaviors and to develop assistive and preventive strategies.

### Comments

Keywords: Adolescent, Internet addiction, Family Conflict, Coping process.

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## Sharing the Experience of Improving Children Household Safety -In a Remote Area in Southern Taiwan.

### WU Mei-Hui, LIU Bie-Ching, CHEN Yu-Wen

#### Introduction

In Taiwan, the main causes of death in children is accidental injury, the mortality rate is 15.5 per 100,000 people. It has become severe public health issue. According to study, 80% accidental injury of children happened at home, and small children are lack of self-protection ability, therefore accidental injury is a life threat in children. Longqi kindergarten is an educational and caring institution, which accepts pre-school age children. There are almost 50% children ever accidentally injured at home by survey.

#### Purpose/Methods

Use Household Safety Checklist (HSC) to survey 30 children in kindergarten, there are five unqualified terms sorted by statistics: stairs(39%), ropes(37%), doors and windows(34%), household facilities(33%), bathroom and kitchen(30%). To improve the unqualified terms, proposing Household Safety Improve Plan (HSIP). HSIP includes household safety education training of kindergarten teachers and care givers, and household safety demonstration bag making. The bag contents safety-walk, corner guard, edge guard, rotating finger pinch guard, plug cover, cable tie and multi purpose lock.

#### Results

Kindergarten teachers and care givers elevated the concept of children household safety and the prevention of accidental injury by implementing HSIP. The educational materials enhance concepts of the prevention of accidental injury and household environmental safety. By using the household environmental safety demonstration bag, put the household safety into effect.

### Conclusions

To prevent accidental injury in children, enhance the household safety education and improve facility protect-prevention can not be ignored. All prevention should combine family, school and community to implement, providing a safe and health environment for children.

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## Health Promotion from Preschool stage: Cooperation for Family and Kindergarten

**TANG Hsin-Wei, HUANG\* Tzu-Hui, TSAI Tien-Sheng, WU Shou-Che**

### Introduction

Both family and kindergarten are the main places of preschool stage children's learning and socialization. Parents and kindergarten teachers play an important role in cultivate children's healthy habits. According to the survey, obesity, myopia, and tooth decay are the most prevalent health problems in Taiwan. The implementation of health promotion programs in kindergarten will help to prevent child health problems.

### Purpose/Methods

This is an evaluation research, qualitative data from participant observations, interviews, and teaching archives were analyzed using conventional content analysis. Health promotion programs such as healthy promotion curriculums, regular fitness activities, and family involvement actives through the kindergarten. This study aimed to establish a family- kindergarten partnership, in order to achieve effective preschool children's health promotion.

### Results

Through the implementation of family-kindergarten partnership health promotion program, the effects were as follows: (1) From children aspect : physical health promoting and mental health promoting. (2) From parents aspect : parent-child interaction promoting and emotional connection promoting. (3) From kindergarten aspect : Cooperation for family and kindergarten helped to develop healthy and happy children.

### Conclusions

From this study, we can find the health promotion concept of individual should set up at an early age; health promotion programs in kindergarten should involve parental involvement in order to achieve better effects.

### Comments

Keywords: Health Promotion, Preschool stage, Cooperation for Family and Kindergarten

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## Session P1.7: Age-friendly communities

### Effectiveness of the "Mackay Community Senior Citizen Class"

**LEE Shu-Chen, HUANG Wei-Hsin, HWANG Lee-Ching, CHEN Yu-Hua, TSAI Li-Ying, LIANG Li-Jen, HU Nai-Fang, CHUANG Jui-**

## Yun, CHANG Chia-Mei, CHANG Betty Chia-Chen

### Introduction

Since 2014, Mackay Memorial Hospital was certified as an Age-friendly Hospital, and promoted many age-friendly activities, including lectures, classes, fairs etc. In 2016, we collaborated with the community in holding the "Mackay Community Senior Citizen Class", with focus on fall prevention in the elderly. Class sessions consisted of increasing one's knowledge on fall prevention, hearing screening, and arranging exercise workouts and fitness tests. We hope the elderly would be able to manage their own health, become more fit, prevent fall accidents, thereby improving their quality of life.

### Purpose/Methods

We enrolled elderly participants in this one-month program. Class sessions were scheduled for two hours each week, and included topics on fall prevention, safe medication use, hearing screening and GYROKINESIS® exercise, an exercise system that helps to stretch core muscles and train one's flexibility and balance. Measurements and self-rating assessments on diet and exercise were performed during the first and last class session.

### Results

A total of 20 participants, ranging from 61 to 80 years of age, were recruited. For the shoulder mobility test, the percentage of those with slight arm limitation decreased by 15.5%. For the sit-and-reach test, the percentage of those reaching goal increased by 16%. The percentage of those who passed the eyes opened and eyes closed one-leg-standing test increased by 38.7% and 45.3%, respectively. Self-rating assessments found the percentage of those who do not exercise regularly decreased by 9.5%, and all participants agreed exercising would make them happy. Vegetable and carbohydrate intake gradually increased, while intake of meat and dessert decreased.

### Conclusions

Participants in the "Mackay Community Senior Citizen Class" showed improvement in physical health, psychological health, healthy eating and exercise habits. Through maintaining healthy living habits and a good spirit, one will be able to form a positive attitude toward healthy aging.

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## Health Promotion for the Elderly in a rural Community

**LIN Ying-Li, YU Chao-Hung, CHANG Ko-Hsin, LIN I-Ching**

### Introduction

Sarcopenia has become increasingly prevalent as the elderly population increases worldwide. Sarcopenia contributes to increasing mortality in that it increases the risk of metabolic syndrome and cardiovascular disease. This study was designed to evaluate the effect of an exercise program based on an



assessment of body mass index (BMI), muscle strength and walking speed.

#### Purpose/Methods

We performed an exercise program in a rural community of middle Taiwan over a period of 2 years. The exercise program was held once week. Participants were community-dwelling older adults and voluntary to take part in this program. BMI, muscle strength measured via handgrip strength and physical performance assessed through usual walking speed were collected initially and after 2-year period.

#### Results

Thirty-two participants (8 men and 25 female) were included in this program and the ages are between 61-91 years old. The initial weight categories were underweight 0% (0/32), healthy weight 40.6% (13/32) overweight 31.2% (10/32) and obesity 28.1% (9/32). After 2-year period, weight categories were underweight 9.4% (3/32), healthy weight 34.4% (11/32) overweight 31.2% (10/32) and obesity 25% (8/32). The percentage of low muscle strength decreased from 56.3% (18/32) to 34.4% (11/32). The percentage of slow walking speed increased from 75% (24/32) to 78.1% (25/32).

#### Conclusions

Sarcopenia can affect mortality, morbidity and disability. The management of sarcopenia should be prioritized in community-based health services. Exercise and protein supplements have been proven to be effective in managing sarcopenia. Among persons enrolled in this program, the low prevalence of BMI in healthy weight suggests that educational efforts that promote a normal weight should be reinforced.

#### Comments

The elderly in rural areas may experience difficulty in privately engaging in lifestyle interventions that require purchasing products, and intervention programs should therefore target this group.

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## A Pilot Study of Healthy Aging in Place: An Example of Guiding Health Promotion Efforts with Urban Indigenous Elders

**HUANG Tzu-Hui, WU Hsiu-Shan, CHIANG Hsiu-Chu, TSAI\* Tien-Sheng, LI Hung-Hsiung**

#### Introduction

As the raising of aging population, World Health Organization propose "active aging" and "healthy aging" policy. According to the survey, indigenous life expectancy is lower about 10 years than the general people in Taiwan. Health promotion is an important issue to indigenous people.

#### Purpose/Methods

This is a case study research. Intervention services such as tele-healthcare system, nutritious meal, health education activities, arts and crafts, and study groups through a indigenous elder day care center. This study aimed to provide better understand of the important by guiding a accessibility health promotion project for the local people. And the study will hope to develop the future services model for indigenous elders in Taiwan.

#### Results

The major findings of this research were as follows: (1) The Tele-healthcare system will help the elders to get better self-awareness of their health management. (2) Nutritious meal service will help to maintain their social support system. (3) Cultural-based activities will help the elders to engage the motivation, and will have the effect of sustained participation in those health promotion activities.

#### Conclusions

From this study, we can find the day care center play an important role of guiding health promotion efforts with indigenous elders in community. It is suggested that the Government should integrate the social resources to implement the "Healthy Aging in Place" policy for elders in Taiwan.

#### Comments

Keywords : Case Study, Urban Indigenous Elders , Health Promotion, Healthy Aging in Place

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## The health promotion activity for the elderly in the community care station

**WU Jia-Min, ZENG Ming-Feng, CHEN Hui-Jen, MA Chen-Lai, LUO Sen-Yi, YEN Chen-Jung, LEE San-Ank**

#### Introduction

The elderly's physical is gradually deteriorated by aging. Decrease in exercise intensity may not help to improve or maintain their physical fitness strength. Professional advice and controls for a safe exercise are the most important things in health promotion activity for the elderly.

#### Purpose/Methods

Our hospital has started the physical fitness examination and health education activity since 2000. We have initiated the exercise intervention class in the community care station since January, 2016. The main purpose of this program is to improve elderly's physical fitness strength. Thirty-three elderly individuals participated in the one-hour class, which is three times a week for 12 consecutive weeks.

#### Results

The results from the before and after physical fitness examination showed the improvements in several aspects. 9 individuals (39%) had a drop in BMI and 6 individuals (26%) had

a reduction in blood pressure. 9 individuals (39%) had improved in their balance status. 6 individuals (26%) had improved in their muscle strength of lower and upper limbs. 6 individuals (26%) and 2 individuals (9%) had improved in the flexibility of lower limbs and upper limbs, respectively. 2 individuals (9%) had improved in cardiopulmonary function. The satisfaction survey displayed that 13% were satisfied and 87% were very satisfied with this program.

#### Conclusions

The exercise intervention with professional advice can improve elderly's physical fitness strength. Therefore, physical fitness examination and exercise intervention class for the elderly should be promoted nationally.

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## The efficacy of correct drug use of home care old people after creative "colorful education-hygiene direct sheet" and "smile flow chart"

### CHUN Mei-Hou, TSAI Yi-Fan

#### Introduction

Correct drug use of home care old people is an important issue. The investigation of nursing home residents from January to April/2016, we found polypharmacy in 216 residents and 82 (38%) of them with drug problem like poor drug adherence, supplements of over the counter by themselves. It could lead to adverse drug reaction, inevitable hospitalization and mortality.

#### Purpose/Methods

The aim of this study is to raise the correct drug use rate of home care old people with creative "colorful education-hygiene direct sheet" and "smile flow chart". "Colorful education-hygiene direct sheet" aimed on clear distinguish of drug by old people. "Smile flow chart" aimed on enhancement of drug integration by doctors and home care nursing. Both of them increased the acknowledgement of drug use and made drug use more safe.

#### Results

74 subjects with poor drug adherence were enrolled in our study from May to September/2016. The home care team found the numbers of medication error reduced from 82 (38%) to 0. Except that, we found the satisfaction rate of this service increased from 83% to 95%.

#### Conclusions

The creative way with "colorful education-hygiene direct sheet" and "smile flow chart" could raise the correct drug use in home care old people. It could be the reference for home care institute to increase the correct drug use rate in old people.

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## Use of motion detector lighting to Improve the Safety of Senior Residents' Home Environment

### HSIEH Tsung-Tu, LO Yu-Tai, LIOU Wen-Chin, YANG Yi-Hua

#### Introduction

Falls are the second leading cause of accidental injury deaths among the elderly population. The incidence of elderly falls in the community is as high as 33%. The high correlation between home environment safety and falls inspired us to design this program. We used the safety checklist to confirm the current state of home environment safety among high-risk elderly people, and assist in the installation of motion sensor lights that prevent them from repeatedly falling at home.

#### Purpose/Methods

First, our team visited the target households and surveyed on the association between falls and home lighting. We screened out the high-risk group, and assess their home environment safety status using the checklist by City Health Bureau. For those with insufficient lightings, we installed the motion sensor lights for them to enhance visibility. After the establishment, we interviewed the test groups to evaluate the satisfaction of this program and the rate of repeated incidental falls.

#### Results

30 high-risk households were screened out as the test group, with 70% predominantly female elders. The home environment safety check shows that stairway lighting is usually not sufficient (73%); 50% of stairway lightings are not installed properly; 46% reported insufficient bedside lighting for night activities. The motion sensor lights were successfully installed with a satisfaction rate of 4.53/5, only a few reported light outages. Nevertheless, there were no new falling events reported in the following three months.

#### Conclusions

The great association between home lighting sufficiency and the repeated falling events was found in the high-risk test groups. The use of motion sensor light seems to effectively reduce the chance of repeated falls, with a relatively high satisfaction rate. The only disadvantage is the light bulbs burned out easily. We consider to use LED light in the future, which is more energy saving and durable. We believe it'd effectively enhance the home visibility and better secure the elderly life.

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## Community Integration: Adult Day Care Services in Taiwan

### CHEN Hsiangyi, LEE Shu-Chen, TSAI Li-Li, CHANG Yu-Shin

### Introduction

Under the impact of low-birth rate and the drastic speed in population ageing that leads to an aging society, Taiwan is establishing an elderly health and life care service network where the elderly will age healthily and locally in the Adult Day Care Center. We attach great importance to Community Integration to provide better care for Dementia.

### Purpose/Methods

The purpose of the project aims to enhance activity participation in elderly, reduce the anxious and emotional symptoms of dementia, and improve the self-value and sense of belonging in elderly. The integration of community resources are introduced to the daytime activity design for elderly, the care staff company day care elderly to take a walk outside in the community and participate in community activities. The community charity groups, library, and school will care for the elderly at the day care center monthly, providing volunteering services.

### Results

Elderly suffering minor dementia are subject to the influence of twilight syndrome and easily become anxious and restless in the afternoon. Going outdoor and participate in community activities helps them feel cheerful and relaxed, thereby improves the twilight symptoms. They can spend the rest of their life in familiar environment and culture, and will not lose themselves.

### Conclusions

Alzheimer's and Dementia often lead to a decrease in social contact and even isolation. That can be detrimental to one's health and cause depression. In the Adult Day Care Center, the elderly can maintain positive contact and communication with the society. Therefore, the community-based day care center that offers local elderly residents, responds to the coming of aging society with the urgent need for local aging and long-term care.

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## Three-Phase Hospital-based Community Healthcare Intervention for Specific Population Living in the Area around Cijin Chiang Kai-Shek Temple

**WANG Yi-Chin, JIAN Shu-Yuan, CHUNG  
Yong-Chuan, WENG Yu-Chin**

### Introduction

The elderly comprised 13.45% of the population in Cijin District, which was higher than in Kaohsiung City (12.61%). Among them, the Dachen Righteous Compatriots who retreated from China to Taiwan more than 60 years ago and resettled in the area around Chiang Kai-Shek Temple showed obvious signs of aging. In Taiwan, 81.1% of the elderly self-reported having chronic diseases, of which hypertension and diabetes were the most reported. Effective treatment of these chronic diseases required combination of medication and lifestyle management to prevent complications and decrease mortality rates.

### Purpose/Methods

In order to enhance self-care knowledge and behavior change of this specific population, we developed a three-phase intervention plan: i) first phase relationship establishment: local health care volunteers were trained to provide blood pressure measurement services, which gradually developed into regular meetings to break through language barrier due to their heavy Zhejiang accent; ii) second phase engagement: professional nurses and clinical educators provided blood pressure and blood glucose measurement, body composition analysis and vascular screening, and referred those showing poor control of these indices to social workers; and iii) third phase behavior modification: We introduced low-fat and low-cholesterol cooking, and led the elders regularly practicing smooth and flowing qigong exercises.

### Results

During 18-month intervention period from March 2015 to August 2016, our healthcare station engaged 84 Dachen elders in healthcare self-management, who became more aware of their health condition and would actively ask for the station sites, participate in diet improvement discussion, take medicine in accordance with medical advices and exercise regularly.

### Conclusions

Our three-phase intervention plan implemented on the Dachen elders living in the area around Cijin Chiang Kai-Shek Temple successfully increased healthcare awareness and promoted healthy lifestyle practices for effective disease control.

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## Educate elderly with chronic diseases on polypharmacy management

**HUANG Shu-Ping, TSAI Yi-Fan**

### Introduction

According to National Health Insurance Administration report in 2015, 80% of elderly above age 65 have chronic disease in Taiwan and require to intake polypharmacy in long term. An integrated geriatric outpatient services is already in place to provide elderly with holistic examination and treatment in polypharmacy safety. Nonetheless, there was insufficient education and supervision in the cases of safety advice on polypharmacy in clinical context. Although the caretakers provide oral education during provision of medication, the fast speed explanation might result in forgetter. A change in the caretaker can also cause both elderly and caretakers inability to understand and unaware of the side effects and things to take note of the medications. The project aims to increase safety on polypharmacy through provision of instructions on medication and implementation of hospital supervision system during hospitalization.

### Purpose/Methods

The average age of the rehabilitation ward is 66.5. A collaboration between pharmacy department and information management department was conducted in July 2016 to design large format text and video-graphic on the 7 major common

medications (anti-coagulant, hypotensive, anti-atherosclerosis, anti-epileptic, poloxalene, anti-diabetics & phenobarbital). QR code was placed on all medications and nursing areas in all wards to provide elderly and caretakers with accessible information on the use of medications. Moreover, the hospital supervision system will give warning when the elderly takes in more than five medicines or there is an issue with drug compatibility to prevent repeated medicine intake. An automatic notice will be sent to pharmacists and attending doctors for necessary adjustments on medical advice.

### Results

The satisfaction rate of the medication intake increased from 80% to 95% from August to October 2016. The knowledge of medication also increased from 65% to 90%. The misuse of medication was zero which fulfilled the target for safe medication consumption. The outcome for hospital supervision system is still under examination.

### Conclusions

It was found that elderly still use the QR Code after discharged from hospital and constantly informed on the polypharmacy management. The accurate consumption of medications reduces the possibilities on negative health effect which reduces the workload for caretaker and improves quality of life for patients. The methods should be referred for future clinical care.

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## The influences of Social Relation and Activity Participation on Place Attachment and Health in Community-Dwelling Older Adults

**CHENG Shun-Ping, CHEN I-Ju**

### Introduction

Place attachment (PA) is the bonding that occurs between individuals and their meaningful environments. PA could respond to the meaning of "Aging in Place". In order to design the program to promote aging in place, it is critical for the health professionals to understand the status and the associated factors with PA and health.

### Purpose/Methods

A cross-sectional study with convenient sampling was applied to explore the relationships among social relation, activity participation, PA, and health in community-dwelling older adults. Structured questionnaires and face-to-face interviews were used to collect data. Questionnaire consisted of personal data, social relation, activity participation, perceived health scale, and Place Attachment Questionnaire for the Elderly (includes five concepts of PA).

### Results

Among the 210 subjects (M=73.72, SD=6.73), 157 subjects participated in activities. 45.7% (n=96) and 23.3% (n=49) of them participated in exercise and health related activities, respectively. The subjects exhibited high degree of social

relationship and PA, and perceived moderate level of health. Higher social relation associated with higher PA ( $r=0.368$ ,  $p<0.01$ ) was found. The number of activity participation ( $r=0.184$ ,  $p<0.01$ ), number of activity type ( $r=0.227$ ,  $p<0.01$ ) and the social inclusion (one sub-concept of PA) ( $r=0.185$ ,  $p<0.01$ ) positively associated with health. Number of medication, number of participating activity type, and social inclusion explained the 13.9% variance of health ( $F=11.113$ ,  $p<0.001$ ). Social relation and participation in political activity explained the 16.9% variance of PA ( $F=21.113$ ,  $p<0.001$ ).

### Conclusions

This study verified the importance of activity participation on PA and health. The influences of the number of activity type on PA and health stronger than the number of activity participation was revealed. Social relation played a critical role in PA. Conducting a study to clarify PA associated with self-concept or psychological aspect of health in elderly was suggested.

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## Exercise and Group recreational Activities Intervention Programs to Improve Physical and Emotional Wellness in Community-Dwelling Frail Elderly

**LO Chia-Lin, LI Hsiang-Lin, WENG Pei-Hsuan, HUANG Hui-Ting, LIN Hsin-Ying, CHEN Yi-Ching, CHUO Ying-Hsiang**

### Introduction

The lack of social activities and sedentary lifestyle increase many chronic diseases and accelerates functional decline in elderly. While urban life makes people lack more contact, it is important to offer community-based group recreational activities to help building exercise habits and providing more emotional support to prevent frailty and depression. We designed an exercise and group recreational activities intervention program which tailored for elderly in Songshan District of Taipei City.

### Purpose/Methods

This program was conducted weekly for 180 minutes each session over a twelve-week period. The program includes three medical knowledge lectures, seven exercise courses which aim to enhance muscular strength and endurance, three meetings with nutritionist to give correct concept about balanced diet, seven handicraft activities and one film show. Physical fitness and mood status were evaluated before and after the program.

### Results

Fifty-eight elderly participated in the group program. After intervention, the subjects showed improvements in muscular endurance, upper-extremity flexibility and balance. Incidence of falling decreased from eight people in 3 months to zero in 3 months. A five-item Brief Symptom Rating Scale (BSRS-5) was used. They reported improved mood status after the program (26% vs. 90%). Minor mood disorder decreased (66% vs. 9%). The

rate of moderate mood disorder and severe mood disorder before the intervention program were 3% and 5 % respectively and decreased to 2% and 0%.

### Conclusions

This community-centered and multi-aspect program improves physical fitness as well as mood status of elderly. Especially for frail elderly who had few contacts with other people and lack of exercise opportunities, this intervention program can significantly decrease the risk of depression and prevent the incidence of falling. Long term effect on frailty prevention will be followed in the future.

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## First fall prediction in the community-dwelling elderly. Towards a sustainable prevention strategy

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### Introduction

Nearly 50% of elderly visiting emergency departments (ED) for fall consequences are first-fallers, thus making early detection of future first-fallers a challenging topic. The early identification of the elderly at risk for their first fall would allow designing primary prevention paths. These can consist of Adapted Physical Activity (APA) programs or self-rehabilitation programs that do not require direct involvement (professionals, structures) of the health care system

### Purpose/Methods

Retrospective observational study. Sample: 130 cognitively able individuals (age range 70–91 years) including non-fallers, first/rare fallers and frequent fallers, according to their fall history of the previous year. A specific five-task instrumental balance assessment was delivered according to Merlo et al. 2012. Next, an exploratory statistical procedure was used to extract the most significant features of balance control. These were used to test group differences between non-fallers, first-fallers and recurrent fallers

### Results

One feature has been identified, that resulted statistically different between first-fallers and non-fallers (Effect Size|=0.46,  $P < 0.05$ ) and between first-fallers and frequent fallers (|Effect Size|=0.62,  $P < 0.05$ ). The ability of retrospectively identify first/rare fallers based on instrumental balance analysis (with a specific protocol) is new to the literature. The main limitation of this study is the retrospective design.

### Conclusions

A method to retrospectively discriminate first-fallers was obtained for the very first time. If confirmed by prospective studies, this result could permit the designing of quick assessment procedures to intercept pre-frail community-dwelling elderly subjects at risk for their first fall (incidence 10-14%), and deliverable by non-clinical staff. A sustainable prevention strategy can be hypothesized that do not require direct involvement (professionals, structures) of the health care system.

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## Effects of Physical Exercise on the Elderly in the Community

**YUH WEI Wang, HERNG HUEY Chen, CHUN Liang**

### Introduction

Taiwan has become an aging society since 1993. Aging and a variety of chronic diseases are becoming key factors in shaping health policies and the development of the national health insurance program. It becomes important that health awareness is raised throughout a community down to the individual level in order to promote the concept of community-based approach to public health. The purpose of this study is to investigate the effects of physical exercise on the elderly in communities.

### Purpose/Methods

In this study, we adopted the quasi-experimental design method. The 16-week study was conducted on elderly aging 65 and older in communities. The research objects were randomly assigned to two groups and underwent an initial physical examination that measured their body weight, height, blood pressure, body mass index (BMI), other measurements, as well as establishing physical fitness profiles (in which were indicated their upper and lower body strength, balance and coordination, flexibility, and cardiopulmonary endurance). The experimental group were then given an "Elderly Aerobic Exercise Experience Camp Exercise Plan", whereas the control group did not receive any exercise intervention. The frequency of these exercises was 30 minutes per session, 3 sessions per week. After 16 weeks, all subjects were given another physical examination.

### Results

After 16 weeks of intervention, the lower body strength, upper body strength, balance and coordination, flexibility were significantly improved in the experimental group, and all of these had significant difference ( $p < 0.05$ ).

### Conclusions

The results of the study show that continuous and regular physical exercise can improve the physical fitness of the elderly in communities. We expect that this study will encourage elderly people with chronic diseases to develop regular walking habits. However, fitness courses are only short-term programs



**Comments**

Effects of long-term regular exercises on the physical fitness of the elderly should be further studied.

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## Session P1.8: Promoting a healthy lifestyle of the elderly

### 12-Week Chair Exercise to Enhance Elderly's Handgrip Strength and Walking Speed

**TSENG Chu-Nhan, CHANG Yu-Lan, WENG Chung-Feng, HSIEH Hung-Yu, YEH En-Tien**

**Introduction**

It has shown a significant decrease in muscular strength and dynamic balance with age increases; which are the key components responsible for retaining mobility. This program is designed by professional trainers to effectively enhance elderly's muscular strength and dynamic balance with corresponding chair exercise in order to prevent accidental falls and to maintain a good quality of life.

**Purpose/Methods**

The purpose is to enhance elderly's handgrip strength and walking speed with a 12-week chair exercise. The elderly voluntarily participated hospital's health checkup including the maximum handgrip strength and 6-meter walking speed test. If either of the test results does not reach the standard (handgrip strength: men <26kg and women <18kg are considered "weakness"; 6-meter walking speed: <0.8m/s is considered "slowness".), the individuals were referred to the 12-week chair exercise program.

**Results**

A number of 38 elderly participated in the program, including 11 males and 27 females (mean age 73.09±5.81yrs). The program cycle consists 12-weeks, once every week, 1.5 hour per time. Before intervention mean handgrip strength of males is 19±3.82kg, females is 11.5±5.04kg, mean walking speed of participated is 1.05±0.18 m/s. After intervention handgrip strength of males is 21.50±5.01kg, females is 14.08±5.1kg, and mean walking speed is 1.54±0.32 m/s. The change of handgrips strength and walking speed between pre-test and post-test with paired-t test statistical method showed significant improvement (p<0.05).

**Conclusions**

The slowing in walking speed is the first sign of physical strength weakness; hence it is the major indicator to identify physical strength. Other than that, the handgrip strength also corresponds to one's muscular strength. Both indicate signs of atrophy. The twelve-week chair exercise program emphasizes on elderly's muscle strength, to improve muscular strength and dynamic balance, effectively enhance handgrip strength and walking speed, to lower the risk of accident falls in elderly.

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## Effectiveness on the health status of the elderly in a Taiwanese community after introducing fitness activities

**KAO Li Chueh, JHONG Siou Ling, HSIEH Ho Su**

**Introduction**

The aging index of Gandau is 103% which qualified it as an aging community. There are 70 elderly in Gandau day care center, the average age is 79.3 years old. 65.2% of them has BMI over 24(kg/m<sup>2</sup>).

**Purpose/Methods**

Purpose: (1) Study the effectiveness on physical fitness of the elderly and (2) the effectiveness on lowering the blood pressure, blood sugar and blood cholesterol after introducing fitness activities. Methods: By using the elderly (age 65 and above) from a community care center 2014 as population, we adopt purposive sampling to choose those with conscious mind, no disability and willing to participate as research target. The length of our intervention is one year and once per week. Each time, a coach would lead them to do some elderly suitable fitness activities for 50 minutes. After the intervention, we adopt the functional fitness test to do the pre-test and post-test and use Paired-t tests to run the statistical analysis.

**Results**

(1)Basic data: Five of the participants are male (11.9%) while the other thirty seven are female (88.1%). The average age of them are 79.3 and the average BMI is 25.12(kg/m<sup>2</sup>) (2)The analysis of pre-test and post-test: Muscle strength of lower limbs improved 27.3%. Muscle endurance of upper limbs improved 16.7%. Static balance improved 48.9%. Dexterity declined by 15.16%. All these pre-tests and post tests show statistical significance (P<.001). Cardio pulmonary function declined 2.52%, however, only one of the elderly falls in poor condition The lower limbs flexibility improved 10.6%, the upper limbs flexibility improved 35.6%. (3)The change in blood pressure and blood sugar didn't reach statistical significance. But the blood cholesterol lowered by 29.6mg.dl ( P < .000), reaching statistical significance.

**Conclusions**

Although the sample size isn't too big and the fitness activities were introduced only once per week, the study still proves that the regular fitness activities has significant effect on improving their physical fitness.

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## An evaluation on the implementation of regular exercise to reduce weakening for elderly in community

**SHEN Chia-Len, CHUN Mei-Hou, CHAN Ya-Ling, HSU Chia-Chien, YEH Hsueh-Ping, TSAI Yi-Fan**

### Introduction

The elderly population has reached 12% in 2015. In the health policies 2020, it highlighted the importance of aging prevention for elderly in elderly illness prevention. The period between aging to disable is known as the weakening period and not all elderly will experience the weakening. Through regular training of balancing and muscle trainings, it is hope to improve the weakening condition in the elderly community.

### Purpose/Methods

The project aims to train the elderly's balancing skill and muscle strength through physical activity lessons. A few examinations were taken to examine the outcomes of the lessons, such as normal walking speed, fast walking speed and body functions index (balance, sitting ability, walking speed).

### Results

A total of 62 people participated in physical exercise lessons from 2015 to 2016. The lesson is a collaboration with local community to provide trainings for the elderly. The result reflected an increase in normal walking speed by 0.85%, balancing activity by 0.03% and sitting ability by 1.32%. The satisfaction rate of the elderly is 85%.

### Conclusions

The regular physical exercise lessons in training balancing skill and muscle strength can reduce the speed of aging and weakening. It should be made reference for future caretaking for elderly.

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## LOHAS Shilin, Elderly Health through Fitness

**HUANG Li-Chen, YEH Jo-Fen, YUAN Lu-Fang**

### Introduction

The senior population in Shilin reached 14.10% in 2014, compared with Taipei's 14.08%. In an aging society, the health and welfare of seniors are important. Only by improving senior health can we reduce illness and disability, and enhance the quality of life.

### Purpose/Methods

1. Objective: create senior health centers through re-organization resources, provide an array of classes on improving health to expand the seniors' satisfaction with life and enable healthy aging. 2. Methods: (1) Assess the needs of seniors in the community, re-organize resources, and discuss tactics. (2) Train seniors "seed" students and volunteers, assist with classes. (3) Plan a variety of classes. (4) Use the "Taipei Senior Citizens Illness Prevention and Health Evaluation Chart" before and after our program for evaluation and analysis.

### Results

114 seniors participated, of whom 20 were male (17.5%), and 94 were female (82.5%). Classes lasted 12 weeks, and all participants showed improvement ( $P < 0.05$ ) in terms of systolic pressure, diastolic pressure, physical fitness and physical activity on simple health charts, and quality of life (All felt better about their health and health evaluations showed an average of a 6.51 point improvement).

### Conclusions

Providing diverse, accessible health improvement services can improve the seniors' health, fitness, capacity for self-care and cognition by participating in events, improving the seniors' quality of life and overall satisfaction, allowing for local, healthy aging.

### Comments

It shows effectiveness with the diverse courses involved, but there are no significant differences regarding elderly oral health, falling prevention, and the amount of exercising for the past seven days. For future course design, it's more preferred to increase the related knowledge of activity motivation which can be involved into daily lives.

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## Effect of Muscle Endurance Core Muscle Training in geriatric day care On Elderly

**YEN Yu Ting, CHEN Shu-Fen, LU Huei-Lan**

### Introduction

The strength of people in 45 years of age gradually weakened, especially explosive decline faster, 65 years old to 80 years old healthy between the elderly, the average annual muscle strength decreased by 1 ~ 2%, explosive power decreased by 3 ~ 4%. The weakening of muscle strength results in the daily activities have a great impact, the biggest muscle weakness is the lack of activity, By strengthening the muscle endurance core muscle group training simply to strengthen the body muscle is one of the elderly endurance training, both upper and lower extremities muscle endurance training, can enhance the elderly's endurance, and for the independent function of daily life function is helpful.

### Purpose/Methods

The study is Effect of Muscle Endurance Core Muscle Training in geriatric day care On Elderly. The average age of the patients was 75 years old, 80% were diagnosed as dementia, 20% were other

psychiatric disorders, and the dementia assessment scale was 1-2 Points, a total of 36 elders. 36 elders by chair and sandbags to do support, the upper body for the biceps and triceps and posterior deltoid muscle on the training, lower body training is a single leg standing, after the leg lift, side legs, tiptoe and sitting position Squat body before the bend and other abdominal core training, training time for each upper and lower body of 25 minutes, warm-up and ease the time of 5 minutes, each time the total training time of 1 hour, and then the number of muscle strength endurance assessment.

### Results

78% of the elders in the upper body strength training, from each action 50 times to 100 times, in the lower body training, 75% of elders to complete all the core sustainable Muscle movement increased from 30 to 80 times, In the overall training after the test satisfaction, 90% of the elders expressed great satisfaction, and that such training for the whole upper and lower body muscle strength is effective.

### Conclusions

The results showed that muscle endurance core muscle training of muscular endurance group was significantly improved in the elderly, can be enhanced by the training of different core muscle groups to enhance limb endurance, enhance the limb activity and enhance its muscle endurance, strengthened Body function and delay aging, thereby enhancing the daily life of the function.

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## Nutritional Status and Functionality of Elderly Persons; A comparison between Institutionalized and Non-institutionalized Elderly persons in Nairobi City County, in Kenya

**MUGO Judy, GEORGE Ochieng, WAUDO Judith, ONYWERA Vincent**

### Introduction

Malnutrition has been recognized as a common problem among the elderly persons and is associated with certain diseases and impaired functioning, but less is known about its relationship with nutrition and nutritional care among the elderly persons.

### Purpose/Methods

To determine the Socio-Demographic characteristics, Nutritional status, Functionality, role of Functionality in determining the Nutritional status and the Institutional and Non-institution characteristics that relate with Nutritional status and Functionality of the elderly. The MNA and MBI were used to collect data. Two hundred and seventy elderly men and women who met the inclusion criteria were sampled, 135 from 4 Institutions and 135 from 4 divisions.

### Results

There was a significant relationship between gender and MUAC ( $\chi^2 = 12.745$ ,  $df = 2$ ,  $p = 0.002$ ) with the mean MUAC measure

among women (0.77 [4.13] being higher than that of men (0.75 [0.388]). There were more overweight non-institutionalized elderly (20.5%) compared to those in the institutions of the elderly (14.7%). Eighty eight percent of the Institutionalized elderly consume 3 or more meals per day compared to 54.8% of the non-institutionalized elderly. There were more totally dependent elderly at Institutions (13.6%). Functionality level was found to correlate with self-view of health status ( $r = +0.133$ ,  $p = 0.046$ ) and the intake of 3 or more prescription drugs per day ( $r = +0.139$ ,  $p = 0.034$ ). Body mass index of the elderly was found to correlate to Calf Circumference ( $r = -0.156$ ,  $p = 0.027$ ) and Stair Climbing ( $r = -0.148$ ,  $p = 0.025$ ). Protein intake was found to correlate with the consumption of fruits and vegetables ( $r = +0.139$ ,  $p = 0.029$ ).

### Conclusions

More elderly in the institutions were underweight, in the non-institutions were severely dependent on care-givers, 60% of them had a MUAC measure of <21cm. Functionality correlated with presence of pressure sores, self view of health status, nutritional status, consumption of 3 or more prescription drugs

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## Improving residents' satisfaction with meals in a hospital-affiliated nursing home

**HUANG Huei-Fang, LO Yu-Tai, YE Chin-Chi, LIOU Wen-Chin, YANG Yi-Hua**

### Introduction

The meals provided at long-term care facilities are usually invariant with limited choices. However, food is considered part of the therapeutic and clinical approach to treating the physical and psychological conditions of the residents. The purpose of this project was to bring a quality control cycle (QCC) practice into dietary service in a hospital affiliated nursing home in Southern Taiwan to improve residents' satisfaction with meals.

### Purpose/Methods

The main purpose was using quality control methods to create diversification of meals and to promote cheerful moods and dietary satisfaction among nursing home residents. Residents who were tube-fed, or were on full-liquid and semi-liquid diets were excluded from the project. We first investigated residents' opinions with meals and found the main unsatisfactory reasons. Then our dietitians designed new tasting menu every month and held polls events so the residents could choose and have the food that they desired.

### Results

Forty-two residents participate were included in our investigation. During the QCC practice, totally sixteen different tasting meals were developed by our dietitians, including local food and exotic food. After the six months improvements, the average satisfaction of meals among nursing home residents rose from 53.78% to 88.71%. The overall nutrition status also improved among the 42 residents according to their BMI and albumin data.

### Conclusions

Meals in long-term care facilities should enrich not only nutrition but also variety. It is also important to provide food that satisfied the residents' expectations of preferences through optional dishes. By combining quality control methods and creative strategies, dietitians are able to promote residents' health conditions, both physically and psychologically.

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## Culinary activities help improve the health condition of female elders in Dementia Center

**HSU Shu-Ning, LO Yu-Tai, CHIU Hui-Fen, LIU Wen-Chin, YANG Yi-Hua**

### Introduction

It is found that dementia patients can form new brain cells and improve memory retention through brain stimulating activities, such as work they used to master. St. Joseph Hospital's Dementia Day Care Center currently has 4 female elderly patients. In the traditional Chinese family, females are mainly responsible for preparing food, so the caregivers designed a series of culinary activities as stimulations. We hope it would stir their memories, foster emotional connections and make them feel more engaged with life.

### Purpose/Methods

The Day Care Center planned a full-year program tied to the theme "Food." Monthly culinary activities were designed based on Chinese traditional festivals such as New Year's Cooking, Mid-Autumn Moon Cake making and Winter Rice Dumpling making. There were also two outing activities that took the elders to eat out, and one intergenerational learning event that had them make rice balls with the children at local Parenting Resource Center. These activities were also expected to increase their social participation.

### Results

All the culinary activities were fully attended by the four Dementia patients (average age of 78 years old) in the Day Care Center. At the outings, the caregivers helped the elders to freely order what they wanted, and enjoyed a wonderful food experience outside. We found that the behaviors associated with dementia symptoms, such as wandering, were lessened during the activities. Focusing on the cooking steps that they used to master seemed to reduce the frequency of their wandering.

### Conclusions

The culinary program stimulated the patients' sensory responses, trained them to follow the instructor's steps, and helped them learn to work with others. The completion of the finished products also gave the elders a sense of accomplishment. The patients' behavior associated with Dementia symptoms was observed to lessen during the activities. We believe the program has a positive impact on the patients' brains and their memory retention abilities.

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## The intervention of "original shape of the food" treatment with food enzyme were an effectively way to improve elderly's eating quality

**CHEN Ming-Hsiang, HOU Yi-Cheng, WU Jing-Hui, LIU Hao-Wen**

### Introduction

Elderly people often have poor appetite to provide shredded food rather than food prototypes due to their poor chewing ability, which may make elderly people less willing to eat, or because the food texture is too hard, leading to restricted food intake, these two factors contribute to nutritional imbalance .

### Purpose/Methods

In order to enable the elderly to eat the original shape of the food rather than broken shape of food or liquid form of food, to improve their poor appetite and to achieve the quality of food then improve the elderly's eating quality. Participants were enrolled in the nursing home at Taiwan Taoyuan since November 2015. Food questioner were given before and after "original shape of the food" intervention. Food questioner contain 1-item about elderly's usually diet shape, including original shape, broken shape or liquid form, 1-item about elderly's teeth condition, 3-items of the "original shape of the food" including the degree of bright, easy to chews and the available of tested. The "original shape of the food" were intervention after treatment with food enzyme that make the food look like the general food type but more easily to chowing .

### Results

20 elderly were enrolled in this study. Age from 60 to 82 years old. 60% were men and 40% were women. 70% of their usually diet shape were broken shape, only 25% were original broken and 5% were liquid form. 50% of elderly were full of dentures, 30% of them had more than half of dentures, only 20% of them had less than half of dentures, on one of them had no dentures. Due to one of the elderly only can eat liquid form of food, so nineteen elderly were intervention of "original shape of the food" Degree of bright ( $p < 0.07$ ), easy to chews ( $p < 0.00$ ) were significant improve before and after food intervention. Elderly feel available of tested were also increase satisfactory form 20% to 80%.

### Conclusions

The intervention of "original shape of the food" were an effectively way to improve elderly's eating quality.

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## Identifying barriers to adequate nutrition therapy in residential care and strategies to improve nutrition therapy

**CHEONG Magdalin, HUANG Ying Xiao**

### Introduction

The rapid increase in the elderly population is a growing health concern in Singapore, leading to an increasing incidence of chronic conditions associated with poor nutritional status and risk of adverse clinical outcomes. Compromised nutritional status is found to be as high as 68% amongst elderly nursing home (NH) residents and 30% in hospital patients. It is therefore important to ensure residents in NHs are not only eating the correct food but also adequately.

### Purpose/Methods

Residents who are cognitively intact and able to communicate were recruited. NH staff and residents were interviewed using questionnaires; residents on their satisfaction with the food served and dining environment while staff on their opinions, attitudes and suggestions for nutrition therapy. Recruited residents were screened using a Mini-Nutritional Assessment tool(MNA) at the start and end of the study. Residents' food intake and activity level were recorded. The data obtained were used to develop practical strategies to improve nutrition therapy in NHs.

### Results

Of the 167 residents screened, 67% were identified to be at risk of malnutrition. Reasons identified include lack of participation in physical activity and interaction with other residents plus 45% indicated poor presentation of food. Language barrier was identified by NH staff as the main factor for low interaction between the residents. Practical intervention strategies developed include language booklet for staff, education posters and dance exercise for residents.

### Conclusions

The intervention included education material in the form of posters, dialect booklet for staff with language barriers, motivational songs, dance exercise for residents and recipe cards for kitchen staff. Limitations include the small sample size and the short duration of the study. Further work on this will help to confirm the effectiveness of the identified interventions in helping to tackle the barriers to adequate nutrition which may help to reduce risk of malnutrition in NHs.

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## The health promotion project for the well-being of body, mind and soul of aged home health care patients and middle-aged & aged caregivers

**WEI Shu-Ping, CHEN Mei-Ling, LU Ying-Wen**

### Introduction

Aging and chronic illness have been the trend for global health care. Home health care patients at our hospital older than 65 years old accounts for 80.7%, middle-aged older than 50 years old caregivers accounts for 70.4%. According to the Ottawa Charter, we have integrated resources such as home health care, medical care, telehealth care and psychological counseling in order to to develop the health promotion skills of caregivers.

### Purpose/Methods

To develop the health promotion skills of caregivers go through the cross-disciplinary collaboration to create a supportive environment. As well as providing aged patients with a better care. Integrating check-ups by telehealth care nurses, interpretation of health examination results and treatment for abnormalities by physicians; lectures included "information and guidance on cancer screening" by case manager, "muscle relaxation" by psychological counselor, "analysis of dreams " by pastors; home health care nurses leading the " sharing group of caregivers ", providing phone care monthly, referral of abnormal physical examination. Using the participation rate, the satisfaction level of the lectures and the numbers of phone care as the effectiveness analysis parameters.

### Results

The participation rate is 90.5%. The satisfaction for the lectures held were "86.5 % for very satisfied" and 13.5% for "satisfied", respectively. There were 1,295 people visited by our phone care, there were 5 people in ECG abnormalities, were referred to cardiology clinics for treatment and follow-up.

### Conclusions

We adjust the care in phone care. establish Facebook to provide care information. Based on the concept of "three-stage five-level prevention" to carry out the health promotion programs, provide "integrated prevention health care", integrate cancer screening and chronic disease prevention strategies. This project is applied to home caregivers currently. We look forward to disseminate the methods of health promotion to the caregivers of dementia or other ages in the future.

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## All roads lead to reducing alcohol drinking

**FANG Chun-Kai, LIN Chia-Hua, SHIH Pao-Wen, YEH Tzu-Ching**

### Introduction

Problem drinking has been the commonest factor of several illegal problems in Taiwan, such as drunk driving and domestic violence. Alcohol use disorder is also related to many physical diseases like alcoholic hepatitis, alcoholic pancreatitis, and so on. However, problem drinkers always have low motivation to change. The nationwide program was to create the network to



actively find problem drinkers to promote their health via mental health services.

#### Purpose/Methods

Taiwanese Department of Health entrusted 4 hospitals to set up the network, including MacKay Memorial Hospital (core hospital in the program) in Taipei, Tzu Chi Hospital in New Taipei, Yu-Li Veterans Hospital in Hualien, and Tsao Tun Psychiatric Center in Nantou. MacKay and Tzu Chi are in urban, and the other are in rural. All 4 hospitals tried to set up their own ways, and the combine meetings were hold every three months for constructing the nationwide models.

#### Results

From September 2015 to September 2016, the preliminary network naming 'Reducing Drinking and Decreasing Hurting' was constructed, including general hospitals, mental health hospitals, local medical doctors, local public health centers, courts, motor vehicles office, and social affairs. During these 13 months, there were 412 problem drinkers were transferred to the four hospitals from the network, including 42% from psychiatric outpatient clinics, 18% from motor vehicles office, 10% from social affairs, 9% from non-mental health service systems, et al. At the same period, 4 hospitals provided 69 lectures (3317 audiences) for the publics and 14 lectures (995 audiences) for the professionals.

#### Conclusions

Even only 13 months, we have preliminary construction of the network can provide the service. We hope the network is easy acceptable by problem drinkers, all health care providers, and the publics. In future, we will extend the network to more areas in Taiwan.

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## No more drunk driving again by aggressive education in motor vehicles office

### FANG Chun-Kai, YEH Tzu-Ching, SHIH Pao-Wen, LIN Chia-Hua

#### Introduction

Drunk driving is the severest illegal problem in Taiwan's traffic safety. Even with rigorous penalties and increased enforcement of anti-drunken driving legislation, more than 31 percent of drunk driving cases involve repeat offenders. An alliance of government and MacKay Memorial Hospital (MMH) had been formed with objective to reduce drunk driving. The alliance provided a program about alcohol cessation education in the motor vehicles office. The goal was to find some severe alcoholism and enhance their motivation to get the mental health service.

#### Purpose/Methods

The alcohol cessation education based on the BRENDA model and harm reduction approach in New Taipei City Motor Vehicles Office. The period of education was 2 hours. The alcoholic prisoner was assessed with the Alcohol Use Disorders

Identification Test (AUDIT) to determine the severity of alcohol consumption. After the lecturers, we invited alcoholics to accept case management.

#### Results

There were total 6 lectures and 235 drunk drivers attending from July to September, 2016. 156 of 235 (66.4%) completed the questionnaires, and 13% of them were in the very dangerous drinking, 56% were harmful drinking, and 31% were in social drinking. 21% of them did not know they could go to the health service system for their alcohol problems. 36% thought the lecture very helpful, 9% thought helpful, 55% thought some helpful, but no one thought helpless. Finally, 65 drunk drivers were transferred to MMH, 46 of them (70.1%; 19.6% in all) accepted the case management.

#### Conclusions

The program is the first try to provide the aggressive alcohol cessation education in motor vehicles office. After the program, there were nearly 20% drunk drivers beginning to accept mental health services and case managements. The final efficiencies of the program should be further valued; however, the program had provide a good possibility for help alcoholics.

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## Association with drinking behavior, alcohol use disorder and mental health factors among university freshman in South Korea

### KIM Young-Bok

#### Introduction

In recent, it has increased binge drinking and alcohol use disorder in youth. The suicide and traffic accident have ranked the first or second on the death cause of young people in twenties, South Korea. Therefore, to help the achievement of academic goal, it needs to provide the integrated physical and mental health services on college campus.

#### Purpose/Methods

This study performed to analyze mental health factors related to high risky drinking behavior and alcohol use disorder among freshman of university. To examine the association with drinking and mental health, health survey was conducted with 3,918 students who were freshman in a university by self-reported questionnaire from February 26 to March 10, 2015. Multiple logistic regression analysis performed to identify the difference of mental health factor by drinking behavior.

#### Results

417 students (10.6%) were high risk drinker and 128 students (3.3%) were alcohol dependence group (K-AUDIT 20 or more). The 11.9% (n=466) was current smoker, In multiple logistic regression models, it remained significantly the difference of drinking behavior and alcohol use disorder by gender, BMI, current smoking, secondhand smoke exposure time (60 minute or more per 1 day), drunk driving experience and experience of

depression ( $p < 0.05$ ,  $p < 0.01$ ,  $p < 0.001$ ). On the other hand, it was not significant the difference by area, subjective health status, sleeping hours, stress level and suicidal thoughts.

### Conclusions

Future efforts to make the health promoting university should be focused on association with drinking problem, health promotion behaviors and mental health risk factors among university students. To achieve this, it should provide the comprehensive healthcare program and alcohol policy to reduce harmful drinking behavior on the university campus.

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## Session P1.9: Smoking cessation

### Tobacco control class for children can reduce community smoking rate

**MIHO Kimura, YOSHIE Takai, AKIO Koike, KEIKO Takahashi, MAYUMI Inamura, KAORU Hirasawa, TETSUYA Shinobi, ISAO Fukuba**

### Introduction

The smoking rate of Kawaguchi City is 17.0%, higher than the prefectural average of 15.3%. To reduce the community rate, educating early teenagers was considered necessary before they start smoking, and a class was held in a community. By analyzing the experience, an examination is made on an effective way of tobacco control promotion for children in a community.

### Purpose/Methods

On January 30, 2016, the children's class on tobacco control was held at a free afterschool seminar in a community. The 90 min. class was organized with the seminar teacher who shared the same concern. 1. Assigned staff: total of 8; the doctors for non-smoking class, public nurses, pharmacists and nutritionists. 2. Activity: watch DVD (why tobacco is bad, what to do when invited to smoke), cigarette package handcraft, coloring. 3. Children were divided into groups by age and we discussed about smoking while working on handcraft making and coloring. 4. A staff discussion was held afterwards on effective measures for non-smoking promotion for community children.

### Results

Participants: 22 students (preschool/elementary 7, junior high 7, adults 8) The seminar teacher reported us afterwards that the junior high students "told friends from school clubs about tobacco". Collaboration with the seminar teacher enabled such follow-up; the teacher willingly advocated the students and parents and distributed fliers to neighborhood. Discussion with handcraft making worked to keep children's concentration. Dividing children by age was effective to have efficient discussion on points.

### Conclusions

By holding a non-smoking class at a gathering place for community children, and an environment was created for adults

and children to think about smoking together. Also, by organizing the activity in collaboration with community residents, advocacy was enhanced and possibility became greater to continue the work in the community.

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## The Utility of Collaborations with Medical Associations in Publicizing Smoking Prevention Classes Targeting Elementary School Students

**HASUMA Hideki, OTANI Sayo, YUKI Yoshie, ONISHI Akiko, HIROTA Noritake, IMAMURA Syotaro, MATSUOKA Miki, KAGEYU Koichi, NOGUCHI Ai**

### Introduction

Our hospital has been providing smoking prevention classes targeting the upper grades of elementary school once a year since 2012 as part of activities to prevent smoking from a young age. We presented a report on the details of our activities at the 24th HPH International Conference. We report changes made by requesting medical associations to publicize our activities as a method of spreading activities.

### Purpose/Methods

We conducted a comparative before-and-after study of all 14 elementary schools in the Nishiyodogawa of Osaka city. We reported activities to the Nishiyodogawa Medical Association and made requests for support in holding smoking prevention classes at seven of the 14 schools over a 1-year period. We compared the number of elementary schools holding smoking prevention classes in the year before and after the classes were publicized in March 2016 through the medical association.

### Results

While only two of the 14 schools held classes before the classes were publicized by the medical association, this number increased to six of 14 schools 1 year after the classes were publicized. The number of children who attended the classes also increased from 115 to 381. Through the medical association, we were able to receive the support of the local ward office, which provided a subsidy.

### Conclusions

We believe that spreading activities in collaboration with key organizations, such as medical associations, in any region is a useful method of promoting smoking cessation. A new challenge that arises from spreading our scope of activity is the problem of manpower. Due to the increase in the number of staff needed for these activities. In addition to elementary schools, activities need to be spread to middle schools. We also need to reduce the rate of smoking in the short term by getting involved in projects including the enactment of laws in cooperation with

government, which could allow us to measure outcomes such as decreases in smoking rates.

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## The Effects of Smoking Cessation Courses on Adolescent Students in Northern Taiwan School

**LIU Hao-Wen, LU Hsin, HSUEH Pang-Hsin**

### Introduction

Tobacco use is highly addictive for adolescents and is associated with significant health problems. More than 70% of all regular smokers began smoking before they were 18 years old. In addition, tobacco is often the first drug used by those who use alcohol, betel nut, and harder drugs. In Taiwan, almost 11% of senior high school students are smokers, of which more than 60% want to quit smoking. Smoking cessation courses are held by our hospital, which help this population with quitting.

### Purpose/Methods

Our hospital and the school work together with smoking cessation courses. Our team members include a trained doctor, health educator, psychologist, and the school nurse. Questionnaires regarding knowledge and attitudes of smoking were given before the smoking cessation courses' intervention. All participants' carbon monoxide breath test, blood pressure, and heart rate were measured. During the courses, we educated about the damage of smoking and implemented group-based, cognitive behavioral intervention as well as stress coping strategies. We conducted telephone follow-ups 1 month and 3 months later for evaluation of the effect.

### Results

According to the questionnaire, 65% courses students enjoy smoking. 86% participants felt an increase of a desire to smoke when under psychosocial stress. After intervention, the students' understanding of damage caused by smoking increased from 62% to 75%. The success rates of smoking cessation reached 20% after 1 month; and 10% after 3 months. The course satisfaction survey achieved 80% satisfaction.

### Conclusions

Smoking cessation courses may help adolescent students understand the damage of smoking, coping strategies about stress, and reach success of quitting smoking. We should continue the smoking cessation courses and encourage more schools near our hospital to be involved with it.

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## The Experience of Applying Free App Software to Help Young People Quit Smoking and Weight Loss

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### Introduction

Smoking cessation and weight loss are important topics for health promotion in recent years, smoking has negative and huge impact on the health, family and society, therefore, if young people to quit smoking and weight loss success is more effective for future health. Hospitals need to find the most suitable method for related smoking cessation and weight loss health care education, but the limited manpower is the biggest problem in preventive medicine. Line is a proprietary application for instant communications, use line app as health education, may be able to solve the limit of manpower.

### Purpose/Methods

The purpose of this study was to apply free app software to help a young person quit smoking and weight loss. The intervention included: 1. Download free Mysports software on cell phone, daily exercise recording, and quantized the exercise volume and calories. 2. Send food pictures before and after the meal to the health educator, the diet suggestion would returned by line.3. Daily record smoking amount and send to the educator by line, health educator would reply appropriate intervention on line. 4. Developed incentives method. The individual interview was applied for data collecting and effect assessment.

### Results

After the intervention, the smoking amount dropped from 20 to 0 cigarettes a day, the carbon monoxide test dropped from 17 ppm to 3 ppm, and no relapse in 3 months and 6 months. Weight decreased from 73.2 kg to 69.9 kg, a total weight loss of 3.3 kg. Results showed successful weight loss and smoking cessation.

### Conclusions

Most of the young people use smart phones, the free app software was easy to use and quantify the amount of exercise, achieve a healthy self-management. , these innovative, funny, age-appropriate integrated care model of education could provide a successful smoking cessation and weight loss. This experience can be used as a reference for smoking cessation and weight loss in future.

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## Effect of a Smoking Cessation Program on Inpatients in the Largest Hospital in Southern Iran

## ASKARIAN Mehrdad, TABATABAI Fateme, PALENIK Charles John

### Introduction

There is evidence that cessation programs can be effective for hospital inpatients. The aim of this study was to investigate the effects of such programs and factors that may affect success.

### Purpose/Methods

This semi-experimental study was carried out on inpatient users of tobacco in Shiraz Hospital, Iran. After implementing the inclusion/exclusion criteria, a study population was selected using a convenience sampling method. Participants were contacted monthly by study personnel concerning certain aspects of their tobacco cessation program. The study lasted six months. Data analyses involved survival analysis using Kaplan-Meier analysis, Log Rank test and Multivariate Cox regression modeling.

### Results

The study included 425 inpatient smokers of which 328 (77.2%) were male. Median follow-up time was 96 days (interquartile range (IQR); 20-150). Cessation survival rates were 76% at 1 month, 63% at 2 months, and 61% at 3 months. From the fourth month onwards was unchanged at 60%. Univariate analyses with variables such as time since last smoking, consumption type, interval between wake-up and consumption, severity of dependence and interest in smoking cessation were statistically significant as to cessation survival rate ( $p < 0.05$ ). After adjusting the confounding variables based on multivariable analyses, results indicated that consumption type, severity of dependence and interest in smoking cessation were the most important predictors of cessation survival rates among inpatient smokers.

### Conclusions

Findings indicated that application of the cessation program among our group of inpatients appears to have been an effective intervention that produced an extended period of no smoking.

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## Effectiveness of a Smoking Cessation Activity for Taxi Drivers in Conjunction with the "Quit and Win" Contest at a Medical Center in Northern Taiwan

## HUANG Wei-Hsin, CHANG Betty Chia- Chen, HWANG Lee-Ching, CHEN Yu-Hsien

### Introduction

The Health Promotion Administration of Ministry of Health and Welfare in Taiwan holds a "Quit and Win" smoking cessation contest every two years to encourage the public to quit smoking with a chance of winning 300,000 NT dollars prize money. This study aims to analyze the effect on smoking cessation of taxi

drivers belonging to the "Taiwan Taxi Company" through efforts by the Mackay anti-tobacco team during this contest period.

### Purpose/Methods

According to the Taiwan National Health Survey in 2003, the smoking rate for professional drivers was 56.2%, which was much higher than the percentage for adult male smokers (34.2%). A medical center anti-tobacco team composed of doctors, nurses, and pharmacists, in working with the John-Tung Foundation, provided counseling and medication treatment to taxi drivers during the "Quit and Win" contest period. A total of 38 drivers were recruited, followed at two-week, three-month, and six-month for their smoking cessation point-success rates.

### Results

Table 1 showed the characteristics of participants, with mean age of 49.1, mean smoking years of 31.3, mean cigarettes per day of 21.6, mean nicotinic dependence score of 6.6, and mean CO level of 18.4ppm. The point-success rates were 55.3%, 55.3%, and 36.8% at two-week, three-month, and six-month, respectively. The point-success rate at three-month was higher than that of the hospital (55.3% vs 38%), however, the point-success rate at six-month was lower than that of the hospital (36.8% vs 39%).

### Conclusions

Our study results showed that the "Quit and Win" smoking cessation contest greatly motivated the public to quit smoking, and that collaboration between hospital and workplace was effective in helping employees to quit smoking, even among professional drivers who have a very high rate of smoking. However, relapse in smoking may occur after the contest ended, therefore measures in maintaining smoking cessation should be reinforced.

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## Use of Creative Campaign to Promote Community Tobacco, Alcohol and Betel Nuts Control

## CHEN Li-O, LO Yu-Tai, REN Yan-Zhen, LIOU Wen-Chin, YANG Yi-Hua

### Introduction

Smoking, alcohol abuse and the cancer-causing betel-nuts-chewing have been harming the health of the people in Taiwan. Tens of thousands of lives are taken from such substance abuse in Taiwan every year. The mortality rate of people with these addictions is more than six times of the average person. In order to successfully raise awareness for the danger of these bad addiction, St. Joseph Hospital worked with the community and designed a creative tobacco, alcohol, betel nuts control campaign.

### Purpose/Methods

The purpose is to raise the public awareness of the danger of alcohol, tobacco, and betel nut addiction. 1. Design a fun prize quiz to educate people on the health risks of substance abuse, and encourage them to sign the Healthy Community Convention.

2. Work with the management levels of business organizations on the issue, and have them sign the Healthy Workplace Convention. 3. Organize parent volunteers to actively prevent shops from selling the substances to underage people. 4. Form a touring band that performs funny pop songs discouraging the use of the substances at popular locations.

### Results

From July 2016 to October 2016 1. 137 people signed the Healthy Workplace and Healthy Community Conventions. 2. Parent volunteers had 41 businesses agreed on not selling the substances to underage people. 3. The touring band played at over 20 tourist attractions and its fun performance had attracted a total of 355 people to participate.

### Conclusions

In the past, the substance control acts were ineffective because the public found it offensive when their own lifestyles were being criticized. It had resulted in low participation in such propaganda activities. The success of our creative substance control campaign proved that if we take a fun approach to the serious issue, it would actually better communicate the idea to the public and thus gained more participation.

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## Literature Review of use E- Cigarette for Smoking Cessation

**CHEN Mei-Chun, SHIU Po-Chun, LIANG Su-Chi, LIN Ya-Hui, LIAO Lin-Yu**

### Introduction

Smoking is a highly addictive behavior and being the main health risks. It is considered as the most important and preventable health issue. The professional smoking cessation is needed and also economy-beneficial. Recently, the electronic cigarettes are applied as the treatment of smoking cessation and inhibition of the addiction.

### Purpose/Methods

Base the guidance of the evidence-base medicine, the population of the smokers (P) were intervened (I) by the usage of the electronic cigarettes. The outcome (O) of the smoking cessation addiction was analyzed. The database of The Cochrane Library, PubMed, CEPS were used to provide the best evidence and the reference of the best intervention way.

### Results

The smoking cessation rate for 6 months in the population with the intervention of E-cigarettes, nicotine contained E-cigarettes and nicotine patch were 7.3%, 4.1% and 5.8%, respectively. 97% of smokers with the intervention of E-cigarettes for 3 months chose the nicotine-contained E-cigarettes. Among them, 96% of the smokers represent a helpful way to smoking cessation. The risk rate in the E-cigarettes intervention group and nicotine patch were 2.29 (95% CI: 1.05 - 4.96) and 1.26 (95% CI: 0.68 - 2.34).

### Conclusions

Many therapies of the smoking cessation were used with effectiveness outcome. The drug therapy is the best way for the smoking cessation with less than 50% successful rate. The review from The Cochrane Library showed the effective way of the smoking cessation by intervention of the electronic cigarettes with the low-level evidence. The research of the electronic cigarettes intervention is necessary and urgent needed.

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## Promotion of smoking cessation without borders~ Effect of smoking cessation education in Vietnam

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### Introduction

In Vietnam, the smoking population of 15 million, and 47 million people are facing the problem of second-hand smoke, 47% of adult males are addicts, the public for the body harm caused by smoking a little knowledge, or even no concept, But also the high rate of local smoking, the price of a pack of cigarettes is about 7000 ~ 8000 VND. Each year, 40,000 people die from tobacco-related diseases and are among the 15 high-smoking countries in the world. In Taiwan, a long-term commitment to smoke control work accomplished in Kaohsiung Veterans General Hospital, won the Department of Health, Department of Health Gold Award certification, blue-chip medical institutions such as recognition of a number of affirmation, in order to deepen the international cooperation in medical assistance, 2016 To the forest in the same province in the province for a period of 3 months of smoke prevention and control cooperation program, promotion of smoking cessation health education and advocacy.

### Purpose/Methods

Purpose: To help the Vietnam to promote tobacco control, promote tobacco control activities to enhance the Vietnamese national tobacco smoke knowledge, training of seed personnel, to achieve a smoke-reducing rate of 5%, creating a smoke-free environment. Methods: 1 Normal stagnation, the establishment of the local cooperative medical team in Vietnam, to collect information, construct a complete data base. 2. To assist the local medical cadres of two doctors to teach smoking cessation health education, and promote the evaluation of smoking cessation skills. 3. Hospital smokers and smokers smoking cessation health education and behavioral therapy, case tracking. 4. Workplace smoke control activities, smoke prevention and control speech, and smoking cases to track the case. 5. Smoke-free campus publicity activities, students rarely smoke, but there are second-hand smoke problem, hoping to provide health education and tobacco education by smoking after the release, students can smoke the concept of implementation of the campus and Family. 6. Printed and provided non-smoking stickers of the text Xuanpin, posted in factories, hospitals, to convey the concept of smoke control,



thereby affecting the behavior of smoking, creating a smoke-free environment.

### Results

In Vietnam, smoking environment is very convenient, social atmosphere is still attached to smoking social, the program aims to enhance awareness of smoking cessation, create a smoke-reducing atmosphere, training seed personnel, in each field to improve the knowledge of smoke. July to September 2016 Vietnam Tobacco Control Cooperation Project results are as follows: 1. the workplace smoking cessation publicity activities: organized two sessions, a total of 145 times the number of participants. 2. smoke-free school publicity activities: held a screening, a total of 35 times the number of participants. 3. quit smoking health education cases a total of 103 times. 4. to provide smoking cessation after 1 month, cigarette reduction rate of 75%. 5. to provide quit smoking after 3 months, quit smoking success rate of 36%.

### Conclusions

The Vietnam Tobacco Control Program, brought into the concept of tobacco control and preventive medicine, whether it is policy or medical, for the people or the team, is a new realm. Not only to create a hospital clinic team of new river, but also to help local residents to promote health from the foundation to play, to obtain the real freedom of life and health. While much time is spent on validation, advocacy, and health education, the motivation to quit and the withdrawal syndrome should be a major obstacle to their future success in quitting. Therefore, the guidance of local health care workers to learn smoking cessation health education skills and related smoking cessation evaluation results are important.

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## Cardiovascular and neuropsychiatric risks with varenicline: a nationwide population based study

### TSENG Yuan-Tsung, WANG Heng-Horng

#### Introduction

Varenicline is an effective pharmacotherapy to aid smoking cessation. However, its use is limited by continuing concerns about possible associated risks of serious adverse cardiovascular and neuropsychiatric events. The aim of this study was to investigate whether use of varenicline is associated with such events.

#### Purpose/Methods

In this retrospective cohort study, we used data from patients included in the validated National Health Insurance research database, which holds data from Taiwan. We identified patients aged 18–80 years who received a prescription of nicotine replacement treatment, varenicline. We excluded patients if they had used one of the drugs during the 12 months before the start date of the study, had received a prescription of a combination of these drugs during the follow-up period, or were temporary residents. We followed patients up for 6 months to

compare incident cardiovascular events using Cox proportional hazards models.

### Results

We identified 59,867 patients who received a prescription (55,319 for nicotine replacement treatment; 4,548 for varenicline) between Jan, 2003, and Dec, 2013. Varenicline showed an decreased risk of any cardiovascular or neuropsychiatric event compared with NRT. Varenicline was associated with a significantly reduced risk of ischaemic heart disease (HR 0.83 [95% CI 0.65–1.06]), Peripheral artery (1.02 [0.52–1.98]), heart failure (0.50 [0.27–0.94]), arrhythmia (0.76 [0.52–1.98]), depression (1.05 [0.71–1.56]), COPD (0.70 [0.53–0.92]), and Headache (0.30 [0.22–0.41]).

### Conclusions

Varenicline does not seem to be associated with an increased risk of documented cardiovascular events, depression, COPD, and Headache when compared with NRT. Adverse events that do not come to attention of general practitioners cannot be excluded. These findings suggest an opportunity for physicians to prescribe varenicline more broadly, even for patients with comorbidities, thereby helping more smokers to quit successfully than do at present.

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## Long-Term Major Cardiovascular Adverse Events with Bupropion: A Nationwide Population Based Cohort Study in Taiwan

### TSENG Yuan-Chung, WANG Heng-Horng

#### Introduction

Bupropion is one of the effective pharmacotherapy to aid smoking cessation. This study aimed to investigate the long-term risk in smokers with using Bupropion, and addressed the possible effect of prescribe for Bupropion against smoke.

#### Purpose/Methods

In this retrospective cohort study, we used data from patients included in the validated National Health Insurance research database from Taiwan. We identified patients aged 18–80 years who received a prescription of nicotine replacement treatment, Bupropion. We excluded patients if they had used one of the drugs during the 12 months before the start date of the study, had received a prescription of a combination of these drugs during the follow-up period, or were temporary residents. We followed patients up for 6 months to compare incident cardiovascular (ischemic heart disease, Peripheral artery, heart failure, and cardiac arrhythmia), and other events (depression, COPD, and Headache) using Cox proportional hazards models.

### Results

We identified 56,436 patients who received a prescription (1,117 for Bupropion; 55,319 for nicotine replacement treatment) between Jan 1, 2003, and Dec 31, 2013. Bupropion showed an

decreased risk of any cardiovascular or neuropsychiatric event compared with NRT (hazard ratios [HRs] less than 1). Bupropion wasn't associated with a significantly reduced risk of ischemic heart disease (HR 0.69 [95% CI 0.45–1.03]), Peripheral artery (1.83 [0.86–3.80]), heart failure (0.66 [0.29–1.47]), arrhythmia (0.81 [0.48–1.37]), depression (1.00 [0.54–1.87]), COPD (0.64 [0.41–1.02]), and Headache (0.93 [0.69–1.27]).

### Conclusions

Bupropion does not seem to be associated with an increased risk of documented cardiovascular events, depression, or COPD and Headache when compared with NRT. Adverse events that do not come to attention of general practitioners cannot be excluded. These findings suggest that health care for physicians to prescribe Bupropion, even patients with some adverse event, providing adults protective effect against smoke.

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## Session P1.10: Promoting physical activity

### The agenda of the “Healthy Exercise Program”

**MISHIMA Nobuyuki, TAKAGI Aoi,  
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Noritake**

### Introduction

As part of the Health Promoting Hospitals (HPH) initiative, we introduced the “Healthy Exercise Program”(HEP) in September 2015 inside. The HEP is intended for health maintenance as well as to contribute to the improvement of quality of life (QOL) by addressing the social determinants of health (SDH) such as through the improvement of “subjective health” and “promotion of social participation”.

### Purpose/Methods

The HEP is targeted toward patients that visit our outpatient clinic and staff working at of our hospital and clinic. The classes are conducted by a physiotherapist and consist of a combination of 14 different muscle resistance training exercises and stretches covering the neck to the feet. A subjective health questionnaire survey was conducted twice, in August and October 2016, targeting eight regular participants who have continuously attended the classes (average attendance: 17.6 times).

### Results

Of the total 210 participants who have attended the class, 26 people. The average attendance was 7.8 participants per class. There were eight participants who had attended more than ten times. While the average attendance in the first half (September 2015 to March 2016) was 7.0 participants per class, the average in the second half (April 2016 to October 2016) was 8.7 participants per class. In other words, there was on average an increase of 1.7 participants. The average points for self-rated

health based on the questionnaire survey were both high: 2.75 points in August 2016 and 2.88 points in October 2016.

### Conclusions

The average values for self-rated perception of health of regular participants was high, indicating that most participants feel that they are healthy. This favorable perception of subjective health may be attributed to not only the benefits of physical exercise but perhaps also due to regular participation in such classes (social participation). The next challenge is to promote more of these classes in the community.

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## The early rehabilitation for ventilator weaning

### LIN Yuru

### Introduction

Being long-term bedridden in the respiratory failure patients decreased the activity and muscle strength, so the diaphragm strength decreased, which advanced the airway injuries. Moreover, the respiratory muscle weakened, which mainly failed ventilator weaning. With the projected early rehabilitation (PER), the time taken for ventilator weaning ventilators lessened; so did medical costs. Resultantly, life quality amended.

### Purpose/Methods

The effects of the PER were on: strengthening the respiratory muscle endurance; enlarging the ventilator weaning rate, muscle and joint blood circulation, and muscle relaxation; delaying and avoiding the muscle loss. The PER covered the: upper and lower extremity and respiratory muscle exercises; social psychological behavior therapy. To attain the effects, the approaches were to: competently guide the PER; transfer patients to the rehabilitation, and render the PER-pertinent information and PER content; base the individual needs for establishing the PER plan by working with the medical team.

### Results

1. Family rehabilitation of the implementation rate from the 0% to 65%. 2. The PER-affected ventilator weaning rate before and after improvement was from 48.2% to 60.58%.

### Conclusions

Whether the PER, especially for the individual needs, succeeded and continued was considerably crucial because it: constituted the complete PER; optimized the remaining lung function in the patients. Thus, the nurses needed to: constantly ameliorate the field knowledge for the accurate PER perception; observe the patient and family caregiver problems in PER anytime and help solve them with helpful medical messages; raise the PER completion rate and successful weaning rate.

### Comments

The recommendations were to: incorporate the PER process; effectively apply the PER standards and flyers to fortify the patient and family learning motivation. Thence, interacting with the patients and families increased; so did the patient and family satisfaction with the field services.

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## Exercise intervention improves exercise capacity in head and neck cancer patients receiving chemotherapy.

**TSAI Wei-Ming, TSAI Kun-Ling**

### Introduction

Oral, oropharyngeal and hypopharyngeal malignancies are the most common cancer diseases in Taiwan. Chemotherapy is used to treat head and neck cancer patients and known to increase the survival rate for patients. However, studies reported some side effects were attributed to the chemotherapy reduced the treatment effects and quality of life. According to American College of Sports Medicine(ACSM), exercise had been reported to increase cardiovascular function and fitness. Nevertheless, there is no study investigating the effects of exercise training on head and neck cancer patients receiving chemotherapy.

### Purpose/Methods

This is a pre-posttest study conducted at the outpatient of National Cheng Kung University Hospital, Taiwan. This study was designed to investigate whether exercise intervention can improve the exercise capacity and cardiopulmonary endurance in head and neck cancer patients receiving chemotherapy. We have conducted 6 head and neck cancer patients undergoing chemotherapy (age 48.2 ± 8.4). Participants receive aerobic training program for 8 weeks, three days a week. The six-minute walk test (6MWT) was used to measure the exercise capacity. Heart rate, blood pressure and SpO<sub>2</sub> were recorded to evaluate the cardiopulmonary responses. The paired t tests is used and the significant level is 0.05.

### Results

The result of 6-minute walking test distance(6MWTD) before exercise was 483.3±65.5 meters. After the intervention of 8 weeks aerobic training 6MWTD was 562±13meters. There is Significant difference found in the 6MWTD between pre- and post-intervention (p<0.05). However, no significantly difference in heart rate, blood pressure and SpO<sub>2</sub> recovery.

### Conclusions

In this study, the preliminary result showed that the walking distance of the 6-minute cardiopulmonary endurance test significantly increased after 8 weeks of aerobic training. These findings suggested that exercise can help to promote cardiopulmonary endurance for head and neck cancer patients undergoing chemotherapy.

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## Responsive reactions to different whole body vibration frequencies in patients with Parkinson's disease

**LIN Hsiu-Chen, LU Grace, TSENG Hsin-Chun, TSAI Chon-Haw**

### Introduction

Parkinson disease (PD) is a common neurodegenerative disorder, which causes a variety of motor dysfunctions, including rigidity, tremor, postural instability, muscle weakness, bradykinesia etc. Clinical evidence showed that regular exercise training would be beneficial to PD patients. Whole body vibration (WBV) training has become increasingly popular over the last decade and was used as a novel method of exercise training. However, the effects of different vibration frequencies of using WBV stimulation in PD patients were not clear.

### Purpose/Methods

The purpose of this study was to investigate the responsive reactions to different WBV frequencies in PD patients and in healthy controls. The PD patients who can walk independently and the age-matched healthy controls were enrolled in this study. Each participant was asked to standing on WBV machines with two different frequencies stimulations, and then was instructed to complete a 10-minute dynamic WBV exercise. Their motor function, balance, and gait were measured before and after the exercise program.

### Results

The results showed significantly slower walking velocity and poorer dynamic balance function in the patient compare to the control group. No significant differences between group with or without vibration in the muscle activation levels and vibration transmission ratio were found. After complete the 10-minute WBV training program, the control group showed increased in their lower-leg strength and walking velocity while the PD patients showed beneficial effects on turning tasks.

### Conclusions

This study demonstrated different beneficial effects with different WBV frequencies in patient and healthy control groups. Hopefully, with further accumulating more sample, the results of this study could provide information for designing proper exercise prescription and encourage the long-term rehabilitation and promoting physical activity for the routine care of PD patients.

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## Using Oswestry Disability Index (ODI) to evaluate consequents of promotion on life quality before and after surgical procedure for patients with Lumbar Spinal Stenosis

## YEN Yen-Chun, TIAN Yu-Ruei, CHEN Nai-Chia, CHEN Li-Lin, CHENG Jin-Shiung

### Introduction

Lumbar surgical procedure is the first place in Neurosurgery surgical rank. Quality of life for patients is usually seriously affected by low back pain, numbness leg and cause patients unable to have long-time walk. When patients face surgery, in addition to worry about the risk of anesthesia, effective lifting of pain and improve motor function are more concerned. It is the most frequently asked questions of patients and their families.

### Purpose/Methods

To understand the effectiveness of lumbar stenosis patients undergoing surgical treatment to improve pain and life function. We collected cases from a neurosurgery ward in a medical center, lumbar vertebrae over 18 years of age to accept lumbar surgery patients (including the lumbar spine section one to five, single or multi-section surgery). Excluding trauma, non-specific low back pain or secondary degenerative neuralgia patients, such as: HIVD, lumbar fractures.

### Results

From March 1, 2016 to June 30, 2016, a total of 33 cases were received (9 males and 24 females), the average age of 66.9 years old. Visual analogue scale (VAS), Oswestry disability index (ODI) and walking time were measured at pre-surgery, one week, two weeks, and one month after surgery. Analysis, ODI decreased from severe disability (51.11) to moderate disability (25.5). Average low back pain score and leg pain score were significant decreased, from 5.0 points to 0.5 points, 4.7 points to 0.5 points respectively ( $p < .001$ ); however, self-walking time had no increased from 21.8 minutes to 20 minutes ( $p = .718$ ). This results may be associated with patients are advised to avoid sedentary, long standing more than 30 minutes by the operative physician.

### Conclusions

Lumbar spine surgery can improve the patient's Oswestry dysfunction index and walking back pain, foot pain situation, to enhance the quality of life.

### Comments

Lumbar spine surgery can improve the patient's lumbar stenosis pain and life function. However, one month after the operation of self-walking time is not significant differences. In the future, it is recommended evaluation indicators walking distance to replace the self-walking time, or extend the assessment time to assess the difference and efficacy.

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## The Study about the Benefits of Walking as Employee's Daily Exercise in Seoul National University Bundang Hospital (SNUBH)

LEE Kiheon, CHOI Iksoon, PARK Sukwon

### Introduction

According to the 2014 National Health and Nutrition Examination Survey, 2 out of 5 adults (41.7%) turned out that they walk with adequate frequency, a result which is 3.7% slightly higher than that of 2013. Walking exercise is one of the easiest ways of daily exercise, and if practiced constantly, it can improve cardiopulmonary function and prevent Non-communicable diseases (NCDs).

### Purpose/Methods

According to a physical activity survey conducted in October 2014, 43% of the SNUBH employees didn't participate in any regular exercises. To encourage them to engage in more walk exercises in daily life, we introduced the programs called 'The Walking Certification Campaign' and 'The Point Reward System' in 2016.

### Results

1) The Walking Certification Campaign The Health Promoting Hospitals created 'The SNUBH Road' to encourage employees to walk more in everyday life. The SNUBH Road is a walking track along the Tanch River around the Seoul National University Bundang Hospital, where employees can take a walk while coming to the office and going back home. The hospital set up a banner based on the QR-code mobile app through which the employees can insert their walking record any time from the start to the finish line in each course. 2) The Point Reward System The Point Reward System for walking is linked with the KakaoTalk and the Pedometer application based on smartphone. During the campaign, the number of steps was accumulated, and the gift point was rewarded as many as the steps taken. At the end of the campaign, the person that records the greatest number of steps, 544,117 steps in one month period of time was rewarded with the winner's gift, a Bluetooth earphone.

### Conclusions

Participants' opinions were as follows; "I feel I am getting healthier.", "I think it would be nice to have walking courses in the hospital." Therefore, the Health Promoting Hospitals is planning more interventions in 2017 including with walking courses in the hospital to increase employees physical activity.

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## Break the rule - to promote Taoyuan City health management program

CHANG Huan-Cheng, HSU Shih-Tien,  
CHEN Sheng-Pyng, WANG Mei-Chih, LI  
Yu-Ling, KUNG Ya-Yu, JONG Cheng-Hsin,  
LING Yeh-Wan, CHU Yu-Shiao, TSENG Li-Ying

### Introduction

In 2007 according to National Health Research Survey, The prevalence rate of metabolic syndrome in people whom over 20 years of age was 19.7% (male 20.3%, female 19.3%), And it increased with the age. Are among the top ten causes of death in

Taiwan, has become Taiwan and the world's emerging important public health issues. Metabolic syndrome is not caused by a single factor, Studies have shown that for healthy people, improve physical activity, change the lifestyle and nutrition education, can reduce metabolic syndrome risk factor. To promote the health management, Landseed hospital to undertake the health management program from department of public health Taoyuan, In order to be able to successfully to promote, hospital built the platform to integrate the information, so nutritionists and exercises instructor every week will into the community to achieve with the community residents to create high-quality healthy living space of the hospital vision.

#### Purpose/Methods

1. Establish a healthy public policy 2. Creating a Supportive Environment 3. Strengthening Motivation and Community Action 4. Develop personal skills 5. Adjust the direction of health services

#### Results

13 district from city were actual development of 49 positions for the project, reaching a rate of 98%. have 67 per cent attended the course seven or more. have Twenty-seven per cent of the participants were attending 12 courses. the nutrition course evaluation was have 95.75% for the satisfaction. the exercise course evaluation was have 96.34% for the satisfaction. after the completion of the project, there are nine station, have community of spontaneous continuation of health management program.

#### Conclusions

Landseed hospital for a healthy management program, Combined with the Facebook and LINE groups to quickly disseminate information and master the classroom situation, increase community exercise and access to nutrition information to develop a healthy diet and regular exercise habits, enhance people health away from disease.

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## Active Society and Health Promotion: Experience in Taiwan

**LIN Li-Ju, LIN Chen-Su, CHANG Chiung-Dan, CHEN Ting-Chen, YU Li-Hui, WANG Ying-Wei**

#### Introduction

The world faces emerging health challenges from non-communicable disease pandemics. Physical inactivity is now identified as the fourth leading risk factor of global mortality. In Taiwan, 44.9% of people aged over 18 had engaged insufficient physical activity, with females performing worse than males in 2013. To combat physical inactivity, the Executive Yuan has established the Health Targets aiming to increase the rate of adult physical activity by two folds within 10 years through a whole-of-government approach.

#### Purpose/Methods

To achieve this target, the government, academic and industry sectors will pool their resources to build healthy and active

settings, which encourage the population to be physically active during daily life, such as riding bicycle to work. In Taiwan, the government has built a "5A" active living environment (Available, Accessible, Affordable, Adorable and Adoptable), through promoting programs such as Healthy Cities WHO-Health Promoting Hospitals, Health Promoting Schools, Healthy Workplace and Community Health. To encourage active lifestyle, HPA has launched a nation-wide Healthy Weight Management campaigns since 2011, calling on leaders of government agencies, workplaces, schools and communities to lead by example in promoting healthy lifestyles and weight management, encouraging municipalities to build means of active transportation and plan out walking routes to promote healthy commuting lifestyle.

#### Results

The rate of insufficient physical activity of people aged over 18 had decreased from 44.9% to 39.1% (30.8% in males and 47.8% in females), with females performing worse than males.

#### Conclusions

With these efforts, Taiwan had reach initial achievement. However, there are more work for us to do, such as to promote physical activity with internet communicate technology, to implement female-specific active lifestyle strategy and so on. We will continue to proceed whole-government approach to promote physical activity to promote active lifestyle of people in Taiwan.

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## Senior Fitness Test at the Physical Medicine and Rehabilitation of Yunlin Christian Hospital in Taiwan

**HO Teng-Wei, HSIUNG Chen-Chang, LEE Sung-Jung, WANG Chin-Hui, FU Te-Chuang, YANG Ming-Chih**

#### Introduction

The Aging Taiwanese population has become a major concern. Maintaining/Increasing physical activities is highly recommended as physical activeness preventing many disabilities. However, assessment tools are somewhat lacking in evaluating acceptable levels of physical activities for older adults. From literature review, Senior Fitness Test (SFT) is suggested as a useful tool to determine the fitness levels of older adults. Yunlin Christian Hospital(YCH) determined that if SFT can be used effectively to assess fitness levels of CVA patients then SFT can also be used in the wider community of older population who has not suffered CVA.

#### Purpose/Methods

The purpose of this study is to understand the lack of usage of SFT at the physical medicine and rehabilitation department of YCH. We used Cause and Effect Diagrams and scientific based evidence to increase awareness of senior fitness along with usage of SFT in a simplified assessment form with illustrations. A convenience sample of ten CVA patients, who are receiving



physical therapy at YCH regularly. The inclusion criteria were independent ambulators 65 to 74 years old. Assessments were performed over 2-week period, Aug. 2016.

### Results

The result showed all physical therapists were able to perform Senior Fitness Test (SFT) in this study. 10 patients completed the SFT within two weeks. It revealed that SFT was an efficient assessment tool for physical therapists. The completion rate of testing items was 92%, 50 % of the participants had inadequate cardiorespiratory fitness and 30% had a lack of balance, which indicated SFT would highlight the disability of stroke patients.

### Conclusions

This study proved that it is feasible to implement SFT to patients in physical therapy department. The study showed that physical therapists in hospital can assess older adults' fitness effectively, and further to detect in the wider community of older population if being frail.

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## Elder's Analysis of Physical Fitness and Suggestion of Health Education in Hualian County, Taiwan

**CHEN Wan-Hsin, LIN Yea-Pyng, CHEN Chien-Ju, PENG Wen-Hsi, LIN Pin-Han**

### Introduction

The elder population has reached 7.1% of the total population in Taiwan, and population aging has become a social issue ever since then. "Active aging" has been a primary goal at Mennonite Christian Hospital in Hualian City, Taiwan. We processed a physical activity investigation by utilizing elder fitness testing and questionnaire. The statistics indicated that the elderly living alone population's physical activity is lower than elderly non-living alone and both their lower body's strength and cardio-pulmonary function would also affect their motivation of exercise. We operate a project which could increase regular exercise from elderly live in Haulian.

### Purpose/Methods

We combined local resources and worked with community centers to operate fitness test and evaluate their health-related physical. The fitness testing has a couple parts which included upper and lower muscular strength and endurance, flexibility, and cardiovascular endurance. The result enabled us to specifically adjust an exercise plan for elders to increase their motivation in exercise and to improve their physical health.

### Results

The statistics of this test stated that it could motivate elders to exercise more if their exercise plan included more lower body and cardiovascular exercise which would be helpful in improve their physical health. In addition, qualitative observation of this research indicated that participants presented a higher motivation to increase exercise/physical activity when they could not only recognize their body weakness and it's need but were able to obtain a specific work-out plan.

### Conclusions

It could improve elder population's physical health by promoting both fitness/work-out plan through local community centers and training which focused on their lower body and cardiovascular strength and endurance. Last but not the least, the cultural sensitiveness also plays an important role in encouraging elderly who live in rural areas in Hualian, to exercise since most of them come from the same indigenous culture.

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## Number of Comorbidities Influenced Lower Limbs Performances of the Hip-Fractured Elderly in Taiwan

**HUANG Yueh-Fang, TANG Shih-Tsang, CHU Fu-Ling, SHYU Yea-Ing Lotus**

### Introduction

Hip fracture usually impacts physical functions of the elderly, and comorbidities often interfere with their recovery. Previous researches had demonstrated that the performances of muscles and joints of lower limbs decreased after hip fracture, but very few studies on the influence of comorbidities on hip, ankle and quadriceps performances for elderly following hip fracture. Moreover, more than 80% elderly in Taiwan suffered chronic diseases. Therefore, the purpose of this study was to examine the influences of comorbidities on post-operative performances of hip, ankle and quadriceps for hip-fractured elderly in Taiwan.

### Purpose/Methods

Data from a previous study of 461 hip-fractured elders in northern Taiwan was analyzed by generalized estimating equation approach. Range of motion of hip and ankle, strength and endurance of quadriceps were assessed at post surgery, discharge, 1, 3, 6, 12 months following discharge.

### Results

Hip-fractured elders with more comorbidities were more likely to have less improvement in dorsiflexion ( $\beta = -0.510$ ,  $p = 0.049$ ) and plantarflexion ( $\beta = -0.432$ ,  $p = 0.012$ ) of ankles in fractured thigh, less plantarflexion ( $\beta = -0.471$ ,  $p = 0.013$ ) in non-fractured thigh, less hip flexion ( $\beta = -1.150$ ,  $p = 0.001$ ) in non-fractured thigh, and worse quadriceps strength both in fractured ( $\beta = -0.526$ ,  $p = 0.003$ ) and non-fractured ( $\beta = -0.638$ ,  $p = 0.005$ ) thighs. But there was no significant difference on quadriceps endurance performance.

### Conclusions

More comorbidities negatively influenced the range of motion on hip and ankle, and quadriceps strength of the hip-fractured elderly. The results could provide a reference for further development of related interventions.

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## Yoga improves Physical Fitness in Older Adults with Chronic Obstructive Pulmonary Disease

**LIAO Lin-Yu**

### Introduction

Chronic obstructive pulmonary disease (COPD) is a chronic respiratory disease by airflow limitation. Poor physical fitness has been reported in old adults with COPD. Therefore, regular physical exercise is important for COPD patients. Yoga can be improved physical fitness in health older adults. However, its role is not well defined in old adults with COPD.

### Purpose/Methods

To effects of yoga on the physical fitness in older adults with chronic obstructive pulmonary disease (COPD). A prospective experimental study, and randomized. Fifty older adults with COPD were allocated into experimental and control groups. Yoga was conducted with the experimental group. The yoga sessions were conducted twice a day for 30 minutes per session. The outcomes are stepping, 30s-CST shoulder and arm softness, arm grip, and balance on one leg at 1 month.

### Results

After 1 month, the experimental group was significant improvement, stepping ( $t = -2.66$ ,  $p = .010$ ), 30s-CST ( $t = -2.08$ ,  $p = .043$ ), shoulder and arm softness ( $t = -3.29$ ,  $p = .002$ ), arm grip ( $t = -6.65$ ,  $p < .001$ ), and balance on one leg ( $t = -3.12$ ,  $p = .003$ ). In the experimental group was significant difference before and after the yoga (all  $p < .05$ ), but the control group was no significant difference (all  $p > .05$ ).

### Conclusions

The yoga for the older adults with COPD may effectively promote physical fitness. This study will provide the evidence base for the older adults with COPD to engage in yoga as a long-term physical activity.

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## Empirical Studies of Health Promotion on Physical Activity of Elderly People by the Sitting Posture Exercise

**CHEN Yu-Li, HUANG Hsin-Shu**

### Introduction

This is an empirical study of the effective health promotion on physical activity of elderly people by the sitting posture exercise.

### Purpose/Methods

In the empirical studies of 1989-2015 randomized control experimental studies, it is aimed to study on the effectiveness of Setting Posture Exercise on the intervention improvement of elderly people functionally Physical fitness. This study is based on a

systematical review and meta-analysis of the effectiveness made by the intervention measure of Setting Posture Exercise. It is searched from the Chinese-version and English-version of literature in the databases of "Cochrane Library", "PubMed", "MEDline", "MeSH", "CINAHL", "EMBASE", and "Airiti Library" from 1989 to the February of 2015 that are related to the elderly people. And, it is used with the ReMan 5.3 software to conduct the meta-analysis and to draw the forest map. Subsequently, it is adopted with the fix mode to conduct the analysis and the selected measurement variables are included with the "30-Sec Standing from Setting Posture", "2-Min Mark Time", "Hands Interlocking Backside", and "Stand-Up Circling around Object".

### Results

The Setting Posture Exercise has the effectiveness to promote the Lower Extremity Muscular Strength and Cardiorespiratory Capacity of the elderly people, and is statistically shown with apparent difference. Although there is no statistically apparent difference on the flexibility, responsiveness, agility and dynamic balance of elderly people, however, it has the improvement effect.

### Conclusions

According to the analytical results of empirical study, the Setting Posture Exercise is a kind of exercise mode that is simple, safe, and no need to have large space. By using it, it will be helpful to improve the physical activities or functionally physical fitness of elderly people.

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## Shine Golden Decade Plan for Elderly in Toufen City, Taiwan

**HUANG Shu-Hua, TAI Hsu-Chih, CHAO Ying-Hua**

### Introduction

There are total population of 103,116 persons and of which 11.26 percent over 65 years in June 2016 in Toufen city. According to the survey showed that most elderly people with chronic diseases, Non-compliance behavior for medical treatment and medication. Because chronic diseases result in a reduction of muscle strength and balance and lead to accidental injury.

### Purpose/Methods

With Tai Chi to aerobic exercise to training grip and balance and thus prevent falls for elderly.

### Results

1. There were significant improvement of Tai Chi for fall prevention knowledge, grip and balance, softness, walking speed. 2. Elderly people participated community activities from 31% increased to 57% in 2013-2015.

### Conclusions

The Tai Chi to aerobic exercise can effective to training grip and balance and thus prevent falls for elderly. On the other hand, it also improved elderly people to participate community activities.

**Comments**

Comments Although economic constraints of Toufen city government, we still hope to find more resources to take care for the elderly.

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## Session P1.11: Promoting health by physical activity and healthy nutrition

### Empirical Study of the effective health promotion on Physical Activity of Elderly People by the Sitting Posture Exercise

**CHEN Yu-Li, HWU Yueh-Juen, CHEN Meng-Jan, HUANG Hsin-Shu**

**Introduction**

This is an empirical study of the effective health promotion on physical activity of elderly people by the sitting posture exercise.

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**Conclusions**

According to the analytical results of empirical study, the Setting Posture Exercise is a kind of exercise mode that is simple, safe, and no need to have large space. By using it, it will be helpful to improve the physical activities or functionally physical fitness of elderly people.

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## Health Coaching to Improve Exercise and Systolic Blood Pressure in Patients with Type 2 Diabetes Mellitus

**KIM Jung Min, LEE HeyJean, MOON Ji Young, BAEG YeoungHeui, CHOI DanBi, CHO Eun-Hee, KIM Yong Hoon, LEE Ji Hye, KWON Hyuk Nyu**

**Introduction**

Diabetes health coaching has not been adequately assessed in patients with type 2 diabetes mellitus (T2DM). The purpose of this study was to investigate the effects of using a coaching program on comprehensive lifestyles modification with T2DM patients.

**Purpose/Methods**

The study design was pre- & post-test design. Diabetes health coaching program was taken by T2DM patients at branches of community health center. This program lasting 6 month consisted of monthly face to face counseling and weekly telephone counseling. At enrollment and after 6 months, we performed a questionnaire survey consisting of the diabetes knowledge test, items for disease management (diet, blood sugar testing, and foot care), items for self-efficacy, subjective health status, health behavior (smoking, alcohol consumption, and physical activity). Also we checked blood pressure, body mass index, serum fasting glucose level, postprandial glucose level, total cholesterol, and glycosylated hemoglobin.

**Results**

We analyzed 6-month follow-up data from 57 patients. They showed significant improvements in diabetes knowledge, disease management of foot care, self efficacy, the amount of exercise, and systolic blood pressure after 6 months.

**Conclusions**

Although this program did not show metabolic improvement of T2DM patients, it resulted the improvement of self efficacy, the amount of exercise, and systolic blood pressure. Using Diabetes health coaching program seems to be helpful in T2DM patients at branch of community health center.

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## Band Stretching for the Prevention of Musculoskeletal Disorders in a Health Promoting Hospital

## JUNG Woo-seok, LEE Kiheon, PARK Sukwon

### Introduction

According to the statistic for the elderly in 2014, the proportion of the elderly people over 65 years of age in Korea is estimated to be 12.7%. However, it is evaluated to increase by 19.0% in 2024, 24.3% in 2030, 37.4% in 2050 and 40.1% in 2060. On a survey on senior citizens showed that most of them have been suffering from musculoskeletal disorders.

### Purpose/Methods

Band stretching exercise is easy, portable and is unaffected by places. This exercise improves the flexibility of the joints, which in turn will increase the range of motion. Also, it is good for activating and strengthening the muscles of the elderly.

### Results

The band stretching program was conducted for health promotion of the elderly in communities. From July to December in 2015, the teams in health promoting hospitals educated how to prevent musculoskeletal disorders. A total of 394 elderly people participated in the program. During the education, stretching leaflets were given, which included QR codes linked to training and demonstration videos.

### Conclusions

In the era of aging, there is a growing interest in the healthcare of the elderly population. The prevention of musculoskeletal diseases is especially needed. For this, in 2017, health promoting hospitals will introduce more advanced musculoskeletal disease prevention programs in conjunction with public health centers.

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## The Effect of Yoga-based Pulmonary Rehabilitation on dyspnea, coughing, and 6MWD among COPD in Taiwan

### LIAO Lin-Yu

### Introduction

Yoga is an alternative and complementary treatment. It has been showed to improve respiratory, physical capacity in chronic disease. Chronic obstructive pulmonary disease (COPD) is a systemic illness. One of pulmonary rehabilitation has showed that has improved long-term health-related problem.

### Purpose/Methods

Investigate the effect of yoga-based pulmonary rehabilitation on dyspnea, coughing, and 6MWD in COPD patients. A randomized control trial was conducted. Pretest and posttest evaluations of moderate to very severe COPD patients (experimental group n = 25; control group n = 25) were performed. The experimental group received twice a day for 10 minutes per session to inpatients. The clinical parameters (dyspnea, coughing, and 6MWD) assessments at baseline and at the end of seven day.

### Results

At the end of the 5 day yoga-based pulmonary rehabilitation, was significant improvement between experimental and control groups in dyspnea score ( $t = 2.15$ ,  $p = .032$ ), cough score ( $t = -2.33$ ,  $p = 0.21$ ), 6MWD ( $t = 1.96$ ,  $p = .050$ ). In the experimental group was significant difference before and after the yoga-based pulmonary rehabilitation ( $p < .05$ ), whereas there was no significant difference in the control group ( $p > .05$ ).

### Conclusions

Yoga-based pulmonary rehabilitation may improve dyspnea, coughing, and 6MWD in COPD patients. Yoga-based pulmonary rehabilitation is beneficial therapy for COPD patients and can be included for pulmonary rehabilitation programs with COPD inpatients.

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## Effects of Scapular Control Exercise on Scapular Kinematics, Shoulder Functions, and Pain in Elderly Patients with Massive Rotator Cuff Tear

### AO Hoi-Wa, TSAI Yi-Ju, SU Wei-Ren, WANG Pei-San, LIU Zhao-Wei, CHEN Wen-Ling

### Introduction

Massive rotator cuff tear (MRCT) is more than two of the rotator cuff muscles torn or the tear size greater than 5cm, which often occurred in the elderly. Low successful repairing rate is attributed to atrophy and fatty infiltration of muscles in the elderly patients with MRCT, thus conservative therapy is often suggested. However, only few studies have investigated the effects of shoulder exercises on pain and functions in people with MRCT. Whether an exercise emphasizing on maximizing the scapular compensatory strategies could reduce shoulder pain and disability is still unknown

### Purpose/Methods

The study examines the effects of scapular control exercise (SCE) in 16 elderly patients with MRCT on shoulder pain, strength, disability, and scapular kinematics. The SCE is a 6-week intervention focusing on scapular compensatory training for upward rotation and posterior tipping. Shoulder pain (Visual Analog Scale), strength (hand-held dynamometer), functions (Shoulder Pain and Disability Index) and scapular kinematics (FASTRAK motion analysis) were assessed before and after intervention. Paired-t tests were used for statistical analysis.

### Results

After training, elderly patients with MRCT showed significant improvements in the pain (5.3 to 3.4), SPADI (18.7 to 12.1), and strengths of the lower trapezius (16.2 to 21.2 lb) and serratus anterior (20.3 to 26.1 lb). Increased scapular posterior tipping was also observed during arm elevation and lowering between 60 and 120 degree (5.6 to 12.2 degree).

### Conclusions

The SCE training could improve shoulder pain and functions in the elders with MRCT. A greater scapular posterior tipping found after training may contribute to increasing the acromiohumeral distance and reducing the occurrence of impingement. This preliminary study supports the SCE training is an effective conservative treatment for establishing compensatory strategies for the shoulder complex and regaining functions in the elders with MRCT.

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## Investigate the satisfaction of the five-color vegetarian blenderized food

**KUO Shih-Ching, CHIU Wen-Hsin, CHEN Ming-Hsiang, FANG Yi-Ting, ZHANG Xin-Yan, LIN Yu-Fang, WU Jing-Hui**

### Introduction

The elderly will face degradation in the physiological function, in which the digestive system and the ability to chew degradation. It will affect the absorption of nutrients, self-limiting food choices, etc. It also easily leads to malnutrition, reduced immunity and other issues in long term. How to improve the nutritional status of the elderly by providing appropriate diets is worthy of attention. The concept of the five-color fruit and vegetable good for health is highlighted in traditional Chinese medicine. We leveraged the concepts of the five-color fruit and vegetable good for health, and then designed 21 natural vegetarian blenderized food. .

### Purpose/Methods

Dietitians designed 21 of the five-color vegetarian blenderized food menus meeting the criteria of elderly people in Dietary Reference Intakes. Inpatients were sampled randomly for food satisfaction survey and then the result was analyzed in different views such as eating preference, amount of food, appearance of dishes, taste of dishes, etc.

### Results

A total of 320 valid questionnaires were used. Analysis of hospital patients in the diet preference: (11%) vegetarians; (33%) acceptable either vegetarian or meat; (56%) meat. Food satisfaction survey: Average score in amount of food is 70; average score in appearance of dishes is 74; average score in taste of dishes is 66.

### Conclusions

There are only 11% of vegetarians in this survey, so it will be a challenge to make meat eater accept vegetarian diet. The average score in taste of dishes is 66, relatively low compared with other scores. Therefore, improving the satisfactions in taste of dishes is our top priority. Proposed action items: Cooking flavors increased from 5 to 10, including adding spices, herbs, etc., and the use of different oil cooking such as peanut oil, sesame oil to enrich food smile. Dietitian and health care workers will be invited to test the revised menu and it will be adjusted

again by their feedback to elevate satisfactions of the five-color vegetarian blenderized food.

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## Potentially Modifiable Conventional Risk Factors Influencing Serum Triglycerides: A Co-twin Control Study in Korea

**OH Bumjo, SUNG Joonh**

### Introduction

High serum triglyceride (TG) levels are associated with vascular complications. They are regulated by lifestyle rather than genetic factors and are often responsive to lifestyle modifications, including weight loss, regular exercise, and dietary changes. We attempted to estimate the "modifiable TG level" by identifying non-genetic factors influencing TG levels.

### Purpose/Methods

The study, conducted between 2006 and 2011, was based on the Healthy Twin Study in Korea. Participants who underwent health examinations and completed detailed surveys were recruited (n=3,070). To investigate conventional risk factors, a mixed model accounting for family as a random effect was used. We also conducted a co-twin control analysis for 452 monozygotic (MZ) twin pairs to examine non-genetic risk factors for high TG levels.

### Results

After excluding patients on medications for dyslipidemia or diabetes, 2,672 individuals (1,029 men [mean age: 43.9], 1,643 women [mean age: 43.3]; 949 MZ twin pairs, 222 dizygotic twin pairs, 1,501 sibling pairs) were analyzed. The relationships between fasting blood sugar (FBS), lipid panels, height, weight, waist circumference (WC), hip circumference, body mass index (BMI), body fat percentage (fat%), dietary intake, physical activity, and TG levels were examined. In our conventional analysis, WC, fat%, and BMI were identified as factors significantly influencing TG levels. Our co-twin control study revealed BMI (beta coefficient, 9.94; 95% confidence interval [CI], 3.42-16.46) and alcohol intake (beta coefficient, 0.08; 95% CI, 0.02-0.14) are significant predictors of TG levels.

### Conclusions

Our findings suggest that maintaining a healthy body weight and reducing alcohol intake might be effective in controlling TG levels. In fact, a 1 kg/m<sup>2</sup> reduction in BMI and a 50 g/week reduction in alcohol intake was associated with a reduction in TG levels by 9.94 and 4.0 mg/dL, respectively.

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## Customer satisfaction survey for “Da Ai” vegetarian food court

**CHIU Wen-Hsin, ZHOU Zhe-Wei, HUANG I-Liang, LIN Yu-Fang, WU Jing-Hui**

### Introduction

As a health promotion hospital and a Buddhist hospital, Taipei Tzu Chi Hospital opened its largest vegetarian food court in Taiwan since 2006. Vegetarian food court offered a wide range of delicious vegetarian meals, such as Chinese snacks, Japanese dishes, pasta, dishes topped with baked cheese, iron dishes, hot pots. It serves 4,500 people enjoying vegetarian food and promotes a healthy environment in the same time. Diet is the most important thing, so food and environmental satisfaction is investigated by the survey of “Da Ai” vegetarian food court

### Purpose/Methods

We designed satisfaction survey with a total of 10 items and implement the survey. The content of survey included: service attitude of staff, speed of serving meals, meal quality, selection of meal types, meal tastes, overall hygiene of food court, comfort of dining environment, meal temperature, food court signs and satisfaction of overall service. The customers were sampled randomly for the survey to understand satisfaction and expectation of customers

### Results

A total of 160 valid questionnaires were used to analyze the satisfaction of customers in “Da Ai” vegetarian food court. Analysis of customers in the diet preference: (26%) vegetarians; (45%) acceptable either vegetarian or meat; (29%) meat. Score of Satisfaction of overall service is 83.8. Score of service attitude of staff is 84.4, the highest score in the ten survey items. However, the score of selection of meal types is 82, the lowest one. According to the survey result, most of customers appreciated the experience of enjoying meals in “Da Ai” vegetarian food court

### Conclusions

The results of this survey show that consumers who come to the hospital have gradually changed their eating habits; eating meat every meal. We set the goal to elevate score of selection of meal types because it is the lowest one. Proposed action items: It will be our top priority to recruit the stores offering unique, exotic or green vitality cuisines. On the other hand, we work with current stores in “Da Ai” vegetarian food court to develop more delicious and healthy vegetarian dishes. We will implement this two proposed action items to elevate the satisfactions of customers in “Da Ai” vegetarian food court and deliver the concept which is vegetarian food not only healthy but also delicious.

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## Living with CKD: Association between nutrition education intervention model and patient' motivation and satisfaction

**HU Fang-Ching, TSENG Ju-Hsia, LEE Yin-Ying**

### Introduction

Low protein diets and low phosphate diets are designed to slow down CKD progression. However, low compliance is frequently observed among CKD patients who are supposed to follow low protein diet after traditional group education. We have evaluated whether a new tool of nutrition group education motivates CKD patients who do not yet receive dialysis to follow low protein diet. We aimed at looking for the decrement of protein intake from baseline values as well as the adherence rate.

### Purpose/Methods

35 CKD patients stage 3 or 4 aged >20 who had received conservative treatment were recruited from nephrology clinics and referred to Registered Dietitians for low protein diet group education from 2013 to 2014. Participants were educated to use two environment friendly bowls for food portion measurement. To make participants better know the application of the bowls, there was a cafeteria after each group educations. Participants were asked to complete 3-day dietary records and a 24-hour dietary recall before and after the group education for dietary intake evaluation. Participants were also asked to complete a questionnaire about satisfaction.

### Results

The CKD patients' 24-hour food recall after group education shows that there is no significant difference between the intake protein portion and what Registered Dietitians designed. The data also shows that the number of CKD patients who adhered to low protein diet is high, and 35% participants decreased the protein intake after group education. The questionnaire shows that the overall satisfaction score was 90%, the satisfaction with meal serving is 90.1%, and the satisfaction with educational content is 89.2%.

### Conclusions

The given nutrition group education specified to reduce protein intake in stage 3 or 4 CKD patients is effective not only in patients' motivation to low protein intake but also in patients' satisfaction. The environment friendly bowls are useful for measuring food portion, and the model could be applied to other patients in the future.

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## Attitude, behavior and behavior modification strategies of diet and exercise in patients with type 2 diabetes mellitus in a community hospital in southern Taiwan

**WANG Yuh Wei, LEE Kuei Hua, CHENG Ya Ting, CHUN Chen Chien, HUANG Li Lan, LIN Shuen Fa**

### Introduction

To evaluate the effects of health education interventions on blood sugar, lipid profiles, HbA1C, body weight, and number of self-check of blood glucose and exercise per week of patients with type II diabetes.

### Purpose/Methods

Seventy patients whose HbA1c was higher than 8% within 6 months were enrolled from the metabolic outpatient clinic in a community hospital. All participants, aged 30-70 years, were randomly assigned to experimental and control group. Patients in the experimental group were given the Diabetes Dietary and Exercise Teaching Manual and consulted individually for about 30 minutes each week. Patients in the control group were only responded to their questions. Both groups completed the cognitive questionnaires which have satisfactory content validity and reliability (CVI .85-.93; Cronbach's  $\alpha$  .75-.94). Fasting and postprandial blood glucose and body weight were examined at the 5th and 9th weeks while HbA1c, low density lipoprotein and body weight were measured at the 9th week. Paired t-test was applied to test difference between pre and posttest on measured variables.

### Results

The cognition scores in the experimental group increased significantly whereas the mean fasting blood glucose decreased from 314 to 166 mg/dl, low-density cholesterol increased from 125 to 86mg/dl, and HbA1c decreased from 10.3 to 7.3% at 3 months after interventions. Yet, there was no difference on measured variables between pre and posttest in the control group.

### Conclusions

The results suggested that knowledge and attitudes toward healthy diet and exercise of patients with diabetes could be improved via health education and counselling. Key for diabetic control is not only complying with doctor's advice, but also living a healthier lifestyle and maintaining control of blood sugar. Self-care ability and living with diabetes is important. Health education model developed in this study can provide diabetes educators references when taking care of type II diabetic patients.

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## The Effectiveness of the DIET-STAR App for Healthy Diet and Weight Management in an Urban Community in Taiwan

**HWANG Lee-Ching, CHANG Betty Chia-Chen, CHAN Hsin-Lung, HUANG Wei-Hsin, LEE Shu-Chen**

### Introduction

The prevalence of overweight and obesity has been increasing in Taiwan over the last two decades. Diet recording is regarded as an essential component of many weight reduction programs. In addition, technology-assisted methods, namely mobile phone

apps, have been used increasingly common for diet monitoring purposes. The study aims to develop an easy-to-use app for diet recording and weight management and evaluate its effectiveness in the community setting.

### Purpose/Methods

We collaborated with a medical college to develop a weight reduction software program for mobile phone. The DIET-STAR app educates participants on five main food categories and the concept of eating three grids a day for each food category. The program will provide timely feedbacks on how to improve their diets and show graph figures of changes in their body weights and diet scores over a period of time. We enrolled 172 participants who downloaded and installed the DIET-STAR app in a two-month community weight reduction program. A total of 40 men and women, aged 15 to 73 years, completed the input data for this preliminary analysis.

### Results

After diet education program, participants reported they ate, on average,  $2.8 \pm 0.8$  grids of rice-noodle,  $2.4 \pm 0.9$  grids of meat,  $2.1 \pm 0.8$  of vegetables,  $1.3 \pm 0.8$  grids of fruits and  $2.7 \pm 1.3$  grids of water. Most did not have enough daily vegetables and fruits intake. However, their diet scores improved from a mean score of  $54.3 \pm 22.2$  to  $73.1 \pm 15.1$ . Mean weight reduction was 1.3 kg (range: -1.5-4.5 kg). In multiple linear regression adjusted for age, sex, and score improvement, number of recording days was positively associated with weight reduction. Mean weight reduction was  $2.02 \pm 1.31$  kg in the group with more than 14 days of recording, and  $0.73 \text{ kg} \pm 1.03$  kg in the group with less than 14 days of recording.

### Conclusions

This DIET-STAR app can be used to help monitor one's diet and weight, allowing users to maintain healthy eating habits and ideal weight management.

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## The effect of the LEARN program on weight control

**FU Chao-Yang, LIAO Lin-Yu, PAN Chui-Yi**

### Introduction

Obesity is associated with a broad range of health issues from chronic diseases such as such as hypertension, diabetes and heart disease, to impaired quality of life, and even increased risk of cancer mortality. The World Health Organization have indicated that about 44% of adults are overweight or obesity in the world. In other word, among 2.5 people, one is overweighted or obese. Therefore, there is a current need for the development of novel model and therapeutic strategies for obesity.

### Purpose/Methods

This study applied the LEARN program for weight control in a southern hospital of Taiwan. LEARN stands for lifestyle, exercise, attitude, relationship, nutrition. We held the weight control course over a series of 3 sessions, and every time the program lasted for 8 weeks. These programs involved 37 subjects. These

programs were included nutrition, Western medicine, Chinese medicine, proper motion teaching and exercise. Pre-and-post test data was collected to examine the difference in knowledge, attitude, behavior, anthropometric and biochemical data.

### Results

The result had shown the means of body weight, body mass index, body fat percentage and waist circumference decreased by 2.2 kgs, 1.2 kg/m<sup>2</sup>, 0.9% and 6 cm, respectively. The scores for weight loss knowledge, attitude and behavior were increased by 4.6%, 6.3% and 17%, respectively. For the biochemical assessment, there were significant decreases in plasma triglyceride, and Uric acid, plasma total cholesterol, and low-density lipoprotein decreased, but the changes did not reach statistical significance.

### Conclusions

LEARN program included lifestyle change, group relationship, low calorie diet control, aerobic exercise and strength training. The program has aggregated knowledge and experiences of different fields and improved persons in their biochemical data and self care capability. This result means that we can move further in care-related health promotion by making hospital, employees, community citizen care more complete.

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## An approach to increasing oral intake of food through medical and dental collaboration.

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### Introduction

Oizumi Health Cooperative Hospital has medical and dental divisions. We provide acute, subacute, and postacute care for the elderly so they can return to living at homes. Many elderly patients suffer from dysphagia. In our experience, the ability to eat food influences clinical outcomes. To encourage eating, we organized a Nutritional Support Team (NST) and established a Quality Indicator (QI) for medical services for oral intake rates. A previous study (not shown) revealed that the combination of few remaining natural teeth and the use of dentures was not directly responsible for low nutrition. Yet, there was a tendency to suffer from dysphagia, resulting in malnutrition and decreases in Activities of Daily Life (ADL).

### Purpose/Methods

-We assessed patients' nutritional statuses in relation to conditions inside their oral cavities. -We compared an oral intake rates and cases of intervention.

### Results

-We introduced a hospital ward for integrated community-based care in April, 2015. Thereafter, oral intake rates rose to ≥80%. Nutritional interventions increased concurrently. -We assessed oral conditions of 58 elderly patients, and 45% needed dental care. -All patients who had ≥20 teeth and used dentures had normal diets and had good nutritional status. -Regardless of dentures, nutritional status varied in relation to tooth number.

### Conclusions

-We changed our approach to nutritional intervention after opening an integrated community-based care ward. Previously, hospital nurses triggered interventions. Now, our interventions make use of a collaborative conference upon admission. Our approach is comprehensive, with teams composed of specialists in medicine, dentistry, nursing, rehabilitation, care management, and nutrition. -Dental assessments showed that tooth number related to nutrition and diet independent of denture use. -Early evaluation and treatment for oral problems at admission lead to improvement of nutrition, ADL, and QOL. -Medical and dental collaboration effectively promotes health.

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## Healthy and nutritious meals, happy employees

### HSIEH Pei-Ju

#### Introduction

Cishan Hospital, Ministry of Health and Welfare is located on the outskirts of Kaohsiung surrounded by the mountains and a river. It takes on the responsibility of the public health care, such as taking care of minority groups and meanwhile coordinating with our national policies. In order to reach the full potential of the public health care, our hospital makes a lot of efforts to bring the better medical care and service to the people in the Kaohsiung CisMi community. Ever since the year 2011 the scale of the hospital has grown, the number of patients has risen and the number of the employees has been increased from over 300 to 600. During that period of time, whenever the lunch time came, all kinds of delivery persons kept swarming in. The hospital kitchen mainly provided meals for the patients even though it was open for everybody including hospital workers. Only very few workers would actually eat lunch there. Some reportable events had occurred from time to time. Some of the reasons were that the kitchen was run by the subcontractor who wasn't managed directly by the hospital.

#### Purpose/Methods

1. Implementation period: since January 2011 till now 2. The principles of healthy meals for employees: \* 30 NT dollars (about 1 dollar) per meal. \* Monday through Thursday, every lunch box would contain one main course (pork, fish or chicken), three kinds of veggies and one piece of fruit. The unique selling proposition of this lunch is that it's served with multicolor vegetables in it. The Friday specials are spaghetti with cheese pork, shredded chicken rice with a marinated egg and fried bean curd, and oil sticky rice with a roast drumstick. \* Grain rice twice a week can help to build the foundation of a healthy lean diet. \* Being eco-friendly, we encourage our employees to bring their

own tableware to reduce the waste. \*Set a "diet traffic light" on the weekly menu. The details are as follows: 「Diet traffic light」 for employees menu \*About 800 kcal and above ( have to pay attention of the intake of the daily calories, slow down the process of gaining weight ) \*About 700 kcal \*About 600 kcal \* Encourage our workers to exercise more.

### Results

We had made 11 surveys of meal satisfaction since year 2011 to august 2016. The number of participants of employee questionnaire is 1169 copies and the recovery is 1006. The valid recovery rate is 86.1% and the invalid is 0%. We got the result of 69.4% satisfaction. The key points of promoting employee meals are: 1. Providing a healthy and balanced diet. 2. With reasonable price. 3. Designed by the Registered dietitians.

### Conclusions

In terms of scale, our hospital is a small one. Thus the dean regards all the employees as important assets and he is doing his best to provide better salaries, dining benefits and more employee bonus. Taking good care of employees' dining benefits is one of Dean's primary focuses. We want to treat every member of the staff well, as long as we have the happy staff, the hospital will be blessed.

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## The effect of low - fat healthy diet on employees' weight control

### KO Shu-Chen, LIN Chia-Ching

#### Introduction

Obesity is a more and more serious problem in modern society. One important cause is the eating out for most employees. Providing employees with a proper and healthy diet is a matter of great importance in workplace. The aim of this study is to provide weight management to employees through diet control and healthy diet counseling.

#### Purpose/Methods

For those who were overweight or wanted a healthier diet, were assessed by a dietitian to join the diet control program. Lunch with low-fat healthy meals (low oil, whole grains, less processing and calorie control) was given daily. For weight control program, dietitian provided the individual diet and nutrition consulting every week. Finally the statistical analysis of data was done.

#### Results

There were 21 employees take a part in this study. For male, the average height, weight and BMI were  $171.2 \pm 2.59$  cm,  $80.44 \pm 10.09$  kg and  $27.44 \pm 3.14$ , respectively; for female, the average height, weight and BMI were  $161.19 \pm 4.9$  cm,  $63.47 \pm 10.32$  kg and  $24.36 \pm 3.29$ , respectively in a 4-week diet control. The average weight losses were  $2.06 \pm 1.95$  kg and  $0.46 \pm 0.36$  kg for male and female, respectively. Waist circumference and eating behavior also improved.

#### Conclusions

In the workplace, providing a low-fat healthy diet and take a part in the case management hosted by dietitians can effectively

assist employee to choose healthy diet and get weight control. The diet control program will improve the healthy condition for employee.

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## Association between Beverage Consumption, Obesity, and Metabolic Syndrome: A community-based cross sectional research

### CHENG Yiu-Hua, LIN Yueh-E

#### Introduction

Tea and coffee are among the most consumed beverages worldwide. The aim of this study was to evaluate whether tea and coffee consumption was associated with obesity and metabolic syndrome.

#### Purpose/Methods

A population based cross-sectional study was conducted with 3890 adults in the northern Taiwan. Among 3641 validated data, the patients were classified into normal (N=2046) and obesity (N=1595) groups based on BMI. At the same time, biochemical markers were collected, and the participants were asked to fill in questionnaires on beverage consumption. We defined tea and coffee consumption into three groups: never consume, low consumer (< 3 times/week), and high consumer ( $\geq 3$  times/week). Chi square, Mann-Whitney U test were applied to assess the association between obesity, metabolic syndrome and beverage consumption. Kruskal-Wallis test and multinomial logit model were performed to assess the relationship between metabolic parameters and tea, coffee consumption categories.

#### Results

Of 3641 participants, 65.4 % were women; 43.8 % were obesity; 29.9% had metabolic syndrome; median age was 57 years old; median BMI was 24.8 kg/m<sup>2</sup>; 71.3% was tea consumer; 66.6% was coffee consumer. Among high tea consumers, higher portion of obesity, metabolic syndrome, and higher WC(waist circumference),blood sugar(BS)were found. In contrast, the percentage of metabolic syndrome, BP(blood pressure),BS, and WC were lowest in the low tea consumer group. Among coffee consumption, the percentage of metabolic syndrome is lowest in high consumer group. Besides, WC, BP, TG (triglyceride) were lower, HDL (high density lipoprotein) cholesterol was higher in high consumer group.

#### Conclusions

There is a U shape curve between tea consumption and metabolic syndrome. Low frequency of tea consumption may improve central obesity, BS, and hypertension. In contrast, high frequency of coffee consumption may alleviate metabolic syndrome, especially improvement in central obesity, hypertension, and dyslipidemia.

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## Promote Community Behavioral Intention of Healthy Diet by Creating Healthy Diet Supportive Environment.

**CHANG Yu Lan, TSENG Chun-Han, WENG Chung-Feng, HSIEH Hung-Yu, YEH En-Tien**

### Introduction

According to the result of 2004-2008 Nutrition and Health Survey in Taiwan, people's caloric intake increase as the consumption of dessert and sugary drinks increase, lead to the rise of obesity prevalence. There are other diet problems such as over intake of sodium and inadequate intake of fiber. In view of balanced diet is the basis of health, Cardinal Tien Hospital started a plan of creating healthy diet supportive environment.

### Purpose/Methods

Refer to Social cognitive theory, people's behavior is affected by environments, so we do things such as (1)Help food stores provide sugar-free drinks and healthy meals, make posters of nutrition analysis. (2)Help food manufacturer ameliorate high calorie traditional food, make 2 kinds of high fiber rice dumplings and 3 kinds of low-calorie moon cakes. (3)Paste healthy diet education posters and map in the communities. Except creating the physical environment, we also hold many healthy diet extension activities such as speech, DIY lecture, discount promotion, and cooking competition, etc.

### Results

(1)36 breakfast joints provide sugar-free drinks, 90% of the operators said that the extension activities make people realize more about healthy diet. (2)38 restaurants provide 49 kinds of low fat, low salt healthy meals. 70% of the operators said that extension activities exactly increase sales. (3)Do consumer feedback surveys(N=100) of the healthy diet plan. 73.2% of them think the brand preference of the food shops is promoted, 84.5% of them got higher willingness of buying healthy meal, and 100% of them approved the shops provide healthy meals.

### Conclusions

By cooperating with the food shops and holding the extension activities, we made "eat healthy" easier, and create both physical and social supportive environment. It may not likely to change peoples eating behavior, but it actually promoted people's behavioral intention of healthy die, it will be able to expect that people would develop health behavior as long as we keep it up.

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## Long Term Effects of Graded Stage with Multiple Strategies Program on Weight Loss among Community Women.

**HSIAO Li-Chun, WANG Chi-Jane**

### Introduction

The impact of obesity is significant to both individual and health care system. Programs based on Transtheoretical model(TTM) are recommended to loss weight for obese people, but the effects is limited when used in communities. In addition, previous studies only showed the short-term effects of TTM-based program, the long term effects of that program used in communities is still unknown.

### Purpose/Methods

We aimed to develop a TTM-based Graded Stage with Multiple Strategies(GSMS) program, and to determine its long term effects. We conducted a Quasi-experimental study. 139 obese woman from communities were recruited to experimental group(EG, n= 56) or control group(CG, n= 83). EG received a 24-week GSMS program with three stages, each stage had a goal with multiple strategies. Stage one including three strategies(Consciousness raising, Self-screening, Knowledge learning) was to awake subjects' self-awareness of obesity. Stage two including four strategies(Self-evaluation, Contingency loss, Goal setting, Self-monitoring) was to build their self-efficacy of weight loss. Stage three including five strategies(Reminds, Helping relationships, Self-reevaluation, Goal resetting, Self-monitoring) was to maintain their weight loss behavior. CG received traditional education only. Physical indicators(body weight, BMI, and body fat) and dietary behavior were measured at baseline, week 8th, 16th and 24th.

### Results

All physical indicators decreased at week 8th and 16th in both groups, but EG reported a better outcome than CG( $p \leq 0.01$ ). The number of women with weight loss  $>5\%$  in EG is higher than those in CG( $p \leq 0.05$ ). In addition, all physical indicators in CG regained at week 24th( $p \leq 0.01$ ) while only body fat showed a little regained in EG. For dietary behavior, EG took more vegetables, fruits, and fiber than CG( $p \leq 0.05$ ).

### Conclusions

The GSMS program is effective on weight loss and enhances the maintenance of weight loss behavior. It can serve as a reference of community health provider when solving obese problems.

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## Improve the Weight-Control Effect for Postpartum Women by Using Telephone Interview Support Strategy

**CHEN Pei-Jyun, LIU Yen-Tze, NIEN Yu-Ting, CHEN Li Ya, TSAI Yi Fang**

### Introduction

The average monthly postpartum women of our hospital were about 230 in 2015. Based on our survey, the issue that the most postpartum women concern is postpartum body weight recovery. In order to improve the postpartum women's overweight and obesity, the intervention of weight-measurement activities was performed, included recording their



body weight everyday until discharge and regular follow-up by telephone interview.

#### Purpose/Methods

.From January 2016 to October 2016, the postpartum women whose BMI  $\geq 24$ kg / m<sup>2</sup> were included. A total of 1320 participants attended weight-measurement activities. Before and after body weight were checked. The interventions included weight loss program design and education, monthly telephone interview, telephone counseling, and the weight-reduction lectures for postpartum women.

#### Results

A total of 1,320 participants were included in the postpartum women's health promotion activities. 1220 participants (92.4%) were willing to receiving our telephone interview, others refused mainly because the care of newborns was very busy. The outcome showed a total weight loss of 2,042.7 kilograms, an average weight loss of 1,7 kilograms per person. The average abdominal circumference decreased from 93.68 cm to 90cm.

#### Conclusions

The postpartum weight control program by using monthly telephone interview support was effective. Professional health promotion staffs provided the educations about nutrition and exercise to let the postpartum women know how to reduce weight effectively and correctly. Psychological support was also provided. The outcome showed a total weight loss of 2,042.7 kg. It was found that this telephone interview strategy could strengthen the weight control effect. This strategy can be applied if weight control activities are to be carried out in the future. Next, we could divide these postpartum women to two groups: telephone interview group and non-telephone interview group, so that the benefits of telephone interview can be clearly known.

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## Session P1.12: Improving health of cancer patients

### Experience sharing at a community - based hospital to promote cancer screening

**LO Hsien-Yi, LIN Shu-Chao, CHEN Hui-Yun, CHENG Wan-Yi, CHANG Kai-Ling, TSAI Tsung-Lung**

#### Introduction

It has been confirmed that cervical cancer, breast cancer, colorectal cancer and oral cancer can be early detected by screening, and therefore mortality can be reduced. It is cost-effective as well. Our hospital is a community-based hospital. We bear the public hospital mission to promote health policy and play a role to guardian community health.

#### Purpose/Methods

First, the development of improving employee incentives: when a staff recommends an eligible people to complete the screening, an equivalent gift coupon 50 dollars will be given. The top three recommending staffs will be honored in public at the whole hospital conference meeting, and it will inspire the colleagues. Second, community lectures: at the same time, it can market hospital and promote people to do cancer screening at hospital, and establish friendship with the community window. Third, community screening activities: go into the community and set up screening stations.

#### Results

In 2015, a total of \$ 43,500 gift coupon was issued. It meant that 870 cases were recommended by staffs, and this accounted for 67.13% of the total. Oral screening positive cases were tracked within three months, and the completion rate was 84.62%, which was higher than the national average as 73.54% in P4P hospitals. Cervical wipe smear positive cases were tracked within three months, and the completion rate was 100%, which was higher than the national average as 70.77% in P4P hospitals. Stool occult blood positive cases were tracked within three months and the completion rate was 51.16%, which was lower than the national average as 64.15% in P4P hospitals.

#### Conclusions

It is mandatory that a community-based hospital is to make people feel the intimacy, accessibility, convenience and familiarity from the hospital. In 2015, there were 22 community screening activities and 20 community lectures held, and a total of 1355 people involved.

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## Rural-urban differences in cancer care in Taiwan, 2011~2015: cancer mortality between aboriginal and non-aboriginal areas as indicators

**WANG Hsiu-Ling, YANG Yuan-Han, HSIEH Ming-Yen, KWAN Aij-Lie, LIU Hui-Chung**

#### Introduction

The health status of the Taiwanese people has improved; however, health inequity or disparity of rural-urban is widening. Cancer ranks the top ten causes of death in Taiwan. About 46,829 cancer cases die in 2015, accounting for 28.6% of all deaths. The standardized death rate was 128.0 per 100,000 population, decreased by 9.3% compared with 2005. According to Taiwan NHS report in terms of the socio-economic conditions of the living area 2006-2010, showed that the life expectancy of males and females living in the most vulnerable areas was 6.4 years and 3.5 years less than that of most disadvantaged groups. This study examined the mortality difference between aboriginal and non-aboriginal areas.

#### Purpose/Methods

Data on mortality were derived from the mortality database of the Ministry of Health and Welfare. We used the world

demographic distribution in WHO in 2000 as the standardized population to calculate the standardized mortality rates (SMR) for cancer. We then compared in SMR that occurred during 2011-2015.

### Results

SMR of Cancer in aboriginal areas higher than non-aboriginal consistently between 2011 and 2015. According to the degree of difference (%) between aboriginal and nonaboriginal sorted as follows. Oral cancer (37.23%), Ovarian(36.82%), Cervix(36.44%), Gastric(34.93%), Pancreatic(32.82%), Bladder(30.34%), Non-Hodgkin's lymphoma(29.64%), Prostate(26.08%), lung(23.61%), Leukemia (22.55%), Esophageal (22.42%), Nasopharyngeal carcinoma(18.16%), Liver & intrahepatic(15.45%), Colon, rectum & anal cancer(10.91%), breast cancer(7.34%). In aboriginal areas, the average SMR of ten cancer (above) sequency was 12.75%, 5.08%, 5.78%, 10.04%, 7.69%, 3.24%, 4.33%, 8.54%, 32.93%, 4.04%, 6.49%, 2.53%, 28.01%, 16.89%, 12.75%.

### Conclusions

The mortality rates in aboriginal areas were still higher than those in non-aboriginal areas. The health authorities need to focus on education of reducing risk behaviors and health promotion activities screening service to improve health for all.

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## Nutrition counseling for cancer patients enhance the correct dietary pattern and nutritional knowledge during chemotherapy

LEE Yin-Ying, YAO Cha-Chiung, HOU Yi-cheng, WU Jing-Hui, LIU Hao-Wen

### Introduction

Nutrition may improve treatment outcome and life quality among cancer patients. Cancer patients need higher protein and calories than healthy person during chemotherapy. Studies indicated that nutrition intervention may increase treatment outcome, quality of life and overall survival. Most of the medical team will teach the principle of cancer diet with high protein and high calorie diet. But we don't know the effectiveness of the principle of cancer diet and high protein food.

### Purpose/Methods

The aim of this study is to evaluate the effectiveness of nutritional counseling for cancer patients during chemotherapy. Totally 46 cancer participants during chemotherapy were enrolled in dietitian outpatient department of Taipei Tzu Chi Hospital between February 2016 and October 2016. 26-items of dietary pattern and nutritional knowledge test score were given before and after nutritional counseling. This test was mainly based on dietary principles during chemotherapy, and further testing of high protein food understanding.

### Results

Cancer patients already know the principle of chemotherapy diet is high protein and high calorie (0.78 to 0.89, P=0.096). After

counseling, the wrong nutritional knowledge about cancer diet point were decrease significantly. Most cancer patients can understand the correlation of dietary and rebuilding white blood cells during chemotherapy (4.50 to 5.82, P=0.001). The most important is nutritional counseling can provide patients with a good knowledge of the foods means "one exchange" of protein food (7.24 to 11.43, P=0.001), ex. a bowl of chicken soup (exclude meat) is not "one exchange" of protein food and a good way to enhance nutrition status (0.22 to 0.98, P=0.000). And most patients can know which foods fit the principle of protein (2.57 to 3.89, P=0.001).

### Conclusions

Nutrition counseling for cancer patients can enhance the correct dietary pattern and nutritional knowledge during chemotherapy.

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## The Effectiveness of Nutritional Interventions in oral Cancer Patients

FENG Hsin-Chun, KUO Yueh-Hsia, CHEN Hui-Chuen

### Introduction

Cancer was the top cause of death in Taiwan in 2015 for the 34th consecutive year. Overall prevalence of malnutrition was about 40%, weight loss and improper food choices were the major problems in cancer patients. Dietitians play an important role in nutrition intervention. Nutrition interventions provided by the registered dietitians benefit patients with nutrition problem. Individualized nutrition education and meal plan is effective in improving the nutritional status and learning efficiency of cancer patients.

### Purpose/Methods

The purpose of this study was to evaluate effectiveness of nutritional intervention in oral cancer (OC) patients receiving medical treatment in a university hospital in Taiwan. We retrospectively analyzed the medical data of hospitalized patients who received nutritional consultation at least twice during January to December in 2015. A total of 98 patients, 91 male and 7 female, participated in the study. Nutritional status was assessed. Daily dietary intake and anthropometric data at first and second nutritional consultation was analyzed.

### Results

The mean age and BMI was 56±10.5 years and 20.5 ± 3.72 kg/m<sup>2</sup>. There were 46 patients (34.7%) with BMI>18.5kg/m<sup>2</sup>. Percentage of patients achieving ≥75% energy and protein requirements were 48% and 33.7%, respectively; 20.4% and 26.5% achieving <50% energy and protein requirement, respectively. Compared to the first consultation, energy (70.2%±27.9% vs 87.8%±25.5% needs, p <0.01) and protein intake (65.6%±27.7% vs 85.2%±27.8% needs, p <0.01) were increased significantly at second consultation.

### Conclusions

Nutritional intervention improved energy and protein intake in OC patients. Early identification of patients at risk of malnutrition

and prompt nutritional intervention might provide better clinical care for cancer patients.

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## The cancer patient's rehabilitation and return to work

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### Introduction

In the last 20 years life expectancy of patients diagnosed with cancer has considerably improved. In Western countries over 50% of patients now live longer than 5 years after diagnosis. In Italy, 9% of people living with a previous diagnosis of cancer are aged 0-44, and 19% are aged 45-59; a high number of cancer patients is still in working age

### Purpose/Methods

Specific programmes for cancer patients and their families focused on personal experiences of the disease, healthy lifestyles, integrated inter-sectoral services to provide multidisciplinary responses to the needs associated with the disease, including the rehabilitation stages, through a change of approach by the healthcare services, shifting the focus on user needs and inequalities in access

### Results

The project follows on from the CCM (Centre for disease control) 2013 programme run by the Italian Ministry of Health and implemented by the Italian League for the Fight against Cancer. The goal of the project is to foster the continuation of employment and the assignment of the most appropriate job tasks through a multidisciplinary response by the social and healthcare services to facilitate the return to work of clinically stable patients leading an active life, through the engagement of the relevant physicians and Prevention and Safety at Work Service of the local Health Authorities. The project aims to make lifestyles a key issue also for cancer sufferers. 5 Regions have joined the project, which have risen to 9 over time, involving all the rehabilitation and health education actions conducted in the workplace, 80% of which have already carried out specific initiatives on lifestyles for patients and their families

### Conclusions

The project follows the Italy's National Prevention Plan promoting the residual working potential of workers suffering from the after-effects of cancer, focusing on preventive health protection and countering inequalities, particularly in vulnerable categories of population

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## The Effectiveness of Regular Breast Self Examination Combined with BSE Record Handbook Utilization in early detection of Breast Cancer in Thailand : A Cohort Study

**URAIROEKKUN Chonlatit**

### Introduction

This cohort study conducted in 21 provinces aimed to evaluate the effectiveness of the regular Breast Self Examination (BSE) combined with using BSE self record handbook.

### Purpose/Methods

1,914,892 women aged 30-70 years who were living in the study sites during October to December 2012 were recruited. The study tools were BSE record handbook and the recording and reporting system from individuals up to sub district level, district level and provincial level. The data of BSE and breast cancer cases were sent online to project server. Evaluation of this study covered the period from January 2012 to June 2016 (42 months)

### Results

found that , the coverage of regular BSE was about 68.5% .1,922 cases of breast cancer were found and 53 cases were died ,48 cases died from breast cancer and 5 cases died from other causes. The incidence rate of breast cancer was 28.69 per 100,000 person year. The regular BSE group could detect small cancer size ( $\leq 2$  cm) 1.328 time compared to non regular BSE group (OR=1.328 and 95% CI of OR = 1.033-1.707) .No statistic difference of early staging(Stage 0,1,2) of breast cancer detection between 2 groups in 21 provinces , but the regular BSE group in north east region could detect early staging 1.623 time compared to non regular BSE group (OR=1.623 and 95% CI of OR = 1.053-2.500) .

### Conclusions

The survival analysis found that the mean of survival time of regular BSE and non regular BSE group were 41.619 and 40.088 months respectively and the equality of survival distribution between 2 groups were statistical difference ( $p < .000$ ).

### Comments

Regular BSE combined with the utilization of BSE record handbook for screening breast cancer in Thailand had the evidence to enhance the opportunity for early diagnosis and treatment of the breast cancer .The regular BSE was not only small cancer size finding and early staging of breast cancer but also increasing the survival time .

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## Comparison of Outcomes with Baloon Size after Intraoperative Radiotherapy for Early Breast Cancer

## HUANG Ming-Chi, KAO Yu-Yun, CHEN Huan-Chun, ZHANG Yu-Han, TANG Jen-Yang

### Introduction

In generally, standard radiation therapy External Beam Radiation Therapy (EBRT) involves five days of treatment per week, for a total of five to seven weeks for patients. In Intraoperative Radiation Therapy (IORT), a single treatment session of high dosage with similar biological effects to EBRT is given in operation room along with tumour resection. Compared to EBRT, more healthy tissues can be preserved without compromising treatment results and less treatment days with minor anxiety. In Taiwan, IORT for early breast cancer starts in recent years and the practicing has been doubling in an increasing speed. The early clinical outcomes are promising though there are still some practicing details, yet to achieve consensus among radio-oncologists and surgeons.

### Purpose/Methods

From June 2014 to December 2016, 151 patients with early Breast cancer were treated by Xofig<sup>®</sup> Axxent<sup>®</sup> system for 20 Gy in one fraction in Kaohsiung Municipal Ta-Tung Hospital. At follow up, patients were assessed for local control. The breast resection volume, pathologic tumour size and balloon volume used in IORT were documented.

### Results

The mean age of the 151 patients is 53.1 years old (range,27-78). There have been 4 recurrences to date with a mean follow up of 13.4 months (range, 1–29 months). The mean resection volume is 104.39 cm<sup>3</sup> and the mean balloon volume is 34.44 cm<sup>3</sup>. The association between tumour recurrence and covariates is found to be statistically significant between resection volume (p=0.043) and balloon volume (p=0.048).

### Conclusions

Treatment of early breast cancer with IORT was effective and the recurrence rate is indifferent to conventional whole breast EBRT. The choice of balloon size should fit with the resection volume for best effective radiobiologic effect. With best practices, IORT is a new treatment option for early breast cancer patients.

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## A Community Hospital Providing Friendly Environment and Implementing Patient-Centered Care for Breast Cancer Patient in Taiwan

### CHEN Kuan-Hung, TU Chi-Wen, CHUANG Chun-Te, LIAO Yen-Chi, CHEN Wei

### Introduction

Recently, breast cancer were among middle-aged population even younger. Usually, when patients are going to examine breast diseases, they always must booking examine breast echo

and mammography many times. Even though the process made patients feel complicate and unfriendly, they would still wait. Now, we try to hard to provide friendly and convenient environment for patients.

### Purpose/Methods

Integrating the units that including diagnosis, examinations and surgeries in the same area. The medical services we provided not only Breast Surgery but also Plastic Surgery, Radiation Oncology, Hematology & Oncology in breast center. We also have a private space to educate and consult patients

### Results

Patient-centered care is trending in the world. We plan to do it with breast diseases center accomplished in May, 2017. We expect that feature medical service of breast center will bring new patterns for breast patients group in southern Taiwan

### Conclusions

Nowadays, hospital not only increasing medical quality, but integrating all medical units about the same disease, especially in a community hospital. Promoted community's people public health is our duty.

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## Survival of women with cervical cancer according to Pap smear screening exposed: results from a single institution study.

### CHEN Mei-Wen, CHANG Tung-Hao

### Introduction

The Ministry of Health and Welfare announced the cervix cancer has been the Seventh leading cause of cancer death and incidence since 2000 and the Standardized death rate per 100,000 population reduced from 7.6, 49.1 in 2013 to 3.4, 27.6 in Taiwan, respectively. We assessed survival women with cervical cancer according to Pap-smear screening exposed status based on hospital-based cancer registry data.

### Purpose/Methods

This was a retrospective, the linkage between Pap smear screening and cancer registry at Changhua Christian hospital makes a demonstration for elucidating the impact of screening on cervical cancer. The screening history was obtained from routine outpatient service profile. Multiple cancer patients and morphology code for lymphomas met exclusion criteria. The survival of 4479 women with cervical cancer which included carcinoma in situ and invasive cancer at Changhua Christian Hospital between 1999 and 2015 was evaluated on September 30, 2016. Survival was estimated using the Kaplan-Meier method and log-rank test. Statistical analysis was performed using SPSS software and P <0.05 was defined as significant difference.

### Results

The overall Five, Ten, Fifteen years survival rate for women not exposed to screening (n = 618), and for women exposed to

screening (n = 3861) was 70.8%, 63.6%, 61.7% and 90.6%, 85.3%, 81.2%, respectively (P < 0.001). Among those women exposed to screening, 73.5% women had received at least two Pap-smear tests before having cervical cancer. Compared to women not exposed to screening, high proportion of carcinoma in situ was found for women exposed to screening.

### Conclusions

That result in our study still shows the great benefit for the women exposed to screening compared with those in the absence of screening. Screening history for women not exposed to screening is hard to precisely obtain from hospital based registry file as one of our limitation.

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## Promotion of eradication for Helicobacter Pylori has good effect on prevention of gastric cancer even in our aging advanced community.

### YOSHIHIRO Ohno

#### Introduction

We use data base system for pathological diagnosis from 1989. Since Dec. 1994, we record Helicobacter Pylori (H.pylori) infection for all cases of endoscopic gastric biopsy, by "The Sydney system". In 2001, we clarify H.pylori infection increase risk of gastric cancer in all generation, by analysis of pathological diagnosis data of consecutive gastric biopsy in 5603 cases for 6 years (90th annual meeting of Japanese Society of Pathology in Tokyo 2001). So we start promotion of eradication for H.pylori in our community.

#### Purpose/Methods

In 2002, we start urinary H.pylori antibody test in "HANKAI" (small meeting for health promotion of cooperators and hospital staffs). In 2006, we start clinic for low cost personally paid eradication for H.pylori by "Generics" and stool antigen test, for patient with H.pylori infection without gastric or duodenal ulcer, not covered by Japanese insurance system. In 2010, we start fecal H.pylori antigen test by mailing method. In 2013, we start trial of urinary H.pylori antibody test for student in one junior high school of our city, to publicize importance of H.pylori examination to their parents and grandparents. We compared number of cases of gastrectomy for stomach cancer and colectomy for colon or rectal cancer from 2001 through 2015, to evaluate whether promotion of eradication for H.pylori was effective in prevention of gastric cancer, in our local area where 65 years or older reaches 30% of population.

#### Results

In pathological diagnosis database, number of gastrectomy for gastric cancer and colectomy for colon or rectal cancer in every five years is 131 and 171 in 2001-2005, 114 and 186 in 2006-2010, 55 and 171 in 2011-2015.

### Conclusions

Promotion of eradication for H.pylori has good effect on prevention of gastric cancer even in our local area of Japan where aging has advanced.

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## Investigation into positive confounding factors of colorectal cancer screening

### CHANG Yu-Ling, CHIU Pei-Ling, CHEN Fang-Ming, WU Deng-Chyang

#### Introduction

The colorectal cancer at stage 0 and Stage I in Taiwan accounts for 2.42% and 11.94% respectively of total population, which is much lower than those in America with rates of 4.9% and 36.4% respectively, suggesting that the early detection rate for cancer screening in Taiwan is relatively low with space to improve. Colorectal cancer is mainly caused by intestinal polyps (adenoma) cancerization which the process takes 5 to 10 years. If the intestinal polyps (adenoma) are found and removed in the early stage, the incidence of cancer will be reduced.

#### Purpose/Methods

This research discusses over the factors influencing prediction of positive detection in colorectal cancer screening. This study took a hospital in Kaohsiung as source of samples and cross-sectional study was adopted. The research subjects were participants in line with the qualifications of colorectal cancer screening regulated by National Health Agency from Jan. to Aug. of 2016. The testing tool adopted herein was "Quantitative Immunoassay-FOBT" questionnaire, from which the author chose gender, age, education and family history as research variations, and Kyowa reagent was applied to test. The test result shows that  $\geq 30$  of subjects are positive.

#### Results

The total participants in this research reaches 6,092, with 2,420 males and 3,672 females. The age of participants ranges from 50 to 75 years old with an average age of 63 years old. After statistical analysis, gender and age (p<0.00) exert significant impacts on positive detection.

#### Conclusions

According to research findings, colorectal cancer screened to be positive increases with age, with more males exposed to it than females. The results also confirm that males are more likely to suffer from colorectal cancer than females. The screening political promotion in Taiwan is helpful for prevention and early detection of colorectal cancer. It is expected that this research would contribute in the screening focus of National Health and Welfare and enhance the screening intention of senior males.

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## Outcomes and Acute Toxicity of Electronic Superficial Brachytherapy for Non-melanoma Skin cancer

**LIN Ya-Lin, KAO Yu-Yun, CHEN Huan-Chun, LEE Kun-Han, ZHANG Yu-Han, TANG Jen-Yang**

### Introduction

The incidence of non-melanoma skin cancer (NMSC) is high and reaches the 8th rank among all malignancies in Taiwan and its incidence has increased by 42% and healthy life lost by 11.2% since 1990. While surgical approaches are the standard treatment, critical sites such as nose, ears, eyelids and lips may require complex plastic reconstruction techniques with great costs. Recently, electronic brachytherapy (EBT) system is developed for superficial brachytherapy. By using 50kV low energy photos and radiation-shielding surface applicators, EBT has shown efficacy in the treatment. The course of radiation therapy is shortend to 8 fractions in 4 wks compared to 35 fractions in 7 wks by the traditional linear accelerator. The radiation protection is much easier than systems using radioactive isotopes and thus can be used in most outpatient treatment rooms.

### Purpose/Methods

26 patients with 29 NMSC lesions were treated with EBT to a dose of 40 Gy in eight fractions from June 2015 to October 2016 in Kaohsiung Municipal Ta-Tung Hospital. A thermoplastic head mask fixation device was used to minimize head movement during radiotherapy and a CT scan was performed to assess lesion depth. An appropriate size of surface applicator was selected to provide best treatment coverage and acceptable margins. At follow-up, patients were assessed for cosmesis and local control.

### Results

26 patients (mean age: 73.8 years, range: 47-98) with 29 cutaneous malignancies were treated. Tumour reponses and complications were recorded at weekly basis. Most acute reactions were among Grade I-II and all wounds were healed by 6 wks after last treatment session. There have been no recurrences to date with a mean followup of 9.8 months (range: 2-16 months). Cosmesis ratings were good to excellent for 100% of the lesions at follow-up. There have been no recurrence events.

### Conclusions

Treatment of NMSC with EBT has excellent outcomes and favorable cosmetic response. It provides a convenient nonsurgical treatment option for NMSC patients.

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## Session P1.13: Strengthening patient safety

### Strengthening patients' safety by lowering chances of patients falls through Team Resource Management

**LIU Hui-Ling, HUNG Xane-Lane, CHANG Hsin-Yi, LIAO Pei-Lin, CHUANG Shu-Ting, CHIEN Sou-Hsin**

### Introduction

According to the report of patients' safety incidents issued by Taiwan Minister of Health and Welfare, patients' falling in hospitals places the second one in the report. The rate of occurrence of falling in ICU in our hospital in 2014 is 0.14%, which is 0.05% higher than the average falling rate in our hospital, and the injury rate is 45.9%. Therefore, the priority of the clinical nursing staffs is to lower chances and injury rate of patients in our hospital.

### Purpose/Methods

We analyzed falling factors in ICU in 2014 with TRM. Nurses organized training, posters, and cards. Caregivers signed their names after training and the cards would be stuck to the bed. More tools will be equipped to the ward to let patients get off the bed safely. Nursing staffs can lower the rate of falling by handover within team, effective communication, and experiences sharing.

### Results

The occurrence rate of falling decrease from 0.14% to 0.13% from January 2015 to October 2016 whereas the injury rate lower down from 45.9% to 30.1. Because of the increase in the number of reports of near miss, we can see that not only the overall rate of injury decreased, the staff informed the relative promotion of cultural concepts, nurses and medical team attaches great importance to prevention of patient falls.

### Conclusions

It will lower the occurrence and injury rate of patient, increase the cohesion and confidence of the patients and promote the satisfaction of the patients and caregiver through TRM. The safety of the patients will be strengthened by corrective identify the high risk parties and by means of team work of the team members. In order to formulate prevention policy for individuals, the nursing staff will review each case and figure out the improvement measures more perspective.

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## Team Resource Management Strategy on Reducing Fall Injury in Medical Center

**CHANG Te-Hsin, LEE Mei-Yu, SHIH Wei-Chu, WEI Chia-Chi, HSING Hui-Fen**

### Introduction

Patient falls are the most frequent adverse events that occur in a hospital. Fall-related injuries profoundly impact health outcomes, functional independence, and health care expenses. The implementation of Team Resource Management (TRM) can reduce medical error by enhancing safety and care quality. In this research, we demonstrate how the attempt to the introduction of TRM can reduce the fall-related injuries.

### Purpose/Methods

An interdepartmental team including: Nursing, Rehabilitation, Physiological Examination, Pharmacy, IT Office, and Maintenance engineering. Practices included: 1. Revised falls risk assessment tool from evidence base and combined with muscle power of lower extremities. 2. Send automatic reminders to alarm at fall: Tagging falling high risk patients to improve the communication in outpatient and examination department. In nursing bar code medication administration system interface, we use computer reminder to identify the Fall-Risk-Increasing-Drugs (FRIDs) and provide pictures. When doctor entry new FRIDs, the system have pop up an automatically notice to re-assess fall risks. 3. If high risk patient with lower legs weakness problem, the system will notice doctor to assess consulting in rehabilitation for bedside training. 4. Actively patrol strategy: to recognize environmental risks and use smart devices to send equipment maintenance request immediately.

### Results

Data from March to December in 2015. The fall rates drop from 0.06% to 0.058% and fall-related injuries descent from 69% to 40%. The effectiveness of falls risks assessment tool was analyzed by ROC curve. The result showed an AUC=.803 ( $p=.000$ ), the sensitivity 77%, specificity 70%. Additionally, the awareness of prevention of falls to patient and caregivers increased from 86.32% to 96%. And the knowledge of nurse to fall prevention increased from 55.84% to 95.55%.

### Conclusions

The Team Resource Management (TRM) training can be raising the Safety Culture effectively, diminish teamwork-related incidents and enhance task efficiency.

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## New challenge by dental hygienists contributing to oral and physical health of inpatients

**RIKA Kato, MIYUKI Sato, TAKAO Saito, MASAO Endo, MAYUMI Namura, KEIKO**

**Takahashi, TETSUYA Shinobi, ISAO Fukuba, KAORU Hirasawa**

### Introduction

As we face the super aging society, the importance of oral control at clinical and nursing care sites is recognized more than ever, suggesting potential improvements of care outcomes and QOL of patients. Because of a lack of dental department, our doctors and nurses used to have no choice but to dismiss inpatients without providing any dental intervention. However, since April 2015, two dental hygienists were dispatched from an affiliate dental clinic, and interprofessional collaboration became possible. An examination is made for regarding effects on inpatient care with introduction of our efforts.

### Purpose/Methods

With description of works by dental hygienists, incidence of aspiration pneumonia during hospitalization is compared before and after their placement, and propagating effects of oral care is examined. 1. Efforts by dental hygienists during April 2015 to March 2016. 2. Successful cases of oral care intervention. 3. Comparative study on incidence rates of aspiration pneumonia during hospitalization 12 months before and after the placement of hygienists.

### Results

The incidence of aspiration pneumonia during hospitalization was 0.52% during April 2014 to March 2015, whereas it was 0.39% during April 2015 to March 2016, which is after positioning dental hygienists with oral care intervention. Although there was no statistical significance, tendency of reduction was shown.

### Conclusions

Oral care by hospital staff suggested a potentiality of improving clinical care outcome. As to future roles of hospital dental hygienists, it is considered necessary to advocate staff and inpatients repeatedly about important relationship of oral health and physical health, to continue on assisting to maintain and improve QOL of patients, and to enhance care in collaboration with the affiliate dental clinic, local dental association, and dental clinics. It is also important to measure and assess the effects of care provided by dental hygienists.

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## Reduction of inappropriate prescription error rates for inpatient self-prepared drugs

**TSENG Huang Chang**

### Introduction

Recently, inpatients have not only taken drugs prescribed by hospitals, but also bring self-prepared drugs from home to take in hospitals. However, because the drugs are taken on their own, doctors are unable to definitively grasp the source, needs, and correctness of self-prepared drugs. Thus, discussions were made with the pharmacy department regarding their incorporated management by the pharmacy department, and the patients

would be given drugs according to the inpatient dispensation procedures. Statistics between January 2015 and December 2015 showed that the average inappropriate prescription error rates of patients' self-prepared drugs was 7% (42/600) (inappropriate prescription error rate = the total of inappropriate prescribed self-prepared drugs per month / the total of patients' self-prepared drugs collected by the pharmacy department), and the target was to reduce this by half to 3.5%.

#### Purpose/Methods

The original operating procedures involved specialty nurses filling out an approval form for self-prepared drugs, filling in the names and quantities of drugs, then the pharmacist would review the correctness and interactions of drugs. The paper materials were returned to the specialty nurse to be keyed into the computer; this was the dispensation process at our hospital. Pareto analysis of patients' inappropriate prescribed self-prepared drugs showed that 80% involved incorrect entry of drugs, repeated administration of drugs, and incorrect dosages. The foregoing demonstrated that a major portion of the problem was due to human error. The pharmacy department hopes to digitize self-prepared drugs to incorporate them into the inpatient medical order system; it was resolved that before doctors prescribed self-prepared drugs, it would be first reviewed by pharmacists. The system enters the total quantity of self-prepared drugs and automatically calculates the stop date; three days before the stop date, the system will automatically notify the doctor. When the patient is discharged, the discharge prescription will note the remaining self-prepared drugs so that they are not left behind by the patient.

#### Results

The new system: Establish the self-prepared drugs management system. The specialty nurse enters the names and quantities of self-prepared drugs. The UD group pharmacist receives the information, then immediately collects the self-prepared drugs for review, verifying the correctness, quantity, and names in the self-prepared drugs system. If there are any questions, the specialty nurse is immediately notified to handle the problem. After everything has been verified to be error-free, these are keyed in and saved, and the doctor is notified to prescribe the self-prepared drugs. After implementing the new system, the inappropriate prescription error rate of inpatients decreased from 7% to 2.7% (3/110) (inappropriate prescription error rate = the total of inappropriate prescribed self-prepared drugs per month / the total of patients' self-prepared drugs collected by the pharmacy department). Each inpatient's use of self-prepared drugs reduced additional medical expenditures in January 1, 2015-December 31, 2015; each month each person used self-prepared drugs equivalent to 475.8 yuan/person, and each month each person's daily usage of self-prepared drugs was 46.9 yuan/day/person-time.

#### Conclusions

After incorporating patients' self-prepared drugs into the electronic system and integrating the dispensation procedures, with pharmacists reviewing the self-prepared drugs and transferring drugs to be managed by the pharmacy department, the benefits are as follows: 1. The inappropriate prescription error rate decreased from 7% to 2.7%. 2. Each month, patients can save 475.8 NTD/person.

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## Reducing Central Venous Catheter Associated Bloodstream Infection Rates in Intensive Care Unit

LIU Tzu-Yin, LEE Yu-Pei, HUANG Po Shuo, CHEN Tun-Chieh, HSU Wan Yin

#### Introduction

Patients in intensive care unit need inserting central venous catheters (CVC) in critical condition for life support. The CVC associated bloodstream infection rates of our hospital was 4.41%, higher than other regional hospital in 2013. The bloodstream infection also resulted in sepsis and mortality. Therefore, we conducted a quality improvement project to reduce the CVC associated bloodstream infection rates.

#### Purpose/Methods

Aim: Reducing Central Venous Catheter Associated Bloodstream Infection Rates in Intensive Care Unit. Methods: We found that incorrect procedure of inserting CVC by physicians, incorrect wound care technique and medicine administration by nurses, inadequate sterile barrier, incomplete equipment preparation; lack of standards of wound care and administration for CVC, lack of training courses were the main problems. We set up the strategies: 1. Establishing CVC wound and catheter care standards; 2. Arrange training courses for physicians and nurses; 3. Using 2% chlorhexidine for skin preparation; 4. Designing CVC equipment preparation list; 5. Modifying CVC procedure checklist; 6. Designing CVC inserting procedure poster; 7. Taping training video for CVC insertion and care.

#### Results

After the improvement project, the correctness of inserting CVC by physicians increased from 47.9% to 97.9% and the correctness of CVC wound care by nurses from 86.3% to 100%. The CVC associated bloodstream infection rates reduced from 4.41% to 0%.

#### Conclusions

The project supported the implement of CVC care bundle able to reduce the catheter associated bloodstream infections. We hope that the experience can provide a model for modifying standard operating procedures to improve quality of care in hospitals.

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## Pilot Rewards Program on Fall Prevention

TSAI Ming-Tsu, LIN Chun-Hua, HOU Hsiao-Ju, SHIANG Jeng-Chuan, LIN Chia-Hsuan

#### Introduction

1.1 Current Strategies for Fall Prevention Within eight hours of transferring in or admission, the patient's risk of falling is evaluated using "Patient's Risk Factors of Falling Evaluation Form," where a score is assigned to the patient. If the patient

scores higher than or equal to three, we (a) put a "fall prevention sticker" on the patient's wristband and kardex, (b) post a friendly reminder on the bedside, (c) if they haven't done so already, invite the patient and his relatives/friends to watch "Fall Prevention Video" at all nursing stations at 10:00 AM and 4:00 PM everyday, (d) place a "Fall Prevention Booklet" in each room, (e) provide pharmaceutical care for patients who are taking medications that pose a falling threat to inform the patients of the side effects and precautions of the medications, and (e) perform a "bedtime broadcast" at 9:00 PM each day which reminds the patients to go to the toilet, put frequently used items within arm's reach, etc.

#### Purpose/Methods

In 2015, there were 19 falling incidents, and the falling rate was 0.04%. The following table organizes the falling incidents into time, age, consciousness, people with high falling risk, severity of the incident, use of bedrail, assistive devices, whether or not the patient was accompanied by his relatives, activity, and drug use. (1)Factors Regarding Patients: during night shifts, since there were less nurses and caregivers, falling incidents were more likely to happen. (2)Factors Regarding Equipments: We can see that many falling incidents occurred while trying to go to or use the restroom. Therefore, how slippery the restroom was, height differences, pulling of the bedrails, lack of safety devices were the causes of high falling rates. (3)Factors Regarding Caregivers: we can see that caregivers often overlooked the probability of the patient falling and let the guard down. Also, the misuse of the bedrail indicates that the caregivers lacked the knowledge about falling prevention. How to Reach Our Goals (1)Invite the main caregivers to participate in our falling prevention program. In addition, we should inform the patient himself, his caregiver, and his relatives of the importance of fall prevention, the harm caused by falling, the status quo of our falling prevention program, etc. (2)For falling-risky patients (as determined by "Patient's Risk Factors of Falling Evaluation Form"), we give one sticker to the main caregiver if the patient did not fall in the previous day. (3)The head nurse or leader gives compliment to caregivers who received a sticker.

#### Results

Performance Analysis: (1)Relatives and main caregivers satisfaction survey: After inviting main caregivers to participate in our program, more than 85% of the relatives and the main caregivers were satisfied about the program and considered the program an effective measure to prevent falling incidents. (2)Staffs' Satisfaction Survey (Department of Medicine): After inviting main caregivers to participate in our program, more than 75% of our staffs are satisfied about the program and considered the program an effective measure to prevent falling incidents.

#### Conclusions

From Feb 2015 to Apr 2015, there were 2 falling incidents and the falling rate was 0.07%. However, after our program started, there were no more falling incidents from Feb 2016 to Apr 2016, and the falling rate was 0.00%.

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## By using gauze with 0.2% chlorhexidine mouthwash in oral care to reduce respirator related contract pneumonia infections

**LUE Ya-Meei, YEH Mei-Lin, LEE Cun-Man, YANG Hsiu-Fen, TANG Yu-Yi, LIN Li-Ying, KU Yan-Choju, CHENG Jin-Shiung**

#### Introduction

An oral hygiene study in evidence-based medicine showed that using mouthwash with chlorhexidine and stayed for 30 to 60 seconds could reduce the VAP (Ventilator associated pneumonia) infection. We are the pioneer using gauze with 0.2% chlorhexidine mouthwash in oral care; through this implement, we reduced infection of VAP and advance medical care quality, at the same time, we also put out a medical cost-reduction.

#### Purpose/Methods

After oral cleaning of adult patient with inner cannula, we placed 2 pieces of gauzes, size 3"X 3", with 0.2% chlorhexidine mouthwash into bilateral oral, stayed for 30 to 60 seconds then sucked oral secretions.

#### Results

After we adopted this measure, the infection patient-time declined from 15465 to 5597, density of infection drop down from 2.4% to 0.2% and the effect maintaining rate was 0.7%. Furthermore, we saved NT dollars 101,728 in Antibiotics costs, at the same time, satisfaction of nursing medical care in oral care was risen from 93.9% 96.7%.

#### Conclusions

Nursing staff placed 2 pieces of gauzes, with 0.2% chlorhexidine mouthwash into bilateral oral was an easy and save step, it did not need extra nursing service hour, but could keep the patient oral free and comfortable; moreover, it could prevent respirator related contract pneumonia infections more effectively.

#### Comments

We had won the Highly Commended Prize and Oral presentation in National Nurses Innovation Competition held by TUNA (Taiwan Union of Nurses Association) in 2016, we will promote this achievement continuously through publishing the results in domestic and international journal and reach the goal of using and promoting the evidence-based medicine result in clinical practice to provide patient a high quality of Critical Care.

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## Why don't Iranian Health Care Workers Report Medical Errors?

**HATAM Nahid, SHERAFAT Seyyed Mohammad Mahdi, GHODSI Maryam,**

## SHAYAN Zahra, PALENIK Charles John, ASKARIAN Mehrdad

### Introduction

Medical errors frequently occur in healthcare facilities, jeopardizing patient safety and increasing associated costs. Additional research is needed to better determine the actual incidence of medical errors and to identify reasons why healthcare workers are reluctant to report medical errors. Nemazee Hospital in Shiraz, Iran developed a web-based reporting system for medical error reports; however, its effectiveness had not yet been formally measured. This investigation was designed to determine the rates of and reasons for non-reporting of medical errors at Nemazee Hospital.

### Purpose/Methods

Self-administered questionnaires were completed by 283 Nemazee Hospital staff members, including physicians, nurses and medical students in this cross-sectional study. In addition to determining causes of non-reporting, the questionnaire also evaluated the preferred method for reporting medical errors and receiving procedural training. One-way analysis of variance (ANOVA), Fisher's Least Significant Difference (LSD) post hoc, Spearman Correlation Coefficient and Intra Class Correlation (ICC) tests were used for statistical analyses.

### Results

95.8% of participants observed at least one medical error during the previous year. Most common reasons for non-reporting included concern for legal complications, fear of punishment and reproach, lack of positive feedback and chances for identification of a non-compliant colleague. The preferred method for reporting medical errors among physicians was verbal and informal, while nurses preferred written forms ( $p < 0.001$ ).

### Conclusions

Concerns about legal complaints and confidentiality were recognized as main barriers to reporting medical errors in Nemazee Hospital. Furthermore, lack of knowledge concerning identifying and reporting medical errors among physicians, nurses and medical students requires attention by hospital administrators.

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## Session P1.14: Reducing pain and anxiety

### Use of music therapy to reduce anxiety from chest rehabilitation for resonaut

## YANG Shin-Fang, TSAI Yi-Fan

### Introduction

Resonaut patients require chest rehabilitation before removal of aerophore. Breathing difficulties may occur if the patient is unable to collaborate with chest rehabilitation, resulting in

failure of detachment from aerophore. 35% of the patients in a municipal hospital experienced failure of aerophore detachment due to overly anxious during chest rehabilitation between January 2014 and December 2015.

### Purpose/Methods

When the patients start to execute aerophore detachment and chest rehabilitation, music is played to calm down the patients. The rehabilitation exercise includes raising hands and legs, as well as riding bike in the air. The frequency of the rehabilitation is three times a week and 45 to 60 minutes per time. The anxiety level of the patients is measured and recorded.

### Results

A total of 56 resonauts participated in rehabilitation during 2014 and 2015. A fall in anxiety level ( $P < 0.05$ ) and an increase in frequency of rehabilitation from 1 day 2 times to 1 day 4 times was recorded after the intervention of music therapy. 28% of the patients successfully removed from aerophores after the use of music therapy.

### Conclusions

The result reflected the effectiveness of music therapy in reducing anxiety of patients during rehabilitation and helped resonauts from aerophore detachment. It is a method worth spreading and should be a reference for future clinical care.

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## Compare analgesic and Auricular massage in postoperative pain and anxiety

## YANG Shu Wen

### Introduction

The purpose is to investigate the effectiveness of auricular acupressure improvement of symptoms in patients with hepatobiliary surgery, the former study uses experimental, post-test design, in line with patient case selection conditions and agree to participate, according randomly assigned to experimental or control groups. Object is a teaching hospital surgical ward North patients diagnosed accept patients after surgery.

### Purpose/Methods

This study was designed to explore of the auricular acupressure on patients with hepatic and gallbladder disease to improve effectiveness their then symptoms. The object is a teaching hospital surgical ward patients, aged 18 years or more, a clear sense, the country can communicate with Taiwan patients. And patients after surgery. A total of 43 subjects were enrolled in this study. In the experimental group, the ear acupoint massage was performed three times a day from the first to the seventh day. The control group received routine care only. Data were collected using structured questionnaires, including pain and stress, the Visual Analog Scale (VAS), the McGill Pain Questionnaire, the Hospital Anxiety Scale (HADS) analgesic Dosage is used.



**Results**

The results showed that subjects in the experimental group and the control group were in the middle and high anxiety state, while the experimental group received ear massage only after the marginal statistical difference Pain effect; experimental group of pain and anxiety than the control group was significantly lower.

**Conclusions**

In addition to regular treatment and auricular massage, the use of other auxiliary methods in patients after hepatobiliary surgery, to achieve anxiety relief, pain relief effect.

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## Use of Functional Movement Screening for dancers' foot and ankle injuries

**SHIH YI-FEN, ZENG Yan-Lun, WANG Yunyu****Introduction**

Dance is a unique combination of athleticism and artistry which exposes dancers to extreme physical demands and risks of injuries. The injury patterns reported in the literature involves the highest incidence of 40% in the lower leg, foot and ankle, and 20% in the knee and hip. Functional Movement Screening (FMS) comprises of seven movement tasks that require a balance of mobility and stability. FMS is originally designed to screen athletes in risk of musculoskeletal injuries. It has been shown that FMS is a reliable and effective screening tool for injuries among runners, football, or hockey players. However, there is still a need to establish the role of the FMS in the injury management among young dancers.

**Purpose/Methods**

This study aimed to compare the FMS score between young dancers with and without ankle and foot injuries. Twenty young dancers (20.95±1.63 yr) with foot and ankle injuries, and 20 matched (gender, age, dominant leg) controls. FMS score was assessed using seven movements: deep squat, hurdle step, in-line lunge, shoulder mobility, active straight leg raise, trunk stability push-up, rotatory stability. Comparison of the total score was performed using t-test, and the individual item score was compared using chi-square test. The significance level was set at 0.05.

**Results**

The group difference in overall FMS score (18.65±1.24 vs. 17.70±1.58) and in in-line lunge reached a statistical significance with p=0.047 and p=0.001, respectively.

**Conclusions**

FMS was a valid tool to differentiate the dancers with and without previous foot and ankle injuries. Among the seven test movements, the in-line lunge was the most sensitive task to detect the group difference in the movement quality.

**Comments**

The role of FMS for prevention and treatment of dancers' foot and ankle injuries requires further research to clarify.

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## The overview of patient acuteness in gastroscopy

**KUO Yen-Ting, CHEN Yi-Shiuan, CHANG Yu-Han, WANG Ching-Wan****Introduction**

Today, Taiwan towards an aging society, and the concept of health care obtains more attention. Owing to the average life expectancy extend and the concept of health care prevalent. However, with the development of medical technology and mature, the degree of pain may be different from the past, in order to make people take care of endoscopy acceptably, understanding the pain situation of patients is the emphasis of project.

**Purpose/Methods**

The purpose of project is to investigate the degree of pain perception of patients in Endoscope Center at Ta-Tung hospital, and comprehend the relationship between patients pain perception of medical staffs' feeling and patients pain perception of themselves.

**Results**

Through questionnaire design with pain scale, general endoscopy patients as objects, a total of 35 valid questionnaires, descriptive and inferential statistics. Project results showed that: (1) whether there is a previous gastroscopy experience different patient and years of education of its self-assessment pain scores had significant differences. (2) The older the patient, the lower their responses by pain scores. (3) Physician assessment pain scores and nurses assess pain scores and patient self-assessment of pain scores significantly correlated.

**Conclusions**

The statistical results indicated that physician's pain scores higher than the patient and nurses, physician's answer are the most sensitive, because the physician are more profession and understand patients' condition than patient and nurses, and they have more clinical experience and realizing patient's perceived deeply, but the difference of scores is not strictly. The study for clinical work is a gospel, in inspection process is to be more carefully, patient pain feeling can be lowered, and help implement the concept of painless hospital.

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## Prevalence of pain among the elderly in tertiary hospitals in South Korea

**HAN Seol-Heui, KIM Yoon-Sook, LEE Ji-Sun**

### Introduction

Pain is the most frequent physical symptom experienced by elderly patients. With an increase in the aged population, pain has also become the major reason for visits of elderly patients to medical institutions. Chronic pain persisting for >3 months can have negative effects on the financial situation and quality of life of people. Therefore, this study aimed to identify the current status of pain in the elderly by analysing pain prevalence among inpatients aged > 65 years, who were admitted to the hospital for the last 5 years (2011–2015).

### Purpose/Methods

This study was performed retrospectively using computerised medical record information of all eligible patients from a hospital. Inpatients aged > 65 years, who could self-report their condition, were asked to evaluate their pain using the numerical rating scale 11.

### Results

Pain prevalence was 24.6–29.5% among men and 35.6–43.4% among women. There was an increasing trend in the pain prevalence every year among women ( $p < 0.001$ ). Pain prevalence differed significantly according to the general characteristics of age, gender, admission path, appetite, and activities ( $p < 0.001$ ). The severity of pain varied among men (mild pain, 14.0%; moderate pain, 9.9%; and severe pain, 2.9%) and women (mild pain, 19.6%; moderate pain, 15.9%; and severe pain, 4.3%) ( $p < 0.001$ ).

### Conclusions

It is important to determine the severity of pain and factors that can influence treatment in the elderly. Clinical practice guidelines are needed to decide the direction of treatment based on the pain-evaluation results.

### Comments

**Funding** This research was supported by a grant from the Korea Health Technology R&D Project through the Korea Health Industry Development Institute (KHIDI), funded by the Ministry of Health & Welfare, Republic of Korea (grant number HI16C0526).

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## To Enhance the Fifth Vital Sign: Program to Improve the Accuracy of Record of Pain Assessment

## HUANG Hui-Yu, YANG Hsin-Yi, HO Lun-Hui

### Introduction

The Joint Commission International Accreditation (JCIA) pointed out that all patients should receive pain assessment and considered pain as the fifth vital sign. The change of such vital sign should be monitored and recorded at all times and places, implying that pain assessment has become an essential indicator of the quality of medical care.

### Purpose/Methods

In order to see the reasons of errors in pain assessment records, "Checklist of Record Standard of Pain Assessment" was designed in line with "Pain Treatment Policies and Procedures", the records of 635 patients had been investigated. The total entries of records investigated were 3,206, wherein, 614 were errors. The accuracy rate of record of pain assessment was 80.85%. Questionnaire was designed, 47 head nurses were investigated. The findings include tedious pain assessment record policies, unclear policies in the exact time of the end of anesthesia, omission or forgetting of records, wrong understanding of assessment time, wrong paths to make records, failure to clarify the doubts in record timely. Execution plan include: 1. "Pain Treatment Policies and Procedures" were revised and streamlined the process; 2. asked Anesthesia Department to explain how to determine "the end of anesthesia" ; 3. Information system was used to remind the time to record pain assessment; 4. Education and training: strengthening the understanding of pain assessment record and correct path; 5. Specific counselling hotline. Purpose: To enhance the accuracy rate of pain assessment record of nurses from 80.85% to 91%.

### Results

After the implementation of this program, the accuracy rate of pain assessment record increased from 80.85% to 95.42%.

### Conclusions

Complete and accurate pain assessment records can result in appropriate treatment to the patients' demands in pain, enhanced the accuracy rate of pain assessment record via improvement measures, and continuously monitored the record of pain assessment by nurses to ensure true pain assessment and enhance nursing quality for pain.

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## Comparison the effect of acupressure and point stickers for shoulder and neck pain in Taiwan clinical nurses

**CHANG Shu-Fang, LIN Hui-Xian, SUN Shu-Fen, YANG Jing-Yi, LI Jin-Fen, CHENG Jin-Shiung**

### Introduction

The Shoulder and neck pain can be acupressed points which are Jianjing (GB21), Jianyu(LI15), Jianzhongshu (SI15) to achieve relief of pain( Kao、 Hu ,2010 ; Chai,2009). The Research was treatment of TAIWAN clinical nurse with shoulder and neck pain . Treatment of shoulder and neck pain effective points are Jianjing、 Jianyu、 Jianzhongshu ; The research was divided into two groups, acupressure group was performed once a week for 3 weeks, point sticking group once a week for 3 weeks,

### Purpose/Methods

To establish the effective method for treating clinical nurses to alleviating pain and Back shoulder flexion extension angle of shoulder.The experimental group 35 staffs and the control group 35 clinical staffs were giving acupressure and point sticking at the same points groups. The treated Once a week for three weeks then to assess the pain score and back angle of shoulder every weeks for three times.

### Results

Acupressure team which pain index decreased on average of 5.80 to 2.22 score;point sticking team pain index decreased from 6.27 to 3.20 score. Compare  $t = 3.16$   $p < .000$ , Right shoulder retrograde angle degrees, Increasing from 43.49 to 51.54 degrees, point sticking team increase from 39.80 to 51.54 degrees, the left shoulder Increase the angle from 43.74 to 52.94 degrees; point sticking team the left angle from 40.06 to 52.14 degrees,  $p < .000$ .

### Conclusions

Acupressure group and Point sticker group can decreased the conscious shoulder- neck pain. Increased the two shoulder retraction angle degrees . Significant progress was observed in both two groups.

### Comments

Clinical nursing staff suffer the highly ratio shoulder and neck pain. Significant progress was observed in both groups.The study provides important reference data and demonstrates an economical and convenient method for relieving shoulder and neck pain for clinical nurses.Promotion of clinical nurses learning the course which can be used flexibly to care themselves.

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## Using Neoh Acupuncture System For Pain Management To Facilitate Health Promotion And Changing Life Style

### NEOH Choo-Aun, TOK Teck-Siang, KAO Cheng-Chih

#### Introduction

A sedentary lifestyle might be putting our health at risk. Exercise is very important for someone with heart disease, diabetic, hypertension, depression etc. So physician will advised patient with systemic disease to exercise more frequently, getting more active at home and work. Problem is patient with knee pain,

shoulder pain and low back pain just cannot do exercise easily or change their sedentary lifestyle. Non-compliance with exercise advice, physiotherapy, as with drug therapies, is common. But rarely doctor able to help patient to solve their patient pain to enable them to do their exercise as advice.

#### Purpose/Methods

By Using Neoh Acupuncture System for pain management to solve our patient's pain suffering, we are able to help our patient to change their life style and enable them to do more exercise as advised by doctor. Neoh Acupuncture System is an integrated East-West acupuncture needling system that acupuncture patient according to their trigger point pain pattern, muscle dysfunction, TCM Zheng and clinical presentations.

#### Results

Most patients after visiting our pain clinic, got their knee pain, shoulder pain and low back pain managed, improve range of motion, decreased visual pain score. They reported to be more willing to do exercise as their doctor advised them.

#### Conclusions

When physician advised their patients to exercise more for their own health benefit, physician should also evaluate if their patients suffered knee pain, shoulder pain, low back pain. If their patients suffered from those pain condition that hinder them from doing exercise, it is physician duty to refer them to pain clinic to manage their patient pain first before their patient can follow their order.

#### Comments

It is good for doctor to advise their patients to do more exercise, but If their patients suffered from those pain condition that hinder them from doing exercise, it is physician duty to refer them to pain clinic to manage their patient pain first before their patient can follow their order.

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## Health promotion for terminal patents from quality control of pain-free

### FANG Chun-Kai

#### Introduction

Even among the terminal state, pain-free is also a way to promote patients' health and to maintain their quality of life. For making sure the quality of pain-free, regular monitor is necessary. The project is to set up the quality control system.

#### Purpose/Methods

MacKay Hospice and Palliative Care Center (since 1990) is the oldest palliative care unit in Taiwan. In 2015, we modified the items of care quality control. In all 8 monitored items, there are 3 items related to pain control. Item-1 is 'all inpatients have to receive pain evaluation by nurses in 24 hours after hospitalization'. Item-2 is 'patients with pain have to feel pain relief in 48 hours after pain evaluation and treatment'. Item-3 is 'patients with high efficient opioid medication have to get

medication to prevent constipation in 24 hours after prescribing opioid. The standard ratios of these 3 items are 100%, 90%, and 90%. We reviewed the records every months. If anyone item kept under the standard ratio over 3 months, we would open the improvement mechanism (PDCA) to correct it.

### Results

From April 2015 to September 2016, we kept the quality control project every month. In the item-1, the average ratios are 100% both in 2015 and 2016. In the item-2, the average ratios are 82.11% in 2015 and 84.97% in 2016. In the item-3, 91.45%. The PDCA quality improvement were opened for item-2 and item-3. Both items improved, but item-2 was still not good enough.

### Conclusions

Pain-free is important for terminal patients. If we don't monitor regularly, we can't know how patient feel. We hope to create a pain-free palliative care unit to help patient living with dignity and existential health as health promotion.

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## A discussion of the requirements of patient satisfaction Of the palliative and hospice care

### CHEN Ming-Yu

#### Introduction

The objectives of this discussion were to analyze the symptoms that the terminal patients and the families most worry about, and to study the relevance of the medical team support for the need of the patients' families on the symptom management. This discussion also analyzed the relevant critical factors and elements of the satisfaction of the palliative and hospice care.

#### Purpose/Methods

Recruited Subjects were the families of the Hospice and Palliative Care patients who had died more than one month of a central Taiwan teaching hospital. Base on the purposive sampling from January, 2015 to October, 2015, use a questionnaire survey, FAMILY EVALUATION OF HOSPICE CARE, of the National Hospice and Palliative Care Organization (NHPCO). Out of 42 subjects, 33 completed the survey (78.57%).

#### Results

The caregivers thought that the most in need of the terminal patients is the pain control; secondly, is the physical care; thirdly, is the breathing relief, and then is the supporting of the anxious mood. The caregivers score 9 at the sections of Patient Autonomy, Doctor-Patient Communication, and Good Death. But the sections of Symptom Control and Mental support showed that the medical team need to put more effort into. There's a significant difference between primary caregivers and patients in the sections of Patient Autonomy and Good Death ( $p \leq 0.05$ ), and the physical care in the section Patient Autonomy too. The relation between primary caregivers and patients, and the quality of the hospital team physical care influence the satisfaction on the sections of Patient Autonomy and Good Death too.

### Conclusions

The patient's satisfaction depends on the care quality of the primary caregiver providing. The relation between the primary caregiver and the patient has an influence on the satisfaction in the sections of Patient Autonomy and Good Death.

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## Palliative Care in Austria 2016 – 2017

### DIEPLINGER Anna Maria, KAISER Agnes, MÜLLEDER Patrick, SARI-KUNDT Firuzan

#### Introduction

Problem definition and relevance In Austria, the process of developing palliative care (PC) for the severely ill and dying patients has been initiated. However, there are problem areas across Austria in PC that needs to be considered structurally, organizationally, regionally, financially and legally. The report "Palliative Care in Austria 2016 - 2017 provides an overview of the current situation of people in PC from the expert perspective. A research team headed by Dr. Anna Maria Dieplinger (Paracelsus Medical University, Institute of Nursing Science and Practice, Salzburg) and Mag. Agnes Kaiser (Johannes Kepler University, Institute for Society and Social Policy, Linz) collected and processed scientific data in the period 2016 to 2017. Research questions \*What are the working conditions of PC personnel in Austria? \*How do palliative care personnel experience their work? \*What are restrictions and resources mentioned by these experts? \*In what areas do the experts see a need for action?

#### Purpose/Methods

By means of qualitative interviews with experts (n = 42) the study shows a dense description of the current situation. Among the interviewees were 20 nurses, 8 physicians, 6 social workers and 8 persons from management. The experts were subdivided into ones with direct (n = 28) and indirect (n = 14) contact with palliative care patients. The interviewed persons (n = 42 from N = 112) all had either a managerial function or very good insight into palliative care across Austria. The 7 dimensions of the study include framework, burden (of disease), research, legal framework, spiritual issues, education and training as well as requests for PC. These 7 dimensions were then further divided into 22 sub dimensions. The interviews were conducted from May to October 2016 via face-to-face, phone and Skype. After the transcription, the analysis was carried out with MaxQDA according to the content analysis technique of Mayring (2003).

#### Results

The results show that in the assessed dimensions both positive as well as areas for improvement in the field of PC were identified. While on the one hand, there is a uniform definition and understanding among the PC teams, on the other hand, the pc workers are often unclear about the care criteria for PC, particularly in the financial and legal areas. Differences in care are reflected in regional offers, the need for more offers and the stipulations of allocation. All experts agree that the psychological burden on PC personnel represents a great challenge. Need for

PC is seen in practice-oriented research, socialization in health care vocational training and in public relations.

#### Conclusions

Key Words: palliative care work, health care, resources, burden (of disease), framework, Austria

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## Session P1.15: Skill development among hospital staff

### Development of the Instructional Design of Intravenous Injection Skill for New Nurses and Their Implementation and Evaluation

**YEH Shu-Min, HUANG Hui-Ting**

#### Introduction

Was used to recruit 20 new graduates from a regional teaching hospital in Taipei. The instructional design included watching instructional videos, practicing intravenous injection skills on fake arms and exercising communication skills on patients.

#### Purpose/Methods

A pre-experimental design was adopted and purposive sampling. The purposes of this study were (1) to development of an instructional design of intravenous injection skills for new nurses; and (2) to implement and evaluate this instructional design. The instructional design included watching instructional videos, practicing intravenous injection skills on fake arms and exercising communication skills on patients, The researcher was the instructor of this project, while another senior clinical nursing teacher using the Direct Observation of Procedural Skill (DOPS)check list to evaluate the new nurses intravenous injection skills. The DOPS check list has 10 items. Each item on a 3-point Likert scale, 0 point for "no execute", 1 point for "execute but does not meet the criteria", 2 points for "execute and meet the criteria". Thus, the total possible score on the DOPS check list ranges from 0 to 20. Interviews to explore the new nurses learning experience.

#### Results

In this study, the new nurses' overall mean score as measured by the DOPS Check list was Mean  $\pm$  SD = 18  $\pm$  2.683 (N=16).

#### Conclusions

Four themes were categorized from the learning experiences of new nurses right after the implementation and evaluation. which included 1. know how to communicate with patient before injection, 2. find the right vein, 3. earn more injection tips and 4. Empathize with the patients if the injection did not get in for the first shot .Five themes were categorized after one week training period which included 1. gradually have more confidence to communicate with patients, 2.can grasp needle angle easily, 3.experience the feeling when needle puncture into

the vein, 4.no longer afraid of on IC technology, 5.Looking forward to give a successful injection in one shot.

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## Application of health education module to decrease rate of nasogastric tube slippage

**KO Hui-Wen, TENG Heng-Yi, WU Mei-Chuan**

#### Introduction

Nasogastric tube feeding is the most popular nutritional support for patients unable to feed via mouth. However, slippage may result in risks of aspiratory pneumonia, nutrition interruption, and sepsis, even life threatening. The rate of nasogastric tube slippage in our unit was 1.64%, which motivated the incentive to seek improvement.

#### Purpose/Methods

Events of nasogastric tube slippage were analyzed. Main causes of slippage revealed to be the lack of health education and standard operation procedure (SOP). Based on these results, we sketched out improvement strategies, prepared health education flyers in foreign languages, SOP, health education video CD, and group health education. We also applied a health education model by Clinical Skill & Simulation Center. The effectiveness was then followed up.

#### Results

Results showed that the accuracy of cognition on nasogastric tube care of the caregivers increased from 73.7% to 96.43%. The accuracy of implementation on nasogastric tube care of the nursing staff increased from 61.67% to 95%. The rate of nasogastric tube slippage decreased from 1.65% to 0.55%.

#### Conclusions

Standardization provides the nursing staff with accurate operating procedures. The applications of health education tools, such as pictures, flyers, videos, and models, can elevate learning motivation and enhance memorization. With the help of multi-forms of health education and operation by health education model, cognition on nasogastric tube care of the caregivers increased while the rate of nasogastric tube slippage decreased, thus patient safety is strengthened.

#### Comments

It is suggested that video CDs are filmed in foreign languages in order to facilitate the nasogastric tube care by foreign caregivers. Home care personnel should follow the care quality after discharge. The similar module could apply to the cares of patients with other catheters. It is expected to offer great help to patients, and patient safety is reinforced.

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## Lowering Wound Infection Rate after Discharge through Designed Illustrative Health Education on Wound Care

**HE Ya-Chen, HSU Chi-Chen, WANG Chao-Lin, CHUANG Shu-Ting, CHIEN Sou-Hsin**

### Introduction

The mostly used guidance for wound care in clinical trials are done orally or by providing paper-based written instructions. This project discusses the effectiveness of improving post-discharge wound infections by individualized post-discharge wound care instructions applied in 88 cases of patients that underwent surgeries.

### Purpose/Methods

This project is conducted by nursing staff providing individualized illustrations of post-discharge wound care instructions and drills based on each individual patient's location of cuts and different ways of disinfection, including material preparations, wound disinfection, wound dressing, and dietary instructions. Patients are allowed to bring with them the written illustrative instructions after medical staff has orally done so in case the patients become unfamiliar with the wound care process when they go home.

### Results

It is found that among 88 patients who had been discharged from hospital, wound infection rate has lowered from 1.78% to 0% after the individualized wound care instructions have been implemented for one month.

### Conclusions

Proper health education instructions are important to the understanding of medical care by patients and their family members. Individualized post-discharge wound care instructions along with practices and drills can help patients and their family members easily learn this process. It reduces patients' worries over post-discharge care and help patients properly care for their cuts and lower post-discharge infection rate.

### Comments

The top priority for lowering post-discharge wound infection is to offer proper wound care instructions. Individualized illustrative instructions on post-discharge wound care along with practices supervised by medical staff can help promote patients' understanding and acceptance of the caring process and improve patients' post-discharge self care ability.

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## Effect of the Holistic Education Program on Improve Holistic Care for Nurses

**KU Yan-Choiu, LIN Li-Ying, JEANG Shiow-Rong, CHEN Hui-Ling, WANG Pei-Hern, CHENG Jin-Shiung**

### Introduction

Holistic care is the "people-centered" comprehensive nursing care. In the process of nursing care, nurses should understand the patients' needs in four dimensions bio-psycho-social-spirit, then patients can get better care. Therefore, to carry out the holistic education program is important for enhancing the patients' quality of care.

### Purpose/Methods

The study purpose is to understand the effects on holistic education programs in the knowledge, attitude, self-efficacy, and behavior. 384 nurses were recruited as subjects in 26 wards including department of general medicine, general surgery, oncology, obstetrics and gynecology, and pediatrics in a medical center in southern Taiwan. The 216 nurses were in experimental group, and 168 nurses in control group.

### Results

There was no significant difference in baseline characteristics between two groups of nurses ( $p > 0.05$ ). There was no significant difference in pre-test outcome between two groups of nurses in the results of knowledge, attitude, self-efficacy and behavior ( $p > 0.05$ ). After the educational program, the average score of the experimental group was significantly higher than the control group ( $p < 0.05$ ).

### Conclusions

Results had shown that knowledge, attitude, self-efficacy, and behavior of holistic care of nurses were enhanced significantly, indicating that the educational training of holistic care was effective.

### Comments

We should keep applying this holistic education program in the future.

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## Use of Team Resource Management (TRM) to Improve the Integrity of Patients' Implementation of Rehabilitation Sports Program after Lower Limb Fracture Surgery

**LIN Hsin-Yi, WANG Yi-Ling, TSAI Hsin-hui, HUNG Yu-ting, KUNG Wen-chuan**

### Introduction

Postoperative patients have to regain the functions of limbs as soon as possible to restore joint movement and to reduce the occurrence of complications. The purpose of this project is to use TRM to improve the integrity of patients' implementation of rehabilitation sports program after lower limb fracture surgery.

**Purpose/Methods**

The study period was from April 1 to 30, 2015. The percentage of nursing personnel's perception of rehabilitation sports after fracture surgery is 47.08%. The percentage of accuracy of implementation of health education is 39.04%. The percentage of patients' perception of rehabilitation sports after fracture surgery is 20.44%. The percentage of accuracy of implementation of rehabilitation sports is 23.48%. The analysis showed that the reason was that nursing personnel were lacking in professional knowledge, lack of convenient and complete health education aids and educational training. Therefore, Orthopedic doctors, physical therapists, and nurse practitioners formed a TRM team to hold a series of educational training of rehabilitation sports after fracture surgery, develop health education CD and Rehabilitation Program Explanation and Recording Form, provide multimedia health education information, and establish medical order system communication platform.

**Results**

Afterwards, nurse personnel's perception of rehabilitation sports after fracture surgery increased to 90.83%. In addition, nursing personnel's accuracy of implementation of health education increased to 89.58%. Patients' perception of rehabilitation sports for after fracture surgery increased to 72.8%, and their accuracy of implementation of rehabilitation sports increased to 92.40%.

**Conclusions**

Complete operating procedures for rehabilitation sports and aids were developed as the basis for health education. Moreover, medical order information platform was used to fully grasp patients' rehabilitation treatment plan to help them maintain their physiological functions and further improve their quality of life.

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## Session P1.16: Health promotion for hospital staff

### Underlying Medical Condition Is Associated With Sleep Disturbance in Nursing Staff: Key to Monitoring and Early Intervention

**CHENG Wei-Chun, CHEN Hsiao-Fang, WU Shu-Fang, HU Chih-Shiung**

**Introduction**

Insomnia and other disorders that result in trouble sleeping are common in the World and are often associated with chronic health conditions. Sleep disturbance is also an important issue in occupational health especially in hospitals operating for 24 hours, which may jeopardize patient safety. Since nurses are involved in most of first-line patient care, it is important to assess sleep and other health problems in nurses and find plausible route for early detection and intervention.

**Purpose/Methods**

Our hospital is a regional hospital in southern Taiwan with a staff of 805 people. From July to September 2015, we used a structured questionnaire to assess staff health status and health care need. A total of 463 valid questionnaire were collected and analyzed. In which, 66.0% were nurses. Age, medical history and work shift type were analyzed.

**Results**

In our nursing staff, 72.6% were between 20 to 40 years old. 93.6% of them were female and 48.2% were married. In 326 nurses who completed our questionnaire, 69.2% (n=222) worked on rotating shifts and 34.5% (n=114) reported to have sleep disturbance. Age and working shift are not associated with sleep disturbance. However, in nurses with previously known medication conditions (such as hypertension, diabetes, viral hepatitis...etc), higher proportion had sleep disturbance (43.4 v.s. 30.9, p=0.035).

**Conclusions**

Based on our in-hospital survey, nursing staff with underlying medical conditions had higher risk for sleep disturbance. Since most of these medical conditions were regularly followed in our own hospital, with help of primary care physicians, coping strategies, support system and sleep quality assessment tools may be helpful for these nurse patients. Prescription of proper medication may also help. We expect to have a high satisfaction rate and decreased sleep problems from our nursing staff under these strategies.

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## Use of health association to increase the nursing workplace satisfaction

**JHUANG Jia-Ci, CHIANG Shu-Chuan, LIN Yu-Ching, HUNG Hui-Wen, LIN Chin-Ju, LIN Chin-Ju, WU Mei-Chuan, TENG Heng-Yi**

**Introduction**

Shift work Characteristics, resulting in lifestyle is not normal, you cannot have regular exercise habits, eating high probability of ingestion, and long-term work in the workplace, nurses physiological and psychological under pressure, when healthy abnormal condition, it will directly affect the work efficiency, reduce sensitivity crisis, the impact of quality of care, and increase separation rate. Create a healthy association in which promote healthy behaviors, thereby reducing the work pressure, improve the quality of care.

**Purpose/Methods**

Use groups of recreational sports groups, from time to time to organize outdoor activities, dinners, or excellent books to read and share, increase interpersonal interaction opportunities between employees, enhance team beliefs, increase their health beliefs, enhance health-related knowledge, can share new knowledge and reduce stress Accumulation and emotional release.

**Results**

Research hospital nurses' workplace satisfaction from 75% to 88%, working pressure index decreased from 66 to 42 points.

**Conclusions**

Provide health care as a first line of medical nurses, coupled with the impact of irregular shift work life, often cause psychological and physiological stress load, you cannot establish a healthy image to convince the general public, while losing its social role, use of recreational sports groups way to increase the chances of outdoor sports,, directly enhance career satisfaction and reduce the work caused the pressure, which increases the quality of care, achieve a win-win situation.

**Comments**

The use of groups of recreational sports groups to provide different channels of relaxation and leisure activities, to reduce the pressure on nurses workplace, building a healthy and positive image, not only can improve the quality of care of patients, but also promote the concept of national health through the ideal working environment , to accept the idea of nursing staff, feelings, expectations of the establishment of a workplace-friendly environment.

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## Discussion on Implementing Health Promotional Behaviors of Nursing Practitioners

### LAI Hsueh-Chen, SU Yung-Yu

**Introduction**

As maintaining well healthy behaviors will help nursing staffs to provide high quality clinical services, therefore, it is essential to understand the perception on the routine work of the working environment, work area of the work environment, occupational safety of the work environment, knowledge of health promotion, attitude towards health promotion, and behaviors of health promotion held by nursing staff based on idea of health promotion hospitals.

**Purpose/Methods**

To understand eight perspectives on the implementation of health promotion related concepts and behaviors by utilizing the "Socio-Demographic Factors". In this research, the cross sectional research design is used along with the purposive sampling method to conduct "anonymous" researches on nursing practitioners qualifying the probation period at work for more than three months. The self-assessed "structured questionnaire" is used to collect data required and to perform assumption testing and descriptive statistics; inferential statistics are used to perform assumption verification.

**Results**

A total of 588 copies of questionnaires were distributed in the sample hospitals, and 511 valid questionnaires were collected (validity rate 96.05%). The average score of all evaluation perspectives is between 2.99~3.93, equivalent to "agree" on implementation of "health promotional behavior". Based on the

analysis result, the factors of the "health promotional knowledge", "health promotional attitude", "daily working condition of occupational environment" and "workplace of occupational environment" (P<0.5) are key prediction factors for implementing "health promotional behaviors" of nursing practitioners.

**Conclusions**

Based on the eight main perspectives, the key factors affecting the implementation of the health promotional behaviors of nursing practitioners can be understood, and such factors can be used to further assist the construction of a health model that is more suitable in launching the "health promotional behavior" for nursing practitioners.

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## Comparing the behaviors' of health promotion within nurses among two regional hospitals in Southern Taiwan

### LAI Hsueh-Chen, SU Yung-Yu, CHEN Ying-Ying, HUANG Chi-Chen

**Introduction**

It is very important for maintaining well healthy behaviors for nurses to provide high quality clinical services within hospitals. Therefore, the aim of this research is to comparing the behaviors' of health promotion within nursing staff among two regional hospitals (Hospital A and B) in Southern Taiwan, especially the Hospital B is a member of National Network of Health Promoting Hospitals and Health Services, World health Organization (WHO)..

**Purpose/Methods**

The cross sectional research design is implemented on the nursing practitioners of two sample hospitals along with the utilization of structured questionnaires as an evaluation tool. Based on the Likert five-point scoring method, differential analysis is conducted on the perspectives of the "daily working condition", "workplace", "occupational safety", "self-perceived mental health", "health promotional knowledge", "health promotional attitude" and "health promotional behaviors" etc.

**Results**

For Sample Hospital A, there are 241 valid samples; for Sample Hospital B, there are 270 valid samples. The result of the perspective average values indicates that for "daily working condition", Hospital A (3.90) is higher than Hospital B (2.17); for "workplace", Sample Hospital B (3.68) is higher than Hospital A (3.55); for "health promotional knowledge", Hospital B (3.90) is higher than Hospital A (3.86); and for "health promotional behavior", Hospital B (3.98) is higher than Hospital A (3.88).

**Conclusions**

From the viewpoint of "evidence-based management", the research result indicates that for the nursing practitioners in different sample hospitals, significant different views exist based

the values of the four perspectives of "daily working condition of occupational environment", "workplace of occupational environment", "health promotional knowledge" and "health promotional behavior".

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## Using adjustable straps to improves the clinical convenience of nurses

**HUNG Hsiang-Ying, CHIANG Shu-Chuan, TSENG Tzu-Wei, WU Mei-Chuan, TENG Heng-Yi**

### Introduction

In order to meet the demands of the work and satisfy the care quality of the patients, it is necessary to extend the working time and reduce the team's cohesion and job satisfaction, wound dressing is one of the daily work, the use of adjustable straps to replace the human body to help patients with limb dressing, and to reduce injury, save labor costs and enhancing the convenience of clinical care staff.

### Purpose/Methods

After surgery, nurses must raise the limb, dressing process takes 30-60 minutes or more labor, time-consuming often resulting in patient discomfort, the use of adjustable belt For limb wounds, according to the patient limb dressing, to adjust the dressing height and reduce manpower expenditure, thereby reducing the number of unnecessary indirect care to improve the quality of care.

### Results

Nursing staffs were reduced from two to one, and the number of unnecessary nursing hours was reduced from two hours to one hour. The job satisfaction of nurses increased from 67% to 92%. The patients Satisfaction increased from 70% to 90%.

### Conclusions

Nurses' occupational injuries caused by work will not only affect the implementation of nursing work, loss of working hours, but also cause nursing loss, nursing quality, patient safety concerns and other reasons, to use of adjustable straps support to increase patient comfort, it could improve the quality of nursing care, to reduce stress of nurses in the workplace, and increase the nursing staff job satisfaction.

### Comments

Nursing staff is the largest asset in the hospital, the use of adjustable straps in the clinical work, not only save energy and maintain a good posture, but also enhancing the safety and efficiency of nursing staff, nurses have more time to bet on clinical professional care, and thus improve the quality of care, it is recommended to promote the common reference to other medical institutions.

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## An outbreak investigation of type A influenza among healthcare providers in a regional hospital in Southern Taiwan

**LIU Tzu-Yin, LI Lih-Yueh, CHAN Chiung-Wen, PAN Hui-Chuan, CHEN Tun-Chieh**

### Introduction

In June 2015, three nurses had FLU-like symptoms in our medical, surgical and neurological wards within couple days. We started outbreak investigation for type A influenza and total 9 nurses among these wards had been diagnosed as type A influenza virus infection.

### Purpose/Methods

Aims: To isolate infectious source, block transmission and prevent recurrent events. Methods: 1. Recommend healthcare providers to wear surgical masks, follow hand hygiene and prevent hands touching eye, nose and oral mucosa while conducting daily practice. 2. Start fever surveillance mechanism for healthcare providers and make records among the nursing stations. 3. Wear surgical masks and keep hand hygiene while communicating to other nurses during outbreak period. 4. Pay attention to respiratory hygiene and cough etiquette while dining. 5. Monitor contact history of FLU-like patients; report to head nurses if healthcare providers suffering any FLU-like symptoms. 6. Reinforce frequency of environmental cleanliness, including telephones during outbreak period.

### Results

After investigation, we found the compliance of wearing surgical masks while caring patients among healthcare providers, but the compliance of correct hand hygiene is not adequate. Besides, healthcare providers neglected self FLU-like symptoms and respiratory hygiene and cough etiquette while communicating to others nurses and dining.

### Conclusions

Through analysis of current situation and the outbreak investigation, enhance hand hygiene and associated infection control strategies can effectively reduce the transmission of type A influenza. Healthcare providers can follow the infection control strategies while facing patients through the 6-hour infection control education program but they tended to neglect these regulations while facing the staff members and resulted in influenza outbreak within nursing stations. The outbreak was successfully controlled by introducing fever surveillance, advocating respiratory hygiene and cough etiquette and reinforcing environmental cleanliness.

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## LINE together - Promote hospital staff participation in voluntary service programs

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JONG Cheng-Hsin**

**Introduction**

"Voluntary service" meaning to inspire people to care about society and community. If we can use professional training and management and also come with experience its could be stimulate the community to pay a sense of responsibility (Wu-Zhong Cheng,1983). Since 2002 Landseed hospital participate the community health examination service receive from department of public health Taoyuan,to improve the elderly community health screening of elderly convenience and promote prevention and health care to community.In order to improve and enhance the communication and contact with the volunteers,to use of innovative thinking to create a two-way communication platform,In February this year hospital use the app" Line @ group" messenger to achieve integration of information,voluntary service can be successfully implemented in the community.

**Purpose/Methods**

1.Establish public health policy 2.Create a supportive environment 3.Adjust the service 4.Develop personal skills 5.Strengthen teamwork

**Results**

Volunteer participation rate of 77.75%,use LINE group to inquiries and applicants accounted for 40% of the total,Volunteer feedback said the question can be raised immediately when their have LINE messenger APP,the attended rate was up to 100%.use LINE communication channels that participate in volunteer satisfaction from 86.54% increase 88.88%.which mean that use of the LINE group was improved and practicable.the staff have use LINE messenger APP,have 70.17% was process Successful.

**Conclusions**

Through the LINE enables to get information and response immediately, and promote employee participation motivations through diversified promotion methods.enhance teamwork cohesion,so that all staff in the hospital will be able to stay in "LINE" together.

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**Application of whole-body FDG-PET  
for cancer screening in a cohort of  
hospital employees**

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Shiung, HU Chin, CHAN Hung-Pin, PENG  
Nan-Jing**

**Introduction**

Whole-body 2-[18F]fluoro-2-deoxy-D-glucose positron emission tomography/computed tomography (FDG PET/CT) has been extensively used to screen for underlying malignancies in asymptomatic individuals. In a workplace health promotion proposal project supported by our institution, hospital employees were provided the opportunity to receive a free or fee discount scheme of whole-body FDG-PET/CT scan. We were able to survey a cohort of hospital employees using whole-body FDG-PET/CT and to report the results herein.

**Purpose/Methods**

From February 2014 to August 2016, 167 hospital employees older than 55 years old were offered a free FDG-PET/CT in our hospital. One hundred and forty of them (83.8%) completed the assessment in our PET center. Another 11 hospital employee aged from 28 to 54 year-old received a fee discount scheme of FDG-PET/CT. The results were analyzed on a pathological basis (when histological sampling was possible), via other imaging modalities, and/or with clinical follow-up evaluations.

**Results**

Among the 151 participants, 142 were asymptomatic and 9 presented with previously diagnosed cancers. Eight of the 142 asymptomatic participants (5.6%) with significant FDG uptake or nodular lesions were referred for histological evaluation of the possibility of malignancy. Cancer discovery rate was 3.5% (5/142) with positive predictive value of 62.5% (5/8). All cancers presented very early stage. In the 9 participants with previously identified cancers, no recurrence or metastasis was detected.

**Conclusions**

The offer of whole-body FDG-PET for cancer screening was welcomed with enthusiasm by most of the hospital employees. Most participants were glad to have undergone the screening test. We believed that an immediate and detailed interpretation of the PET/CT results dispelled the doubts and fears of participants and encouraged them to accept the scan results. Whole-body PET/CT combines the merits of PET and CT and can be administered to and provide benefits to a select group of hospital employees.

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**Improve working environment and  
the physical and mental health of  
the staff members in IT department**

**LI Hsin-I, LO Yu-Tai, CHEN Li-O, LIOU Wen-  
Chin, YANG Yi-Hua**

**Introduction**

Building a healthy workplace is becoming particularly critical for health institutions. St. Joseph Hospital formed a health service team of medical professionals and Occupational Safety and Health Administrators to jointly ensure continuous care, and focus on facilitating a healthier workplace in the hospital. Take our IT department for example, health care workers remodel the workplace facilities and evaluated the health of the staff



members, screened out the high-risk workers, and take necessary improvement steps.

#### Purpose/Methods

To Build a healthier workplace at the IT department, the health service team: 1. Revised the night shifts schedule and reduced the frequency of abnormal nighttime call-ins. 2. Screened out high health risk staffs and arranged follow-up re-examinations for them. 3. Monitored CO2 concentration in the working area, modified the air conditioner and placed additional ventilation equipment to avoid air pollution. 4. Assessed the employees' musculoskeletal condition. Installed ergonomically designed furniture that prevents physical damage from day-to-day work

#### Results

Throughout the program: 1. The number of nighttime call-in frequency has reduced from 20 times per month to 6 times per month. 2. 2 employees in high health risk are scheduled to undergo a 6-month outpatient follow-up. 3. Carbon dioxide concentration was reduced from 940 ppm to 415 ppm. 4. Among the 9 employees whose musculoskeletal condition were assessed at the beginning, 4 people's health risk points had gone down significantly after the program (5 points lower).

#### Conclusions

A healthy working environment protects our most valuable asset- the employees' health. Through the joint efforts by our medical professionals and the Occupational Safety and Health Administrators, we spotted the segments needs to be improved and took necessary actions to implement the tailor-made solutions to different departments. Since the beginning of April 2015, the team has served 16 units, put forward 26 improvement measures, and completed 22 improvement projects. We aim to continuously ensure a healthier workplace in our hospital.

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## Effects of Brief Mindfulness-Based Stress Reduction on the Attention Awareness, Stress, and Standard Deviation of All Normal-to-Normal Intervals of Pediatric Nursing Staff

### CHEN Yang-Yu

#### Introduction

Various job stresses commonly experienced by nurses affect not only their attention awareness, but also their physiological and psychological health.

#### Purpose/Methods

This study investigated the effect of brief mindfulness-based stress reduction (MBSR) on the attention awareness, stress, standard deviation of all normal-to-normal intervals (SDNN) of nurses. This study adopted the experimental study design. Participants were divided into experimental and control groups, each consisting of 41 participants. The experimental group was provided with a 4-week brief MBSR course and maintained self-practice of meditation exercises at home and work for 4 weeks.

The control group was not provided with any intervention. The mindful attention awareness scale (MAAS), perceived stress scale (PSS), and SDNN were measured before and after the MBSR and after the 4-week follow-up. The generalized estimating equation (GEE) was applied for data analysis by using the SPSS 20.0 software package.

#### Results

The results indicate that (a) the MAAS scores of the experimental group increased immediately after mindfulness training ( $B = 8.49, p < .001$ ) and 4 weeks after the training ( $B = 16.98, p < .001$ ), with both scores being significantly higher than those of the control group; (b) the PSS scores of the experimental group decreased immediately after mindfulness training ( $B = 3.78, p = .003$ ) and 4 weeks after the training ( $B = 8.10, p < 0.001$ ), with both scores being significantly lower than those of the control group; (c) the SDNN of the experimental group increased immediately after mindfulness training ( $B = 4.72, p = .008$ ) and 4 weeks after the training ( $B = 8.30, p < .001$ ), with both scores being significantly higher than those of the control group.

#### Conclusions

The brief MBSR effectively reduced the stress of the nurses and improved their attention awareness, and SDNN. Promoting brief MBSR in nursing services is recommended.

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## The Relationship between Burnout Patterns and Coping Styles among Emergency Department Nurse in Taiwan

### XIE Qi-Zhen, CHEN Chieh-Fan, LIN Gau-Tyan, CHEN Shu-Lin

#### Introduction

Workplace stress was considered to be one of the major risks for health in 21 century. This study was designed to explore the relationship between burnout patterns and coping styles among emergency department nurse in Taiwan.

#### Purpose/Methods

This cross-sectional study performed purposive sampling with sectional questionnaires surveys to emergency department nurse from 10 hospitals in Taiwan. The collected data was analyzed by Pearson's Product-moment correlation and stepwise multiple regressions to find the effect of relationship.

#### Results

Personal burnout and task burnout are negatively correlated with self-adjustment in facing problem ( $P < 0.01$ ). Over commitment to work is positively correlated with solving problem with rational thinking ( $P < 0.01$ ) and effective coping ( $P < 0.05$ ). Burnout of client service is negatively correlated with solving problem with rational thinking, self-adjustment in facing problem, seeking assistance, support from others and effective coping ( $P < 0.01$ ). Emergency service seniority, average wage, official rank and working place have significant influence to staff

burnout ( $P < 0.0001$ ). Marital status, age, nurse-patient ratio, degree of education and working place have significant influence to coping ( $P < 0.0001$ ).

### Conclusions

Different burnout patterns had different coping styles. Individual characteristics of emergency department nurse affect burnout patterns and coping styles. Targeted strategy according to local research can mitigate workplace stress appropriately.

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## Physicians' Lifestyle and Burnout: An Unfavorable Connection

### WANG Hsiu-Ling, YANG Yuan-Han, LOH Joon-Khim, KWAN Aij-Lie

#### Introduction

Physician wellness is an issue garnering national interest because of high prevalence of burnout in Taiwan. Recognizing that medicine practice of work-related stressors, it may have a negative effect on multiple facets of life. Although desirable lifestyle seem to be less involved in burnout, few interventions have been tested.

#### Purpose/Methods

We explore the association between lifestyle and burnout. A cross-sectional, anonymous survey was performed in Jan. 2014 at an acute care hospital in Taiwan. 98 physicians were asked regarding marriage, exercise, pastimes, financial debt, and religiosity. Self-reported severity of burnout, rated health status and happiness on a 7-point scale. 85 valid responses returned. Respondents had an average tenure of 11.42 years in practice, mean age 40.8, 88.64% male, 65.91% married.

#### Results

46.7% of respondents had experienced burnout symptoms. The two specialties with the highest percentage of burnout (96%) were emergency and internal medicine. Within the top 3 were pediatrician, urologist, pathologists, oncology (75%) and surgery, orthopedist, family medicine (50%). Exceptions were the obstetrics, among the less burned-out at 35%, along with dermatologist (32%). The percentage of burned-out female (80%) is higher than that of male (72%). The mean severity score was 5.5, but, those burned out were less confident about their health (5.1) than non-burned-out (5.9). Happiness at home, burned-out (4.7) was lower than that of non-burned-out (5.1). The happiest at home were the non-burned-out radiology physicians (6.0), burned-out surgeon (5.3), internal medicine (5.1), and emergency (5.0). 13.3% of burned-out physicians reported no loans compared with 14.5% of no burned-out. 67% of burned-out and 70% of those no burned out have religiosity.

#### Conclusions

Burnout and lifestyle vary across specialties. There did not seem to be correlation between happiness and burnout severity

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## Relationship between Emotional Labor, Burnout and Job Satisfaction among Frontline Staff at Public Hospitals in Northern Taiwan

### CHEN Ian-Horng, CHEN Chii-Shya, CHEN Yin-Yin

#### Introduction

Frontline healthcare personnel are required to provide service quality, and maintain emotional stability when dealing with patient demands. This constant process of providing service often leads to burnout, affecting frontline personnel's job satisfaction.

#### Purpose/Methods

The aim of the present study was to explore the relationship between the emotional labor burden and their level of job satisfaction, as well as the important factors influencing this relationship. The study carried out a cross-sectional study, with the research subjects being frontline personnel at 5 public hospitals (including personnel responsible for patient registration and appointments, pricing, receiving payments, obtaining and delivering patient records, maintaining ward records, etc.). A structured questionnaire was administered to the research subjects, the content of which included questions relating to four key areas: respondents' personal data, their emotional labor load, work burnout, and job satisfaction. Both the expert analysis and pretest analysis resulted in high reliability and validity.

#### Results

A total of 285 (95%) questionnaires were completed. Overall, the average level of job satisfaction reported by frontline personnel was  $76.3 \pm 14.9$  points, and the level of job satisfaction was positively correlated with the emotional response to the job ( $r = 0.277$ ,  $p < 0.001$ ). Variables that displayed a significant positive correlation with the emotional response to the job included gender ( $r = -0.136$ ,  $p = 0.030$ ) and marital status ( $r = 0.186$ ,  $p = 0.005$ ); there was also a significant positive correlation between the gender variable and the level of job satisfaction ( $r = -0.223$ ,  $p = 0.001$ ).

#### Conclusions

More attention needs to be paid to the emotional labor performed by frontline personnel in hospitals, so as to bring about an enhancement of job satisfaction, which in turn can be expected to lead to improved quality of service.

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## Burn Out Syndrome in dental university of Athens

**SKOUFI Natalia, KAKABOURA Afroditi, KALOURI Rani**

### Introduction

Burnout syndrome is a result of extended exposure to stress factors expressed through psychosomatic symptoms.

### Purpose/Methods

The purpose of this study was a specific point in time among Dental university employees. Study's methodology was Cross-Sectional with Cluster sampling with a single borderline measurement. The final sample was 46 employees without exclusion and inclusion criteria, which was divided in three sub-groups (healthcare workers, technicians, administrative group). For the research measurement we used Maslach Burnout Inventory (MBI) at 25 scale evaluating frequency and intensity. We correlated independent variables such as: Sex, Age, Experience, Employment Type, Contract Form.

### Results

In the overall assessment of MBI, Burnout Syndrome in the dental school was expressed in 15.7%. More specific findings show an 11.6% emotional exhaustion, 7.6% of decreased participation, 9.4% low depersonalization, 26.8% decreased intensive personal accomplishment. Sex and Academic hadn't related. Comparing the whole sample according to each working status (healthcare workers) gathered 9.8 higher rates, with statistically significant difference in emotional exhaustion and participation dimensions. Employees under 40th age gathered higher exhaustion rates, time limited working contract (permanent/ time limited contract) showed higher rates of  $p > 0.021$  at the dimensions of emotional exhaustion and participation. Employees close to retirement were negatively correlated between emotional exhaustion and participation dimension  $p > 0.030$ . For the statistical results we used The SPSS 19.0

### Conclusions

Age, Working status and Experience were the main variables that affect.

### Comments

Study have multiple limitations. The main issue was that a small sample isn't representative. The absence of repeated measurements, and comparison group was a significant limitation that affect negatively study's validity. Additionally, the absence of preventive interventions affected negatively reliability and validity.

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## Stakeholder Approach of Work-Life Balance (WLB) : Experiences from one non-profit hospital in Taiwan

**WANG Hsiu-Ling, YANG Yuan-Han, WU Wen-Jeng, WU Deng-Chyang**

### Introduction

Taiwanese work longer hours, take fewer vacation days, and have less leisure time than people in developed countries. Taiwan is the country that has a paid-leave policy for mothers & fathers after a baby born based on Gender Equality in Employment Act, Occupational Safety and Health Act, Labor law. Research has found that work-life imbalance was source of dissatisfaction, withdrawal behaviors, and related to reduced psychological and physical well-being. Recognizing that employees are major stakeholders, WLB is considered corporate social responsibility.

### Purpose/Methods

WLB strategies include aspects designed to enhance work autonomy & achievement, family care & support, health & safety. We outline WLB outcomes advocated by Ta-Tung Hospital founded in 2010 by private Kaohsiung Medical University, with 482 beds, 853 staff (82% female).

### Results

1. Flexibility in Work Hours & Summer Allowance & paid leave for physician (Ex: marriage leave 14 days, funeral leave 21 days, sick leave 6 months, family care 7 days, pregnancy leave 2 months).
2. Set Maternal Health Risk Assessment website & work adjust hazard reduction for Pregnancy.
3. Set up breastfeeding room, childcare facilities or subsidies for employees.
4. Child Education Subsidy: from kindergarten to university.
5. Affordable nutrition low card lunch.
6. Renting Schools campus to set Elder Care facility.
7. Medicaid treatment benefits: 30%-50% discount fee & subsidy for employee spouses, parents & child.
8. Accidental medical insurance of illness or death.
9. Subsidy for Societal voluntary.
10. Health Promotion: International Marathon & Dragon Boat Race, Vigor, Aerobics.
11. Workplace sports be held nearby.
12. Travel for family.
13. Employee Assistance Programs: emotional consult; new comer seminars, medical dispute & violence.
14. Reward for Senior beyond 15 years.
15. Guaranteeing a secure retirement pension.
16. Occupational diseases rehabilitation & retention.

### Conclusions

WLB benefits regarded as bundle, should be measured extra-financial value to evaluate impact on society.

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## Assessment and Reduction of In-Hospital Workplace Stress to Promote Staff Health

**CHENG Wei-Chun, CHEN Hsiao-Fang, HU Chih-Shiung**

### Introduction

Medical practitioners are familiar with workplace stress and somatic symptoms, especially those who involves in first-line patient care. Workplace stress may be originated from emotionally draining work, long hours or staffing challenge. In

our hospital, we consistently focused on workplace stress reduction to promote staff health for several years. In this study, we aim to assess work stress for medical practitioners and to find possible solutions to reduce such stress.

#### Purpose/Methods

Our hospital is a regional hospital in southern Taiwan with a staff of 805 people. From July to September 2015, we used a questionnaire to assess staff health status and health care need. A total of 463 valid questionnaires were collected and analyzed. In which, 330 (66.0%) were nurses. The remaining staff were medical technicians/therapists and administration personnel. Self-assessed stress level, self-perception of symptoms and mostly-anticipated recreational activity were analyzed.

#### Results

Compared to non-nursing staff, fewer nurses experienced moderate to high level of workplace stress (32.5% v.s. 43.5%,  $p < 0.05$ ) and self-perception of inferiority (21.1% v.s. 32.7%  $p < 0.05$ ), indicating a better coping technique. However, the perception of anger, depression or insomnia were similar in both groups. In whole staff, 276 (55.5%) experienced tiredness and 210 (42.3%) experienced back soreness in recent 6 months. 191 (24.7%) of staff anticipated a yoga club in the hospital while 123 (15.9%) anticipated aerobic exercise club.

#### Conclusions

Based on our survey, nursing staff had better coping with stress compared to non-nursing staff. To decrease self-perception of symptoms, based on hospital staff's choice, we are starting weekly Yoga and aerobic clubs led by the highly-experienced lecturer from our nursing department. In addition to exercise course, the lecturer would also share stress-relief techniques. We expect to have a decreasing level of workplace stress and positive feedback from our staff.

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## Factor analysis of whole person health among employees in a hospital

**FANG Chun-Kai, PI Shih-Hsuan, LIU Chih-Ju**

#### Introduction

Overloading and burnout among employees of health care institutes is often concerned by the administrative management of hospital. However, it is a viewpoint from the negative side. Since 2014, we design a study to construct a questionnaire by qualitative and quantitative methods to measure whole person health for employees in hospital. The goal of the study is to analyze the factors of whole person health.

#### Purpose/Methods

From August 2015 to September 2016, we invited all employees (nearly 5,400) in Mackay Memorial Hospital to attend our study (after getting the approval of the IRB). Qualitative research with the phenomenological approach was to collect data from the focus groups and to analyze the texts by the content analysis

(Atlas.ti 7.0). Quantitative researches were to create the Whole Person Health Scale for Employee of Hospital-15 items (WPHS-EH-15) and to test its reliability and validity (SPSS 18.0). After making sure good enough reliability (Hotelling's T-squared distribution 4309.023, F-distribution 282.780 ( $p < 0.0001$ )) and validity (Cronbach's alpha 0.856), we kept collecting more data from the other participants for enough data to analyze factors.

#### Results

There were 900 participants (male=107, 11.9%). Using the principal component analysis, we deleted 2-items from the 15-item version and found 2 factors in the 13-item version. The two factors of whole person health were (1) maximal positive feeling and (2) minimal negative pressure.

#### Conclusions

The WPHS-EH-13 is a potentially tool to understand the health status among the employees in the health care institutes. The WPHS-EH-13 shall become a self-rating scale for self-monitor and a good tool for the institutes caring their employees.

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## Behavioral Modification of Health Staff Participating in the "Health Challenge"

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#### Introduction

Tokyo Kensei Hospital, part of the Tokyo Health Cooperative Association (THCA), joined the HPH network in 2011. The hospital is committed to the health of patients, cooperative members, and staff. We investigated health-related behaviors of hospital staff. A survey revealed that 15% smoke, 82% engage in no regular exercise, 27% eat late at night  $\geq 3$  times per week, 24% skip breakfast  $\geq 3$  times per week, 14% drank alcohol daily, and 48% are sleep-deprived. It is important to improve the health behavior of our staff.

#### Purpose/Methods

In order to improve health literacy, THCA implements the "Health Challenge" for two months (October and November) every year. The Health Challenge encourages individuals to be more aware of their own health, reconsider lifestyle, and make improvements. The challenge is designed for staff, patients, and local residents. Staff at Tokyo Kensei Hospital participated in this program. After completing the surveys from 2013 to 2015, staff individually worked to improve their own behaviors. Here, we report the results of a survey following the 2015 Health Challenge, highlighting successful behavior change.

#### Results

The questionnaire in 2015 revealed that the lifestyle modification rate was 88% (162 out of 182). Regular exercise was the most prevalent change. Initially 28% reported no exercise,

but the follow-up survey showed that 41 (22%) respondents had begun regular exercise. Some staff members reported quitting smoking and less alcohol intake.

#### Conclusions

The Health Challenge provided a chance for staff to review and improve their own lifestyles. Continued education is necessary. We developed leaders who were able to successfully implement the effort throughout the hospital. Rather than leave behavioral change up to the individual, it is vital to work together as well as alter the working environment. To further behavioral change, we will continue to participate in HPH activities and endeavor as a hospital to create an environment that fosters sustainable health improvements.

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## A Preliminary Study of Prevalence of the Metabolic Syndrome and Its Determinants among One Hospital's Staff in New Taipei City

**SU Yi-Lin, CHEN Yen-Cheng, TENG Shu-Chi, LIN Feng-Chin, CHANG Chih-Chieh, LEE Yu-Chin**

#### Introduction

The prevalence of metabolic syndrome is very high in Taiwan, around 14.8%~42.6%. Besides genes, many studies show that the causes of MS are unhealthy lifestyle. The hospital employees' working characteristics are likely to be unhealthy and stressful; they are prone to be the high risk group of MS. Workplace health promotion program, can enhance the health of employees, improve physical and mental health.

#### Purpose/Methods

The aims of this study were to investigate the prevalence and the characteristics of MS among hospital staff in Taiwan. We used a cross-sectional analysis to exam the prevalence and the characteristics of MS based on the data of routine health check-up of hospital staff in 2014-2016 which collected 431 males and 829 females. We defined body mass index, systolic and diastolic blood pressure, fasting glucose, and total cholesterol and triglyceride concentrations as the five metabolic syndrome related markers.

#### Results

17.4% males and 5.2% females were noted to have three or more metabolic syndrome related markers. The prevalence increased along with age and male gender among the staff. There was significant difference in prevalence of every mark between male and female group. The highest prevalence of related markers was total cholesterol (34.6%) among staff. The MS prevalence of staffs had the same characteristics as other studies.

#### Conclusions

In light of their critical role in patient care, the health condition of hospital employees merit continuous and serious attention. In

order to manage MS successfully, the study suggests strengthening a multidisciplinary approach to implement the preventive strategies in hospitals.

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## Session P1.17: Promoting a healthy lifestyle of hospital staff

### A Study on Health Promotion Life Style of Hospital Staff and Its Determinants

**SU Yi-Lin, CHEN Yen-Cheng, TENG Shu-Chi, LIN Feng-Chin**

#### Introduction

In light of their critical role in patient care, the health condition of hospital employees merit continuous and serious attention. Healthy lifestyle is their own control, and each person should learn how to be responsible for their own health, can reduce health care costs and improve employee productivity.

#### Purpose/Methods

The purpose of this study was to explore the health promoting lifestyle and determinants among the hospital employees. Using stratified random sampling procedures, we sampled 231 employees work in a regional teaching hospital in New Taipei city. By self-administered questionnaires using the health-promoting lifestyle profile (HPLP) and the self-rated abilities scale was conducted.

#### Results

The results indicated the following: 65.4% Consciously overweight; 74.5% experience in weight control; 53.8% eating late-night supper habits; 34.2% dinner outside every day; 75.4% not regular exercise habit; health responsibility behavior scores only moderate.

#### Conclusions

According to this study, we suggest hospital manager adopting effective strategies to change the knowledge, attitude, belief, and behavior of health promotion for hospital employees.

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## Regular yoga improves the body fat composition and physical fitness of hospital staffs who have no exercise habits



## TSAI CHIA-CHUN, YIN PIN-YI, CHANG Yu-Han, WENG Yi-Hui, WANG Yi-Ya

### Introduction

The prevalence of hyperlipidemia has raised growing significantly and hypercholesterolemia with decreased high density lipoprotein cholesterol (HDL) associated with many vascular diseases closely. Exercise can promote physical fitness and relieve stress, but hospital staffs are always busy and lack of exercise. They also have higher prevalence of hypercholesterolemia and low HDL level. Therefore, we use the vacant spaces near our hospital to promote a regular yoga exercise. We want to train exercise habits to improve body fat composition and physical fitness of our employees.

### Purpose/Methods

From September 1, 2015 to November 30, 2015, every Tuesday and Thursday night, we arranged a regular yoga exercise at Kaohsiung Ta-Tung Elementary School for 1 hours in total of 26 times. Participants were employees from Kaohsiung Municipal Ta-Tung Hospital. The number of participating is personal option. Before and after the yoga exercise, we check body fat composition and physical fitness, including total cholesterol, HDL, body flexibility, muscle strength and cardiopulmonary function, to evaluate the improvement.

### Results

Total 45, including 7 male and 38 female employees were completed all yoga classes. In all employees, body flexibility, muscle strength and cardiopulmonary function were significantly improved after yoga exercise. According to the blood examination, the HDL level was also significantly improved ( $p = 0.0052$ ), including male and female groups.

### Conclusions

Our results indicated that regular yoga exercise could improve the physical fitness and body fat composition of hospital employees. Healthy hospital staffs are the most valuable assets of patients. We suggest that hospital managers could use the environment or facility near the hospital to promote a regular exercise for staffs, especially for overweighted and obese ones.

### Comments

Healthy hospital staffs are the most valuable assets of patients. It is my great honor to share our effective experience of workplace health promotion in HPH conferences.

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## Preliminary study on the effect of cyclical intervention in hospital staffs

### HOU Jung-Ying, WANG Jian-Yu, CHEN Wei

#### Introduction

In order to promote the development of the physical fitness of the citizens and enhance the habit of exercising our hospital participates. The "Pretest - Physical Activity Intervention - Posttest" method is designed for hospital staffs with no regular exercise habit to help set goals. The physical intervention include

arranging aerobic exercise, stretching exercises, muscle strength and endurance training, etc..Post test is to confirm the effectiveness of exercise in promoting body fitness.

#### Purpose/Methods

Twenty-five participants were recruited and 36 consecutive sessions in 12-weeks time were scheduled. Participants exercised three times a week at a frequency of 60 minutes each. The course includes sports injury prevention and control, eating habits adjustment, aerobic dance, softness training, strength training, sports competition, etc., before and after exercise intervention, including BMI, muscle strength and muscle endurance, Softness, cardiopulmonary endurance, and use a pair T-test analysis to compared effect before and after the intervention.

#### Results

Twenty volunteers completed 32 consecutive classes. For twenty-three participants completed 12 weeks intervention, average age are 37.5. The pair T test analysis compared the effect of intervention ; body weight ( $p < 0.05$ ), BMI ( $p < 0.05$ ) and waist to hip circumference ( $p < 0.01$ ), and 60 seconds knees sit-ups ( $p < 0.01$ ), sitting forward bending ( $p < 0.01$ ), cardiopulmonary endurance and physical strength index ( $p < 0.01$ ). All the result were statistically significant.

#### Conclusions

After the intervention of cyclical exercise, participants in the body composition, cardiopulmonary endurance, muscle endurance and softness, etc. were measured before and after intervention showed significant difference. This result shows that cyclical exercise can improve physical fitness. In addition to the physical training, introducing the diet habitual course instruction, and team support involvement makes the program interesting and exciting.

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## Workplace Health Promotion hospital staff to enhance a healthy lifestyle behaviors and weight loss success

### LAI Chin Lien

#### Introduction

With hospital reorganization, set ways amendment process and create a healthy culture, enhance the hospital staff and their families to develop healthy lifestyle and maintain ideal body weight through obesity prevention and treatment of chronic disease prevention activities

#### Purpose/Methods

1. hospital colleagues and their families who participated in more than BMI  $\geq 24$  weight control obesity prevention activities there are 68 staff 2. The use of six months will be to improve the life patterns 3. The president and vice president of the hospital, at the Academy meeting with hospital executives advocacy healthy weight loss obesity prevention policy implementation, extended

to my colleagues in the coaching every Thursday afternoon to put National Health Department discs let colleagues looked at the screen movement exercise 4. The use of hospital hospital department meetings, hospital information, hospital electronic bulletin, web publishing and other weight-related health information 3. The president led by the vice president in the hospital organized physical fitness test, normal position emphasizes the importance of regular exercise and maintaining physical fitness of the pair, and given the competition provides incentives to encourage my colleagues to do the unit physical fitness test 5. Nutrition Division continued cooperation with the buffet outside the hospital, designed by nutritionist healthy low-calorie meal provided to the hospital colleagues lunch menu when purchasing through electronic bulletin 6. General Courses organized by the hospital healthy lifestyle behaviors obesity prevention education advocacy 7. create a hospital stairs into healthy trail and increase exercise equipment to encourage employees to exercise 8. hospital colleagues and family members hold weight control activities and set incentives

### Results

Promotion of healthy eating awareness rate of 80%, the hospital staff to develop exercise habits increase the rate of 20% The number of participating in weight control obesity prevention of nosocomial colleagues and family members in a total of 68 more than 2 kg weight loss ratio of the number of 34 participants representing 50 percent, a decrease of 2 cm waist ratio representing the number of 42 participants 61.7% Develop sport three times a week for 30 minutes or more the number of 45, the ratio accounted for 66.1% of participants

### Conclusions

Through the promotion of workplace health and create a supportive environment, increasing organizational health promotion procedures modified to encourage employees to set incentives way, let the hospital staff into the workplace health promotion of cultural continuity, to improve employee health self-importance, and thus enhance the healthy lifestyle behaviors the develop

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## Love Exercise Enjoy Health

**HSU Shu Ling, LEE Min Chen, SYU Yu Ya,  
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HUANG Li Wun, HSIAO Hsu Feng**

### Introduction

Abnormal results, indicative of chronic illnesses such as "hypertension", "excessive weight", and "musculoskeletal pain", are commonly found in physical examination of employees. Our hospital promotes this program "Love Exercise, Enjoy Health" to investigate whether the body mass index(BMI), high blood pressure, cholesterol and the softness of skeletal muscle were significantly associated with employee participation in regular exercise programs.

### Purpose/Methods

The ultimate goal is to reduce the number of people with abnormal BMI, high blood pressure and total cholesterol by 20,

5, 20, respectively and increase flexibility by 200cm and 100 cm while performing seated forward bends and lateral bends. Five strategies in the Ottawa Charter are used as a framework, including 4 major strategies implemented by our Health Promotion programs: strong team, regular exercise, the embrace of health, and the pleasure of collecting prizes as strategic planning.

### Results

In 2015, 28 regular exercise sessions were held with 2212 participants involved. The number of people with abnormal results of BMI, high blood pressure and total cholesterol before regular exercise was 117, 54 and 136, respectively; after regular exercise, 89, 49 and 114, respectively. The number of people with abnormal results that dropped back to the normal range was 28, 5 and 22, respectively. The measurement data before and after the test, seated forward bends and lateral bends, was 962 cm, 821 cm and 1311 cm, 933 cm, respectively. Their flexibility, as measured before and after the test, was increased to 349cm and 112cm.

### Conclusions

Our concentration to both employees and the public, the key to our innovation, are incorporated into work culture in the hope of making employees become healthcare guardians. To achieve such goal, learning from our regular exercise programs "Love Exercise, Enjoy Health", promoting our experience of raising the awareness of community health and enhancing their healthy life.

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## Effects of 12-week Exercise (Interval Training) Program on Workers' Health Promotion at a General Hospital

**KWON Na-Kyoung, KIM Heong-Min, KIM Hyun-Jung, BANG Ji-Hyeon**

### Introduction

Due to their job characteristics, it is difficult for healthcare professionals to exercise regularly. There are not many studies on exercise program for hospitals workers. This study investigates the effects of an in-hospital, 12 week group exercise program offered to hospital workers.

### Purpose/Methods

The program consisted of 90 minutes of interval training consisting of pilates and stretching exercises once a week for 12 weeks. It was offered to all healthcare and total of 36(34 females, 2 males) applied. The participants' body weight, percent body fat, and skeletal muscle mass were measured before and after the program. Their overall satisfaction was surveyed at the end of the program.

### Results

Out of 36 participants, 26 finished the program and were divided into two groups; those who exercised more than 6 times (Group A, n=19) and those who did not (Group B, n=7). By comparing the

results of the two groups: 1) body weight and percent body fat in more than half of the participants in Group A have decreased while there was increase in the above measurements in Group B. 2) skeletal muscle mass has increased in more than half of the participants in Group A while Group B showed a tendency to either decrease or no change. 3) All 26 participants were satisfied with the exercise program.

### Conclusions

Limitations of the study include small study population, duration and frequency of the training, and lack of analysis on nutrition and sleep. Even with such limitations, all participants were satisfied with having a in-hospital exercise program. The convenience of an in-house exercise program at a hospital can promote hospital workers' health and overall sense of well-being. These benefits can provide basis for hospital policy makers to support and maintain workplace health promoting activities.

### Comments

Keywords: Health promotion, group exercise, interval training, BMI, well-being

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## Create Nutrition-Supportive Environment for Iron-Nutritional Status Improved in Hospital Women Staff

**HSU Chiu-Ping, CHANG Huang-Yu, YU Chia-Hsin, LIN Yu-Wen, YANG Nan-Ping, LIN Ching-Feng**

### Introduction

Preventing iron deficiency has been a main target of the World Health Organization since 1992 especially focus on 19-55 years old child-bearing women. According to the third National Nutrition Examination Survey in Taiwan, the total iron deficiency rate in women was 12.9% and the childbearing age was the main target group and the dietary iron-intake of premenopausal women was 76.7% which was below dietary reference intakes. Women's labor force Participation has raised from 46.02% to 50%, health promotion in the Workplace in women as the goal of women 's labor force policy in Taiwan.

### Purpose/Methods

A Nutrition-Supportive Environment of iron improvement strategy was conducted for premenopausal staff in Keelung Hospital by using supportive system and establishing personnel skill. There were 4 program in this strategy during 14 months included six entity courses studied in the first 4 months, learned in network station, handbook used by self, rich-iron meals provided. Questionnaire of knowledge and daily iron intake were also investigated before, after 4 month and after 14 month of strategy creation. Data was analyzed using the SPSS version 20. Outcomes were combined using the one-way ANOVA and tukey test method.

### Results

Total 67 premenopausal staff had finished questionnaire of knowledge and daily iron intake during 14 months. The score of knowledge questionnaire was increased significantly from 69.9±1.8 to 96.9±1.9 compare with before and after Nutrition-Supportive Environment strategy creation. The daily iron intake was increased significantly from 9.0±0.8mg to 18.3±1.6mg compare with before and after 4 months intervention, but no significant difference between before and after Nutrition-Supportive Environment strategy creation.

### Conclusions

This Nutrition-Supportive Environment creation of iron improvement strategy improves knowledge and daily iron intake of subject's staff and may be to prevent iron deficiency among premenopausal staff in healthcare workplace.

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## To create a healthy food supply environment - Online credit card ordering management platform

**TSAI Hsiao-Jung, LIN Shu-Chi, CHEN Jiyuen-Tieng, TSAI Chia-Lun, CHAO Tzu-Ching, HUANG Hui-Ting, CHUO Ying-Hsiang**

### Introduction

The newest indicator from WHO shows that non-infectious diseases, as known as chronic diseases, can affect global economy and social development. Objectives of the National White Paper on nutrition and health policy clearly pointed out that healthy diet and physical activity are important strategies for maintaining a healthy lifestyle. In order to reduce the manpower in answering the phone, paper work, delivery, and the most importantly, the time for closing the accounts and the space for storage, we established a new on-line meal ordering management platform for all departments and employees to complete their meal ordering directly online.

### Purpose/Methods

The Department of Nutrition list prices and photos of meals including VIP meal, meeting meal, fruit and dessert plate, lunch box, rice, brown rice, salad, noodle and sweet soup on the on-line meal ordering platform to let customers order on-line. The on-line meal ordering platform can also save energy and reduce carbon footprint, which links to the salary system when the purchasing has been made it will charge from staffs' salary account directly. Meanwhile, users can click "query function" if there is any question.

### Results

The scores of the Satisfaction Survey of the on-line meal ordering platform gradually improved in the past three surveys, the ordering platform was scored by employees and departments with 79,89,91 and 95,95,100 respectively. Compared to previous old telephone ordering, we received orders five times more by

implementing on-line ordering, while at the same time, saved 1.5 hours of closing the accounts.

### Conclusions

The on-line meal ordering platform is highly praised and appreciated by customers and also increases the revenue of the Department of Nutrition. Most importantly, the healthy diet, which is elaborately designed by us, has fully created a healthy food and beverage supply environment and successfully implemented and delivered the basic concept of diet education and preventive medicine.

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## Experience Sharing in Healthy Eating Promotion in NTUH

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### Introduction

Hospital is a busy and heavy-load working environment. Medical staffs have no spare time to prepare healthy foods by themselves. Individual health behaviors (poor diet pattern) contribute significantly to chronic disease outcomes and bad performance. Worksites provide a venue to protect occupational safety and health interventions through worksite health promotion. Healthier eating pattern, better health status and work performance. Therefore, since 2012, we create a healthier eating environment at worksite for employees.

### Purpose/Methods

To improve employees' health and choosing opportunities for healthy foods, dietetics department and catering stores in hospital cafeteria offer varieties of healthy meal boxes from 2012. According to dietary guidelines recommended by the Ministry of Health and Welfare, three energy levels of balance meal (400, 600 and 750 Kcal) are provided by Dietetic Department during weekday. Dietitians help catering stores to design healthy meal for sales in cafeteria. Meal satisfaction questionnaire and sale quantity were used to assess customer's acceptability.

### Results

From 2012 to 2014, sales of healthy meal at food court provided by Dietetic Department increased from 29317 to 62669 boxes per year. Average meal satisfaction score was 4.3 (total score=5.0). From 2013 to 2015, a total of 39 catering stores were instructed by hospital dietitians. 434071 meals were served during this period. The highest sales of healthy meal from catering stores reached 303,350 meals per year.

### Conclusions

From the growth in sale and satisfaction of healthy meal boxes, we discovered that staffs were beginning to appreciate and choose the healthy diet, and we will continue to offer related food services to promote employees' health and job performance

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## Apply the Strategy of Light Meal DIY to Reduce the Habit of Regular Out-Eat Health Care Providers in Changhua Christian Hospital

**HUANG Pei-Ju, CHEN Pei-Jyun, NIEN Yu-Ting, CHEN Li-Ya, TASI Yi-Fang, SUN Hung-Yu**

### Introduction

The metabolic syndrome prevalence was increasing in health care providers in Changhua Christian Hospital, Taiwan. The most important cause of metabolic syndrome are diet behavior and habit. According to the questionnaires investigation about personnel health behavior and management in 2016, ratio of regular eat-outer occupies 31.5% in Changhua Christian Hospital. We applied the strategy of "Going to eat light-meal DIY activity" on out-eat personnel to realize the importance of balanced diet and reduce eat-out ratio.

### Purpose/Methods

"Going to eat light-meal DIY activity" were held 4 courses from Jun. 2016 to Oct. 2016, there was total 128 eat-out personnel participated during these periods. The calories of menu were calculated by dietitians and the food ingredients were prepared according to the "principle of health purchase" set by Health Promotion Administration, Ministry of Health and Welfare, Taiwan. Participants' body weight was measured before course, and was recorded into "officer body weight registration system" by QR code. The contents of course included making light-meal DIY, choosing healthy eat-out food, promoting light-meal DIY abilities and enhancing the knowledge of healthy weight loss by articles sent to e-mail monthly.

### Results

There were 128 eat-out personnel participants received questionnaires survey before and after "Going to eat light-meal DIY activity". T-test statistical analysis was used to compared score before and after course, the score was increased 17.8 ( $p < 0.001$ ). Enhanced knowledge of light-meal DIY has significant improved. Besides, the satisfaction of course was up to 99%.

### Conclusions

The strategy of "Going to eat light-meal DIY activity" were carried out restricted 500kcal per light-meal through dietitian calculation and promote the staff's homemade breakfast desire during course. After 4 courses, regular out-eaters were reduced from 100 to 50 participants, the effectiveness was high up to 50%.

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## Let's Practice Low Sodium Diet For Health.

**PARK Sukwon, LEE Kiheon, CHOI Iksoon**

### Introduction

According to the National Health and Nutrition Survey conducted in 2012, the average sodium intake of Korean people was 4.583 mg, which was 2.4 times higher than the WHO recommended level. High sodium intake is known to be a risk factor of chronic diseases such as hypertension and cardiovascular disease, therefore, reduction of sodium intake is necessary.

### Purpose/Methods

In January, We conducted a survey on the sodium content of staff cafeteria. The average sodium content of one meal was 3157 mg, 1.6 times higher than the WHO recommended level. The hospital then organized a task force team that included a nutritionist, nurse, cafeteria manager, promotion manager. A campaign was planned to promote a low sodium diet.

### Results

To reduce the intake of sodium, Korean-style corner of staff cafeteria was provided with a low- sodium soup and side dishes. Once a week, a 'fresh day' was designated to offer fruit and salad instead of soup. In addition, a health-corner that provided low calorie, low salt diet (<2g) was created in the staff cafeteria for staff members that desired a healthier meal. To introduce the need for low sodium diet, a banner was set up at the entrance of the staff cafeteria and the employees of Seoul National University Bundang Hospital(SNUBH) were asked of their amount of salt preferences. Also, The nutritionist trained the chef in the cafeteria for low sodium cooking.

### Conclusions

In April, the sodium content was measured again. The average sodium content of diet was 2750 mg, which was lower than that before the campaign. Therefore, Health Promoting Hospitals should continue to reduce average sodium intake to the KFDA(Korea Food & Drug Administration) target levels of 3900 mg/day.

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## The Effects of Workplace Obesity Prevention Program

**TSAI Chun-Chi, LIN Ching-Cheng, CHUNG Ming-Ku**

### Introduction

Hospital is a high-pressure workplace, due to work in shifts, it's not easy to maintain a healthy lifestyle. In recent years, the health examination results show the employees obesity (BMI> 24) ratio of nearly one-third, and obesity cause low efficiency and induced mental problems. In order to effective the employee to

lose weights, the employer to provide health promotion program.

### Purpose/Methods

The hospital occupational health nurses screening BMI(Body Mass Index)≥4 employees, and inform whom to participate the obesity prevention program. Employers provide pedometers to encourage employees to climb stairs and walk more. Create aerobic exercise and design nutrition education training courses, keep strengthen loss-weight awareness. Employers also provide rewards to encourage employees exercise.

### Results

It was implemented from July to November 2015 of 89 employees completed the program. The average of body weight decreased from 70.72 kg to 69.63 kg, it statistically significant differences (t=6.36,P<0.001). The BMI decreased from 27.28 to 26.86, it statistically significant differences (t=5.92, P<0.001). The average of body fat decreased from 33.78 to 32.98, it statistically significant differences (t=3.36, P<0.005).

### Conclusions

The weight-loss program achieved a significant effect for the 89 employees who completed all exercise, it still 83 employees did not participate in the program(total 172 employees with BMI≥4). Further the employer would provide exercise program to increase employees' participation and induce their motivation, also create a healthy workplace environment to encourage employee keep good exercise habits and correct healthy diet, expect it achieves effects of live health and prevent diseases.

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## The experience of obesity intervention for employees through lifestyle intervention and exercise

**PARK Jungsun, KIM Hanna, HAN Seokhee, NAH Eunhee, HYUNG Kiboung, CHAI Jong-Yil**

### Introduction

Over the last decade, the prevalence of obesity has risen in Korea. As obesity is an important risk factor for a number of cardiometabolic diseases, its increasing prevalence provokes substantial health and economic burden not only to society but also companies by generating costs for nonproductive time and medical treatment. Thus, it is necessary to introduce obesity intervention program for employees in workplace.

### Purpose/Methods

The purpose of this program is contributed to health promotion by improving blood test levels and preventing obesity of employees of Korea Association of Health Promotion. Employees who meet two or more of the three criteria of BMI, body fat percentage and waist circumference was chosen and volunteers who want to be managed even if they don't meet the criteria. The program did 6 months during the period they talk over face-



to-face with dietitian once a month and provided jump rope and latex band for exercising. Blood tests and surveys of lifestyle were conducted before and after the intervention.

### Results

After the program 33 (50.0%) of 66 male around the waist over 90cm and 11 (61.1%) of 18 female who were above 85cm showed a change. The percentage of body fat that has higher than 25% in male was 69 and over 33% in female was 46. In male 13 (18.8%) and 7 female (15.2%) get improved. In BMI, 17 of the 140(12.1%) who had more than 25kg/m<sup>2</sup> had gotten better. In the survey, the question of "Do you have regular diet?" was answered from 28.6% to 32.5% after intervention. The total employees participated was 194, in these people who has lost weight over 6kg, reduce waist 7cm and lost body fat higher than 3% were 4 people(2.1%). Relaxed criteria that lost weight 2kg, reduced waist 3cm and lost body fat 2% were 15(7.7%).

### Conclusions

Obesity intervention programs, which include continuous exercise, organized nutrition consult and training, seem to be effective in reducing employees' obesity in workplace.

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## Workplace health promotion: Experiences of Weight Control Class for Employees

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LIN Yi-Bei, CHEN Wan-Chin**

### Introduction

Based on the abnormal items follow-up of staffs' health examination from 2013 to 2015, overweight ranked first. After three years of self-weight-control activities, the ineffective weight-reduction outcome was found. Therefore, our health promotion center implement the weight control classes to improve the weight-reduction outcome and provide employees the correct concepts of weight control.

### Purpose/Methods

The inclusion criteria of the four-month weight control class was the staffs whose BMI exceeds 25kg/m<sup>2</sup>. 34 staffs were involved. The course designed by psychologist provides the motivation and ideation of weight reduction. It taught them how to enhance the willpower and set the strategies to deal with the temptations. The skills of cultivating healthy habits and adjusting the distress were provided. We gave the aerobic exercise class and opened an instant messaging group to provide counseling and create a supportive environment. Statistical analyses used SPSS 12.0. P<0.05 was defined as statistically significant.

### Results

The result showed that 33 of 34 staffs decreased body weight. The total weight loss was 120 Kg, an average weight loss of 3.5 kg per person, increased 5 times compared with 0.66 Kg last year. The average BMI decreased from 27.3 to 24.6. The average waist circumference decreased from 85cm to 78.4cm. The satisfaction survey showed that 88.2% of the members had improved health

status, 100% had improved emotional status, and 94% had improved interpersonal relationship. The before and after health knowledge test score were analyzed by t test and showed that the score increased 12.9 points (P<0.001).

### Conclusions

Group weight control class for overweight staffs showed better outcome than self-control and individual competition before. The intervention also improved the health literacy of weight reduction. Therefore, our staffs could implement persisted health behaviors in their daily life. Group weight control class is an effective strategy for workplace health promotion.

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## The Effectiveness of Self-regulation Weight Control among the Health Promoting Hospital Employees

**CHUNG Yong-Chuan, JIAN Shu-Yuan,  
WANG Yi-Chin, CHANG Je-Mich**

### Introduction

The overweight and obesity ratio of adults in Taiwan has been the highest in Asia. Eight of the top ten causes of death are related to obesity. According to the health investigation from the Ministry of Health and Welfare of Taiwan, the prevalence of overweight and obesity of the employees had increased from 34.3% to 38.0% from 2010 through 2014. Therefore, the employees' weight management is important in workplace.

### Purpose/Methods

This program is based on self-regulation theory in order to reduce weight in the workplace staffs in the community hospital of southern Taiwan. Forty employees participated a three-month weight control program, which included four steps. Step 1, body composition analysis, step 2, individual body composition commentary and health education, step 3, self-recording daily exercises and self-monitoring weight change, and step 4, performance bonus.

### Results

56% employees participated in this program, 9 males and 31 females. The average age is 33.6±8.6. After three months of self-regulation weight program. The result showed the weight (mean difference, -1.96Kg, p<.001), body fat mass (mean difference, -1.60Kg, p<.001), percentage of body fat (mean difference, -1.37%, p<.001), visceral fat area (mean difference, -6.38 cm<sup>2</sup>, p=.001), body mass index (mean difference, -0.76, p<.001), and waist-hip ratio (mean difference, -0.01, p=.01).

### Conclusions

It has positive effects on controlling employees' weight by the way of self-regulation. This method is economical, practical and acceptable. It should be promoted in the workplace

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## Effectiveness of a multidisciplinary Weight-Loss Program for Overweight and Obesity Adults in Medical Center

**CHEN Nai-Chia, KUO Yueh-Hsia, HSIAO Ching-Ju, CHENG Chin-Pao, CHEN Hui-Chuen**

### Introduction

2013~2014 Nutrition and Health Survey in Taiwan indicated that the prevalence of overweight and obesity for adult is 43%. Compared to data from 2015 World Obesity Federation, percentage of overweight and obesity among Taiwanese adults is the highest among Asia countries. Obesity is a major risk factor of chronic diseases. Therefore, an interdisciplinary-weight-loss program combining dietitians, physicians, psychiatrist, and gymnastics teachers was set up to promote people's health in National Taiwan University Hospital since 1994.

### Purpose/Methods

32 adults with body mass index (BMI)  $\geq 24$  kg/m<sup>2</sup> were recruited in 2016. This is a 2-month multidisciplinary weight-control program. At the first month, nutritional education and aerobic exercise classes were instructed every Tuesday and Friday. Simultaneously, low-calorie lunchboxes and group discussions with dietitians were provided. In the second month, subjects only participated in aerobics exercise classes thrice a week.

### Results

A total of 22 participants, 5 male and 17 female, were analyzed. The mean age was 40.7 $\pm$ 14.8 years old, and BMI was 31.7 $\pm$ 4.2 kg/m<sup>2</sup>. At the end of program, total weight loss was 112.6kg for all participants (mean=5.1 $\pm$ 2.6 kg). Percent of participants with obesity were reduced from 95.7% to 72.7%. Compared with the beginning of program, BMI (n=22, 31.7 $\pm$ 4.2 kg/m<sup>2</sup> vs 29.7 $\pm$ 4.2 kg/m<sup>2</sup>, p <0.001) and body fat mass (n=19, 32.3 $\pm$ 7.8kg vs 28.1 $\pm$ 7.6kg, p <0.001) were significantly decreased.

### Conclusions

In summary, combination of lifestyle modification and enhancement of nutrition-related knowledge was the basic foundation for health promoting and weight-control. Through improvement of nutrition-related knowledge, participants were able to choose safe and effective ways to control weight by themselves. Eating healthy and exercising regularly could not only build a healthy body, but also improve the quality of life in the future.

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## Evaluation of the effectiveness of the weight loss health promotion

**SUN Pei-Lei, CHENG Jin-Shiung**

### Introduction

Overweight is a serious health issue worldwide. It causes chronic cardiovascular disease, diabetes mellitus, and obese. Therefore, weight loss can not only enhance personnel life quality, but also can reduce the occurrence of illness and medical expenses.

### Purpose/Methods

Hospital promotes employee weight loss program annually. The employee whose BMI was over or equal to 22 in 2016 and 27th, March to 30th, April in 2016 was welcomed to participate. The evaluation was done before 31 th, October current year. In order to create a positive health promotion environment, during the event, there were many activities were hold, such as, exercise walking, aerobic exercise twice a week, health slogan competition, health diet lecture, and money award.

### Results

There were 137 employees arrange In 2016 including 132 female (96%), 5 male (4%).The average age was 38.71 years old (21-63). The average weight before and after was 68.86kg/66.35kg (2.51kg weight loss). The average BMI before and after was 27.03/26.59(-0.44 ).Total body weight loss is 133.6 KG in this whole program.

### Conclusions

Making exercise and individual health into the personal lifestyle, and creating a high-quality health promotion ambience are necessary conditions for motivating employee.To build a healthy lifestyle is including keep normal daily routine, regular exercise, diet control, and weight control. This is the important and necessary goal to hospital and employee.

### Comments

Arrange health promotion activities can motivate employees to participate, relieve nervous, stress, and depressed mood. We suggest the medical institution should emphasis and continue to conduct the relevant activities to advance the health of employees.

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## Session P1.18: Workplace health promotion

### Healthy Lively and Happy Employees

**CHEN Hui-Tzu, LIN Hsiu-Mei, LEE Shu-Chen, HUANG Wei-Hsin, HWANG Lee-Ching**

### Introduction

With the vision of "Employees as a family" in mind, we have been devoted to establishing a healthy workplace by holding various wellness programs. In light of the particularity of medical caring work, a variety of incentive schemes have been designed to encourage the staff members to participate in outdoor activities, thereby built healthy lifestyles, improved relationships, and stimulated interests in doing exercises, leading to healthy workplace establishment.

**Purpose/Methods**

Through various activities and incentives planning, this program aimed to motivate employees to participate in outdoor activities, develop regular healthy habits, thereby prevent diseases in advance, strengthen health, and establish a healthy and friendly workplace. Methods During Mar to Sep, 2016, a limit of 25 groups, distributed by department characteristics, were open for application in holding outdoor activities, e.g. hiking, jogging, and biking, etc. Meal vouchers were rewarded upon receiving activity reports.

**Results**

1.Groups: Nursing (10 groups), Medical Technology (5 groups), Administration (4 groups), Medical Care (3 groups), totaling 276 participants. 2.Types of Activities: Mostly walking, field trips and hiking, followed by jogging and biking. 3.Wellness Program Participation: In 2016, statistics shown upward trends in participation rate, comparing to 2015, especially in Nursing and Medical Care departments, with growth rate ( participation rate) of 12% (33%) and 7% (10%), respectively.

**Conclusions**

Through varieties of activity designs, this program achieved a satisfaction rate of 91%. The participating employees considered it helped relieve stress from daily life and increased cohesion within groups. However, the issue of application limits needs to be addressed in the future. We'll keep developing wellness programs to stimulate employees' action for wellness and create atmosphere for wellness promotion, so to establish a happy and friendly workplace and eventually fulfill the vision of 'Employees as a family.'

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## The health of employees is the company's most valuable asset – Enhance staff influenza vaccination rates

### CHENG Su-Fen, HUNG Jui-Lan, WU Jin-Feng, HUANG Meei-Jyhi, CHENG Jin-Shiung

**Introduction**

The best way to prevent influenza is to inoculate inactive vaccines, which can achieve 70-90% protection. Because antibodies to inactive vaccines will decline significantly after one year, and the annual prevalence of the virus may be different, must be vaccinated once a year. So the influenza vaccination program is still the first line of defense to reduce the incidence of influenza. China's Ministry of Health and Welfare Department of the disease-driven influenza vaccine program is to all medical institutions of health care personnel into the influenza vaccination of the object. In line with the implementation of national policy, the hospital has implemented influenza vaccination in the epidemic period in autumn. The ratio between previous years is between 75% and 78%. In 2013, all the staff will be 2986, but allergy to vaccine ingredients will be deducted. There are special reaction staff 221 people, it should be injected

for 2765 employees, but the actual injection of 2124 people, only 76.8%. So the reference 2010-2011 the US medical staff injection rate of 78.9%, and Taiwan's hospital evaluation and infection control activities, require hospital medical care staff influenza vaccine injection rate of at least 80% or more, therefore, to enhance our staff Influenza vaccination rates are a priority.

**Purpose/Methods**

Purpose:In order to reduce the exposure of patients to medical staff, to avoid affecting the treatment of patients' diseases and to reduce the chance of health care workers suffering from virus infection, and to improve the quality of medical treatment, we set up to improve staff influenza vaccination rate target of 80%. Methods:The QCC method was used to establish the quality improvement group. The staff questionnaire and the 80/20 rule of Plato chart were used to analyze the main reasons for the injection rate: the time of application was not matched, the staff was short of flu vaccine, Time-of-use prompts, followed by brainstorming to develop a nuclear-style improvement program: Facilitate the use of time-of-use programs: proactively schedule and prolong the duration of the application; Raise staff awareness of influenza vaccines : To provide flu vaccination entities and digital learning courses, and to provide influenza vaccination Q & A, for staff self-inspection; to improve waiting time for injection: mobile injection service home, and to replace the signature card to sign up to complete the injection can participate in sweepstakes ; set the prompt strategy, including e-mail prompts, posters sign posters posted posters,daily radio hints in the hospital.

**Results**

In 2014 year, intervention measures during the implementation of all the number of employees 3047 people, excluding 249 people allergic to the vaccine component or had a special reaction, it should be injected for the 2798 people. Intervention measures, the number of staff influenza vaccination for 2246 people, injection rate of 80.3%, beyond the default target.

**Conclusions**

Health care providers may become a potential medium for hospital influenza transmission, so by improving the hospital staff influenza vaccine injection rate, reducing the exposure of patients through health care workers exposed to the chance of infection, to avoid affecting the treatment of the disease. Healthcare professionals have the potential to be exposed to the risk of occupational exposure to influenza and associated illnesses. By increasing the rate of influenza vaccine injections for hospital staff, it is possible to reduce the chances of health care workers being exposed to the virus during their care, health. Healthy staff assets, to avoid sick leave by the human and material resources of the additional expenditure, but also to avoid the occurrence of cluster infection, to provide patients with good quality medical treatment. Therefore, to improve the hospital staff influenza vaccine injection ratio for the prevention of an outbreak is an important implementation policy.

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## Establishing health promotion hospital – Seasonal influenza vaccination coverage by health care workers in Ping-tung Christian hospital

**LIM Soojin, KAO Cheng-Chih, CHEN Li-Hsiang**

### Introduction

In Taiwan, the aim of including HCWs into the plan is to protect them from influenza, to prevent further transmitting the disease to the patient and other HCWs, and to maintain the provision of health care during the flu seasons. Though the seasonal influenza vaccination for HCWs had been free, the vaccination coverage in Ping Tung Christian Hospital (PTCH) had been 65-70%.

### Purpose/Methods

The goal was to investigate coverage of seasonal influenza vaccination of HCWs, further understand the reason HCWs getting or not getting the vaccination. In 2016, seasonal influenza vaccination started on 10/1. We designed a survey on seasonal influenza vaccination for HCWs of Ping-tung Christian hospital, from 14/11/2016 to 22/11/2016.

### Results

During 14/11/2016 to 22/11/2016, among 397 participants, 336 had influenza vaccination in 2016. There were significant relationships between vaccination in 2016 with the occupation groups, considering as either obligation or responsibility, past influenza vaccination, considering as efficient, and considering vaccination as protection from seasonal influenza. There was no significant relationship in influenza vaccination in 2016 and experienced adverse effect.

### Conclusions

Though influenza vaccination coverage of PTCH had been 65-70%, it was compatible with the result of the investigation in the US but higher than that of Europe. It was questionable whether HCWs are aware of the policy and its aim of seasonal influenza vaccination provided by the government. It has been controversial whether seasonal influenza vaccination of HCWs should be mandatory. Though mandatory vaccination may improve patient's mortality and protection, but there are complex pros and cons of the mandatory vaccination. In our study, among the reason HCWs had not been vaccinated, the cold was listed as the most, but we were not able to trace whether they had vaccination after full recovery. Since this investigation was done in one hospital, it did not represent the current situation of Taiwan.

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## Effects of a biofeedback trainer on spinal posture in computer users with neck pain

**WANG Pei-San, TSAI Yi-Ju, WU Yi-Fan, AO Hoi-Wa, KUO Yi-Liang**

### Introduction

Neck pain is an annoying symptom among computer users. Maintaining an ideal spinal posture is beneficial for reducing neck pain. LumoLift, a novel biofeedback trainer that can provide vibration feedback once a slouch posture is detected, is believed to be effective for maintaining a proper sitting posture during desk work. However, whether it is helpful to reduce neck pain associated with prolonged typing is still unknown.

### Purpose/Methods

Six computer users with neck pain (mean age: 24 years) were recruited to examine the effects of the LumoLift on spinal posture during prolonged typing. Spinal posture was measured using the VICON motion analysis system while performing a 1-hr typing task under two conditions, with and without the biofeedback trainer. Repeated measure ANOVAs were used to assess the differences in spinal posture between two conditions at three time points (the 5th, 30th and 60th minute). Post hoc comparisons were conducted if indicated.

### Results

The upper cervical extension angles were significantly smaller throughout the task when using the trainer than not using it ( $p < 0.05$ ). With the trainer, greater total cervical flexion angles were found at the 30th ( $p = 0.044$ ) and 60th minute ( $p = 0.018$ ), and shorter horizontal displacement of head to the thoracic spine was found at the 60th minute ( $p = 0.024$ ). Without the trainer, the spinal posture remained unchanged throughout the task ( $p > 0.05$ ).

### Conclusions

The biofeedback trainer could help maintain a more chin-in and less forward head posture in computer users with neck pain during prolonged typing. The effects of the biofeedback trainer might magnify after a longer period when postural awareness declines or fatigue of postural muscles occurs. In contrast, the posture remained unchanged or got worse without the trainer. This preliminary study supports the use of the LumoLift on improving poor sitting posture in computer users with neck pain.

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## Workplace health promotion

**HONG Sue-Mei, YANG Yu-Ying**

### Introduction

The workplace where we work every day also deeply affects our health whether it is the body or the mind as important. Since it is so important what the company should do which direction in order to achieve the purpose and effectiveness of workplace health promotion. The World Health Organization has so explained in the Charter for Health Promotion: Health promotion is a process, through this process people are able to control their health determinants and thereby improve their health.

**Purpose/Methods**

Workplace health promotion implementation method 1.Regular health checks items include height、 weight, cholesterol liver B liver C and so on 2.Quit smoking and smoke-free environment encourage smoking cessation to create a smoke-free environment. 3.Weight control, promote weight loss programs 4.Pressure adjustment let the pressure have to vent or talk to the pipeline appropriate pressure to extract. 5.Workplace environmental safety attention.

**Results**

Because there are regular health checks can be early detection of their own health status early treatment to avoid deterioration to the stage of incurable. Because there is an appropriate pressure to extract staff it will not produce some physiological or pathological stress such as depression.Because of the workplace environmental safety attention can reduce the incidence of occupational injuries and death benefits. As it encourages smoking cessation and promotes a smoke-free environment can reduce the staff smoking second-hand smoke but also can reduce the cigarette butt and cause unnecessary fires.

**Conclusions**

It is important to promote workplace health promotion it can reduce the absence of staff due to various conditions employees do not absence to improve relative productivity and then reduce the unnecessary expenses of enterprises.Regular health checks can also prevent employee health abnormalities to reduce the incidence of disease reduce the cost of human resources finally can improve staff morale to achieve a win-win situation with the staff.

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## Create A Friendly Workplace by Shaping Health Promotion Climate

### HUANG Hui-Ru, CHUNG Ming-Ku, TSAI Chun-Chi

**Introduction**

Hospitals is a working environment of high pressures. Medical workers usually have to face pressures imposed by patients and their families and working for a long time, Such environment is apt to result in personal overwork concerns, All these are prone to result in the occurrence of diseases.Primarily aims at constructing a health promotion culture in workplace,to improve conditions of pressure loads and develop healthy living habits.

**Purpose/Methods**

Physiological level: To hold outdoor activities, organize sporting clubs and formulate and protection plans of overwork prevention. Psychological level: To hold courses of healing pressure-relief and organize art and literature clubs. Social level: To hold relevant parent-child outdoor activities.

**Results**

Have conducted 6 physical jogging activities and 1 Dragon-Boat Club to take part in a dragon-boat race, 26 courses of healing pressure-relief (pot planting and work of wool felt) (over 400

persons, the average relaxation evaluation after class was reduced by 2.35%), 5 yoga relaxation courses (over 150 persons, the average relaxation evaluation after class was reduced by 3.45%), 1 parent-child Lohas activity (452 persons took part in the activity and the degree of satisfaction was up to 85.6%), 1 parent-child beach-cleaning activity (120 persons, 91.4% of satisfaction).

**Conclusions**

In future, we will set up similar handcraft courses to get more staff involved in,relieve spirit and promote health. Achievements of beach-cleaning activities are positive for public benefits. It could enable children to understand the importance of environmental protection and ecological maintenance.it is a good activity of health promotion that ranges from the psychological part to the physiological part. At present,Employees usually bear enormous psychological pressures which might influence selections of diet and wills of sports. Therefore, the motivation of health promotion will attach more importance to intervention measures from the psychological level.

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## Establish a Best Quality Workplace to Improve the Turnover Rate of Nursing Staff

**BAO CHEN Chen****Introduction**

Understanding of working stress and need of nursing staff,and also the increase trend of turnover rate.According to Professor Kaplan and Norton of Harvard presented the Balanced Scorecard based on the study results of innovative performance measurement system in 1922. Including innovation and learning,Customer structure,internal business and financial aspects.

**Purpose/Methods**

This study is a descriptive study, the study period is 9 months,the object is including all the nursing staffs of Pingtung Cristian Hospital,the improvement methods are referred to the theory of Balanced Scorecard.1.Innovation and learning: education and training programs are designed according to the core values of the hospital,training professional and management personnel,and create a learning culture organization,improve staffs' self-confidence.2.Customer:To provide good workplace facilities and establish staffs' health management processes to reduce fatigue,and through effective communication channels and care strategies to solve the clinical problems of nursing staffs.3.Internal Business:To construct the standard of nursing care,to simplify the work process to reduce the workload of nursing staff and to promote comprehensive quality management, and then achieve patient safety goals.4.Financial: the effective management of nursing manpower and materials,and the establishment of work convenience, accessibility and effectiveness, in order to enhance the work efficiency.



**Results**

It shows remarkable results, the turnover rate of nursing staff is improving from 15.06% in 2014 to 13.75% in 2015 and 6.19% from January to September in 2016.

**Conclusions**

Through health promotion and effective management and leadership, to increase the trust, sense of security and sense of belonging in the workplace, thereby enhancing self-esteem and sense of accomplishment, and finally to achieve health promotion goals.

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## Study on Teaching Style of Clinical Teachers and Learning Outcome of New Employees

**CHEN Ching Hsin, HO Tai Cheng, LIAO Chiao Chu**

**Introduction**

Teaching style affects the willingness of students to learn, and students' willingness to learn influences their learning outcome.

**Purpose/Methods**

Exploration into the teaching style of clinical teachers and learning outcome of new employees. Data were collected in structured questionnaire. This study included 171 subjects, including clinical nursing teachers and new employees. Verification was conducted by using One-Way ANOVA.

**Results**

1. Different teaching styles produce significant differences ( $p < 0.05$ ) in new employees' learning outcome of integrated care, handling of situations and quality assurance management. 2. The students' learning outcome of integrated care and quality assurance management has statistically significant differences ( $p < 0.05$ ) in expert, authoritative and facilitating teaching styles. 3. The students' learning outcome of ability to handle situations has statistically significant differences ( $p < 0.05$ ) in expert and facilitating teaching styles.

**Conclusions**

Clinical nursing teachers' understanding of their own teaching styles will enhance the learning outcome of new employees. The findings of this study can be used by clinical nursing teachers to self-assess their teaching styles so that the clinical nursing teachers' teaching styles can be understood in advance. Hence, in the design of teacher training courses, diverse teaching techniques can be added to hone the nursing capacity of new employees.

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## Improve the completion of medical staffs' handover for post-surgical patients of SICU by means of Time out method.

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**Introduction**

According to 2014 TPR's statistics report, the fourth place of the incidents-reporting was miscommunication. Among the numerous communicating problems, insufficient of communication is the key factor of the problems. If analysis further, surgical related issues took second place of the miscommunication incidents. It is a large numbers of information for post-surgical handover in our SICU and there is always some omissions or differences. The project is aims to lower s the incidents to ensure the safety of patients.

**Purpose/Methods**

Therefore there are few steps to be taken: 1. To coordinate the current handover 2. The medical team work together to formulate handover process, details, and to utilized the Time out method same as OR for post-surgery handover. When patients transfer to ICU, the attending physician shall escort the patients and check the attention list together with the primary caregiver, or complete the "handover record form of post-surgery care for SICU" by the surgical doctor before the surgery.

**Results**

The completion rate of handover in general surgery and neurosurgery will raised from 52.2% up to 92.3% from November 2015 to February 2016.

**Conclusions**

The relevant form designed to meet the work requirements of Medical staff, and after a check to enhance the health care team communication and cooperation sharp, more complete shift to improve the rate of complete

**Comments**

The effective of communication and cooperative relationship of medical team will be highly promoted through the design of structural forms and employment of Time out method same as OR for the post-surgical handover of SICU. This method can also be propagated to other ICUs to secure the safety of the patients.

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## Resilience Plus

**COSTELLOE Kate, WILSON O'RAGHALLAIGH Jennifer, LYNCH Barbara**

**Introduction**

Resilience Plus is an innovative, evidence-based and dynamic programme developed to support staff health and well being and

to enhance a safety culture. It aims to put the human factor at the heart of our practice. Following a learning needs analysis and informed by the clinical experience of mental health professionals supporting staff and patients within the hospital, this intervention was designed to enable employees of a large acute teaching hospital to access leading edge self care and wellbeing strategies. It was designed, piloted, implemented and evaluated at Beaumont Hospital, Ireland.

#### Purpose/Methods

Resilience Plus includes a combination of direct learning, peer support meetings and home practice. Improvements in general health, emotional intelligence and resilience in healthcare professionals working directly with patients is documented in the literature to benefit patient care. Anonymised pre and post quantitative measures included the General Health Questionnaire (GHO - 12) (Goldberg & Williams 1970), Schutte Self-Report Emotional Intelligence Test (SSEIT) (Schutte, 1998) and Schutte Self-Report Emotional Intelligence Test (SSEIT) (Schutte, 1998).

#### Results

Both qualitative and quantitative data has been collected on participants of the programme (90). Quantitative data analysis has yielded statistically significant results on a range of measures including general health, wellbeing, and all four subscales of emotional intelligence including emotion perception, utilising emotions, managing self-relevant emotions and managing others emotions. Data from total resilience scores is trending positive, with further analysis of specific questions yielding relevant information about participants' learning. One participant described the course as 'life-changing'

#### Conclusions

By promoting health and wellbeing for staff Resilience Plus targets prevention rather than crisis. It is based on the concept of "whole person connectedness", personal health and wellbeing for improved performance and safety,

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## An Evaluation of Integrative Workplace Health Promotion (WHP) Approach: A Case Study of a Regional Hospital in Taiwan.

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#### Introduction

Effects of low nurse staffing in hospitals are one of the causes contributing to 98,000 preventable deaths each year in the US. By contrast, the US and European regulation of nurse to patient ratio are under 1:6, and Taiwan had reached 1:9 on the first quarter of the year 2016. Occupational burnout and overwork issues need immediate attention. Integrative WHM approach emphasized participatory needs based problem-solving cycle with employers and employees engagements.

#### Purpose/Methods

Need assessment survey was conducted on 2011 showed significant demands on relaxation and leisure facilities (67.5%), better communication between employers and employees (43.8%) and increase resources for on-site physical activity (43.8%). Based on the results, health promotion program coordinating committee prioritizes the needs and developed action plans. The study aimed to evaluate the implemented action plans and to assess its process and outcome.

#### Results

Since 2013, hospital involved in creating a supportive environment by building gym room, spaces for yoga practice, on-site gardening area, and hiking trails, routine events etc. The hospital provides facilities and incentive supports for sport activities showed a significant increase in sports clubs and improvement in employee's physical health and satisfaction rate.

#### Conclusions

As the nature of work and employment practices continue exposing employees to new work pressures and serious health risks, it is more important for workplaces to develop a healthy organization supportive of employee health. While specific program goals and objectives vary with the identified needs of an individual, WHM emphasizes on improving work organization and working environment, with health policy and active participation to foster personal development conducive to health.

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## The Satisfaction Analysis of employee's Welfare and Health services

**LIANG I Fen, ZHENG Qin-Jia, HONG Chong Yu, LIN Fang Jun**

#### Introduction

The Healthcare industry is on the difficulty of high operating costs, it is an important issue for providing employee encouraging benefits and a full range of Health protection plans. Therefore, understanding the needs of psychological and physical health of the employees is for planning maturity welfare system and creating friendly and healthy healthcare environment.

#### Purpose/Methods

For understanding the satisfaction of employees' welfare and health protections, let company makes countermeasures to improve employees' satisfaction. The number of effective samples was 245, and the number of samples was in six dimensions of welfare including salary, security, facilities, subsidy, working hours, leisure and education, total 34 subjects, to investigate employee satisfaction on the workplace.

#### Results

Satisfaction with the six dimensions (scores 1 to 5): the highest subsidy benefits (3.7), Followed by the benefits of working hours

(3.5). Medical benefits were the highest in the subvented benefit (4.1). Flexible working hour were highest in working hours benefits (3.7). By the job categories, administrative (76) have medical treatment highest (4.1). Nursing (106 people) have the highest (4.3). Medical (63) have highest (4.2).

#### Conclusions

Employees focus on the importance of medical benefits and sickness benefits, and flexible leave system, showing the economic health benefits and flexible working hour system are more practical. The enterprise also should establish a fair assessment to avoid the circumstance of unequal pay for equal work and establish a friendly medical institution.

#### Comments

The healthcare is a high risk and pressure industry. In addition to providing competitive compensation, it should be providing a wide range of consultative channels and care measures, and expand to employee's family, strengthen the support of the family, make employee focus on their job with no worries.

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## Used WHO Healthy Workplace Model to Promote Workplace Violence Prevention Program in Hospital

### SU Yi-Lin, CHANG Chih-Chieh, WANG Chin-Hsiang, LEE Yu-Chin

#### Introduction

Workplace violence, a complex and widespread issue, has received increased attention from the public; is a significant and widespread public health concern among health care workers. With growing awareness of how practice environments influence patient outcomes and the retention of health professionals, it is timely to consider the impact of workplace violence in hospitals.

#### Purpose/Methods

This study aimed to promote a Program of Workplace Violence Prevention to reduce hospital staff's injuries and improve satisfaction of staff. According to the WHO Healthy Workplace Framework and Model, there are eight steps. Using automated short message service (SMS) to deliver messages via Health Information System (HIS); establish workplace violence prevention process.

#### Results

After implementation, we found staffs' turnover has been decreased and workplace-related psychological stress has been relieved as mentioned by the staffs. The management decisions made to provide a safety working environment have been appraised by employees.

#### Conclusions

Nowadays, the shortage of manpower is due to cost-control in the health care system in Taiwan. The work stress has changed since our work environment emphasize on patients' safety and

customer-oriented. Thus, the hospital policy must against violence that can improve the quality of health care, the cohesion of employees, and provide a violence-free working environment. It is a good way by computer program when notify staffs about violent patients' visits and built risk management between team members.

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## The Evaluation of Emergency Department Nurses Workplace Violence in Taiwan

### SU Chin-Ming, CHEN Shu-Lin

#### Introduction

The aims of this study were to investigate the experiences of emergency department nurses with violence in the work place and to determine precautionary measures.

#### Purpose/Methods

A total of 131 nurses from hospitals in south Taiwan completed a questionnaire.

#### Results

Emotional abuse was experienced by most of the participants; 68.3% experienced verbal abuse and 32.7% reported physical violence. their families 62.8% and Patients 37.2% were the main perpetrators. The most common responses of nurses who experienced work place violence were to tell the aggressors to stop their violent behaviors, complain about them to their families or friends, and pour out their bitterness to coworkers. They seldom reported the incidents to their supervisors or recorded them on the Report Form. According to the results of the questionnaire, the main reason that they did not report these incidents was because they thought they would not get any help (53.7%). Employers and executives offered opportunities for the victims to discuss or report violent events (45.6%) and victims could also consult with their supervisors and receive counseling (33.8%).

#### Conclusions

Based on these, the most priority are provide the mutual feedback and communication pathway, and In conclusion, various types of violence in emergency department nursing are prevalent. It is a great challenge to establish a safe and healthy nursing environment with zero tolerance of workplace violence. Nursing education deserves courses and strategies to enable emergency department nursing professionals in handling the workplace violence with confidence and to promote their professional contribution.

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## The basic occupational health services (BOHS) plan for Wan Fang Medical Center The basic occupational health services (BOHS) plan for Wan Fang Medical Center

**HUANG Hui-Chun, HSU Yi-Nei, YEH Ching-I, HUANG Pai-Tsang, SHIEH Ying-Hua**

### Introduction

The basic occupational health services was site-visits and training-based upon the law, and in the Occupational Safety and Health Committee report, in the past. Due to the Occupational Safety and Health Act amended in 2013, there'll be need for a more extensive and professional assessment of the issues to be handled. It's a matter of urgency to construct a systematic, under the new law requirements and can actually provide staff with positive support services to the BOHS.

### Purpose/Methods

From the 282 valid questionnaires of the Occupational Safety and Health Management System in 2015, 193 staff members were aware of the service "Knowing that the hospital has a BOHS and visiting the potential risks of the department ". We also assessed the mental health of our employees through the Depression Scale and the Abnormal Workload Scale. We revise the past practice by implementing the following: 1. Cross-team professional management 2. Set up special department 3. Earmarked grant

### Results

From August 2011 to 2016, we'd handle 123 services by the BOHS, covering not only the medical, medical technology, administrative and nursing, but contracting permanent contractors in hospitals. The frequency of services has increased every year. In Occupational Safety and Health Committee we discussed 107 proposals, completed 75, tracking 32. With the Occupational Safety and Health Act amended in 2013, we handled 22 health promotion exercises with a satisfaction rate of over 85%.

### Conclusions

Establish a systematic workflow and document form: 1. Establish an investigation mechanism for occupational injuries or suspected occupational injuries, and formulate follow-up forms and reexamination measures. 2. Formulate four major projects for BOHS. 3. There'll be increase the annual routine health examinations for prevention of occupation diseases. Combining BOHS with a risk assessment mechanism and providing mechanisms for the establishment of BOHS in medical institutions. There'll be expand the extent of services, in line with the new law.

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## Examining the association between the antioxidant capacity and high-

## frequency hearing loss in noise-exposed worker

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### Introduction

Long-term exposure to noise will make hearing loss. Although there are some legal principles for the noise-exposed problem in domestic workers, the situation still does not spread to the military yet. This study aimed to investigate the real condition of hearing loss and the relationship with the working environment about the military factory staffs by hearing screen and evaluation of risk factors.

### Purpose/Methods

We used physical examinations for ears, pure-tone audiometry, structured questionnaires and evaluation of antioxidant genotypes. Descriptive statistics were explored; group comparisons, correlation, and regression analysis were performed. The subjects needed to avoid noise exposure for 14 hours at least before examination.

### Results

The total participants was 84. There was 54 cases (71.1%) with high-frequency hearing loss. The 28 subjects had the habit of hearing protector used (33.3%). There was statistically significant difference between deletion of GSTM1 gene, Val/Val polymorphisms of GSTP1 gene, joining noisy place and using mobile phone frequently and high-frequency hearing loss.

### Conclusions

The results showed that the condition of hearing loss about military factory staffs maybe more severe than other factory workers. Deletion of GSTM1 gene and Val/Val polymorphisms of GSTP1 gene will increase the risk of high-frequency hearing loss. The degree of exposure to noisy place and using of mobile phone in off-work time were also important factors for high-frequency hearing loss. Further studies should include a greater number of participants and involve worker exposed to different noise pattern.

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## Method of adoption of all the compensatory measures provided by the FSMS (Fire Security Management System)

**SCARPINI Gian Carlo, TORTI Carluccio, SOTTOTETTI Elisa**

### Introduction

The fire that affects an hospital structure produces a damage to the structure and to its occupants (patients, workers and

visitors). To adopt a good system for the management of this type of events can guarantee safe behaviours by persons and especially the felt grade off security is favourable for the distribution of quality services.

#### Purpose/Methods

To organize all the information to value fire risk and to find out the actions for the activation of the Management System provided by the Decree, with a particular attention for compensatory management measures. It is proposed a model that analyses the availability of information, the responsibility for the management of these information and the actions that have to be taken to face the risk of fire for all the workers exposed to the hazard. Collection of information using a graphic representation of the valour, to explain the necessary actions and the relative attribution of responsibility.

#### Results

Activity: individuation of areas at fire risk with valuation of use destinations, materials at potential fire risk and the available systems for prevention and protection. Distribution of workers: individuation of the number of actual presences and titles. Emergency plan: periodical revisions based on lay-out adjustments. Safe routes: individuation of indoor/outdoor routes to move patients out of the risk area and to favour the access of rescues. Fire-fighting facilities: filing fire-fighting facilities periodical check forms. Procedures, posters: creation of management procedures for patients, machineries and external rescuers. Workers in charge of fire-fighting: attribution of an appropriate number of educated workers to every district/department.

#### Conclusions

The availability of these information, as part of FSMS, offers a continuous view to the evolution of fire risk in the facilities reducing the probability of accidental events and their eventual effects and their continuous control.

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## To Create A Safe and Healthy Workplace

**TU Yu-Ling, TSAI Fang-Yi, LAI Chun-Huang, YEN Chia-Chi**

#### Introduction

Occupational health services is a professional health care provider that promotes the well-being of working people and creates safe and healthy workplaces. In order to make sustainable development and progress of the hospital, we should join the workplace health promotion, create a healthy and harmonious environment, achieve the safety of the employees and the physical and mental health for the purpose of the project.

#### Purpose/Methods

The program is based on Periodic Health Examinations results and Workplace Health Management Plan questionnaire, to understand the physical condition of the staff, to track and

manage the abnormalities, and to find out the high-risk groups by statistical results, risk control and health management and health promotion measures to prevent the work-related factors caused by the disease.

#### Results

Through the Periodic Health Examinations and Workplace Health Management Plan statistics results of our hospital in November 2015, found that the high degree of overwork ratio was 10% or more, and emotional instability than the proportion was 19%, the pressure load has reached the pole ratio was 8%. After identifying the high-risk groups, we plan related health promotion activities such as counseling, job matching, mental health talks, cancer screening health talks and new knowledge programs hope to reduce the proportion of health abnormalities.

#### Conclusions

It is expected that after the implementation of the cooperation plan, the ratio of our hospital can achieve the desired goal. In addition, through the plan to promote the staff can understand their own physical condition, and enhance their sensitivity to workplace health and safety, and to give high-risk group of staff to provide health guidance, early detection of disease and treatment, so that staff up to the balance of physical and mental health and work life, improve work productivity and quality, to avoid occupational injuries.

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## Health promotion and patient safety - Friendly safety restraints

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#### Introduction

Restraint is an important indicator of health care quality. Improper restraint will lead to patient negative physiological or psychological symptoms. 2015 thoracic ward occurrence restraint rate ranking the third in the hospital, higher than of medical centers. The purpose, aim is maintaining patient safety, design, restraint vest, with a view to becoming the best quality care aids.

#### Purpose/Methods

A retrospective survey was conducted with descriptive statistics for the patients who were treated in the thoracic ward of a medical center in northern Taiwan in 2015. References and market products, design of a safety restraint vest, have five innovations: 1. selection of warm color fabrics breathable cotton outer layer printed with lovely patterns can reduce patient anxiety; 2. vest and gloves into one, the inner layer of hidden gloves, fixed hands, limit action, but not limit finger activities; 3. easy to wear off, can adjust the body tightness; 4. on the front of the lift off the hidden pocket, can be observed with the binding site of the integrity of the skin, can also view the injection site; 5. easy to clean and re-use.

#### Results

In 2015, thoracic ward restraint rate >24hrs was 87.8%. Restraint to behavioral disorders accounted for up to 49.2%; occurred in the night to 71.6%. 55% of patients have medical pipeline. We



found:1.due to medical and disease factors the necessity of restraint was 100%;2.the caregivers at nighttime could not take care and the restraints were used to prevent the patients from pulling out the tubing,resulting in more than 24 hours the above.The use of safety restraint vest and continuous monitoring of restraint rate>24hrs of 56.1%,decrease of 15.5%.

### Conclusions

The safety restraint vest simplify procedures.The advantages of simple operation and reusable,doesn't require additional training.Effectively reduce the complications and restraint rate,promotion patient safety and maintain the patient's self-esteem,reduce family psychological pressure.

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## Safe Patient Handling in Nursing Homes for a Safer Work Environment

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### Introduction

Being one of the world's fastest aging countries, nursing homes in Taiwan have become major care providers to the elderly within the health care industry. However, labor shortage has been a serious issue in the industry because of the high work injury rate. Nursing home tasks require considerable lifting, residents transferring, and other physically taxing activities. Historically the injury rate for nursing home workers doubles all the other occupations. Therefore, the government is promoting "Safe Lifting" to resolve this issue.

### Purpose/Methods

The Safe Lifting program aims to protect workers from injury by adopting assist devices and associated training programs. 1. 7 assist devices were purchased and installed by October 2015. Established assist-device promoting teams. 2. On-job trainings for caregivers of each department was completed by the promoting teams by September 2016 3. Re-group the residents according to the suitable assist devices. 4. Evaluate the results by conducting Musculoskeletal Injury Survey and Assist Devices Survey on the workers.

### Results

1. 21 training sessions were conducted with 489 participants. 9 trainers were trained. 2. The Musculoskeletal Injury Survey showed that "the need of protective gears" reduced from 87% to 77%; "the need of medical patch" reduced by 13%, and "pain after work" also dropped 28%. 3. The caregivers' average scores on the Assist Device Survey improved from 65 to 87 points. 4. The ratio of the caregivers that took sick leave due to musculoskeletal injuries dropped from 21% to 12.5%.

### Conclusions

The Safe Lifting program showcased that the improvements in nursing home working environment bring benefits to the caregivers, the residents and the employers. The installment of assist equipment and training has significantly reduced the risk

of work injury, decreased staff compensation expenses and improved the quality of resident care. In the long run, the lower work injury rate is expected to draw more qualified caregivers back into the industry and solve the issue of understaffing in nursing home industry.

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## Obstacle factors With Nurses in Using Safety Needles

**SU Yi-Lin, FU Mei-Chiung**

### Introduction

Several countries have established laws requiring the use of specific medical equipment to ensure a safer hospital environment. On 5 December 2011, the Legislative Yan of the Republic of China published a statute to encourage hospitals in Taiwan to increase their use of safety needles over the following 5 years. However, to best prevent needle-stick injuries, it is also important to determine the difficulties experienced by medical staff in their daily practice after receiving in-service training according to this policy. Here, we present the problems experienced by healthcare workers when using safety needles in Sijhih Cathay General Hospital, in order to assist other hospitals in implementing this national healthy strategy.

### Purpose/Methods

A cross-sectional study design was conducted in 2016. 171 Nurses were recruited using convenient sampling from a regional Hospital of northern Taiwan. Structured questionnaires with Cronbach's  $\alpha$  of 0.92 were self administered by study participants.

### Results

The top five obstacle factors of Nurses used safety needles were 「Nurses not used to use safety needles」, 「Not easy to operate」, 「The patient's blood vessels are not suitable for use with safety needles」, 「Worried about causing patient dissatisfaction」, 「bad experience about use safety needles.

### Conclusions

Healthcare workers (HCWs) face many types of occupational hazards, and needle-stick injury is one of the most common hazards. it is recommended that future expendable guard caineng logistics information management in institutions, establish a good management system measures to reduce the inventory of human error, improve the safety needle inventory and the use of certainty, as the promotion of safety needle future reference.

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## Session P2.1: Health promoting health care in the Czech Republic

### Do not be afraid of doctor, let's go to hospital Pelhřimov

**FRIDRICOVSKA Pavlína, MACHACKOVA Vladimira**

#### Introduction

Health protection and promotion are important priorities for Pelhřimov Hospital. In 2013 realized HPH Recognition project and acquired Gold certificate. Under the WHO/HPH program and HPH standards is Pelhřimov Hospital aimed on systematic children education—they are changing their families by mind-attitude-opinion change of themselves. Project aims to improving of quality of Healthcare by the child-patient and to prevention. The scope of the project is for the Pelhřimov city and whole region.

#### Purpose/Methods

The aim is providing of health-promoting activities according the child's age and supplement these into school curriculum. Children are leaded to focus on their own health, lifestyle and practical skills, which leads to lifestyle-thinking change. Project is implemented through games and workshops taking place in the hospital or directly in school through healthcare professional visits. Project is divided according to child's age into four age groups.

#### Results

Familiarization with the hospital environments minimizes the child's fear from a hospital. Project eliminates impact of risk factors to child's life, lifestyle and their evolution by actively consolidating the principles of healthy lifestyles, systematic educating and by specific training of practical skills. First phase of this project was carried out in 2011. Based on huge interest of elementary schools was expanded and in 2012 was divided into age-groups. In 2011 we educated 100 children, in 2016 up to 600 children.

#### Conclusions

A significant benefit is overcoming of the fear of the presence and activities of hospital staff in hospital and other medical facilities. Knowledge and children's active participation in healthcare providing process has a meaningful positive effect on the children's health, particularly in injury prevention and lifestyle changes. Further this project lead to raising health literacy and improve the health status of the population. Another significant benefit is the knowledge expansion to the teachers in this framework.

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## Health Promotion Activities in Sumperk Hospital

**KLIMKOVA Martina, SRNEC Petr**

#### Introduction

Sumperk Hospital has been active in health promotion projects since 2003, when it became part of the WHO/HPH programme in CR. The hospital continuously implements, maintains and improves community awareness activities with an emphasis on public health and health promotion. The medical staff provides professional information from various medical fields both inside and outside the hospital, i.e. in the environment favoured by the target group.

#### Purpose/Methods

The purpose of the hospital's activities is to familiarise the patients and the general public with the principles of healthy behaviour within the framework of health promotion in the areas of maternity and parenthood, first aid and emergency CPR, a safe home and healthy upbringing, prevention of lifestyle diseases for adults, and prevention of complications for home carers.

#### Results

Increased health awareness among the general public. The hospital organises CPR courses and antenatal parenthood classes and provides lactation, nutrition and smoking addiction counselling. It holds prevention events aimed at children and adults, special events dealing with the glaucoma, melanoma, diabetes, smoking, pressure ulcer prevention and treatment, hand hygiene, and a safe home. For these events, experts deliver content using presentations, discussions, posters, educational materials and, more recently, modern e-health tools.

#### Conclusions

Health promotion and awareness has become an integral component of the hospital's life. Health promotion activities are continuously monitored and evaluated by the management. The hospital has noted continued interest of the community in these activities, demonstrated by the demand for, and participation in, these events. For that reason, the annual plan of community events always includes both traditional events and new additions.

#### Comments

The management of the Sumperk Hospital places great emphasis on activities aimed at community health promotion and public health, mainly because of their preventive potential.

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## Efficiency of system of hospital care in the Czech Republic through volunteer care

**KALVACHOVÁ Milena, STEJSKALOVÁ Veronika**

#### Introduction

The Ministry of Health of the Czech Republic (MoH) pursue very intensively of options to improve healthcare quality and patient safety. Since 2003 (Czech Republic joined the HPH Network) MoH

implements many supporting activities (not only) for HPH hospitals. In order to innovate, in 2015 the MoH decided to create a new concept of support - in cooperation with experts and a working-group for volunteering in healthcare was created an extensive project to unified National system for volunteering in healthcare.

#### Purpose/Methods

The aim of this innovation project is demonstrate that the involvement of volunteers in hospital care and unification volunteer program has a systemic impact - it will lead to cost reduction, increase efficiency and quality of healthcare. The aim is create a training/education program for volunteer coordinators in hospitals, the national methodology for volunteering in Healthcare and specific information system. Collaborating hospitals: HPH-hospitals (10), University non-HPH hospitals (4), providers with local volunteer program (122). Implementation period will take 36 months.

#### Results

This project will generate a National volunteer program for Healthcare. Implementation of this project will lead to expand volunteering and increase the number of volunteers, which in turn will increase the quality, safety and effectiveness of healthcare. Further it will lead to increase the efficiency of the activities of health workers, who are (till now) organize the volunteering in healthcare facilities themselves. This activity will be taken over by the coordinator of volunteers in healthcare.

#### Conclusions

Volunteering was one of priority in Action plan for quality and safety of healthcare services/Health 2020 (was complied in 2015). It's one of the tools to improve quality of health promotion activities and increase the satisfaction of patients and healthcare workers. Fulfilling the task in the Action Plan is monitored and assessed by government.

#### Comments

The project will be carried out in cooperation with volunteers.

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## Hospital survey on patient safety culture in South Bohemia region.

### FILKA Jozef, KYSELOVÁ Monika, KOTRBOVÁ Kvetoslava, SOMROVÁ Jana

#### Introduction

The authors conducted the hospital survey on patient safety culture in all 7 hospitals across the South Bohemia Region to establish a baseline measure of the patient safety culture.

#### Purpose/Methods

The original AHRQ questionnaire was used after its translation into the Czech language and distributed to hospitals in South Bohemia Region. The overall response rate was 88 %. Most of the respondents consisted of nursing staff.

#### Results

The items of the questionnaire were grouped according to the AHRQ methodology to the so called dimensions, i.e. components of patient safety culture.

#### Conclusions

According to the respondents' answers the most vulnerable components of safety culture include staffing, support patient safety by the management and teamwork between departments.

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## Stop smoking before surgery

### PETR Tomas, GUTOVA Lenka

#### Introduction

Military University Hospital in Prague has been a member of HPH since 2012. Since that time many different activities and projects focused on patients have been organized. In the summer of 2016 a project on smoking cessation before surgery was introduced in the surgery and urology departments. The aim of this project has been to motivate patients to quit smoking (or interrupt) before elective surgery and also reduce surgery complications related to smoking.

#### Purpose/Methods

Patient education is provided in the outpatients department during surgery planning (usually 6 weeks before a surgery). Education is provided by experienced nurses who hand out useful written material. These materials contain information about relations between smoking and surgery complications, recommendations related to smoking cessation, and contacts for further advice. Patients are encouraged to visit the clinical pharmacologist within the hospital grounds to get information about substitution treatment of tobacco dependence. Part of the substitution treatment costs are covered from the project budget.

#### Results

The poster will summarize the first outcomes of the project. It will present information about a number of surveyed patients and about their willingness to participate and quit smoking. It will also show further data related to the project.

#### Conclusions

Patients who smoke are offered help with smoking cessation before elective surgery. The intervention consists of education, hand out of printed materials, consultation with a clinical pharmacologist and a reduced price of substitution treatment. The impact of these interventions will be presented on the poster.

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## The University Hospital in Olomouc - active approach in smoking prevention

**CAHLÍKOVÁ Jiřina, ČIKLOVÁ Lada**

### Introduction

The University Hospital in Olomouc (UHOL) has been a member of the HPH international network since 2011. In September 2014 the hospital proved a high level in the fulfilment of HPH standards, and obtained a HPH gold certificate after passing the WHO external audit. The next step of the UHOL management in support of healthy lifestyle of both employees and patients was the decision to join the European Network for Tobacco Free Healthcare Services (ENSH), adopted in January 2016. This objective is also part of the UHOL Strategy for the period 2014-2020; namely of Strategic Objective 3 – To improve the human resource management policy.

### Purpose/Methods

A work team responsible for the fulfilment of the objectives and implementation of standards was formed. The UHOL management signed an accession letter, and the work team members prepared a self-evaluation questionnaire, evaluating the present level of the fulfilment of 10 ENSH standards. UHOL became a member of ENSH in June 2016. The next step was to educate UHOL employees; a workshop named "Nurses Help Quit Smoking", was organized. In November 2016 a questionnaire survey was organized, focused on mapping the opinions of UHOL employees on smoking. From December 2016 the places intended for smokers will be limited. The fulfilment of the objectives and implementation of ENSH standards and HPH network will be easier thanks to the long existence of the Centre for Tobacco Addicts.

### Results

The workshop was attended by dozens of employees, predominantly nurses, who educate both patients and their colleagues in individual clinics. 1,105 respondents, i.e. app. 30% of all workers, took part in the online questionnaire, focused on employees' opinion on smoking. The result supports the UHOL intention, 52% of respondents say they have never smoked.

### Conclusions

The UHOL management puts emphasis on healthy lifestyle of both their patients and employees. In their current concept they clearly formulate the measures for the protection against tobacco products.

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## We support the health of clients and employees of Jihlava Hospital

**MEZEROVA Zuzana, CMUNTOVA Jarmila**

### Introduction

Our hospital has been a member of the International Network of Health Promoting Hospitals since 2011. In the project, we have created a series of planned activities with a time-line aimed at increasing support of a proactive approach to health through targeted interventions for the patients/clients of our hospital, their families and also to support the activities and development of health promotion and healthy lifestyles of our employees.

### Purpose/Methods

Continuous publicity of health promotion activities aimed at educating our clients and employees on the correct choice of lifestyle, getting the interest of a large range of people about their health, improving the sense of responsiveness of our clients in the management of their health problems, increasing the control over health and improving it constantly.

### Results

Educate the public on health education with a clear aim Promote people's interest in their health Increase the knowledge of people about disease prevention Encourage patients to change their behaviour Familiarise and navigate to the correct selection of healthy lifestyle Increase health literacy and strengthen responsibility of the patients for their health Support in coping with health problems Improving the mental health of workers

### Conclusions

The activities are aimed at promoting the health of the general public using the position of the hospital as an institution attended by a large percentage of the population in the role of a patient or simple visitor. The patient and their family are more responsive to their health and disease during the hospital stay; it is the most opportune time for intervention to change the patient's habits and lifestyle.

### Comments

The inclusion of health promotion activities in Jihlava Hospital is considered to be one of the ways to enhance the quality and safety of provided services.

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## Promoting health in Valasske Mezirici Hospital – a friendly place to live and work.

**LIBERDA Martin, STANECKA Zbynek**

### Introduction

Valasske Mezirici Hospital became a member of HPH network in 2012 and successfully went through the WHO-HPH Recognition Project in 2013. We set a goal of improving and supporting a healthy lifestyle of both our employees and the community.

### Purpose/Methods

Our hospital management together with us (employees) plans the health promoting activities regularly, creating a schedule of HPH activities for the whole year. We provide our community and employees with the lessons, courses, educational brochures, practical training, and some sport activities (e.g. nordic walking).

Our hospital supports our Center for weight reduction and preventive medicine and our Anti-smoking clinic.

### Results

During last year period we provided our community with following activities/workshops : „Can you provide the first-aid?“, Hand-hygiene Day, Tobacco-free day, Hospital Open-Door Day, Healthy City Day, Day of wound treatment. We also provided our employees with the „Skiing in the Alps Tour“, Hospital Swimming Day, Hospital Triathlon Race, Zoo excursion, Farewell to summer sporting day, Hospital „Whole Family Skating“ days, Sport Championship of AGEL-hospitals holding Day and 74 employees attended „Preventive 4-days Spa-stay“ as a part of our burn-out syndrome prevention strategy. We plan to pay increased attention to our Anti-smoking clinic development during the period of 2 following years.

### Conclusions

Health promoting activities became the firm part of our yearly calendar with many programmes turning into tradition. Although there is enough space for improvement (e.g. Anti-smoking Clinic), we do not want to rest on our laurels in other activities, especially in the burn-out syndrome prevention. We plan to provide our employees with the interactive courses lead by the psychologist specialized in the prevention of burn-out syndrome in the near future. We truly believe that our hospital should continue to cultivate the idea of „working-friendly“ hospital for employees and „living-friendly“ region for our community.

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## Supporting your health by improving your lifestyle

**GUTOVA Lenka, VANHOVA Monika, SMRCKOVA Hana Marie**

### Introduction

Military University Hospital in Prague became a member of HPH network in 2012. Since that time many different activities and projects focused on the hospital staff have been organised. The aim of health education is to offer to the staff sufficient information as to how to prevent disease, change lifestyles, increase knowledge, and motivate them and influence their attitudes for the purpose of creating an active interest in their own health. Investment into the health support and care of every employee is beneficial for every organization.

### Purpose/Methods

In October 2015 we offered a new programme to our staff „Improve your health by changing your lifestyle“. Half of the adult Czech population has higher than normal weight, and this figure is failing to decline. Obesity-related diseases are the second leading cause of preventable death, after smoking-related diseases. This programme offers initial consultation, preparation of an individual nutrition plan with the nutritional therapist, creation of an individual exercise plan by the physiotherapist and ongoing regular consultations. Everyone who enters the programme is weighed, measured, has

percentage of total muscle, of total fat and of visceral fat measured and has their waistline measured.

### Results

The poster will summarize the outcomes of one year of the project. It will present information about the number of reduced kilograms of individuals and aggregate for the entire hospital, their percentage of muscle gained, their percentage of fat decreased, how many employees have participated in the programme, influence of programme participants on their morbidity and other data related to the project.

### Conclusions

In October 2015 a new programme „Improve your health by changing your lifestyle“ was offered to all hospital staff with the aim of protecting and enhancing their health, and developing a healthy lifestyle. Support of hospital employees' health is one of the conditions of providing safe healthcare.

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## Possibility of Nutritional intervention from the perspective of a nurse

**NOVAKOVA Jana, LISOVA Katerina, VLACHOVA Marie, POLASKOVA Klara**

### Introduction

In the field of nutrition the nurse has wide possibilities and plays irreplaceable part. She uses in her work good nutrition principles. She takes into account the factors influencing the good nutrition, pays attention to nutrition disorders. Evaluation of nutritive state of the patient is very important, it consists in collection of anthropometric data and nutritional anamnesis.

### Purpose/Methods

We focused on short intervention within the outpatient departments. The basic element is the nurse, who can communicate with the patient and eases the atmosphere for communication on nutritional intervention. The first step was the implementation of short intervention into the Guidelines on Nutrition. We also implemented the item Nutrition into Informational and Educational Record and patients nursing anamnesis. The next step was interactive workshop with the topic "Change? Why not" in cooperation with the Stop Obesity Society. The nurses were presented possibilities of personal plan for the patient. The question is: Do you feel ready for the change in your lifestyle? The patients were offered four brochures with the topics, „I want change-How to find motivation, The mental aspect, The Nutrition, Physical activity“. The third step is short intervention project in particular outpatient departments. The patient is addressed and fills in a short questionnaire. The nurse evaluates it, sets the risks in the field of nutrition, makes the intervention with the patient and handles the corresponding brochure. The state and education is recorded into documentation.

### Results

The project finishes in December 2016. The nurses give positive feedback.



### Conclusions

We managed to activate the nurses and the nutritional therapeutics. They visited the Health Day, focused on appropriate nutritional food components, sustainable weight reduction. The nutritional therapeutics initiated the seminars on the topic Forever fit without stress. The motivated nurse who is interested in healthy nutrition and change of lifestyle is the authentic motivation for the patients.

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## Session P2.2: Environment-friendly health care

### Reduction, Replacement and Improvement of Hazardous Chemicals

**TSAI Ya-Ling, CHEN Yin-Chen, WANG Chao-Ling, CHU Ying-Lan**

#### Introduction

Management of hazardous chemicals is one of the most important procedures to maintain hospital safety. Some chemicals are flammable or health hazards. From the cost-reduction point of view, procurement staffs prefer to purchase chemicals with big package. For example, every large bottle of alcohol is 4L. Same situation may happen at nursing station also, because there are many types of flammable chemicals, such as acetone, cleaning naphtha and formaldehyde, used frequently by nursing staff; especially, formaldehyde is harmful to health. The staff would stay in a highly health-risky environment. Every large bottle of sodium hypochlorite is 20L. In addition, the sodium hypochlorite may spray out over the crew when they are bottling it into a smaller container.

#### Purpose/Methods

- To prevent and diminish fire breaking out accidents, we make storage of flammable chemical less and replace it by other materials.
  - We alter Alcohol package from 4L to 500 ml.
  - Acetone is replaced by Nail polish remover.
  - Convacare adhesive remover wipe replaces cleaning naphtha.
- Set chemical storage cabinets up for storing flammable chemicals.
- The section separating into small fractions of formaldehyde is executed by manufacturer to avoid that any staff does it in the hospital.
- Sodium hypochlorite changing package from 20 L to 4 L.
- Education.

#### Results

The department of occupation safety and health do implement a checking list of hazardous chemicals, and the result revealed 56 deficiencies. The reasons of deficiencies are label error, safety checking list not prepared and wrong hazardous materials storage place. All of them have already been corrected.

### Conclusions

Management of hazardous chemicals is one of the important procedures to maintain hospital safety. We would keep an eye on, and make every staff follow our provision.

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## Experience of Collective Measurement of Air Pollution and NO<sub>2</sub>

**KURAZONO Kumiko, KANEKO Koichi, TAKAHASHI Miyoko, NUMATA Mititaka, NEGISHI Kyota**

#### Introduction

After Tokyo's air pollution worsened in the 1960s, asthma cases due to sulfur dioxide (SO<sub>2</sub>) and nitrogen dioxide (NO<sub>2</sub>) increased. In Tokyo's Bunkyo Ward, Kensei Hospital, managed by Tokyo Health Cooperative Association (THCA), treated many asthma patients. To support patients, residents began to measure Tokyo area air quality using diffusion tubes. In 1978, Kensei Hospital staff and THCA members helped form the Tokyo Air Pollution Measuring Network.

#### Purpose/Methods

Initiated in 1978, collective measurement of NO<sub>2</sub> using diffusion tubes has continued on a semiannual basis. In Tokyo Prefecture, 200 groups conduct measurements at about 10,000 locations. Overall, there have been over 60 measurements at about 700,000 sites. THCA and Kensei Hospital have participated throughout. In 2015, 400 THCA members and Kensei Hospital staff measured NO<sub>2</sub> levels at about 600 sites in Tokyo. Data were aggregated with other organizations for analysis.

#### Results

High levels of NO<sub>2</sub> were found in areas of heavy traffic congestion, indicating that car exhaust as a culprit. As traffic rose, Kensei Hospital treated more asthma patients. Tokyo's urban wards, marked by heavy traffic, had higher average levels of NO<sub>2</sub> in relation to nearby rural areas.

#### Conclusions

Through THCA's participation, cooperative members' interest in air pollution and global warming increased. Kensei Hospital provides venues for patient associations and for hospital staff and cooperative members to study together. Kensei Hospital continues to provide emergency care for asthma patients. Data analysis indicates that 1) environmental technologies have advanced; 2) the 98% correlation between yearly and daily average measurements has shifted; and 3) asthma rates for children continue to rise. The network has appealed to the government for stricter NO<sub>2</sub> regulations and legal support for those sickened. Also, THCA plans to conduct oral surveys in high pollution areas and raise awareness for a program that defrays medical fees for asthma patients.

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## A pilot Study of Indoor air quality for Friendly Buildings - An Example of a Health Promoting Hospital in Taiwan

**FANG Yong-Yuan, CHEN Yi-Liang, HSIEH Yao-Tsung, TSAI\* Tien-Sheng**

### Introduction

The purpose of this study is to investigate the quality of indoor air in a southern regional hospital by regularly measuring the indoor air quality indicators in the hospital. These indicators include the concentration and distribution of carbon dioxide (CO<sub>2</sub>), formaldehyde (HCHO), bacteria, and fine particles with a diameter of 2.5 µm or less (PM<sub>2.5</sub>). Samples of each were taken, and the values of the relevant indicators were recorded and compared to the values recommended by national regulations, thereby indicating which concentrations of air pollutants in the hospital exceeded regulations.

### Purpose/Methods

In order to understand the environmental impact factors and the distribution of pollutants in the hospital, this study used literature review, case tests, and comparative analysis to investigate the interior air quality of the hospital. After the renovation of the space using green building materials, the A / H fresh air intake pipeline was renovated to improve the flow from outside. The roof ventilation equipment was increased, the exhaust motor in the pipes was replaced with self-ventilation equipment, and the use of professional air purifiers was increased on site.

### Results

After the equipment was improved, the concentration of carbon dioxide was reduced to below 948, and the PM<sub>2.5</sub> levels were in line with the EPA's recommended values. After the on-site visit and survey by staff, the renovation results showed significant benefits. 1. Certified "Friendly Building" (Hospital) by Architecture and Building Research Institute, 2015. 2. Certified "Golden safety Quality Award" (Hospital) by Kaohsiung City, 2015.

### Conclusions

The results of the field measurement showed that the air quality measurements in some areas of the hospital were affected by the medical environment or the number of patients. Ventilation and air circulation efficiency should be paid attention to and improved.

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## Microbial air monitoring in operating rooms at a medical center in northern Taiwan

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### Introduction

During surgical procedures, dust particles, textile fibers, skin scales, and respiratory aerosols loaded with viable microorganisms are released from the personnel and the surrounding into the air of the operating room (OR). These airborne bacteria in the OR are one of the important possible sources of surgical wound infection. Control of the OR environment via an appropriate ventilation system is therefore critical for SSI prevention. Guidelines for SSI prevention often recommend air control in the OR. However, there is no consensus on the appropriate method for routine surveillance.

### Purpose/Methods

The aim of this study was to count microbiological amount in the air at the OR and determine its affect factors. This study was conducted at 28 operating rooms located in a 3,000-bed tertiary refer medical center in the northern Taiwan. The microbiologic air counts were measured using an impactor air sampler from May to August 2015. Information was collected on the surgical procedure and surgical environment characteristics.

### Results

Total 250 specimens of air samples during surgical procedures were collected. The highest average number of colonies count of bacteria was transplanted surgery, followed by pediatric surgery and orthopedics surgery. After controlling for potentially confounding factors by use of multiple regression analysis, we identified the following as independent risk factors ( $p < 0.05$ ): type of surgery, numbers of personnel, surgical classification site and operation stage.

### Conclusions

Microbial contamination of the surgical site is a necessary precursor of surgical site infection. Air quality control and monitoring of operating room is important.

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## A Project to Improve Air Quality of Outpatient Waiting Area -An Example of a Regional Hospital in Southern Taiwan

**FANG Yong-Yuan, SHEN Chun-Wei, XIE Yao-Zong, FANG Han-Syuan, CHEN Yi-Liang**

### Introduction

Studies have demonstrated a tendency for the occurrence of sick building syndrome under high indoor CO<sub>2</sub> concentrations. Both patients and hospital personnel constantly filed complaints about the high CO<sub>2</sub> concentrations in the outpatient waiting area of the case hospital. Maintaining good indoor air quality can both help promote the welfare of patients and hospital personnel, and advance sound medical and working environment. The goal of this project is to reduce both CO<sub>2</sub> and airborne bacterial counts by means of engineering improvement method.

**Purpose/Methods**

Several strategies for the improvement have been designed based upon literature search and expert consultation. These include (1) fresh air induction: modification of vent layouts for better intake of outdoor fresh air, (2) exhaust emissions: increase the number of exhaust fans to ventilate gas exhaust, (3) ventilation improvement: renovate pipelines, increase vent ducts for air conditioners, (4) air purification: implement 4 medical-grade air purifiers to reduce total airborne bacterial counts, and (5) establishment of real-time surveillance system.

**Results**

After completion of the aforementioned measures, CO<sub>2</sub> concentrations have been efficiently controlled below 900 ppm in the outpatient waiting area, meeting the standard regulations on indoor air quality. The airborne bacterial colony counts have been reduced from 1146 CFU/1000L (before improvement) to 32 CFU/1000L (after improvement), with an improvement rate of 97.2%. Outpatient services satisfaction score improved from 65.5% to 92.5%.

**Conclusions**

This project achieved its goal of efficiently improving the air quality in the outpatient waiting area by the employment of engineering improvement method. We hope to horizontally promote our project achievements to other Divisions of the hospital. Hospitals should fully grasp and efficiently improve their in-house air condition and quality, respectively, in order to construct a high-quality medical environment for their patients.

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## Using GRI G4 Guidelines & ISO50001:2011 standards to improve the Sustainability - An Example of a Health Promoting Hospital in Taiwan

**TSAI Tien-Sheng, CHEN Wei-Yi, CHEN Szu-Yu, LIN Kuo-Hsing, HOU Ming-Feng, WU Jeng-Yih, FU Yin-Chih**

**Introduction**

Towards the goal of sustainable development, Kaohsiung Municipal Hsiao-Kang hospital (Kaohsiung Medical University Healthcare System) following our new core values (C:Cooperation A:Accountability R:Reverence E:Effectiveness) since 2011. We follow up GRI(Global Reporting Initiative) G4 Guidelines, ISO(International Organization for Standardization)50001:2011 standards, SDGs(Sustainable Development Goals) from United Nations. We try to improve the Sustainability for Kaohsiung Municipal Hsiao-Kang hospital.

**Purpose/Methods**

In order to achieve the goal of sustainable development, We set up five hospital-level projects & teams. 1. To set up a Team for Corporate Social Responsibility. 2. To set up a Team for supervising Sustainable Energy. 3. To set up a Team for Internal

Control System Design. 4. To set up a Team for Internal Auditing. 5.To set up a Team for smart hospital.

**Results**

1. Certified "TCSA (Taiwan Corporate Sustainability Awards)" bronze award by Taiwan Institute for Sustainable Energy, 2015. 2. Certified "Friendly Building" (Hospital) by Architecture and Building Research Institute, Ministry of the Interior, 2013. 3. 2nd certified "Friendly Building" (Hospital) by Architecture and Building Research Institute, Ministry of the Interior, 2015. 4. In 2016 Fire Crisis prevention project selection hold by Kaohsiung city government and won the Distinguished Achievement Award.

**Conclusions**

1. Certified "TCSA (Taiwan Corporate Sustainability Awards)" gold award by Taiwan Institute for Sustainable Energy, 2016. 2. Certified "ISO (International Organization for Standardization) 50001 : 2011 standards " by SGS(Societe Generale de Surveillance S.A.) (Taiwan), 2016.

**Comments**

Keywords: GRI(Global Reporting Initiative), Sustainability, ISO(International Organization for Standardization)50001:2011, Health Promoting Hospital

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## Twice Certified Diamond-rated "Green Building" (especially for old hospital transformed the highest E.E.W.H. award): A Case study of a Health Promoting Hospital in Taiwan

**CHEN Yi-Liang, CHENG Hsun-Ting, FANG Yong-Yuan, TSAI\* Tien-Sheng**

**Introduction**

Green buildings are environmentally responsible and resource-efficient structures that characteristically save energy, reduce waste, and protect human health as well as the natural ecosystem. The concept of green building is a comprehensive and systematic environmentally-friendly design for living environments based on the intention to ensure healthy and comfortable living. It's an environmental design concept that emphasizes symbiosis with the environment and seeks to establish sustainable development. In 2013, First certified the Diamond-rated "Green Building" (E.E.W.H.) in Taiwan, by Architecture and Building Research Institute.

**Purpose/Methods**

After already receiving the first green building Diamond-rated award, we objective were to aim to the four major green building indicators: Daily Energy Saving, Sewage & Garbage Improvement, Indoor Environment, and Water Resources during 2014~2015. Through continuously updating equipment and space design and the pursuit of sustainable construction concepts, we hope to symbiosis with the global environment.

### Results

1. Following the updates, the overall power consumption for air conditioning and lighting was effectively reduced. 2. Waste separation and sewage treatment was properly implemented. 3. The use of green building materials reduced the presence of hazardous substances that can be harmful to the human body. 4. The use of more water-saving appliances reduced the waste of water resources and improved medical water.

### Conclusions

1. Certified "Friendly Building" (Hospital) in Taiwan, by Architecture and Building Research Institute, 2015. 2. Twice certified the Diamond-rated "Green Building" (especially for old hospital transformed) in Taiwan, by Architecture and Building Research Institute, 2013 & 2016. 3. In the future, the hospital will continue to pursue sustainable building design concepts that protect the environment and provide patients with a more comfortable and safe medical environment.

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## Medical technology department seashore-clean program

### CHI YEN Chia, HUANG LAI Chun, GUO XUAN Zhang

#### Introduction

70% of the Earth is the ocean, another 30% is the land. The ocean is the origin of life and the great treasure of mankind. Therefore, the ocean we rely on is suffering from plastic garbage pollution, as the people of the ocean we should make some effort for it. Without a clean ocean, there is no healthy planet, the human has no healthy body. The marine debris has been weathered by years to tiny particles. After being eaten by sea creatures it forms a series of food chains, these marine debris finally returns to humans body- endangering human's health. Three oceans of the Earth had formed eight vast debris band, the quantity is too large to clean over. However, There is a will, there is a way. From now on, we invite everyone to pick up one kilogram of marine debris at least every year, to decrease the marine debris and so as to protect the Earth by the real act .

#### Purpose/Methods

By the meeting decision of the Department, 17:00 to 18:00 p.m. of June 18, 2016 on the Chi-Jin beach, led by our director we clean the beach for an hour. Cleaning beach is just a start to solve the problem of marine debris. (1) Invite Wilderness Protection Association to recommend lecturers to share the "re-see the ocean" and "plastic kill albatross" two sets of materials, to deepen our common sense of the ocean. (2) Guide reading the audio book "seashore clinic", to understand the threats to human and animals from plastic garbage .

#### Results

After an hour's effort, a whole bag of 52.3 kg garbage was picked up. But its just like a tip on the great iceberg. The maintenance of the ocean still need everyone to work for it altogether.

### Conclusions

Our clean- beach is just a small step for human to maintain the environment. How to bond every small step into a big stride is the direction we should strive. Give promise, we clean beach once a year, and invited other departments colleagues to complete the mission of love to the Earth.

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## Topic Health Promotion Hospitals and Environmentally Friendly Issue Project - Take Suang Ho Hospital as an Example

### HUANG Chih-Chieh, LEE Shih-Chih, CHEN Wen-Huei, HUANG Chung-Chi, WANG Ying-Weu

#### Introduction

In order to assist medical institutions in the implementation of carbon reduction activities and to achieve the target of 13% of annual carbon reduction by 2020, Health Promotion Administration, MOHW, planned the "Health Promotion Hospitals and Environmentally Friendly Issue Project" to assist hospitals for energy saving and carbon reduction through counseling in eight aspects and the achievement of this project was demonstrated by the result of Taipei Medical University Shuang Ho Hospital.

#### Purpose/Methods

Multiple measures were planned to assist hospitals for promoting energy saving and carbon reduction and the "Award of best practice of international hospital low-carbon teamwork" was implemented. The measure of promotion in Shuang Ho Hospital is by exploring the reasonability of boiler burning and usage time. In addition, the effectiveness of vapor heat exchanger was calculated with flow rate to come out the most appropriate heat pump system and vapor heat exchanger.

#### Results

A vapor heat exchanger that recycles exhausted vapor was installed in the exhaust pipe of boiler in Shuang Ho Hospital, which recycles vapor and reutilizes it to pre-heat the boiler water, while water and vapor is recycled back to the hot water container of the boiler. Via PID (Proportional, Integral, Derivative) calculation and recording the burning data of the boiler, the boiler's fuel consumption and the hot water heating of heat pump can be reduced.

#### Conclusions

Through the "Health Promotion Hospitals and Environmentally Friendly Issue Project", medical institutions were assisted for the promotion of carbon reduction. In addition, via actual review of sickbed usage ratio in Shuan Ho Hospital, and practical measurement of ice water flow rate, hot water usage and boiler burning, it was confirmed the feasibility of using heat pump to assist the energy saving of ice water main engine and hot water boiler.

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## Environment-Friendly, Community-Friendly, Workplace-Friendly, Ageing-Friendly: A P.P.P. (public-private partnerships) Model at a Health Promoting Hospital in Taiwan

**SU Wen-Hui, LIN Kuo-Hsing, TSAI\* Tien-Sheng, HOU Ming-Feng**

### Introduction

Based on 4 Friendly Principals (Environment-Friendly, Community-Friendly, Workplace-Friendly, Ageing-Friendly); achieving the structure of Green Earth. Kaohsiung Medical University Healthcare System tried to operate Kaohsiung Municipal Hsiao-Kang hospital, following an O-T(Operate-Transfer) entrust agreement by Promotion of Private Participation into a New P.P.P.(public-private partnerships)model since 1998. For the premise of Green Earth, Kaohsiung Municipal Hsiao-Kang hospital following our new core values (C:Cooperation A:Accountability R:Reverence E:Effectiveness) since 2011.

### Purpose/Methods

In the premise for Friendly Hospital: Kaohsiung Municipal Hsiao-Kang hospital follow up the concepts of pursuing a healthy & age-friendly city policy. Since 2011, we try to follow the protocol of Friendly-Building System, Environment Symbiosis, Building Safety System...etc by Architecture and Building Research Institute, for Ministry of the Interior in Taiwan. Then, we tried to reform the building of our hospital during 2011 to 2016.

### Results

1. Twice certified "Friendly Building" (Hospital) by Architecture and Building Research Institute, 2013 & 2015. 2. Certified "Health Promoting Hospital" excellence award & "Employee-friendly Workplace" excellence award of Bureau of Health Promotion, 2013. 3. Certified "Age-friendly Hospital" by Bureau of Health Promotion, 2013. 4. Certified "Age-friendly Hospital" excellence award by Bureau of Health Promotion, 2014.

### Conclusions

1. At the present time, Kaohsiung Municipal Hsiao-Kang hospital have become a "4-Friendly" certified hospital (Environment-Friendly, Community-Friendly, Workplace-Friendly, Ageing-Friendly) in Taiwan. 2. Following our new core values (C.A.R.E.), We will still take the social responsibility of a professional medical provider by offering community services and creating a good environment with holistic care.

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## The environment friendly inhalers for asthma patients

**FANG Li-Ching, WANG Jen-Yu**

### Introduction

As the number of asthma patients increase globally, the impact of inhalers to the environment is discussed. The inhaled corticosteroid via metered dose inhaler (MDI) is the main therapy in asthma, especially in children. Although there is still dry powder inhaler to be considered, but there are some skill difficulties to young children. Therefore, the MDI combined with a spacer is the main therapy in children with asthma. Originally, the propellant of the MDI is used by chlorofluorocarbon (CFC), which is harmful to the ozone layer. The U.S. Food and Drug Administration (FDA) suggested shifting CFC to Hydrofluoroalkane (HFA) since 2008.

### Purpose/Methods

In the pediatric allergy and immunology outpatient clinics of our hospital, we visited 200 children and their doctors for experience sharing of using HFA MDI from 2013 to 2016. In our study, the medicines in the MDI include inhaled corticosteroid, and combination of inhaled bronchodilator with inhaled corticosteroid. The products we used in our hospital are budesonide, ciclesonide, fluticasone, fluticasone/salmeterol.

### Results

No one complained of skill difficulties from the new CFC free MDI. The HFA inhaler has different taste and smell from the CFC inhaler. Some children disliked the new smell and refused to use HFA inhalers. After trying other kinds of HFA inhalers, this problem could be conquered totally. The utility rates of different kinds of HFA inhalers were as follows: 24 children with budesonide (12%), 68 children with ciclesonide (34%), 9 children with fluticasone (4.5%), 40 children with fluticasone/salmeterol (20%). The others were controlled by oral medications (29.5%). The doctors agreed with the HFA inhaler in clinical practice. And one doctor considered that HFA inhalers didn't make difference in her decision-making.

### Conclusions

The CFC inhaler depletes the ozone layer, and this result will bring more disease. We should no longer use it. The new alternative medication, HFA inhaler, is a better choice for the earth and human.

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## Session P2.3: Sustainable health systems to improve health for all

### Hospital Sustainability and Corporate Social Responsibility: Experiences from 19 Large Sized hospitals in Taiwan

**WANG Hsiu-Ling, YANG Yuan-Han, KWAN Aij-Lie, LOH Joon-Khim, WU Wen-Jeng**

#### Introduction

Hospitals are largely private nonprofit funded but oriented a social welfare and profit mission in Taiwan. Corporate social responsibility (CSR) promotes accountability to stakeholders and integrates social and environmental concerns within operations. How hospitals engage in CSR initiatives? We explore the differences in community benefit services among different types- nonprofit by private owned, religious, medical university, and public.

#### Purpose/Methods

In August 2016, we examined websites of 19 medical centers. Based on the GRI G4 guidelines, we summarized CSR focus conducted, noting similarities and differences of CSR programs.

#### Results

Universally mentioned CSR focus were: Economic Performance: mHealth initiatives, targeted R&D, infrastructure investment (smart technology, electronic medical records, RFID). Climate change actions: Medical waste classification water conservation. Recycle expired pharmaceuticals to reduce environment hazards. low-carbon diet by select seasonal foods & local produce. Social: Investing charitable activities in dental, psychiatric. Health care without harm: Protect patient privacy. Inform consent and shared medical decision making; malpractice dispute; Security of labor rights, occupational safety & health. Workplace violence, employee assistance program (EAP), resilience or psychological support. Governance: board characteristics, directors' liability risk assessment, community disaster emergency command system. Donations accounted for 45.54% of non-patient revenues and 3.93% of total revenues. Non-patient revenues accounted for 6.57%~10.25% of the total revenues.

#### Conclusions

The green supply chains, recycling economy, family directors in board composition were commonly less addressed. There were some programs unique, such as donations on community of religious hospitals. The earnings (spending on community benefits) of religious hospitals is less than (higher than) other types of hospitals. Non-patient revenues have a positive correlation with religion funded or university

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## Improvement of Sustainable Referral System for Public Health Promotion in Regional Community

**PARK Ji Ung, KIM Hanna, PARK Kwang-Wook, PARK Min-Hyun**

#### Introduction

In South Korea, Primary clinic, secondary hospital and tertiary hospital perform their role by giving medical treatment and referring a patient under the same mission of public health promotion. However, they are placed in different medical circumstance, so that it often causes some unintended inconveniences to patients, 'requesting-doctors', and 'recipient-doctors'. And those inconveniences could be patient's dissatisfaction, waste of time and resources, conflicts between the medical institution, etc.

#### Purpose/Methods

We conducted this study to figure out what difficulties the local clinic and bigger hospital are experiencing respectively. We were visit local clinics and accepted their opinions and survey of them was also conducted ("Survey of Clinics"). In addition, we performed the survey targeting the faculties of Boramae medical center who receive the patients from outside ("Survey of Faculties")

#### Results

We performed the local clinic visits 41 times over 1 year (from March 2015 to March 2016), and 60 doctors of local clinic of 267 answered the questionnaire. In Boramae medical center, 55 faculties of 140 answered the questionnaire. Local doctor required a prompt referral (46.8%), smooth communication (29.0%), courteous attitude between both doctors, and academic meeting. Otherwise, faculties of general hospital wanted sufficient amount of and qualified referral documents (89%), and advance contact prior to sending a patient.

#### Conclusions

All things taken together, following factors are important for sustainable referral system; sufficient and qualified referral documents, rapid and smooth contact system, policy and system of returning patients, continuous academic exchange, and mutual respect. We found that these 5 factors are important in referral system. In other words, when these are elaborated and empowered, we can contribute to public health promotion by the sustainable referral system.

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## A study of the adoption and utilization of high-tech technologies under the National Health Insurance in Taiwan: The case of computed tomography

## CHUNG KUO-MOU, YAN YU-HUA

### Introduction

After National Health Insurance (NHI) was executed in Taiwan, the control of rising health care expenditure became a key issue for NHI. Many researches have found that high-tech medical instruments are one of the main factors for the rise of health care cost. In the nine items of expensive medical instruments, Computed tomography (CT) is the top items with major cost and the highest frequent uses. This study would like to find out the relative factors that affect CT.

### Purpose/Methods

This study used the medical care regions as the observation units from 2000 to 2013. Multiple regression analysis was applied as statistical method. This study wanted to find the density of CT that influence the utilization and health care expenditure.

### Results

The result found that CT's density and hospital physicians have a significant influence on CT utilization after controlling for income, CT's density and hospital physicians have a significant influence on CT expenditure after controlling for income. However, the proportion of aged population didn't have a significant influence on CT utilization.

### Conclusions

Application of the CT scanner is the mainstream of medical imaging, and is widely used for general and special inspections. In order to ensure the image quality of CT scan, it is necessary to carry out the medical exposure quality assurance.

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## Decision-assisted support system for lung cancer analysis and detection

### HSU Yushan

#### Introduction

Lung cancer is the second leading cause of death in the U.S. and is also a major cause of death for both genders all over the world. Over 80% of lung cancer cases are highly related to tobacco smoke exposure due to cigarettes and cigarette smoke, which can explain over 60% of cancer-causing chemicals. The clinical outcome of traditional therapies remains unsatisfactory despite major efforts to ameliorate treatment approaches in the past decades. One of the main reasons is a lack of an early-stage diagnostic system for lung cancer.

#### Purpose/Methods

Screening exams and pathological tests are the most popular procedures for lung cancer detection. If the case is deemed as suspected lung cancer by screening exams, then the pathological test will be implemented. However, the pathology reports contain considerable amount of textual information, and this textual information is not well-structured. This representation style confuses physicians and mislead the research outcome. To solve the task, this study implements a text mining technique to construct a cancer-related corpus and matches it with textual

information to compress a considerable volume of information into some manageable amount. By doing that, a large amount of information can be efficiently captured by physicians and help facilitate the decision-making process. The compressed information and clinical information were sequentially fed into twin support vector machine to construct the lung cancer detection mechanism (herein decision-assisted support system: DASS).

#### Results

To test the DASS's forecasting quality, this study takes it as a benchmark and compares it with the other three models (SVM, DT, NN). Among all of the models, the DASS shows a forecasting accuracy rate of above 87% and outperforms the other 3 models.

#### Conclusions

The introduced DASS, examined by real cases, is a promising alternative for lung cancer detection. Physicians can thus take the introduced DASS as a roadmap to support their medical judgments.

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## Analysis of Medical Expenses of Elderly Patients Hospitalized in Tertiary Hospitals in Korea

### KIM Yoon-Sook, HAN Seol-Heui, HWANG Jeong-Hae, LEE Jongmin, SONG Mi Ryeong

#### Introduction

The purpose of this study was to identify the characteristics of the elderly hospitalized in tertiary hospitals and to analyze the medical expense of the elderly hospitalized according to their characteristics.

#### Purpose/Methods

This study is a retrospective descriptive study. The 7790 elderly patients aged 65 years and older who were hospitalized from January 1, 2015 to December 31, 2015 were included. Data was analyzed by t-test and ANOVA, and post-test was performed by Scheffé test using SPSS version 24.0

#### Results

There were statistically significant differences according to admission method, ambulation, and discharge status between the medical expenses per hospitalization and medical expenses per a day of hospitalization of the elderly hospitalized patients. As for the total medical expenses, 'Neoplasms,' 'diseases of the circulatory system,' and 'injury, poisoning and certain other consequences of external causes' are the most highest.

#### Conclusions

The target of the tertiary hospital's service should include not only acute patients but also elderly patients with severe chronic diseases. The cost-cutting effort for elderly patients should be accompanied with needs of elderly patients.

**Comments**

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## Session P2.4: Using ICTs to promote health

### The Value-added Application Service Platform of Cloud Information on Taiwan National Health Management

**LEE Chia-Hui, TSOU Ching-Fei, CHI Kuei-Chuan, CHEN Chun-Po**

**Introduction**

The Health Promotion Administration established the Platform of Cloud Information on National Health Management (including App) in 2013-2015. The platform provides five functions including: Health Scorecard (records such as diet, exercise, blood pressure), Health Assistant (records health examination data), Health Calculator (provide personal health risk assessment and suggestions), Health Counselor (provide personalized and interactive health education information), Health Calendar (check health schedules, and receive notifications).

**Purpose/Methods**

The Platform provides personalized data recording, integration, and application feedback. Furthermore, regular synchronization of cross-agency data, including the results and records of the users participating in healthcare screening adopted on the platform would be uploaded to the National Health Insurance Administration by the healthcare institutions. Therefore, users can get more private health information by Citizen Digital Certificate.

**Results**

By the end of 2015, the platform has imported tens of millions of 8 major preventive care data. Include child preventive care, adult preventive care services, pre-natal examinations for women, fecal immunochemical testing, oral mucosal testing, pap smear for women, mammography, and topical fluoride gel in children. The number of members reached 11,046 with 93.18% of the users responded "very satisfied" and "satisfied" with the system in the satisfaction survey.

**Conclusions**

The platform help solve the limits of health services that possess area restrictions through cloud technology, improve the health education through innovation model that integrates online-offline services, and providing personalized healthcare services.

However, establishment of the "endpoint" is the actual critical success factor of the project. In the future, we will collaborate with groups or community to measuring endpoints to conduct personal health management, and integrate the value-added application of healthcare data from all fields.

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### Creating a Patient Safety Indicator System with Cloud Infographic to Promote Efficiency of Quality Management in Health Care

**HSING Hui-Fen, LI In-Fun, CHANG Te-Hsin, LEE Mei-Yu**

**Introduction**

The indicators of patient safety can provide continuous evaluations, periodic data analysis and statistics reports, which can improve the quality of health care and the protection of patient safety. The old method of Excel needs repetitive procedure which is time-consuming and can only provide statistics of single source data. Cloud infographic can present complex information in a quick and easy-to-understand way. In this research, we demonstrate the attempt to use the cloud infographic information system to improve quality management efficiency with more time and labor saving approaches.

**Purpose/Methods**

This system utilizes the Microsoft PowerPivot to integrate the Patient Safety Reporting System database and a formula language called DAX function (Data Analysis Expressions). We imported the data to smart template and transformed all complex information into graphics that were both easy to grasp and visually appealing. Finally, we published it to SharePoint and kept data fresh by connecting live sources. Users can process the data with data mining and data segmentation techniques by clicking on the filters.

**Results**

The system provides real time information and server resource sharing through cloud computing. Smart template can also improve patient safety indicator efficiency and make information more readable. Hierarchical view can drill down to divisions, units and directly locate the unit with problem. Administrators may use smart devices to compare different periodic information with long-term information.

**Conclusions**

The system provides resource sharing, accessibility, individualization and hierarchical management features. Cloud computing is very helpful to decrease statistics errors, cut down labor costs, shorten report procedures, lower data loss risk, and solve the problem of data storage and update. Using pictures and infographics is a powerful way to communicate and connect with all the healthcare providers and help them to get more alert to patient safety events in hospitals.

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## Strategies to Improve the Reading Rate of PharmaCloud System in a Community Medical Group

**LIN I-Ching, YANG Pei-Yu, PAN Yi-Chun, SUN Hung-Yu, LIN\* Ying-Li**

### Introduction

The PharmaCloud System was established by National Health Insurance Administration in July 2014 in Taiwan. The reading rate of PharmaCloud System is a quality index of the Plan for Family Doctor Integrated Delivery System whose purpose is to improve the quality of primary health care and decrease the waste of health insurance in Taiwan. We construct some strategies in order to increase the reading rate of PharmaCloud System.

### Purpose/Methods

There were 21 clinics (27 physicians) and 1 medical center in the Chang-Lian community medical group of the Plan for Family Doctor Integrated Delivery System. The community medical group was organized and managed by family medicine department of the medical center. All 18,636 outpatients of the community medical group joined the plan. Intervention strategies included monthly regular tracking, discussion and Line reminders.

### Results

The reading rate of PharmaCloud System rose from 79.3% in January, 2016 to 88.3% in September, 2016 ( $p=0.006$ , Wilcoxon sign rank test). The participating rates of preventive health services during January to August, 2016, for adult preventive health examination, cervical pap smear, and stool occult blood test in the Chang-Lian Community Medical Group were 50.4 % (national p50: 55.5 %), 21.5 % (national p50: 18.3 %), and 49.3 % (national data: 30.8%), respectively. The rate of continuity of care of the clinic regularly was 59.8 % (national p50: 41.8%) during January to August, 2016.

### Conclusions

According to the results, the intervention strategies are effective methods to raise the reading rate of PharmaCloud System in the Chang-Lian community medical group. However, further study could be necessary to show that the intervention can decrease duplications rates of therapeutic drugs and then elevate patient safety.

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## The Integrated Utilization of Medical Orders and National Health Insurance PharmaCloud System

**CHEN Jui-fang**

### Introduction

Repeated medication is likely to occur in Taiwan for people going to an across-hospital doctor as there are numerous medical institutes with dense distribution in Taiwan which causes the high accessibility of seeking medical advice and the dispersion of personal medication data into different medical institutes. We utilize Cloud Technology to construct an integrated system of the medical prescription of chronically patients.

### Purpose/Methods

1. Collect the data of repeated medication from October, 2015 to June, 2016. 2. Download the data from PharmaCloud System and combine them with CPOE (computerized physician order entry). 3. Check the medication by utilizing PharmaCloud System.

### Results

1. There were 5510 patients reminded of repeating medication in total, including 3693 patients (67%) accepted the reminder and 1817 patients (33%) did not. 2. The expense of across-hospital repeated medication has been decreased from the amount of 223648 in Q4, 2015 to 171063 in Q1, 2016, and then to 116901 in Q2, 2016.

### Conclusions

The situation of repeated medication has been decreased by combining the data from PharmaCloud System with CPOE. For the purpose of improving the long-term medication security of chronically patients, besides offering the convenient and speedy cloud to inquire medication history, CPOE is also constructing a system comparing hospitalized medication and self-provided medication with the cloud medication history system now.

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## Analysis on the Effectiveness of Mobile Service for Approving Electronic Documents at Hospitals

**KIM Pan Gyu, KIM Choon Sung, JEONG Woo Cheol, SHIN Hye-Jung, AHN Myoung Ock**

### Introduction

IT has become the main means in decision making process and delivering decisions to organization members. The medical notification and decisions including patients' safety and general administrative affairs are also made online. However, such online procedure gets often delayed within department or between departments, as the online procedure is only conducted by online access. Accordingly, the system needs to be improved to offer better health services. This study is to analyze the effectiveness of SMS service for approving electronic documents at hospitals.

### Purpose/Methods

The Center of Health Information and Technology at the National Medical Center has developed a program that notifies health

workers of documents to be checked and confirmed. With this program, the workers receive a text message at 8:30AM everyday. The number of documents to be checked and the duration of the document processing time have been analyzed weekly and compared with the previous year (2015) when the mobile service was not provided.

### Results

The mobile service began to be provided in March, 2016. In 2015, 13,142 documents were processed while 16,761 documents have been processed in 2016. The average number of documents processed each month increased by 0.6. Nevertheless, the average duration for processing documents decreased from 23.4 hours in 2015 to 22.2 hours in 2016.

### Conclusions

It has been confirmed that text message service is helpful for effective online decision making process. The fact that the number of documents has been increase indicates that the decision making at hospital is getting more complex. As such, further consideration for improving the effectiveness of decision making process is needed.

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## Estimation of Using Wearable Devices to Health Promotion

**LIN Chen-Yu, HUANG Chien-Min, TSAI Chun-Chi**

### Introduction

Wearable devices and Application software undoubtedly change the world and our lifestyle. Application can not only bring us a more convenient life but also help us to promote healthy programs that let us toward a healthier lifestyle. With the growing prevalence of mobile devices in Taiwan, the penetration rate of smart device is 73.4%, surveyed by Institute for Information Industry in March 2015. It's really a good chance to use wearable device to promote healthy activities.

### Purpose/Methods

In this study, a case-control design was used to estimate the effect of using wearable devices in health promoting program. We enrolled 60 participants into a exercise course (group A) with using mi band, another group (B) without using that. By comparison with Indexes of health status and self-conscious of health which were taken at the begin and end of this study, we can find out the difference between groups and outcome of intervention.

### Results

A total of 60 participants with using wearable device, a cheaper mi band, 86% of them do well on taking scheduled exercise. By using pair-t test, the BMI ( $t=8.33$ ,  $P<0.05$ ), self-conscious of health ( $t=10.12$ ,  $P<0.05$ ) and blood pressure ( $t=9.87$ ,  $P<0.05$ ) have significant difference between start and end of exercise program. There are also obviously different between two groups. Group with mi-band have higher satisfaction of the exercise

program and accomplishment rate ( $\chi^2=15.6$ ) than group without using that.

### Conclusions

According to the research, we can find that using a wearable device as assistance equipment can help to promote exercise. Participants with mi-band can record their daily activity data automatically. It's more convenient for them to check personal physical data anywhere and anytime, and that may let them pay more attention on taking exercise on time. In the future, more and more wearable devices may apply to change our lifestyle.

### Comments

More and more free exercise Apps associated with fitness are easily available. Estimation of App's effect is another study topic.

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## A study on the factors influencing the intention of adopting Health Bank Service

**CHANG Rei-Tung, TSENG Wan-Ting, LAI Yi-Fang, ROAN Jin-Sheng**

### Introduction

The National Health Insurance Administration of Taiwan started offering Health Bank Service in 2014 that allows people to retrieve their healthcare-related data such as personal outpatient, hospitalization, prescriptions, allergy, examinations results, and others from the computerized system. Implementation of the Health Bank Service system not only makes health information more transparent and easier to use but also reduces unnecessary hospital visits seeking medical advices. Therefore, an investigation of the factors influencing the adoption intention of Health Bank Service system is important to promoting it.

### Purpose/Methods

A research model based on Decomposed Theory of Planned Behavior was proposed. A questionnaire was developed and validated before distributed to respondents in order to test the model. 239 valid responses were collected and the data were then analyzed with structured equation modeling technique to validate the model. Among the respondents, 51.9% were below 40 years old. 67.4% of them had retrieved outpatient data and 39.7% had retrieved medical examination data from the Bank before.

### Results

The results showed that attitude towards the service, subjective norm (i.e., family and friends influences), and behavior control (i.e., the ability) of using the system had positive impacts on the intention of adopting the service. Perceived ease-of-use and perceived usefulness of the system and compatibility of the system with personal healthcare habit and preference had positive impacts on the attitude towards the service. External influence, interpersonal influence, and family influence were highly related with subjective norm. Computer self-efficacy and facilitating conditions had positive impacts on behavior control.



### Conclusions

We suggest The National Health Insurance Administration of Taiwan should (1) build more useful functions onto the system and make sure the system is easy to operate for the citizens; (2) make products compatible with people's healthcare habit and preferences.

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## Improvement of Dispensing Errors in the Outpatient by HFMEA

### CHEN Hui-Chuan, CHANG Men-Hui

#### Introduction

Most hospitals in Taiwan have established pharmacies for the convenience of patients and because patients are top priority for the hospitals. The result is that pharmacists have an excessive workload and the number of errors inevitably grows. In the study, investigators reviewed 511,357 prescriptions between Jan. and Dec. 2014. The number of incidences of dispensing errors was found to be 1214, and revealed that the most common error (68%) was wrong-drug dispensing and the second most common error (26%) was mistaken- quantity dispensing. The overall ratio of dispensing error were decreased between the pre and post strategic actions.

#### Purpose/Methods

In the study, we applied a hazard score matrix and HFMEA to assess the severity of the risk. Based on the hazard score matrix of HFMEA, score of hazard factor is from 9 to 12. There were two approaches to resolving dispensing errors by HFMEA. The first approach was to set up barcode in computers so the pharmacists can compare the dispensed drugs with the prescribed drugs. The second approach was to store and label separately controlled medication that consists of hormone analogy and high-alert medications.

#### Results

As a result of these procedures, the incidences of dispensing errors was found to be 548, of which 30% was dispensing wrong drugs and 25% was quantity mistakes.

#### Conclusions

Although the incidences of dispensing errors have decreased because of the decrease in incidences of wrong-drug dispensing, errors in mistaken-quantity errors are still considered significant and need to be resolved.

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## Establish a friendly medical environment to enhance the patient satisfaction

### CHEN Shih-Chin, LI Wan-Chen

#### Introduction

Providing a patient-friendly medical environment is our goal in the hospital. There is an increasing trend toward designing hospitals with patient-centered features. With the medical wisdom of the trend, we provide convenience services.

#### Purpose/Methods

We provided including: (1) the website and APP system: patients can register online and instantly check the progress of the current visit; (2) the self-service payment machine; (3) the patients receive the medication through the "Automatic Chronic Prescription Forming Machine", saving time and convenience; (4) outpatient area set up "automatic report and called machine", so that patients confirm the progress of the visit, maintenance of patient privacy, reduce patient waiting time.

#### Results

Using Cross-sectional questionnaire and structural questionnaire methods, we send questionnaires to outpatients in March 2016. Total of 466 sets of questionnaires had been sent out and 364 sets of feedback were received. Overall satisfaction was rated 81.22% by all participants. The results indicate that we promote hospital service quality, reduced waiting time and raise satisfaction rate from this self-service approach.

#### Conclusions

The patient satisfaction surveys will be important in determining health care outcomes. Self-service approach that can reduce the waiting time for patients and increase the time for hospital staff to care for them. The experience could serve as a reference for hospital managers to improve Medical quality and provide more convenient services to enable patients and their families to proceed more smoothly to the treatment process.

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## Utilize multi-media health education film to improve completion rate

### CHEN Shu-Chin, SHEN Ya-Lin, TSAI Yi-Ru

#### Introduction

Per 2014 Patient Safety Bulletin record of a regional teaching hospital located in northern Taiwan has total 8 incidents. Further analysis found that all took place in preoperative stage, such as did not remove dentures, ring or contact lenses. One of the incidents was operation room found the surgical site did not matched to the diagnosis, almost made a major mistake incident. To improve the patient operation safety, we must improve completion rate of preoperative care.

#### Purpose/Methods

Easy to understand with sense of humor, combine animation and live acting produce preoperative care health educational film; other than educational, have the patient to be operated participate in the interactive Q & A enhanced patient's appreciation. Contents: Divided into 3 portions: Preoperative checklist, The operation day preparation checklist Interactive Q

& A. Steps: Make sure every to be operated patient watch the film then the attending nurse inquire the patient if they fully understand the contents of the film.

### Results

during the period of Jan. 01, 2015 – June 30, 2016 total 3,541 inpatients were operated. 0 preoperative care incidents, preoperative completion rate were improved from 88% to 100%. 60 patients from randomly sampling for questioner, the satisfaction rate of “Preoperative multi-media health education film” also increased from 86% - 94.2%.

### Conclusions

After watching the multi-media health education film, patient understood and completed preoperative preparation. Patient's participation and interactive with the film, become a part of the “Operation Safety”, which improved nursing care quality and improved preoperative completion rate. As a whole it significantly improved the surgical ward service quality.

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## Educate patients with chronic obstructive pulmonary disease to use metered dose inhaler accurately through poster and video

### SU Wen-Ssuan, TSAI Yi-Fan

#### Introduction

In 2016, the ward occupation rate was 88.1% with an average patient age of 70 in medical ward unit. The number of patients with Chronic Obstructive Pulmonary Disease (COPD) ranked top five in the ward. 26% of the main takers are foreign caretakers who provided feedback of a high rate of inaccurate use of metered dose inhaler. From the survey, only 55.55% patients used inhalers correctly while the satisfaction rate was only 76.38%. The result reflects an essential need for COPD patients to understand how to use inhaler accurately.

#### Purpose/Methods

The instruction booklet was used as the base for poster design. A slogan and mnemonic which combine with the technique of using inhalers was developed to enhance memory for accurate use of inhalers. A QR code was also designed to provide link to the educational video.

#### Results

A total of 72 patients used the educational poster and video method from May to October 2016. The accuracy rate for the use of metered dose inhaler increased from 55.55% to 91.66%. The satisfaction rate also increased from 76.38% to 95.83%.

#### Conclusions

The result shows the effectiveness of delivering the knowledge of accurate use of metered dose inhaler through poster and video to COPD patients.

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## Google Apps apply to group physical fitness activities

### LIN Kun-Hung, WANG Yi-Ching, LI Min-Hui, YANG Chun-Han, CHENG Jin-Shiung

#### Introduction

Physical Fitness can promote the health, it's evaluation of effectiveness is limited by the lengthy time-consuming of data log on that cannot be recorded immediately by individuals or groups to give timely feedback for setting goals. By choosing Google Apps, it's easy to achieve with more accurate monitoring of physiological data changes and movement patterns by assessing the overall performance of the activities with data analysis.

#### Purpose/Methods

Using Google Apps to simplify the operation mode, and shorten the recording time and instant feedback of information, in order to enhance the willingness to participate to achieve the purpose of health management, total of 24 participants in 8 weeks process of exercise training. (1)Students who participate in physical fitness activities (2)Build check-in system, activity records, and satisfaction survey (3)Utilizing QR Code for quick login. At the end, evaluating the time to improve and the system satisfaction were counted.

#### Results

The traditional of written records consume 2 man, the average time spent on each document is 5 minutes, and the administrator will spend 30 minutes on updating the daily data. The Google Apps sign-in system allows students to complete a record individually in less than one minute. The administrator can spend only five minutes for updating each class data that dramatically reduces the time it takes to synchronize updating records and information. Satisfaction rate with the Google system was 94.55%.

#### Conclusions

Google Apps is easy to acquire and convenient to apply especially for activity records with multi-participant that enables effective management, especially in the immediate record inquiry function, it shortens the time to update the data and also can achieve the purpose of the activities preset. Self-registration method is simple and fast to operate, and after exercise at any time the record can be conveniently found for positive participation in exercises to encourage positive results.

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## Enhance the effectiveness of smoking cessation services through information technology

**CHENG Jin-Shiung, HUNG Chung-Lung, KU Yan-Chiou, JEANG Shioh-Rong, WU Ting-Ting**

### Introduction

According to the World Health Organization statistics released in 2013, non-communicable diseases, national profiles show that since 2002, smoking has led to global death toll growth of nearly 3 times a year, the global average of 600 million people have died from smoking. Therefore, the Ministry of Health and Welfare of the People's Republic of China has actively promoted smoking cessation services and provided relevant incentive measures since 2012. The hospital faces a large number of inpatients and outpatients, but there is no effective way of receiving cases. As a result, it is difficult to raise the number of recipients and provide Health education services, so look forward to the introduction of information systems, thereby enhancing the smoking-related services.

### Purpose/Methods

Purpose: Enhance the number of cases of smoking cessation, improve health education services. Methods: Outpatients use clinicians to collect information about patients' smoking cessation, and make an appointment in the outpatient service to remind them to provide guidance to teachers. Inpatient use of hospitalized nursing assessment, collection of information related to smoking cessation, daily statistics related to the information provided by a manager to visit and receive.

### Results

1. The number of cases of smoking cessation in 2012, 123 people in 2015 to 2171 people 2. The amount of smoking cessation health education services, in 2012 331 trips to 2015 7291 person-time

### Conclusions

(After receiving information, the system greatly improved the number of patients and health education services, we are also on-line system, the ongoing maintenance of system functions, and evaluation system results, the system can become trusted nurses a good helper.

### Comments

At present, medical operations are fully integrated into the information technology assistance, look forward to be able to simplify operations, improve patient safety, more from the perspective of preventive medicine, so that people live healthier.

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## Evaluation of educating patients on shoulder joints exercise through mnemonic and educational media

**YEN Yi-Ling, LIN Yi-Ju, LEE Tsung-Han, TSAI Yi-Fan**

### Introduction

Many patients with shoulder surgery were sent back to hospital after surgery due to inappropriate shoulder joint exercise which resulted in adhesions of the wound. Only 2 out of 6 patients could conduct shoulder joints exercise correctly, reflecting an essential need for educating patients on correct way of exercise.

### Purpose/Methods

The method for improving the condition of inaccurate exercises is through mnemonic and educational media. Through the slogan of "flexion, extension, rotation and abduction", each action is done 5 times with a holding of 10 seconds each. The actions were videoed as educational media and lessons were conducted to encourage questions from the patients. A total of 36 patients with shoulder surgery participated in this process from April to November 2015.

### Results

36 patients underwent the rehabilitation exercise course and 100% of the students was able to perform the exercise correctly. This result reflects a positive outcome of educating shoulder joints exercise through mnemonic and educational media.

### Conclusions

The use of mnemonic and educational media can accurately provide patients on methods of shoulder joints exercise and increase safety and caretaking of the patients.

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## A sustainable project for Specific Learning Disorders through ICTs

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### Introduction

Since 2014 Gammani, a private territorial social cooperative for specific learning disorders has been addressing 6-14 y. o. children in a biweekly Afterschool Educational Laboratory, with a multidisciplinary team (child-psychiatrist, psychologists, teachers, social-workers). New ICTs support the program for effective strategies and study independence achievement, consistent with the ministerial programs for dyslexia.

### Purpose/Methods

Gammani activates certified customized paths after specific diagnosis (usually in primary school); it supports teaching and corrects mistakes through innovative digital tools (learning-difficulty oriented computers, video lessons, teacher training, dedicated staff), not available in every school. An available package is the condition proposed at an affordable-price (250 €/month).

### Results

In 26 months, the diagnosis in a children's diverse community were: dysorthography 23.8%; dyscalculia 9.52%; dysorthography+dyscalculia 9.52%, mixed disorders 9.52%, Special Educational Needs 19.04%, BLC 19.04%, ADHD 9.52% (common condition: psychopathological comorbid). Rehabilitation aims to cognitive enhancement using new technologies (online platform "RIDINET" for remote rehabilitation). The first results evaluation, still ongoing, is good. Activities carried out: teachers meetings, parental counseling, prevention screening in preschool-age, practices for attendance allowance provided by law.

### Conclusions

A customized multi-specialist service can indirectly improve learning and social behavior at school for child, family and teachers. Gammani aims to ensure successful child's paths integrating different stakeholders in continuously improving the bio-psycho-social status of family-school-community system, never giving up the educational rights: through the school career, in a lifelong perspective (driving license exam, university, work,...), should poverty conditions occur.

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## The use of ointment pictorial card in assisting ward's assistant to accurately apply skin ointment

**YANG Shin-Fang, TSAI Yi-Fan**

### Introduction

In a respiratory care unit, 32 patients are aerophore dependent and the ward assistants become one of the main caretakers. 80% of the patients require application of more than 3 types of skin ointment, such as psoriasis, pruritus, eczema and exfoliating. Nonetheless, it was found that the ward assistants were unfamiliar with the various ointments and their application methods and time. In an assessment to 11 ward assistants from July to September 2016, only 64.29% applied ointment correctly. This reflects an essential need to educate the assistants with correct method on ointment application.

### Purpose/Methods

A pictorial card was designed for each type of ointment with information on application method and things to take note. The card also stated the areas of ointment application and time of application together will graphic illustration. The pictorial cards were placed beside the wards for ward assistants to clearly see the method and time for ointment application and apply the medication correctly.

### Results

A total of 28 patients have pictorial cards for their respective ointments application in October 2016. The accuracy rate of ointment application of ward assistants increased from 64.29% to 96.42%.

### Conclusions

The result reflects the effectiveness of the use of pictorial card in improving the accuracy of ointment application by the ward assistants. This method should be referred to other clinical department for better caretaking in the future.

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## A Study on the Factors Influencing Nurses' Intention to Use Nursing Information Systems for Patient Admission Assessment

**TSENG Wan-Ting, CHANG Rei-Tung, ZHENG Ting-Yun, ROAN Jin-Sheng**

### Introduction

In recent years, information technology has been widely utilized in the healthcare environment. One such application is the nursing information system for patient admission assessment, which allows nurses to key in their patient assessment data at the admission of the inpatients for later development of medical treatment plans by the physicians. The system's aim is to provide a common platform for the whole medical team to share diagnosis and treatment data in order to arrive at more effective inpatient treatment plans and also to alleviate the time pressure of the nursing staff. To achieve this objective, it is important to understand the factors that influence the system adoption intention of the nursing staff when promoting these systems.

### Purpose/Methods

A research model, based on the Extended Technology Acceptance Model (TAM2) proposed by Venkatesh and Davis and the interviews of ward nurses, was proposed to explore these factors. A questionnaire was developed and validated before distributed to respondents in order to test the model. The collected data were then analyzed with structured equation modeling technique. Among the respondents, 43.0% were at N2 level, and 54.9% had more than 5 years of healthcare experience.

### Results

The results showed that subjective norm, perceived ease-of-use and perceived usefulness of the system, and behavior control had positive impacts on the intention of using the nursing information system for patient admission assessment.

### Conclusions

Based on the findings of this study, we suggest the hospital administration should (1) build more useful functions onto the nursing information system for patient admission assessment; (2) make sure the system is easy to operate; and (3) convince the nursing staff that the nursing information system for patient admission assessment is relevant to their job productivity and effectiveness when developing and promoting the system.

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## Factors Affecting Nurses' Continuance Usage Intention of Healthcare Knowledge Sharing Systems

**TSENG Wan-Ting, CHANG Rei-Tung, HSU Yu-Ching, ROAN Jin-Sheng**

### Introduction

In recently years, the rapid development of new healthcare techniques results in the tacit knowledge of medical professionals a core competitive weapon of medical institutions. In order to enhance its competitiveness of healthcare systems, a hospital has to import a knowledge sharing system (KSS) to facilitate its knowledge sharing among the members within the organization. In a healthcare system, medical institutions must pay attention to the factors affecting nurses' willingness to continue to use the KMS to share and absorb healthcare knowledge because nursing professionals account for the largest proportion of medical staff and are usually the front lines of providing health care to the patients.

### Purpose/Methods

Based on the information systems success model proposed by DeLone and McLean in 1992, this study added knowledge quality as an antecedent of user satisfaction and perceived usefulness. Other facilitating and prohibiting factors, such as perceived usefulness, system satisfaction, healthcare knowledge sharing intention, work time pressure, and insufficient knowledge representation skill were also included to predict user's Continuance Usage Intention of the healthcare knowledge sharing system. 312 valid questionnaires were collected. Structural equation modeling was applied to verify the causal relationship between the variables. Among the respondents, 54.5% held college degrees and 45.5% were at the N2 level, and 47.4% were below 30 years old.

### Results

The results showed that knowledge quality and user satisfaction had positive impacts on perceived usefulness. Work time pressure and insufficient knowledge representation skill had negative effects on willingness to share knowledge. Willingness to share knowledge and perceived usefulness had positive impacts on the intention of continuous use of KSS.

### Conclusions

Based on the findings of this study, we suggest the hospitals should reduce the work time pressure to allow the nursing staff more time to share and absorb knowledge.

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## Session P2.5: Patient empowerment and involvement

### A Preliminary Study on the Construction of Professional Relationship Quality of Medical Social Work Service with patients in Taiwan

**HSIEH Wen Chien, HU Chiao Min, LIN Shen Han, HSU Tsui Jung**

### Introduction

Since the 1990's, the quality of professional relationship between social worker and patients has become an important issue in the development of social work field. In Taiwan, medical social work services have become more diverse, and follow-up professional focus should pay more attention to how to build and upgrade professional relationship quality.

### Purpose/Methods

The purpose of this study is to construct the professional relationship quality index of medical social workers and patients, and to understand how the relationship indexes influence professional relationship. A questionnaire survey was conducted in 170 patients at three metropolitan teaching hospitals in Taiwan from July to August, 2015.

### Results

In this study we constructed six quality indexes includes "the professional relationship of medical social work", "the quality of interaction between medical social workers and patients", "the quality of medical social work service process", "the quality of service results", "the quality of feedback from patients", "and the quality of hospital environment and service operation".

### Conclusions

The results of the study showed positive satisfaction with "the professional relationship of medical social work", "the quality of interaction between medical social workers and patients" and "the quality of feedback from patients". However, the results showed patients insufficient on some indexes: "the quality of interaction between medical social workers and patients", "the quality of service results", "and the quality of hospital environment and service operation" are still some of the high negative satisfaction.

### Comments

In addition, 22% of the respondents considered that they did not absolutely accept the resource allocation from social workers, because they were not familiar with the role of social workers and the social welfare qualification. The results can be provided to the medical social workers how to provide professional service acceptable and how to improve the professional relationship.

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## The Effectiveness of Using Electronic Wallets to Enhance the Financial Self-management of Psychiatric Patient in a Rehabilitation Ward

**WANG Wei-Chen, LU Huei-Lan**

### Introduction

This study was to explore the effectiveness of using e-wallet to enhance the financial self-management in a psychiatric rehabilitation ward. These psychiatric patients received financial self-management training, avoiding cash loss risk and inconvenience, through financial-related groups' intervention, patient could understand the importance of money management, but also to enable it to achieve the ability of empowerment.

### Purpose/Methods

This study adopts a purposive sampling method, total of 73 chronic psychiatric inpatients were selected from a psychiatric center in southern Taiwan. Subjects participated in E-wallets related group; it included patients and family discussion group, E-wallets education group, and financial management group. Questionnaire was applied to collect data, and to explore the effectiveness of financial self-management. The indicator of measurement was "e-wallet usage rate", "qualitative experience description".

### Results

The study showed that the e-wallet usage rate increased from 6% to 95%, patients had more expression in the qualitative experience described such as: "I feel very convenient and fast, do not worry about money lost, the money self-management is a part of self-growth, and I began to know how to plan the use of money and so on". The results show that the effectiveness of using E-wallets, using ratio increased significantly, patient also aware that money management has enhanced patient's autonomy and self-confidence.

### Conclusions

In this study, the use of electronic wallet promotion, not only to reduce the loss of cash and nursing staff work loading, and also reduce the patient's use of cash borrowing disputes and enhance patient financial self-management, planning functions, and then to enhance confidence and autonomy, so that patients can be in the treatment of energetic environment to recovery, prepare back to the community in the future.

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## An Analysis of Self-recorded Side Effects of Chemotherapy by Ovarian Cancer Patients

**HSU Hui-Chun, HO Mei-Yao, TSAI Su-Yu,  
WU Shang-Liang, CHENG Jin-Shiung**

### Introduction

Ovarian cancer is often detected in the terminal stage. Surgery is the primary treatment, which is supplemented by chemotherapy. The side effects of chemotherapy have an impact on patients' quality of life. Most studies on the side effects are cross-sectional studies. As a result, the changes in the side effects during different course of chemotherapy are not known.

### Purpose/Methods

The purpose of this study is to understand the situation of incidences of side effects experienced by ovarian patients during chemotherapy. Prospective longitudinal research design was adopted. Through purposive sampling, ovarian cancer patients with 129 cases accepted. Six chemotherapy courses were collected. From Day 1 to Day 10 of each chemotherapy, the situations of side effects occurring were checked daily.

### Results

Extremity pain (65.3%), fatigue (57.3%), loss of appetite (50.4%), taste changes (48.4%) were the side effects with high incidences. The incidences of extremity pain peaked during the third course and continued until the sixth course, the use of Carboplatin and Paclitaxel had the highest incidences; the incidences of fatigue showed no significant fluctuations in the respective chemotherapy course; loss of appetite decreased with increases in chemotherapy course and significantly decreased by the sixth course.

### Conclusions

The study showed that patients were competent to complete the record form of side effects. In addition to questionnaire, it seemed that record form could be another tool for study. Incidence and occurrence timing of side effects during chemotherapy could help patients understand and increase their compliance. How to relief these side effects were very important to their life quality and treatment willing.

### Comments

The side effects of high incidences Intervention research should continue to be carried out to improve the quality of care for patients with ovarian cancer. This research method is worthy of promotion to understand the patient's uncomfortable conditions and to avoid recall error.

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## Empowering people with cancer in the management of their disease

**BERTRAN NOGUER Carme, JUVINYÀ  
CANAL Dolors, CASALS ALONSO Carla,  
FERRER RAMIÓ Lluïsa, GARRIDO BADOSA  
Carla**

### Introduction

Health centres have a growing sensitivity to the patient at the centre of the health system. To conduct an effective empowerment of people with cancer it is necessary to know the perception of their needs because, according to the WHO, in the

world 8.2 million deaths from this disease were produced in 2012. These diseases are a public health problem, which modify the way people live and imply a challenge for the health system. For health professionals, it means to play an active role aimed at empowering individuals and families in managing their health process.

#### Purpose/Methods

Objective: To identify the perception of people with cancer in the management of their disease. Methodology: Qualitative study with focus groups consisting of people with cancer (50 people) in the province of Girona (Spain). Aspects considered: satisfaction with the health system and professionals; assessment of received information, make decisions, information processing, control of symptoms, diet, physical activity, complementary therapies, sleep and rest; support in the disease process; necessary resources for coping; resources that have been taken and no. Analysis of content by the program Atlas.ti through a process of coding and categorizing.

#### Results

Needs identified: Bank materials; comprehensive attention point about: health, working and economic management, physical therapy, social worker, volunteer management; psychological support; supporting death and grief; basic care training; peer network support; systematization of medical and nursing actions and information; multidisciplinary professionals; training and information online.

#### Conclusions

Existence of satisfaction with their care professionals and health centres. Problems of communication, information and access to health and social resources have been identified. Manifestation of lack of the necessary knowledge to make decisions and manage the process and they leave decisions to health professionals. Existence of poor health literacy

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## Utilize multiple approaches and interventions to shorten the consideration time for giving rt-PA to stroke patient

**LU Yen-Wen, CHEN Hui-Jen, LIEN Chi-Hsun, WU Chao-Hsin Wu, HSU Hung-Yi**

#### Introduction

How to correctly and efficiently treat patients at the first moment and transport patients to suitable stroke center is an very important issue. US AHA/ASA Guideline that an additional 33% recovery in acute stroke patients received intravenous r-TPA during 60 minutes. In our hospital, there were 18 patients of acute stroke, received intravenous r-TPA between 2014 and 2015. 8 of 18 (44.4%) were beyond the principle of 60-minutes goal. Patients or family members took longer consideration time, mean time of 20 minutes. In this article, we used multiple approaches, for informed consent to shorten delayed time.

#### Purpose/Methods

After review of literature, evidence, guidelines, cross-professional discussion, and the common mistakes, we marked a short film "Saving brain within three hours" and played periodically in hospital lobby, neuro-clinical waiting area, and pharmacy waiting area. In these areas, people in risk and their family can easily note and see. We also play it during health education in the community. Furthermore, Poster about acute stroke with "FAST" mnemonic showed on outpatient clinics area, center of health education, and associated stations. Manuals with simple pictures and localized language also be used easily by clinicians to explain with family and patients at ER room.

#### Results

The shorten of the family decision time from 20 minutes to mean 14 minutes after this investigation. 74% of total nineteen acute stroke patients were received INTRAVENOUS r-TPA within 60 minutes (D-N times) between Jan and Sep 2016.

#### Conclusions

Through multiple approaches, not only patients and family can easily and quickly understand the necessary of intravenous r-TPA and shorten the treating time, but health providers can simply explain the complicated situation with family. It also contributes to spread corrected and updated medical knowledge, to prevent further stroke attack, let more patients received intravenous r-PTA and also decrease disability of stroke patients.

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## A preliminary study on supporting group activities of liver transplant patients with the intervention of medium of art

**YANG Li-Min, SUNG Hsiao-Ruei, TSAI Li-Li, LEE Shu Chen**

#### Introduction

Patients after liver transplantation still need long-term, stable medical treatment and learning as well as maintain a healthy behavior. They will obtain the positive, healthy development of body and mind if they, by reviewing their life course, improve the self-awareness, learn to share and cooperate in the group as well as connect with a good social support network. Artistic creation is a tool of non-verbal communication by which creators can express and explore themselves. Moreover, specific qualities of artwork can easily inspire discussion not restricted by time, thus allowing the review of it after activities.

#### Purpose/Methods

This scheme studies successful liver transplant patients and designs six types of thematic group content by employing the social group work method in combination with tools of medium of art. The content guided the group members to delve into one's life course and explore one's attributes in the group. In terms of social workers, group observation and the questionnaire survey of effectiveness of the group were conducted so as to assess and study this scheme.

### Results

1.No fewer than four persons attended every time with an average number of seven persons, and seven persons attend five times or more. 2. Eight questionnaires were recovered, which showed members "in the group, have a new understanding and discovery of themselves", "in the group, see their strengths or resources," and "in the group, members are willing to spend time interacting and sharing with me," and so on with 100% strongly agree.

### Conclusions

1. Group members, through guidance by the leader, are able to complete artistic creation of each group theme. By means of artistic creation, each member in the group increases their content of self-narrative and group feedback is received accordingly. 2. Occasionally group members, due to personal factors, are unable to attend regularly, such as appointment time changed, and not allowed to take time off from work, which leads to the floating numbers in the group.

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## Implications of Empowerment Model for Elderly Patients with Heart Failure

### WONG Chi Leong

#### Introduction

During the winter surge period. The huge bed occupancy and increasing AED attendance rate are the big challenge in Hong Kong Hospitals. The congested condition of wards is not ideal for patient management and the significant increase in workload will exert immense pressure on frontline staff. Elderly with heart failure is the high risk group of AED attendance and unplanned readmission. The Heart Failure Program to reduce CHF readmissions have been developed and implemented.

#### Purpose/Methods

From January 2016 to June 2016, the elderly patients admitted to United Christian Hospital with a primary diagnosis of CHF were eligible for enrollment. A designated nurse recruited the patients according to the discharge management pathway. The recruited patients were received dietary and pharmacological education. Follow-up telephone calls within 48 hours and twice per week follow up. Once confirmed the patient presented with worsening signs and symptoms of CHF. Early follow up by geriatricians and Nurse Co-join clinic would be arranged.

#### Results

1207 geriatric patients hospitalized for heart failure were screened by a designated nurse. 80 of those patients were recruited to this program. Total 272 phone calls were made. Average phone call per case was 3.88. The attendance of Geri-EFU and Nurse Co-join clinic were 23 and 34 respectively. Moreover, we made 173 referrals to the adequate care units, including CNS and Respiratory Nurse Clinic. Approximately 70% of target patients were successful to avoid 28-day unplanned readmission. A total of 16 patients participated in the satisfaction survey. Overall 25% of patients rated the program "excellent"

and 100 % "excellent and "very good". 100% of patients would call the program hotline before seek medicine support or enquiries.

### Conclusions

Congestive heart failure is one of the leading causes of hospital readmissions within 28 days of discharge. The Winter Surge Heart Failure Program was successful to reduce the substantial costs associated with CHF readmissions.

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## Analysis of Poor Glycemic Control of The Elderly

### CHEN Hsinghui, HOU Wen-I, CHEN Mei-Tsu

#### Introduction

Diabetes is a chronic disease that requires a multitude of daily self-management decisions complex care activities. Monitoring blood glucose, especially glycosylated hemoglobin (HbA1c) is critical for patients. To evaluate the effectiveness of counseling intervention, we use information system screening HbA1c of patients with poor control and established privacy protection of information database for supplying trace and management service. Patients with poor glycemic control can be further followed.

#### Purpose/Methods

This study aims to identify appropriate nutrition education for glycemic control. Data was collected between October 2015 and April 2016 for 432 patients whose primary diagnosis were diabetes. Their HbA1c were more than 7%. Exclusion criteria included individuals deficient of nutrition counseling and baseline measure in HbA1c without comparisons. They age-categorized ( $\geq 80$ , 70-79, 60-69, 50-59, 40-49 and <40 years). Changes in HbA1c from baseline to 3 months later were analyzed.

#### Results

The mean HbA1c decreased significantly from 8.43 to 8.28 ( $p < 0.05$ ) in the 60-69 year group, however our patients more than 80-year showed increase in HbA1c 8.29 to 8.85 ( $p < 0.005$ ). In this study causes attributed to hyperglycemia were forgetting to take medicine, sickness, insomnia, less physical activities, intake of lots of food or fruit, desserts, sugary drinks. Three main reasons mentioned above were intake of lots of fruit, desserts and sugary drinks.

#### Conclusions

To avoid malnutrition and mortality in the elderly, HbA1c was less stringent for the frail (Lipska KJ, Krumholz H, Soones T. et al., JAMA. 2016). To avoid symptomatic hyperglycemia, glycemic targets should be A1C  $\leq 8\%$ . Patients of 60-69 year group were interested in healthy lifestyles. Results showed significant progress in HbA1c for this mostly-retired group. Further structured self-management education and customized support program for geriatric diabetic patients is necessary (Margaret A. Powers, Joan Bardsley, et. al., Diabetes Care, 2015).

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## End of Life Care in Kaplan Medical center in ISRAEL

**GABISON Rina, KOL Yardena**

### Introduction

Palliative and End of Life Care are known from the oncology field and have been in process of assimilation in the last few years. This approach has also become common in patients who suffer from end stage of incurable diseases such as CHF, CRF Dementia etc. The 2005 enactment of the "Dying Patient Act", has defined the criteria of a dying patient. This allowed the patients, families and medical staff to establish a therapeutic approach that takes under consideration the patients' will. In 2015 the Ministry of Health examine how this approach is being implemented in hospitals as a tool to developing an organized method of palliative care in treating patients at the end of life. The assimilation process and intervention is being led by a Clinical Specialists Nurse, by developing an infrastructure, policy and intervention programs of palliative care and symptoms management for hospitalized and ambulatory patients at the end of life

### Purpose/Methods

The assimilation process and intervention is being led by a Clinical Specialists Nurse, by developing an infrastructure, policy and intervention programs of palliative care and symptoms management for hospitalized and ambulatory patients at the end of life

### Results

During 2016 about 500 patients were given counseling, 25% of the counseling was for non-oncology patients. An increase in patients defined as end of life. There is still difficulty discussing end of life with oriented patient.

### Conclusions

Changing attitude and approach are an ongoing process that involved many medical and ethical dilemmas of the society and health care team. Palliative care is yet to be fully predicated, but improvement is shown over the past two years in Kaplan Medical Center

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## The validation process of a scale to measure the nursing competences in international cooperation's context

**GRADELLINI Cinzia, DAVOLI Alice,  
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### Introduction

The International cooperation is been developed through a network of associations which consider people, and their competences, as the most important resource. As the health professional, who is responsible of care, the nurse is often called in the cooperation contexts (Guardoni, 2003); the number of the involved nurses has a increasing trend of about 10% in these last years (Emergency, 2015; Medicins Sans Frontieres, 2015). If it is considered the multidisciplinary and multidimensional complexity which characterize the mentioned context, the mapping of the specific nurses' competences results necessary.

### Purpose/Methods

The study aims to validate the Italian questionnaire "Nurses' competences analysis in context of International Cooperation" designed in a previous study (Settino e Gradellini, 2013). The validation process has been followed the models of Delphi and Valmi, searching for face's validity, the content's validity, the index of content's validity, the reliability of internal's consistency.

### Results

At the first administration of the questionnaire, it got a minimum content validity index for scales (I-CVI) of 0.8. The validity index (S-CVI) has been obtained a value of 0.9. The face's validity got a 83% because all the items got a minimum level of clarity of 70%. The reliability of internal's consistency has been calculated with the Cronbach alpha and it resulted 0.9. The fidelity of the reliability, evaluated by the split-half method, got a Spearman-Brown's coefficient and a Guttman index of 0.6. These data confirm the reliability of internal's consistency and the reliability of the questionnaire.

### Conclusions

The questionnaire has been demonstrated a good face and content's validity, a high internal consistence and the fidelity of the reliability, and it could be considered valuated. Right now, it is the only tool available in Italian language which considers the difficult mapping of the nurses' competences in a context of international cooperation.

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## Session P2.6: Promoting mental health of patients and staff

### The Effectiveness of Applying Horticultural Therapy for Psychiatric Patient- Example From The Day Care Center In A Medical Center In Taiwan

**SIE Hui-Ju, LIU Wan-Shan, LIN Chi-Feng, LIU Chih-Ju, SIE Nian-Jie**

#### Introduction

Chronic psychiatric disorder patients in the Day Care Center of the hospital are mainly cured by medical treatment, nursing guidance, occupational therapy assessment, and life skill training to help them maintain their daily functions and get back to the community after recovering. According to research, occupational therapy can help patients improve their cognitive ability. Since April 2015, the hospital introduced horticultural therapy rehabilitation program to help psychiatric disorder patients from the Day Care Center enhance their rehabilitation effectiveness.

#### Purpose/Methods

The purpose of this research was to investigate the effectiveness of applying Horticultural Therapy for those psychiatric patients. Cases for this study were collected from the patients with regularly ingested medication, and conducted during April 2015 to October 2016. (1) Through a series of activities such as watering, ground fertilization, seed sowing, insecticide spraying etc., held twice a week and 1.5 hours a day. (2) Researchers observe their effectiveness through interview, scales, and daily recorded.

#### Results

The results of the research revealed: 1. Horticultural therapy is not only helpful to enhance patients' cognitive ability, but evaluate their self-confidence and sense of accomplishment. 2. In 2015, the cost on greening the hospital decreased around 30,000 dollars per month 3. The income from the bazaar was around 15,000 dollars attributed to the Day Care Center as fund.

#### Conclusions

The project of Horticultural Therapy as a psychiatric adjuvant therapy not only positively improves patients' functions mentally and physically, but also greening the hospital. In the future, the hospital would continuously promote Horticultural Therapy on patients' rehabilitation, and also expand the greening environment. Offering patients' with a nice medication environment and enhance the hospital's ability on healthcare.

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### The Effect of Group-Based Horticultural Therapy Health Promoting Program on the

## Psychiatric Health Care in Psychiatric Patients

**LU Mei-Jou, HSU Sheng-Tzu, CHOU Li-Shiu**

#### Introduction

Horticultural therapy is the engagement of a patient in horticultural activities facilitated by a trained therapist to achieve specific and documented treatment goals. This horticultural therapy program may be found in a wide variety of healthcare and rehabilitative.

#### Purpose/Methods

The aim of this study to explore the effects of horticulture therapy activities on the cognition, self-esteem and interpersonal function for chronic psychiatric patients. The research design was quasi-experimental and purposive sampling in a long-term care institution in southern Taiwan. There were totally 67 patients (intervention group: 33; control group: 34). The intervention group was given one 90-minute gardening course per week in three months. Totally, there were 12 courses in this horticulture group activities. On the other hand, the control group had maintained general daily activities. There were pre-test and post-test for both groups. The questionnaire includes Mini-Mental State Examination (MMSE), Self-Esteem Survey (SES) and Personal Function Scale (PFS).

#### Results

The research design was quasi-experimental and purposive sampling in a long-term care institution in southern Taiwan. There were 68 patients invited in this research and divided into two groups by gender random assignment. There were totally 67 patients (intervention group: 33; control group: 34). The intervention group was given one 90-minute gardening course per week in three months. Totally, there were 12 courses in this horticulture group activities. The questionnaire includes MMSE, Self-Esteem Survey and Personal Function Scale.

#### Conclusions

According to the finding of the study showed that horticultural therapy can improve cognitive function for chronic psychiatric patients, particularly in the verbal expression, self-esteem, and personal function. This study emphasized that the regular activities of horticultural group can improve the quality of life for chronic psychiatric patients.

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### Investigation of Measures in Managing Difficult Patients and Family in a Public General Medical Hospital: A Preliminary Study

**KIM Hyunchung, SONG Bok-Kyu, PARK Sungyoung, JIN Unchang, CHUNG Jaehoon, CHOI Bommon**



### Introduction

The patient population of National Medical Center, a publically funded hospital, is mostly on welfare or living on low income with low educational level. Attitude towards medical staff, and level of cooperation of the patients and family seem more difficult to deal with compared to visitors of other private medical hospitals. But so far there are no studies evaluating the management of difficult patients in a publically funded hospital setting in Korea.

### Purpose/Methods

We gathered people of interest such as customer management personnel, administrative office in charge of managing difficult patients, nurses, doctors, and hospital guards. Through a series of discussions we tried to come up with appropriate measures to deal with difficult patients and family in the hospital setting.

### Results

The staff shared data of number of incidents and character of the incidents, such as of verbal abuse and threats from patients. The distress level of the staff members were high due to emotional labor. The low level of health literacy came up as one of many problems that need attention. Also, importance of reinforcing manpower and support from the hospital was also called into attention.

### Conclusions

The circumstances of a publically funded hospitals is different from private hospitals. The differences must be put to consideration and a systematic and specific protocol must be developed to accommodate such differences. This will help decrease the distress of the staff and help the patients to receive better care and service.

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## Provide Care for Medical Events: A Case of Amniotic Fluid Embolism

LIN Ching-Cheng, LEE Ken-Shu

### Introduction

In the event of unanticipated medical events, whether patients, families, medical doctors and nurses all bear great pressure of psychological impact. In this case, the maternal death due to amniotic fluid embolism, the newborn caused hypoxia and transfer to intensive care unit care. Family reacted stunned, sad, and loss, the physician's response was frustration, sadness, powerlessness, guilt, and loss belief.

### Purpose/Methods

The Gynecologists and ICU teams were responsible for the family to explain the patient's condition and assist the follow-up procedures. The pediatric team was responsible for the newborn treatment. Social workers accompany family members to give support and assist with the application of relevant subsidies. The president, vice president, and the psychiatrists conduct emotional support and care to the medical team.

### Results

Family members have able to accept the occurrence of amniotic fluid embolism as an unexpected medical results, and realize the medical team has done the best effort of treatment. Finally

family members pleased the doctor must adhere to the workplace, do the best treatment for the patients keep enthusiasm of practicing medicine. Physicians be able to return the workplace with family kind emotional support.

### Conclusions

Once a medical event occurs, the injury must exist. Both family members and the medical team suffered psychological pain. We done the best to reduce the loss to a minimum and keep a belief to take care each case of medical malpractice.

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## An investigation on the stress of the main caregivers of disabled patients

CHANG Kai-Ling, LIN Shu-Chao, LO Hsien-Yi, TSAI Tsung-Lung

### Introduction

Care for disabled patients is a work that requires a high degree of time and effort. When there are incapacitated patients in the home, the psychological, physical needs and stress of the primary caregivers are markedly affected. In order to understand the self-stress of the main caregivers of the family, we conducted a survey on multiple aspects of the caregivers as a reference for relieving the stress of family caregivers.

### Purpose/Methods

The survey subject was an anonymous investigation among the family members with disabled patients in a district hospital. We used structured questionnaires from China Family Carers' Care Association as survey tools. In addition to the basic information, there were 14 questions with 4 points assessment. Those who responded to the questionnaires could also provide advices. The data collection was undergone between June 22, 2016 and July 29, 2016. There were 210 surveys with 200 valid samples.

### Results

The main caregivers were women (75.1%), and the age was mostly 41-50 years (30.5%). The education level was mostly college (33.0%), and the objects of taking care were mostly parents (33.5%). The average score of care survey questionnaires was 19.92, indicating that most of the respondents had some signs of stress. This result showed that "you have to pay attention to him(her) all the time", "the expenses of taking care is huge and a burden was created", and "unable to go out to work and family income is markedly affected" were the main sources of stress for caregivers.

### Conclusions

In conclusion, when there is a disabled patient in a family, the main caregiver is more prone to feel over-reliant and an economic burden, therefore it affects the quality of life of the main caregiver. In the long period of care, not only the patient and the main caregiver but also the whole family's operation and living standards are greatly influenced. The medical social welfare system must pay attention to this issue as well.

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## An Evaluation Study of Health Care Quality Based on Patients' Experience

**XIA Qing, XU Hong, ZHANG Xiaobo**

### Introduction

Improving and sustaining the quality of hospital care experienced by patients continues to be a challenge worldwide.

### Purpose/Methods

We conducted a systematic review to measure patient experience of healthcare quality in hospitals. Databases Medical Literature Analysis and Retrieval System (MEDLINE, CNKI, WANFANG DATA) and Web of Knowledge until end of October 2016. Search strategies will include the key words; patient, adult, hospital, questionnaires, instruments, health care surveys, experience, satisfaction and patient opinion in various combinations.

### Results

We obtained 897 records. Of these, 65 papers measuring patient experience of hospital quality of care were identified examining 11 international instruments. We found evidence of extensive theoretical/development work.

### Conclusions

Through the study of the instrument of patient experience in 11 countries, we found that Select the right patient experience instrument depends on a balanced consideration of aspects of utility. Data required for high stakes purposes requires a high degree of reliability and validity.

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## Prevalence and risk factors of depression of hemodialysis patients in Pintung City

**LIAO Hui-Yuan, HUANG Yung-Cheng, KAO Cheng-Chih**

### Introduction

Taiwan had the highest prevalence rate of ESRD patients worldwide in 2010. Although depression is the most common psychiatric disorder in ESRD patients and increases the risk of mortality rate, limited literature presented to discuss the correlates of depression in Taiwanese patients under hemodialysis.

### Purpose/Methods

This study aimed to examine the prevalence and risk factors of depression in Taiwanese patients under hemodialysis. We conducted a cross-sectional study to interview 30 patients under hemodialysis in one single clinic in Pintung City in October 2016. The questionnaire was composed of two parts, including demographic data and disease characteristics. Depression was measured by using Patient Health Questionnaire (PHQ-9). Factors associated with depression were examined by independent-sample T-test and Chi-squared test.

### Results

The prevalence of depression was 23.3%. Among patients with depression, only 71.4% have been to psychiatric clinic for help. Those who had insomnia or currently use hypnotics demonstrated a significantly higher risk of depression. The relationship between one's marital status/the number of other chronic conditions and depression approached borderline significance.

### Conclusions

Nearly one in four patients under hemodialysis in our study group had depression, but 28.6% of them not with medical help. Our study provides some correlates for identifying the risk group, such as those who had insomnia or take sleeping pills. Further research with larger analytic sample are needed to reach more conclusive results and identify other risk factors.

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## An Exploration of the Application of Dialectical Behavior Therapy to a Group for Repeated Suicide Attempters

**HSU Fu-Nung, WANG Hsueh-Yin, LIAO Ching-Mien, LIAN Yi-Wen, WANG Chen-Pang, LU Huei-Lan**

### Introduction

There are many factors that can cause people to commit repeated suicide. Emotional sensitivity, low frustration tolerance and Borderline Personality Disorder (BPD). The hospital has been connect with local health authorities to work together for suicide prevention and health promotion since 2010. The full-time community caring visitor began to involve in community mental health promotion activities. The purpose of this study was to explore an application of Dialectical Behavior Therapy (DBT) to a group for repeated suicide attempters.

### Purpose/Methods

The subjects were 6 repeated suicide attempters, invited to participate a DBT group, once a week, 60 minutes a section, total of six weeks on Jul. to Aug. in 2015. The measurement included the Beck Depression Inventory (BDI), Suicide Attitude Questionnaire(SAQ), and the value of the statistical analysis of suicidal behavior in 6 months before and after the group.

### Results

The result showed 3 members from Major depression ( $BDI \geq 29$ ) to Depression ( $14 \leq BDI \leq 19$ ), and 1 members from depression to normal ( $BDI \leq 13$ ). In the part of SAQ, the average of protest is 45. Compared with the pretest, all decreased by 60%. Only 1 member had repeated suicidal records six months after the end of the group.

### Conclusions

DBT as a method to the group. Through group dynamic of communication and interaction, guiding members to support each other, and strengthen problem-solving skills, providing physical and psychological supports, finding the meaning and value of life, thereby DBT has a significant positive effect on reducing the risk of repeated suicide.

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## Moral Distress Experience in Teaching Hospitals

**VAZIRI Mohammad-Hossein, SOHRABI Mohammad-Reza, KAVOUSI Amir, TAYEFI Batool, DAVOUDI-MONFARED Esmat, ASGARI Seyed-Vahid, NOORI Kobra**

### Introduction

Moral distress is considered one of the most important problems among clinicians, particularly among nurses in ICU, CCU and EMS and can lead to job dissatisfaction and even to resignation from their jobs.

### Purpose/Methods

To describe and compare the intensity of moral distress among nurses in ICU, CCU, and EMS of the teaching hospitals. Through a descriptive study 365 nurses working in all teaching hospitals in 2013, moral distress was assessed. To measure moral distress, the 30-item Moral Distress Scale modified for use in an Iranian population was used. Data analysis was accomplished using version 19 of SPSS software for descriptive statistic methods, independent T test, Chi square and Analysis of variance.

### Results

The sample included a majority of women (84.9%), with the mean age of 33. The mean moral distress score ranged from 3.89 to 6. The item, "Nurses working under unsafe conditions" received the highest distress mean score ( $M=6$ ). The intensity of moral distress was significantly higher in women than in men ( $P=0.015$ ). No significant difference in the moral distress mean score was noted in comparing nurses from the three types of units but Moral distress was higher in EMS unit than ICU and CCU. A significant statistical relation of 5% was between organization and family support and quitting the job.

### Conclusions

Nurses in the three types of units experience a high level of moral distress with mean scores 5 or higher in 12 of the 30 items. The results points to this fact that facing with specific and unsafe

conditions in ICU, CCU and EMS will lead to an increase in the rate of moral distress among nurses.

### Comments

Recommendations: 1. Use a staffing method to determine the appropriate number of nurses to prevent unsafe staffing levels. 2. Create an interactive atmosphere to improve communication between nurses and physicians. 3. Provide a work environment that respects human dignity of patients, nurses and physicians.

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## The Burnout Status and Coping Behavior of Emergency Department Nurses in Taiwan

**CHEN Ching-Yi, CHEN Chieh-Fan, LIN Gau-Tyan, CHEN Shu-Lin**

### Introduction

Burnout of medical staff harmed patient's safety and made staff leaving job. We explored the burnout characteristics and coping behaviors of emergency department nurses in the study.

### Purpose/Methods

We conducted cross sectional questionnaires surveys to emergency department nurses from 10 hospitals in Taiwan. The questionnaires of emergency department nurses were completed with self-reported form. 226 responded questionnaires (88.6% retrieved) were collected. These materials were analyzed by descriptive statistics and one-way ANOVA.

### Results

The burnout index of emergency department nurses was higher than average of nationwide workers (Personal burnout 49.2 vs 32.9; Task burnout 43.9 vs 28.4; Work overload burnout 46.0 vs 35.2; Client service burnout 37.3 vs 30.5). The most common coping behavior was seeking assistance and support from others. Following coping behaviors were solving problem under rational thinking and self-adjustment during facing problem. The burnout index had significant increase in service seniority, unmarried status and higher official rank ( $p<0.05$ ). Coping behavior had more implement in middle age group (36-45 y/o) and married staff ( $p<0.05$ ).

### Conclusions

This study shows that emergency department nurse is the high risk group of burnout. Promotion of concerning and supporting group within health organization can provide proper help. Health organization should pay more attention on senior, unmarried and higher official rank staff.

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## Exhausted Health Care Provider Cannot Raise Satisfaction Up

**WEN Shoo-Mei, CHEN Chieh-Fan, LIN  
Gau-Tyan, CHEN Shu-Lin**

### Introduction

Satisfaction was concerned within healthcare service system. We paid much attention about patients' satisfaction but little on employees'. This study explored the influence on patient's satisfaction from the exhausted emergency nursing staff.

### Purpose/Methods

We conducted cross sectional questionnaires surveys of emergency nursing staff and patients from ten emergency rooms in Taiwan. We collected questionnaires report from emergency nursing staff with self-reported form. From the patients, we sent the questionnaires by fixed arrival interval with returned envelopes. The collected data was analyzed by descriptive statistics, one-way ANOVA, Pearson's correlation and stepwise multiple regresses to find the effect of relationship.

### Results

There were 226 responded questionnaires (88.6% retrieved) from emergency nursing staff and 382 responded questionnaires (93.4% retrieved) from emergency patients. There was no significant correlation between overall patient's satisfaction and burnout status of emergency room nurses. The separated structural analysis revealed that personal burnout, task burnout, client service burnout and overall burnout had no significant influence on patient's satisfaction. Emergency nurses' over commitment to work was positively correlated with service and environment satisfaction from patients.

### Conclusions

Overemphasizing patient's satisfaction and omitting medical staff's burnout didn't bring positive effect. Improving workplace environment and concerning medical staff could decrease high burnout of emergency nursing staff and demission rate in the meanwhile. That could provide safety health care service and patient's satisfaction

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## The Effect of Stress Reduction for Hospital Staff by Tabletop Games

**CHANG Chih-Ming, LAI Chun-Huang, YEN  
Chia-Chi**

### Introduction

In recent years, tabletop games are more and more popular in Taiwan. The United Nations Educational Scientific and Cultural Organization (UNESCO) also recognized that can promote social skills and benefit negative emotions and stress. However, people who work in hospital suffer from more pressure than those in general office, because the customers are patients and they take

risk of getting into medical disputes. So, we investigate whether tabletop games help the hospital staff to access stress relief.

### Purpose/Methods

We supplied tabletop games for staff two hours a week, lasted four weeks. Before and after the activities, we had Short-cut Work Stress Inventory (Cronbach's  $\alpha=0.7$ ) which includes six indices of "work stress", "work autonomy", "Interpersonal relationships in the workplace", "job satisfaction", "mental health" and "vitality" for the staff who participated. We also had Satisfaction Questionnaire (Cronbach's  $\alpha=0.9$ ) for them after activities. The staff could express their satisfaction degree and suggestions.

### Results

There were 71 participants. We received 24 pretest scores and 28 post-test scores of Short-cut Work Stress Inventory. We found out the index of "work stress" scores had decreased in post-test (from  $M=62.56$  to  $M=61.14$ ), and other indices of "work autonomy", "Interpersonal relationships in the workplace", "job satisfaction", "mental health" and "vitality" scores had increased in post-test. We also had 45 satisfaction questionnaires, and the satisfaction degree had been up to 98.5%.

### Conclusions

The index of "work stress" had decreased in post-test. The indices of "work stress", "work autonomy", "Interpersonal relationships in the workplace", "job satisfaction", "mental health" and "vitality" had increased in post-test. In addition, the satisfaction degree was up to 98.5%, and some employee had expressed "it's fun and truly relax", "hope the activities can be regular". So we affirm that tabletop games can not only relieve work stress but also enhance mental and interpersonal improvement.

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## The effectiveness of Integrated Stress Management and Health Promotion into the Continuing Educations for Nurses

**WENG Wan-Ling, HUANG Hsin-Shu**

### Introduction

This study is adopted with the quasi experiment research to empirically demonstrate the courses of strengthening the adaptation ability of nursing personnel and further improving the stress, anxiety, and occupational adaptation, in order to enable the nursing personnel has a more ability to maintain the superious nursing cares.

### Purpose/Methods

The quasi experiment research aims to empower the nursing personnel has a more ability to maintain the superious nursing cares. Subjects were 64 nurses who agreed to participate in the research and were assigned to an experiment group and a control group, each of 32. The members of the experiment group participated a weekly 150-minute psycho-educational group for

four weeks, whereas the control group was not intervened by any group. Quantitative data of the findings were analyzed with SPSS 20.0 and qualitative data processed with content analysis.

### Results

Our findings indicated that (1) Our study empirically demonstrated that psycho-educational groups had significant effect of improvement on both work pressure and anxiety in nurses; and (2) the drive of psycho-educational groups generated eight therapeutic factors: information communication, catharsis, inter-personal learning, universality, group cohesion, altruism, development of social skills and existence.

### Conclusions

The psycho-educational groups assisted nurses in creating positive thinking and faith to alleviate their work pressure and anxiety.

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## Improve Staff Pressure, Into The Happy Factor For Staff Psychology

**CHEN Jen-Chieh, LI Ya-Ling, CHEN Li-Cheng, YEN Chia-Chi, LAI Chun-Huang**

### Introduction

The staff in the medical institutions compared to other professionals have higher working pressure, medical radiologists provide a good medical image quality, when the work pressure is great, physical and mental health have a negative impact, so the medical work pressure has been the subject of attention, about 75% colleagues have emotional disturbance in our department, the purpose of this study is to promote the physical and mental health of colleagues and unit coherence and solidarity, To reduce patient complaints, improve service satisfaction.

### Purpose/Methods

The use of Brief Symptom Rating Scale and the Weimann occupation scale as a pre-and post-implementation of the measurement method and the use of the Ottawa Charter to design methods, such as: produce "Daily mood index table" So that colleagues for the daily state of mind for the record; the establishment of the care group if depressed, give the care of colleagues, to celebrate special festivals, fostering personal religious beliefs, through advocacy and gradually promote practice of health promotion colleagues.

### Results

The Brief Symptom Rating Scale and the post-test questionnaire of Wyman Career Scale were all recovered. The recovery rate was 100%. After the care group gave intervention measures, the results of the simplified health questionnaire showed that the number of people with good physical and mental conditions increased, from 23% to 77%, After measuring the questionnaire measuring post-test results, scores were significantly lower, dropped from 75 to 43 average score, we can see the effectiveness of activities.

### Conclusions

During the brainstorming come up with a different way to relieve pressure, also received a warm response, and hope to be able to plan to build a sound mental health consulting platform to help colleagues through the low period, because the staff is the largest asset in the hospital, Only the physical and mental health of staff to serve the majority of patients.

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## The Factors Affecting Work-related Stress Experienced by Nursing Staff and their Coping Strategies – A Study of Gynecological, Obstetric and Pediatric Regional Hospital in Taipei City

**CHEN Chii-Shya, CHEN Ian-Horng, CHEN Yin-Yin**

### Introduction

The healthcare environment, together with the changes in the expectations and needs of patients and their families, has increased the workload and stress under which nursing staff labor. In particular, the trend towards smaller families has created unique challenges for those nursing staff involved in providing maternity and pediatric care.

### Purpose/Methods

The study was sought to explore the work-related stress affecting maternity and pediatric nursing staff, and the factors related to this stress. A cross-sectional study was used, employing a questionnaire survey administered to nursing staff working at a specialist maternity and pediatric hospital in Taipei City, Taiwan. The content of the structured questionnaire included personal data, experience of work-related stress, reaction to work-related stress, and work-related stress coping strategies. Both the expert analysis and pretest analysis resulted in high reliability and validity.

### Results

A total of 185 questionnaires were returned 97.8%. Overall, the average level of work-related stress experienced over the past month was  $76.5 \pm 18.8$  points. As regards personal factors, significantly lower levels of work-related stress were reported by nursing staff who were older ( $r = -0.217$ ), had more children ( $r = -0.143$ ), had more years of service ( $r = -0.207$ ), or were employed with formal government employee status ( $r = -0.144$ ). A better response to work-related stress was seen in those respondents with more years of service ( $r = -0.151$ ,  $p = 0.028$ ); respondents who held religious beliefs displayed better coping strategies ( $r = -0.161$ ,  $p = 0.021$ ). Which shift nursing staff were assigned to had a significant effect ( $p < 0.05$ ) on their experience of stress, their response to stress, and their stress coping strategies.

### Conclusions

It is suggested that hospitals, should pay more attention to the level of work-related stress experienced by nursing staff, and should provide channels through which this stress can be eased.



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## The correlation among nurse practitioner's job stress, job fatigue, and job satisfaction-Based on veteran hospitals in Southern Taiwan

**LAI Yen-Ho, TUAN Chi-Wei, KU Yan-Choiu, CHENG Jin-Shiung**

### Introduction

With the rapid development of society, the role of specialist nurses in the medical environment of quality, speed and efficiency, the role of specialist caregivers in the work of the role of professional nurses, is no longer the most simple physician assistant before, but a high professional service work, the system of specialist nurses and clinical system of advanced integration, so that the nursing system of advanced ladder more extension.

### Purpose/Methods

The purpose of this study from the perspective of care to explore the work of professional nurse stress, fatigue, job satisfaction, job satisfaction as a hospital administrator in the formulation of relevant policy reference. A descriptive correlation study was designed and the subjects were selected by a purposive sampling method. The structured questionnaire was used to collect data, To the hospital to hire a licensed specialist nurse more than one year (including one year) for research, the case was 72.

### Results

There was a significant positive correlation between the age of specialist caregivers and the pressure of competency ( $p < .01$ ). There was a significant positive correlation between the total years of work experience and job satisfaction ( $p < .01$ ,  $p < .05$ ). There was significant difference in the work stress of different work groups ( $P < .05$ ). The work stress of the study subjects was 46.8% of the total variance explained by the work fatigue, and the difference was significant ( $p < .05$ ).

### Conclusions

This study is the most dissatisfied with the workload, the proposed allocation of human resources and job responsibilities standards, the average allocation of work, should be suitable for specialist nurses to play to their strengths, so that self-growth, thereby enhancing self-efficacy.

### Comments

It is suggested to enhance the self-efficacy, to enhance the professional nurse-related courses, the use of psychological intervention to strengthen their professional identity, thereby enhancing job satisfaction to reduce work pressure and work fatigue.

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## Study on the Relationship between Part-time Manpower Input and the Job Pressure and Burnout of Nurses

**HUANG Hui-Yu, YANG Hsin-Yi, KAO Yu-Yi, CHANG Min-Yu**

### Introduction

With the gradual increase of nursing workload, various countries around the world have developed auxiliary nursing manpower to assist nursing personnel in implementing care and improve nursing service quality.

### Purpose/Methods

The purpose of this study is to investigate the difference in nursing personnel's job stress and burnout after the input of part time workforce. This study used cross-sectional, enrolled N1~AHN nursing personnel at wards in a certain medical center in the northern Taiwan as the research subjects, used stratified sampling to enroll subjects according to subspecialties, and used structured questionnaires "Effort-Reward Imbalance (ERI)" and "Maslach Burnout Inventory (MBI)" to collect data. This study distributed a total of 300 questionnaires, and 271 questionnaires were returned, with a return rate of 90.3%. 265 of the returned questionnaires were valid. 115 and 150 subjects worked in the environments where part time workforce was input and was not, respectively. This study used SPSS software to perform statistical analyses.

### Results

The analysis results showed that: (1) the input of part time workforce did not lead to a significant difference in overall job stress; however, it could reduce the job stress of "Extrinsic Effort" of nursing personnel. The job stress of "Extrinsic Effort" of nursing personnel who worked in the environment without part time workforce was higher than that of those who worked in the environment with it by 3.54 times; (2) the input of part time workforce did not lead to a significant difference in overall burnout and three dimensions; (3) the higher the job stress was, the higher the perceived burnout was.

### Conclusions

According to the research results, it is advised to make the best use of part time workforce of nurse practitioners to help clinical nursing personnel reduce job stress of extrinsic effort caused by routine work, avoid turnover caused by burnout, establish quality nursing workplace, and enhance nursing quality.

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## The Analysis of Consultation-liaison Service In a Medical center

**SU Chen-Hsiang**

### Introduction

This study aimed to probe the distribution of mental disorders in the general ward patients referred to psychiatry consultation liaison services in a medical center.

### Purpose/Methods

All records of Kaohsiung Medical University Hospital psychiatric consultations from 1 August 2014 to 30 June 2015 were extracted from database, but the records of psychiatric consultations from emergency room were excluded. The patients were divided into two groups based in age (which less than 65 years of age and more than 65 years of age). Sources and reasons of referral, psychiatric histories, psychiatric diagnoses and substance using were also analyzed.

### Results

There were total 630 psychiatric consultations, and 416 cases (66%) were in the young group (less than 65 years of age). In this group, 220 cases (53%) were referred by physician, 130 cases (31%) by surgeons, 26 cases (6.25%) from cancer center, 2 cases (0.5%) by gynecologists, 6 cases (1%) by pediatricians and 58 cases (14%) by others. The most common psychiatric diagnoses was the depressive disorder (136 cases, 32.7%), and anxiety disorder (72 cases, 17.3%) was the second common diagnose. In the old group (age more than 65 years), 156 cases (72.9%) were referred by physician, 20 cases (9.3%) by surgeons and 38 cases (17.8%) by others. The most common psychiatric diagnoses was also the depressive disorder (96 cases, 44.86%), and the second most common diagnose was delirium (48 cases, 22.43%).

### Conclusions

Depressive disorder and delirium were the common mental disorder in the hospital, and those problems may titrate up the risk of self-harming and hurting others. Besides, another common problem, anxiety disorder, and depressive disorder may influence patients' willingness to receive medical treatment and also impact the treatment effects. Therefore, all medical personnel should pay more attention to patient's mood states and provide medical approach timely to those in need.

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## Measures to Alleviate the Work Stress of Outpatient Staff

### YEH Chu-Shih, TSAI Mei-Huei, WEI Fang-Chun

#### Introduction

Outpatient department is an important component at the hospital. In medical practice, our nursing staffs (paramedic) were educated by medical professionals about medical care and services that should be provided base on patient's needs. Outpatient Staff must directly interact with patients to provide medical care efficiently in a limited period of time. This usually create stress to outpatient staff mentally and physically.

#### Purpose/Methods

Finding solutions to alleviate work stress resulting in health problem for staff. The study was based on staff from a medical

center in Taiwan. According to the study from National Health Agency's website about stress level index. Total of 60 valid questionnaires were collected on 3/28/15 and posttest were collected on 11/28/15. The hospital encourages employees talk each other to relieve stress. Also provides free massage service, the "only you know me" message board, and exercises three times a week.

#### Results

There were 28 people between the age of 40 - 50, 23 people above the age of 50. There were 9 people with cardiovascular problem. According to the National Health Agency's index of 12 questionnaires: (1) Recently often feeling a headache and back pain: 44 people answered "yes", and only 29 people answered "yes" on the posttest. (2) Recently often feeling sleeping quality is not good: 63.3% person answered "yes", and only 38.3% person answered "yes" on the posttest.

#### Conclusions

This study indicates that stress level has been reduced to 34.3% from 45.8%, a total 11.5% improvement. All these measures provided by the hospital are effective and helped outpatient staff to improve work efficiency and service quality.

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## The Effectiveness of Applying BSRS-5 Health Scale in Earthquake Disaster Mental Health Assessment: A Experience of Earthquake Disaster in South of Taiwan

### LIAO Ching-Mien, WANG Hsueh-Yin, LIAN Yi-Wen, HSU Fu-Nung, WANG Chen-Pang, LU Huei-Lan

#### Introduction

There was an earthquake with 6.4 struck in southern Taiwan on 6 February 2016. This earthquake caused widespread damage and 117 deaths. The psychiatric hospitals assist in post disaster mental health reconstruction, (BSRS-5) as a screening tool to assess the post-disaster anxiety, depression, post-traumatic stress response, and suicidal ideation. The purpose of this study is to explore the reliability and validity of this screening tool, to provide the mental health links and referral services.

#### Purpose/Methods

60 subjects were referred by the Health Bureau for post disaster psychological reconstruction. BSRS-5 scale was filled out with the informed consent. The 5-point scale was used to measure the mental and physical condition of one week. The subjects were "feeling nervous", "feeling distressed or angry" Feel depressed, feel depressed, "" feel less than others, "" sleep difficulties, such as difficult to sleep, wake up or wake up early ", and there is additional question" the idea of suicide. "

#### Results

The result showed that the average score of BSRS-5 was 4.3 (SD = 2.67), 27.3% was above 6 points, 38.2% had "moderate

insomnia", 46.2% felt mild to severe "anxiety" and 58.5% had depressed mood. 1.5% had mild suicidal idea and 6 (0.1%) had moderate to severe degree of suicide idea. BSRS-5 not only has good reliability and validity, but also can be accurately screened high anxiety, depression and post-traumatic stress response to the victims, to help professionals to make appropriate treatment.

### Conclusions

BSRS is a simple and effective screening tool that measures the mental and physical condition of victims in a disaster. It can help professional staff to assess the mental health status and suicidal ideation timely, and to provide effective professional intervention or referral and resource provision. The disaster area is concentrated in a building, may different with other large disaster areas, it will collect relevant experience to the data to the disaster to improve the quality of life.

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## Session P2.7: Health promotion in psychiatric care

### The Issue of teenage Suicide

#### CHEN Shu-Lin

##### Introduction

The case report described the nursing process of using stress, appraisal and coping theory to help a patient who has committed suicide by teenage jumping from a high flat.

##### Purpose/Methods

Role-playing was also employed to deliver social skills training, which enhanced the ability of the patient to interact with others. After eight weeks and prior to discharge, the patient was able to use effective coping skills to face his negative-automatic thinking and actively participate in group therapy.

##### Results

During the nursing care, the author applied observation and interviews to collect data. After analyzing the data, three major health problems were found: 1. Family coping was insufficient; 2. Negative appraisal to stress situation; 3. Negative emotional orientation coping behavior. After discharge, the author tracked patient progress by visiting the OPD and through communications over the telephone. His family and teacher described the patient as having a stable mood, no longer attempting suicide and being able to join clubs on campus and live a normal daily life.

##### Conclusions

The author applied an appraisal concept to help the patient reconsider the reasons, processes, results, and meanings of her suicide event and to reflect by herself on positive coping strategies for stressful situations. During the appraisal period, the attitude of the patient changed from indifference and refusal to being cooperative, seeking advice, and positive as seen by her facial reaction and cooperation.

### Comments

The purpose of this article is to encourage nurses to engage in dialogue with suicidal patients by understanding their explanatory models and by self-reflection. This not only enables suicidal patients to move from shame toward taking responsibility for themselves and others, but also enables nurses to rebuild their experiential knowledge.

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## The Effectiveness of Using Exercise Time Schedule to Enhance the Exer- cise Time of Psychiatric Inpatients

### LI Pei-Shan, SU Ching-Ting, LU Huei-Lan, CHENG Ching-Ming

##### Introduction

The purpose of this study was to use the concept of exercise time schedule, let the psychiatric patient to choose their favorite sport and exercise, and combine with ward activity arrangements to explore the effectiveness of using exercise time schedule to enhance the exercise time of psychiatric inpatients.

##### Purpose/Methods

This study adopts a purposive sampling method, total of 50 chronic psychiatric inpatients were selected from a psychiatric center in southern Taiwan. Applied the exercise time schedule, patient selected their favorite exercise, and combine with ward activity arrangements. The assessment indicators of the study are: 1. Body weight 2. The exercise time 3. The description of qualitative feelings.

##### Results

The result revealed that after using the exercise time schedule, the patient's body weight was average reduced 2.73kg. The exercise time was increased from 20 minutes a day to 50 minutes to one hour per day. In the qualitative experience description, patient expressed that: "I feel my health seems better, feel less angry, they can make decisions for them is a great thing, by the time the symptoms of interference reduced appearance looks better, increased self-confidence and so on. The results showed that using exercise schedule could reduce body weight, increased exercise time, and decreased psychotic symptoms interference, the overall feel good for self-health.

##### Conclusions

In this study, using the exercise schedule to draw up one week's exercise plan and carry out the exercise program according to the patients' movement needs, patient had right to choose their favorite exercise items to enhance the exercise time of psychiatric inpatients, consider to mention individualized and empowerment, so that patients perceived warm in this therapeutic environment, and to take into account health needs.

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## The Effectiveness of Applying Therapeutic Emulation Community Concepts in the Psychiatric Rehabilitation ward

**TSENG Yu-Kuei**

### Introduction

The psychiatric rehabilitation system is very important in mental health care, the purpose of this study is based on the advantages community concept, constructed a self-government group, helping people with mental illness successfully enter or reenter the community, expectations of patients through role-playing, to enhance its self-management capabilities and allow patients to live a more independent and autonomous life in future.

### Purpose/Methods

80 psychiatric patients were recruited from a psychiatric center in southern Taiwan. Apply advantages community-like concept, constructed a self-help and autonomy groups, regular to hold a season family meeting and empowered 2 patients be a leader in family meeting, nurse instructed patient how to be a group leader before, arranged role playing to teach group member how to use effective problem solving skill in meeting. Self-design questionnaire investigate the effectiveness of meeting. SPSS 21.0 software package Chinese version was applied for data analysis and statistics.

### Results

The results showed the average age of patients were 45, 50% of male, 50%female, the degree of understanding toward group purpose has increased from 18% to 32%, 58% patients thought that is helpful toward problem solving, 28% felt very helpful, 91% patients look forward to participating in groups again, 39% feel satisfaction toward nurses accompany, 54% were very satisfied with.

### Conclusions

This study showed that the patient understand the purpose and manner of self-government after attending the group, enhance patient self-management and problems solving capacity, nurses also had their sense of identity. The advantages community concept and construct a self-government group, to enhance autonomy, but also allows the patient learned how to help each other, to establish a trust relationship with nurses, to enhance the patient's stability and cohesion in ward, hope this experience can be provided by managed care rehabilitation ward of the reference.

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## Exploring the Regular Exercise Intervention on the Improvement of Chronic Diseases in Psychiatric Nursing Home

**PI Shu-Yuh, LU Huei-Lan**

### Introduction

The residents with chronic schizophrenia had mood, perception, behavior and other obstacles in psychiatric nursing home. The residents had high ratio of metabolic syndromes due to antipsychotic drug effects. In Taiwan, study found that the prevalence of hypertension was 23%, 7.6% had hyperglycemia, hyperlipidemia was 9.7% and metabolic syndrome was 19%, due to the aging of the residents, the aging phenomenon caused body function impairment. The purpose of this study was to explore the improvement by regular exercise training, to improve the physical function and chronic disease.

### Purpose/Methods

There are 50 beds with 96% occupancy rate in psychiatric nursing, the average age of residents is 55.8, 22 (45.8%) residents had metabolic syndrome. Besides diet control, muscle strength training programs was applied for the residents with metabolic syndrome, this intervention included: balance training, resistance exercise, soft exercise and aerobic exercise, three times a week, 50 minutes each time, intervention implementation combined incentives, and daily life group meeting discussion, can achieve good results.

### Results

The result showed that 4 of 22 (18.2%) metabolic syndrome resident has stopped medication treatment, 95% hypertensive residents taking blood pressure values in the normal range, but also increased 90% lower limb strength, 95% fall injury reduced to no injury and mild injury, residents walking speed has increased, lower extremity joint range of motion and lower limb joint strength got improved.

### Conclusions

The nursing home regular to implement exercise training can increase the lower extremity muscle strength, and decrease fall accident. This long-term institutions have provided a safe, healthy, effective, people-centered care. Regular exercise training promotes physical functioning of the residents and their ability to control their own health, delay the occurrence of aging and to provide residents with the greatest chance of being healthy in the aging process.

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## A Pilot Study of the IPSRT Group Therapy Health Promotion Intervention for Partial Hospitalization with Bipolar Disorder and Depressive Disorder

**HSU Sheng-Tzy, LU Mei-Jou, HSU Su-Ting, CHOU Li-Shiu**

### Introduction

Bipolar disorder (BD) is a chronic condition with a high relapse rate, morbidity and psychosocial impairment that often persist

despite pharmacotherapy, highlighting the need for adjunctive psychosocial treatments. Bipolar disorders types I and II affect about 2% of the world's population, with subthreshold forms of the disorder affecting another 2%. IPSRT is a focused psychotherapy for bipolar disorder which addresses both interpersonal problems and the need for daily social routines to obtain mood stability and increase periods of wellness.

#### Purpose/Methods

The purpose of this study was to test integration and sustainability of IPSRT delivered as a 3 month partial hospitalization program for people with bipolar disorder and major depressive disorder. The pilot study adopted quasi-experimental design. The study have been received the approval of Institutional Review Board (IRB). Altogether, 21 participants were recruited in day hospital program. The survey was conducted with basic demographic questionnaires, along with Epidemiologic Studies Depression Scale (CES-D), Young Mania Rating Scale (YMRS), Global Assessment of Functioning (GAF), Social Functioning Scale, Social Rhythm Metric-II and Stage of Recovery Scale. The study was certified by the Institutional Review Board (IRB), and consents were received from the subjects and informed of the test contents by the explanation made by the researcher before related data were collected from a psychiatric hospital in southern Taiwan.

#### Results

The preliminary findings suggest that IPSRT delivered adjunctive to medication in an intensive 3-months program is feasible and may contribute to improved Personal and Social Performance (PSP) with bipolar disorder.

#### Conclusions

There are inherent limitations in the study design. Generalizability and conclusions are limited by the small sample of all participants, absence of comparative group analysis, heterogeneity of medications.

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## The Effectiveness of Applying the Ottawa Charter to Improve Obesity of Psychiatric Inpatients in the Rehabilitation Ward

**TSAI Hui-Ling, SHEN Shu-Hua, LU Huei-Lan, CHENG Ching-Ming**

#### Introduction

There are least six diseases related to obesity on top ten causes of death in Taiwan. The international studies have shown that about 40-62% of schizophrenic patients with obesity issue, 60% long-term hospitalized psychiatric patients are overweight in Taiwan, it higher than general population. Therefore, the use of Ottawa charter to design effective strategies and education may be able to establish a healthy lifestyle and behavior, so that their condition stable, to achieve physical and mental balance.

#### Purpose/Methods

A total of 286 psychiatric patients were recruited from rehabilitation ward, data collecting by patients' health records, compared before and after 6 month, to analyze the effectiveness of strategy and education on obesity.

#### Results

The result showed that the average age of patients was 45.5 years old, 33.6% were between the ages of 41-49 years, 245(85.7%) patients was diagnosed Schizophrenia, the normal body weight increased from 33.6% to 37.1%, overweight (BMI > 24) has decreased from 24.8% to 23.1%, and the obesity (BMI > 27) decreased from 29.6% to 25.8% (P < 0.05).

#### Conclusions

Obesity could cause a variety of chronic diseases, such as hypertension, diabetes, high cholesterol, high uric acid and other metabolic diseases, it is inseparable relationship. Therefore, through effective strategies to create a supportive environment, to develop a good healthy lifestyle, reduce obesity rate is very important.

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## The Discussion of Telephone Follow-up Service for Patients Discharged from Acute Ward of Department of Psychiatry in a General Hospital

**CHUNG Pei-Wen, CHEN Yi-Kai, CHANGE Su-Zu, WU Wei-Hsin, LIN Yu-Wen, YANG Nan-Ping, LIN Ching-Feng**

#### Introduction

This study investigated whether telephone follow-up service for discharged patients improves medical compliance of patients from Department of Psychiatry as well as reduces readmission rates due to short-term relapse, and related causes of follow-up rates.

#### Purpose/Methods

Nursing staffs were mainly responsible for investigations on patients being discharged while social workers worked on pre-follow up telephone care service and documentation of service results. This was a retrospective study based on follow-up database of discharged patients. Total of 203 patients were interviewed through telephone between September 1st, 2015 and September 30th, 2016. The results were analyzed using statistical software SPSS OLAP.

#### Results

The follow-up rate of patients receiving once telephone service was 84.2%, and those receiving twice or three times were 85.3% and 84.5%, respectively. Consequently, one-month regular follow-up rate was 57.6% while no differences were noted between genders. In addition, patients with the highest follow-up rates were those with stabilized schizophrenia (up to 71.4%), followed by those with bipolar disorder. Although regular follow-



up was closely related to discharge, the correlation did not reach significant differences.

### Conclusions

The readmission rate within 30 days before telephone follow-up was 7.9%, and that was significantly decreased to 4.8% after intervention ( $P < 0.05$ ). Moreover, in view of the impacts of diagnoses on discharge and the impacts of discharge on follow-up rate, it is recommended to discharge patients admitted to the hospital due to acute onset after they have achieved stable status.

### Comments

The causes that patients with drug addiction failed to return for follow-up visits require further analysis. In addition, both follow up monitoring conducted by registered nurses and the improvement interventions jointly created by anti-drug center are beneficial to elevate follow-up rates of patients with drug addiction in order to extend treatment effects and reduce readmission rate.

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## Application of Family Caring Model in Psychiatric Day Patient

**CHEN Sue-Fen, LEE Mei-Hung, LU Huei-Lan, CHENG Ching-Ming**

### Introduction

Psychiatric patients have low adherence of treatment, high recurrence rate of disease, and repeated reoccurrence resulting in increased family care load and social costs. Psychiatric day care function is to maintain a stable condition and training patients to return to normal life of the community.

### Purpose/Methods

Sampling for psychiatric diagnosis in a psychiatric hospital in southern Taiwan. Data were collected in a cross-sectional manner, from January 2014 to October 2016, during the day Stay in hospital care by the main responsible caregivers to lead the family of 16-18 groups. Family caring model with self-designed care assessment tools and a family-based care model intervention program, They are encouraged to take part in community service activities and set relevant measures. Related information with descriptive statistical analysis.

### Results

The analysis of quantitative statistical analysis found that: three years of participation in the day attendance rate an average of 92%, in hospital work training cases an average of 41%, an average of 19.2% disease recurrence rate, Participation in community service activities, an average of 36%, violent attacks and suicidal self-injury incident rate was 0% The overall satisfaction of day-to-day hospital admissions was 94%.

### Conclusions

Day care intervention in family-based group care model, so that patients feel valued and support each other. After several years

to measure and compare with the domestic literature, the effectiveness of good.

### Comments

Day care intervention in the medical team to provide opportunities for multi-treatment plan to guide each patients to hold forward hopeful attitude brave training. Family caring model for patient to promote maintain a stable condition and training patients to return to normal life of the community.

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## Nursing Experience on a Patient Abusing Amphetamine During Manic Depressive Occurrence

**PENG Yi-Yuan, HUANG Hsin-Shu**

### Introduction

This is a case report of Nursing Experience on a Patient Abusing Amphetamine During Manic Depressive Occurrence.

### Purpose/Methods

This article describes the nursing experience on a manic depressive patient who was forcibly hospitalized for exercising violence to his wife during the manic period. The caring period was March 11 to April 14, 2015, when the author established therapeutic interpersonal relationship with the subject by progressive approach, where the subject's inner feeling was listened to and induced out through words. By observation on language and nonverbal behaviors and conversation, nursing assessments were conducted and resulted in three major nursing problems with the subject: hazardous violent behaviors/ violent behaviors to others, ineffective coping ability, and caregiver role strain.

### Results

During the course of nursing, the subject and his family were given care and support, and the subject and his wife were guided, all the way, to read "Spring in the cuckoo's nest--Manual of care for mental diseases", with Ministry of Justice's "Drug-free homeland" website used, to provide adequate and individual nursing measures. The guided reading allowed the subject and his wife to understand that prognosis of mental diseases is related to the interactions between individuals and environment, where besides patients' personal efforts, it also needs the mutual support and help from family members.

### Conclusions

Throughout the nursing process, the subject and his family became to have better understanding of manic depressive; they were also able to understand the hazards of use of drugs to oneself and the family. It was hoped that he could deal with and face the current problems he had with positive coping ability.

### Comments

Sound services of preparation for discharge were also provided to reinforce the subject's ability of problem solving and managing his emotions and behaviors with reasonable faith.

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## Sense of Wellbeing and Job Satisfaction of Nurses in Taiwan

**HUANG Hui-Chuan**

### Introduction

Nurses, as first-line caregivers, provide most of a medical team's care services. In the current medical context, nurses have become overloaded because of the personnel shortages caused by human resource cost-reduction strategies. Consequently, nurse turnover rates are on the rise, and this has affected the quality of care services. Thus, it is crucial to understand the difference in, and correlation between, nurses' sense of wellbeing and job satisfaction.

### Purpose/Methods

A questionnaire survey method was adopted. After nurses hired within the last 3 months were excluded, 292 questionnaires were distributed to participating nurses, and 280 valid questionnaires were collected, with an effective response rate of 95.9%. The obtained data were analysed using SPSS Statistics to identify whether nurses of different demographic backgrounds demonstrate differences in their sense of wellbeing and job satisfaction, and to determine the correlation between the two variables.

### Results

This study reveals remarkable differences in wellbeing sense and job satisfaction among nurses from different demographic backgrounds. In terms of well-being sense, the inconsistencies in background variables are seniority, rank, marriage and department. The deviations of background variables in job satisfaction are seniority, rank, professional title and the educational background. Furthermore, significant positive correlation exists between well-being sense and job satisfaction ( $r=0.604$ ,  $p < 0.001$ ).

### Conclusions

The results can serve as a reference for administrators to place an emphasis on nurses' sense of wellbeing and job satisfaction to reduce nurse turnover rates and elevate the quality of care services.

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## A Nurse's Experience Applying Grief Counseling to a widows

**CHEN Shu-Lin**

### Introduction

This article describes the nursing experience using Worden's grief counseling skills to help a widows within a reasonable time,

triggering the grief, and help he to through the grief period and completed four tasks of mourning.

### Purpose/Methods

Nursing care was administered from April 15 to December 15, 2015. Seven behavioral process records were analyzed on Worden's grief reactions. The cases of grief reaction in the emotional reactions included sadness, anger, guilt and self-blame, anxiety, fatigue, loneliness and helplessness. Physical reactions included dry mouth, loss of appetite, sensitivity to sound. Cognitive reactions included disbelief and sense that the loved one is still alive. Insomnia, social withdrawal, avoidance of mentioning partner and crying comprised the main behavioral reactions. The author used concept and principles of grief counseling by supporting and accompanying the case through the grief process, help he completed the four tasks of mourning. After widowed for eight months, the case complete the four phases of 1) gradually of lost, 2) to experience the pain of grief, 3) adapting to a new environment without the deceased, and 4) to move on with life.

### Results

To enhance effectiveness of assistance, those who surround a widow are suggested to provide emotional support of highly empathy, assist widows find proper reasons of the death, help the widow to approach other widows, and avoid inappropriate evaluation or blame on widows.

### Conclusions

To provide widows with professional intervention, the professionals concerned are suggested to realize, on the basis of research or clinical experiences, the destruction and values caused by the death, help widows to clarify the origins and factors of their grief, apply widow-to-widow programs, by which persons with similar background experiences can share with each other, and incorporate units concerned to provide effective resource network for better life adaptability.

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## Session P2.8: Maternal and newborn health

### Analysis of contraception method in migrant women

**GIGLIO Virginia, CHIARENZA Antonio, RIBOLDI Benedetta, GRADELLINI Cinzia**

### Introduction

Foreign women act a third of the interruption of pregnancy, mainly in the first years after the migration. In East Europe the contraceptive methods most used are the vaginal ring and the IUD; in Morocco, the 50% of women use a contraceptive (pill and IUD for a 42%). In China the contraception is widespread with predominance of IUD.

**Purpose/Methods**

A structured interviews' form it has been used for a group of sixty-five migrant women (East Europe, Morocco, China) to analyze the more used contraceptive's methods

**Results**

Contraception is more used within Moroccan women, followed by East Europe, and China, with a media of 81%, differently by the literature. East Europe-women prefer the IUD; Moroccans the pill, Chinese the condom. The percentage of use is lower than what reported in the country of origin. East Europe-women follow the health professionals as main referent about the contraception, and they become the second option for the Moroccan women, who prefer mother/friends, as the Chinese women (who indicate also the Chinese health professionals for the language barrier). Most declares to do not have problems in find contraceptive methods; 63% declares to have changed contraceptive method

**Conclusions**

The study demonstrates a big trend in the use of contraceptives and it underlines differences in the choice of the method. Moroccan women, who come from a context of freedom and consciousness, have the higher score of utilizations, and a strong bond with their culture. The Chinese women have the lowest percentage, probably related to the strong contraception's imposition in their country. Although the numbers emerged from the study, are readable as an example of good integration, not only the culture of origin, but even the history of the country keep on influence the opinions and the decisions, sometimes maintaining the tradition, sometime opposing to it. This data should lead health professional to give a personalized care, considering and understanding personal expectation.

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## Life Experiences of Women with Home Birth

**KUO Chih-Jung, HUANG Hui-Ting**

**Introduction**

Childbirth has gradually shifted from home to hospital since the beginning of the 20th century, with most labor and delivery now taking place in hospitals. Following the medicalization of prenatal care, doctors and physicians have replaced midwives as the principal caregivers. The childbirth experience of Taiwanese women has complex medical treatment and hospital care now replacing the "home birth" practice which has gradually disappeared. Following the rise of feminism, excessive medical interventions have been reexamined, which in turn has prompted a resurgence of planned home birth as an alternative. Therefore, studying the experience of home birth from women's perspective is crucial to understanding the birth care they require.

**Purpose/Methods**

In-depth oral history interviews were conducted with 10 participants for this study, followed by a narrative analysis of the data collected from the interviews. The interviews focused on the participants' life experience in going through home birth:

their choices and progression throughout their planned home birth, the medical care they received, the social significance of their home birth experience, the realization of the commonality and diversity of life history, and the eventual connection of all aspects into a complete life experience.

**Results**

The study found that the reasons for the participants to prefer home birth included their desires to maintain the integrity of their bodies, their perception that childbirth is a natural process, and their desires for an equal physician-patient relationship. The life experience gained by the participants throughout home birth included the ability to make decisions according to their will, a sense of autonomy over the delivery process, the feeling of being respected and cared for, bonding with family for being together, a reestablishment of their own capabilities, and the establishment of firm beliefs coupled with the midwives' professionalism as the key to successful child delivery.

**Conclusions**

Through the life experience of successful home births, participants were able to deliver their children with more autonomy, thus helping them redefine their own capabilities and obtain a satisfied childbirth experience. After successful home birth experiences, participants were more confident that child delivery is a process that can be accomplished naturally. Home birth is not a mainstream delivery method in Taiwan. To undergo home births, women should work closely with trusted midwives during their pregnancy and have adequate communication with them regarding the birth plan. Women should also ensure that their midwives are qualified in their professionalism and ability to maintain safety, and make careful assessment at every stage of pregnancy to ensure they are suitable candidates for home birth.

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## Applying a Caesarean Section Infection Prevention Bundle on Reducing Women's Post-Caesarean Section Wound Infection Rate in a Teaching Hospital in Taipei

**CHANG Chiung-Wen, HUANG Hui-Ting**

**Introduction**

Post-Caesarean section wound infection can be attributed to maternal factors such as obesity, diabetes, and hypertension, as well as other factors such as the medical team's preoperative preparation, the process of operation, and postoperative care. It is therefore critical for nursing personnel to adopt effective infection prevention interventions before the Caesarean section procedure and provide the patient with continuing and comprehensive postoperative care.

**Purpose/Methods**

This was a cross-sectional study using purposive sampling. A total of 400 cases were collected between October 2013 and September 2016. The standard of procedure of "Caesarean

Section Wound Prevention Bundle" involves preparing the cleaning and antiseptic solutions for patients before their Caesarean section procedure and administer scheduled of preventive antibiotics, using a specific type of surgical hand scrub solution during the procedure and the quick-drying hand scrub solution to be used following the first hand scrub, and choosing the wound dressing solution and the dressings after Caesarean section.

### Results

The medical team's Caesarean section procedure completeness rate was as high as 97.9%. The nursing personnel's completion of the Caesarean section wound prevention bundle education and training course was 100%. In 2012, the Caesarean section wound infection rate was 1.96%, but after introducing the infection prevention bundle, the infection rates in 2013, 2014, 2015, and 2016 (October) dropped to 0.19%, 0.18%, 0.17%, and 0.14% respectively.

### Conclusions

The Caesarean section cases examined in this study demonstrated that the post-Caesarean section wound infection rate was effectively reduced by having nursing personnel use the Caesarean section wound prevention bundle for early intervention. To study the effects of the Caesarean section wound prevention bundle more objectively and comprehensively, future studies should include Caesarean section cases from various areas in Taiwan and from hospitals of different scales.

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## Management of the pathway for abortion in a family care centre. The experience of Trento (North-East of Italy)

**PERTILE Riccardo, MAZZA Rossella, PIZZO Vera, PEDRON Mariangela, PIFFER Silvano**

### Introduction

The Family Care Centre (FCC) is a community service that deals with prevention, consultancy and assistance for women and couples (included certification and support for abortion). Since 2003 the FCC of Trento finalized procedures about the taking in charge of the women during the abortion pathway. The main changes over time concerned the Booking of hospital intervention, the offer of an appointment after abortion for check and family planning and, the use of cultural mediation for foreign women.

### Purpose/Methods

To study the time course of the characteristics of 2,163 consecutive women who required an abortion at the FCC of Trento and, exclusively for women residing in the province of Trento (2,011), to test, through two multivariate logistic analysis, the probabilities of continuing the pregnancy and of returning to FCC for post-abortion check.

### Results

270 women attended yearly the FCC of Trento for abortion; the modal age group is 20-29 years (45% of cases); minors represent 5% and foreigners (especially from Europe not EU) 46%. 81% of cases actually performed abortion, 8% had a miscarriage, 9% continued pregnancy. 59% returned to the FCC for post-abortion check, with an increasing trend over time. A higher probability of continuing the pregnancy is associated with being married, being nulliparous, not having previous abortions. The probability of returning to FCC for post-abortion check is higher in married, more educated, foreigner women, adolescents.

### Conclusions

The performances of FCC is influenced by the capabilities and skills of its team and by the capacity to network with hospitals. Monitoring over time women requiring a certificate for abortion shows that the access to a FCC does not lead necessarily to the interruption of pregnancy and that the abortion choice is strongly influenced by the features of the woman and her taking in charge by a multidisciplinary team of the FCC.

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## The Evaluation Study of Parent-child relationship groups for preterm infants

**HAN Li Nien, LAI Nai Jung, LAI Huei Jen, LEE Shu Chen**

### Introduction

Children with high medical needs usually experience the inability of self-election. The purpose of this group is to allow the preterm children and their parents to experience self-differentiation, increasing the chances for the preterm children to experience independence and autonomy.

### Purpose/Methods

1)Three parts had been adopted as the indicators and assessment keys of this group 1.To increase the children's independence. 2.To increase the chances for the children to express their opinions in family communication. 3.To allow the family to learn how to let children make decisions and bear responsibilities. 2)Execution of the group 1. A total of six families with 11 adults and 9 children. 2.Date and time : 20150727-0730; Mon – Thu 9:30 – 11:30

### Results

I. Family interaction scale: (1) Shown by the results of the descriptive statistics 1.In terms of the children's independent,communication decision making , the scores of the posttest all higher than the pretest. (2) Significance testing of the former and latter testing : The score of independence is  $p=0.018<0.05$ , showing that the parent-children group intervention has a significant performance in terms of the children's independence.

### Conclusions

Based on the descriptive statistics and the statistical analysis of the testing, parent-children group is able to increase the children's independence, to increase the chances for the children to express their opinions during family communications and to allow the families to learn how to allow their children to make decision and bear the responsibilities. Group intervention has its influence but only reaching to a significant level in the influence over children's independence.

### Comments

1. Respecting the children's decision rather than skill learning.
2. Parents were invited to narrate their experiences of decision-making.
3. Using step-cards to choose the content of the group.
4. Experience the different connection between the family system.
5. Enhancement of the activity design for decision making and expression of opinion.

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## The Narrative Story of a Maternal and Child Health Educator

**WANG Lilian, YANG HSIN-YI, CHEN Wei**

### Introduction

To reduce infant diseases, World Health Organization has proposed "Ten Facts on Breastfeeding". Since 1992, the Ministry of Health and Welfare in Taiwan started to promote breastfeeding. The "Maternal and Child Friendly Hospital" becomes one important item in the hospital accreditation and then medical institutions are requested to promote breastfeeding. Maternal and child health (MCH) educators play an important role on breastfeeding promotion, but their experience is rarely discussed.

### Purpose/Methods

**Purpose and Method** Our study describes the experiences of one mother who is a maternal and child (M&H) educator and usually teaches mothers how to breastfeed. She personally played the role of mothers and knew their feelings on breastfeeding. She then reflected the appropriateness of her role as an MCH educator. The study was conducted by a qualitative research. Research data that were transcribed from the self-narration of the participant were coded before analysis. The meaning of the findings was discussed.

### Results

1. Wrong focus – When the success rate of breastfeeding becomes the primary focus of educators, the major concern of MCH educators is the success rate instead of mothers.
2. Lack of empathy – The M&H educators do not understand mothers' situation and have no true care for mothers. The education is just one-way knowledge transfer. Such process instead increases the stress and anxiety of mothers and also raises the risk of postpartum depression.

### Conclusions

The achievement of breastfeeding not only depends on knowledges and skills, but also needs good relationship between mothers and infants. Once the mother becomes an objective to

be monitored in one policy, it could lead to maternal frustration and postpartum depression. We would suggest that MCH educators should have deep empathy for mothers when they teach mothers how to breastfeed and the teaching should be individualized. In addition, please do not judge mothers by the success or failure of their breastfeeding.

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## Evaluation of the use of developmentally supportive care on the dependence on aerophore for oxygen and increase physical development of the newborns

**HSIEH Li-Hua, TSAI Yi-Fan**

### Introduction

In a municipal hospital, 80% of the newborn were transferred from intensive care unit to infant respiration care unit. Many newborns suffer from respiratory insufficiency and depend on aerophore for oxygen intake. The aim is to use developmentally supportive care to reduce the dependency for aerophore and improve physical development of the newborns.

### Purpose/Methods

According to the result from execution of developmentally supportive care from 2000 to 2013, the care method helped to speed up weight gain for premature infants, reduce dependency on aerophore and decrease days of hospitalization. The use of developmentally supportive care method has a great impact on nerves development for infants aged 2 and below and should be adopted for clinical care.

### Results

The developmentally supportive care was carried out to 7 newborns from January to June 2016 who depended on aerophore for survival. The oxygen dependency of 4 infants have reduced to 21% oxygen concentration and 1 infant can survive without the use of aerophore. This method can also improve the heart beat rate through its reduction by 15 to 30% and speed of breathing by 20 to 25%.

### Conclusions

The use of developmentally supportive care can reduce dependency of newborns on aerophore and improve their physical development. This method should be referred for future care for infant respiration care unit.

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## Effect of the Early use of a Lactation Aid on Enhancing Exclusive Breastfeeding Rate and Maternal Confidence of early stage of postpartum

**WANG Li-Lin, HSU Tzu-Chuan, HUANG Hui-Ting**

### Introduction

Researches have shown that early use of artificial nipples can produce disturbances in latching-on, causing infants to become bottle spoiled or nipple confused. In clinical practice, bottle-feeding is often the first suggested alternative when mothers encounter postpartum fatigue and frustration in breastfeeding. Therefore the early evaluation and intervention by health professionals is critical in assisting postpartum breastfeeding mothers to overcome the challenges of breastfeeding.

### Purpose/Methods

This study was a cross-sectional study adopting purposive sampling. The data were collected from February 2016 to October 2016, with 15 participants recruited. Instructors from the Taiwan Academy of Breastfeeding served as case managers to provide breastfeeding mothers with one-on-one instructions on lactation aid intervention in accordance with the mothers' intention.

### Results

The results indicated that after receiving intervention of the use of the lactation aid for 1, 3, and 6 months, breastfeeding mothers attained an exclusive breastfeeding rate of 62.5%, 68.7%, and 37.5%, respectively. Their rate of correct understanding of breastfeeding knowledge was 98% after watching the video and demonstration. Regarding maternal confidence, breastfeeding mothers averaged a score of 34.78 on admission to the maternity ward, and the score of those who received instruction on the lactation aid rose to 42.01 upon discharge. The results of a Wilcoxon signed-rank test revealed a significant difference in the maternal confidence of breastfeeding mothers before and after receiving instruction on the use of the lactation aid ( $p < .05$ ).

### Conclusions

For breastfeeding mothers whose infants received insufficient milk from breastfeeding, early intervention of the lactation aid use proposed in this study proved effective in enhancing the exclusive breastfeeding rate and maternal confidence.

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## Coordinating multi-units caring systems to promote the rate of exclusive breastfeeding six months after delivering babies

**CHEN Mei-Feng, CHUNG Ya-Ting, HSU Hui-Ping, SHEN Yu-Chuan, LIAO Pei-Lin, LIU Hui-Ling, CHUANG Shu-Ting, CHIEN Sou-Hsin**

### Introduction

The World Health Organization and UNICEF recommend it is the most rewarding thing initiate exclusive breastfeeding for the first six months after delivering babies. There are some documents point out that women will still face some problems when returning home, such as self-awareness of insufficient of breast milk, tiredness, overfull nipples, and returning to work. These problems will all decrease the desire of breastfeeding. Nursing staff will be the crucial factors for women to willing keep breastfeeding.

### Purpose/Methods

Analyzing currently low rate can be concluded (1) No one can assist maternity women when encountering difficulties after returning home; (2) unclear instruction for breastfeeding process; (3) non-professional skills of nursing staffs. To solve the problems, the measures are as follow (1) integrating nursing instructions of each unit; (2) planning electronic hand-over worksheets; (3) employing more case-management nurses to take care of postnatal women; (4) establishing workshop to plan instruction of breastfeeding and trainings.

### Results

Analyzing of low rate of exclusive breastfeeding within six months after delivering babies, it can be concluded that: (1)maternity women do not have person can assist when encountering breastfeeding difficulties ; (2)unclear nursing instruction for process; and (3) un-proficient breastfeeding skills of nursing staffs. The improve measures can be taken as follow: (1) To integrate the nursing instructions of each unit; (2) To plan electronic hand-over worksheets ; (3) employing more case management nurses ; and (4) To establish workshops.

### Conclusions

Through project improvement measures, the exclusive breastfeeding rate six months after giving birth increase from 26.5% of first quarter of 2014 to 50.8% of third quarter. The exclusive breastfeeding rate increase obviously. In the meantime, according to the check forms of breastfeeding methods, to audit the three methods of nursing staffs regarding the correction postures of breastfeeding, pumping breast milk and babies' latching on (recognized from pictures). The average points of auditing are also raise from 73.7 to 95.5.

### Comments

This project aims to coordinate the multi-units caring systems to promote the exclusive breastfeeding rate six month after giving birth. After integrating the caring process of each units and the participating of case manager nurse, due to the direct involvement and problem-solving provider to the women with breastfeeding difficulties, the target of this project can be achieved by offering mothers and babies comprehensive and persistent holistic healthcare.

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## Session P2.9: Health promotion for school-aged children

### ProWeBs Promoting Well Being at School

**CHANNOUFI Lamia, DI PIETRO Mario, ANSORGE Ulrike**

#### Introduction

The emotional discomfort is an issue that is often due to a behavioral difficulties that hinder the social integration of young people, especially at school. The significance of our project is to promote the emotional-literacy in school, through various actors and professions who are concerned in the well-being of the child.

#### Purpose/Methods

Our work aims to apply the Self Science in childhood, and evidence how the multi-professional approach can give to the child the emotional skills. This pilot study, proposes a model that sees the Physician as a coordinator who leads a multidisciplinary approach using the kindergaten school, as an application setting. The work has been featured in four parallel paths: information, training, education and continuity of care, offering two ways of approach. The first one theoretical is done by our consultant specialized in Rational Emotive Behavioral Therapy (REBT), through educational meetings to teachers and parents. The second one practical is performed during the workshops offered by the school program.

#### Results

This process carries out four sections: 1. YogArt an experiential approach favouring personal expression, resilience, cultivation of social skills and self-efficacy. 2. Alphabets Artists where the goal is to use art techniques as a means of expression; 3. EMOpsico where the psychomotor uses the body and its relationship to the environment as emotional reaction. 4. SHE Program: Health promotion activities executed only by specialist consultants. The Program continuity is coordinated by the School as a support for families in need of guidance.

#### Conclusions

The project wants to transfer this model and make the emotional education a daily school practice, giving both to School a social role and to the Physician and the Psychologist a role of facilitators of health promotion in the school itself. We focus on the definition of indicators that highlighted the evolution of the child's emotions that, could lead to a new lifestyle.

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### Physical Activity Program of University-Industry Collaboration to Attenuate Obesity for Cijin Elementary Schools at Remote Island

**JIAN Shu-Yuan, CHUN Yong-Chuan, LU Yen-Ling, LIU Ding-Shun**

#### Introduction

The prevalence of obesity in children in Taiwan has been at the highest in Asia. The ratio of overweight and obesity was over 35.0% in the Cijin District Primary Schools Children. Cijin District is Taiwan's remote Island region, which is lack of resources. Kaohsiung Municipal Cijin Hospital is only a hospital in the island which is operated under entrustment with Kaohsiung Medical University. Cijin Hospital cooperates with the Kaohsiung municipal government to promote the improvement of obesity issue in Cijin District school children.

#### Purpose/Methods

The aim of this program was to attenuate the body composition of obese children by the activity program of industry-university collaboration. The subjects, who were obese, selected by schools nurses and measured by the body mass index. Physical exercise training was designed and implemented by Cijin Hospital and the Department of Sports Medicine of Kaohsiung Medical University. This program took about 45 minutes of physical fitness training per week and lasted for one semester (15 weeks). It consisted aerobic exercise, resistance training and coordinated agility training. Body composition was measured by using bioelectrical impedance at baseline and 15th week in all participant children.

#### Results

The number of participant children was 87 (53 males and 34 females, mean age  $10.45 \pm 1.34$ ). After 15 weeks of physical fitness training, the results showed the height (mean difference, 1.77cm,  $p < .001$ ), body mass index (mean difference, -0.31,  $p = .003$ ), skeletal muscle mass (mean difference, 0.87Kg,  $p < .001$ ), body fat mass (mean difference, -0.79Kg,  $p < .001$ ), percentage of body fat (mean difference, -1.90 %,  $p < .001$ ).

#### Conclusions

This fifteen-week physical fitness program of University-Industry Collaboration represents an effective means for improving body composition. Such exercise program is worth promoting in the Elementary Schools.

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### The effect of a computerized iBalance training program on the balance performance in children with developmental coordination disorder

**HOU Ciou Ru, CHERNG Rong Ju**

#### Introduction

Developmental coordination disorder (DCD) refers to a motor skill disorder which affects daily activities function and academic performance. Poor balance and easily falling are one of the chief complaints given by caregivers. Poor balance and poor motor performance limit the children's participation in physical

activities which may diminish motor practices, thus deprive the opportunities of motor skill improvement and physical health. Therefore, it is important to provide a training program to improve children's balance performance and physical activity status. However, children usually find traditional training boring. An interesting program that may increase children's motivation and participation is important.

#### Purpose/Methods

The study aimed to examine the effect of a laboratory designed training program (iBalance) on balance performance in children with DCD. In this preliminary study, three children with DCD and three age-matched typically developing children (TD) were recruited from elementary schools. Children with DCD received iBalance training program for 20 min/time, 2 times a week for 3 weeks. Movement assessment battery for children-second edition (MABC-2) and iBalance evaluation test were measured and recorded before and after the training program. The scores of MABC-2 test were expressed with percentile ranks. The scores of iBalance evaluation were expressed with the number of task success and the trajectory of the body movement.

#### Results

Children with DCD showed a larger improvement in MABC-2 balance subtest score ( $13\pm 8\%$  to  $54\pm 12\%$ ) than TD children ( $60\pm 27\%$  to  $78\pm 15\%$ ). In iBalance evaluation outcome, the result showed DCD group had a tendency of increasing the number of task success ( $2.6\pm 0.5$  to  $3.8\pm 0.9$ ) and of decreasing the trajectory of the body movement ( $118.8\pm 30.5$  to  $94.4\pm 18.3$  cm).

#### Conclusions

The results of this preliminary study suggested that the iBalance training program is promising to improve the balance performance in children with DCD.

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## Health assessments of obese schoolchildren in Korea

### CHU Jieun, NAH Eunhee, KWON EunJoo, CHAI Jong-Yil

#### Introduction

For obesity management of the schoolchildren, it is important to bar the progression to adult obesity, determine if the comorbidity occurred and prevent/control it. For this reason, this study was designed to identify the comorbidity status of the obese schoolchildren and the risk of disease occurrence according to the obesity level.

#### Purpose/Methods

The target of this study are 118,830 students diagnosed as obesity among the 4th graders of the elementary school, the 1st graders of the middle and high school, who took the ministry-sponsored medical examination in the health promotion centers of Korea Association of Health Promotion in Korea. The students diagnosed as obesity took the assessment additionally: systolic blood pressure (SBP), diastolic blood pressure (DBP), fasting blood sugar (FBS), total cholesterol (TC), AST and ALT. If

all the results were normal, They were defined as 'HOS (Healthy Obese Student)' and if one or more test result was(were) abnormal, defined as 'UHOS(Unhealthy Obese Student).'

#### Results

According to gender, grade and obesity, the significant differences were found in abnormality founding and UHOS distribution. In the assessment on the risk of comorbidity, the risk increased in every health factors, in proportion to the intensity of obesity level. When the risk level for the mild obesity was set as 1, the risk of High SBP for severe obesity was 5.7. The risk of High DBP for severe obesity was 3.9. And the risk of High AST for severe obesity was 6.1. Also, the risk of High ALT for severe obesity was 5.8. The risk of UHOS for severe obesity was 3.1.

#### Conclusions

Among the obese schoolchildren, the risk of comorbidity was increased proportionally to obesity level. Significantly, the risk of increasing abnormal liver function, a predictor of non-alcoholic fatty liver diseases, was identified. Therefore, it is important to prevent the obese schoolchildren from developing health problems through operate the obesity management program like exercise and lifestyle change.

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## Dietary behaviors of primary school children in Kaohsiung City

### CHENG Chin-Chia, LIU Li-Ling, LIANG I-Fen, HUANG John-Ping

#### Introduction

The Ministry of Education survey of student health examination data show that elementary school children overweight and obesity rate was 30.4%. Compared with the World Obesity Federation, showing that the proportion of child obesity are all the highest in Asia. Health Promotion Administration, Ministry of Health and Welfare plans to sell healthier meals near the school's restaurants. We hope that through investigation schoolchildren eating habits, to find suitable businesses.

#### Purpose/Methods

The purpose of this study is to understand the habits and sources of food choices of school children. The findings could serve as a guide for businessmen to provide healthy breakfasts and improve school children's understanding of the extent of healthy eating. We used a questionnaire to investigate the behavior of grade 3-4 elementary school students in kaohsiung. The questionnaire included students' habits of breakfast, dessert, and beverages, as well as food sources and types.

#### Results

The survey showed that men accounted for 55.6%. 99% of students have the habit of eating breakfast every day. Students eating dessert habits is 90.4%. 88.9% of students have the habit of drinking non-alcoholic beverage. Most parents will make breakfast(60%). Desserts and beverages are mainly bought at the store. Breakfast and dessert mainly are bread. The second

highest respectively for sandwiches and chinese omelet, cake and cookie. The students drinking fresh milk is up to 23.6%.

#### Conclusions

A high percentage of students have the habit of eating breakfast, desserts and beverages, but most parents choose bread as breakfast, cake and biscuits as desserts. Breakfast, desserts are high oil, high-calorie food and not suitable for school children to eat daily. In the future, we will encourage the bakery to sell whole wheat toast, cereal bread in the future and teach parents and students the right diet concept.

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## Nutritional care of children with mental and growth retardation in community

### KO Shu-Chen, YU Hsin-Ting, LIN Chia-Ching

#### Introduction

People with physically and mentally handicapped problems are an important issue for our society. They need the medical care to help them. The best method is to invite the medical personnel to visit the community and family, provide substantive help and solving growth problem for them. This study hopes that the food prepare teaching and nutritional intervention can help these groups of slow flying angels to follow the normal growth and development curve, and to grow up happily.

#### Purpose/Methods

Children with growth retardation, mental and physical disabilities in community were the objects in this study. Dietitian provided the individual nutrition counseling and dietary guidance every month, and then, supplied the nutritional supplement for the children coming from the low-income family with growth retardation and nutrition-related problem. Finally the statistical analysis of nutritional condition would be done.

#### Results

The average age was  $4.5 \pm 2.46$  years old. The inadequate intake percentage of fruit, vegetables, whole grain, milk and protein were 71.4%, 57%, 50%, 42.8% and 28.6%, respectively. Gastrointestinal related problems were constipation, followed by abdominal distension and chewing disorders. The mean intervention time was  $10.64 \pm 2.66$  months. The average height and weight increase were  $5.14 \pm 2.41$  cm and  $1.81 \pm 0.85$  kg, respectively. The gastrointestinal conditions were also improved.

#### Conclusions

Nutrition education and nutritional supplement support could improve nutritional health conditions of children with mental and growth retardation and help them to follow the normal growth and development.

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## Effectiveness of Hospital Intervention in Elementary School Health Promotion

### LIN Ching-Cheng, LEE Ken-Shu, TASI Chun-Chi, CHUNG Ming-Ku, LI Chi-Ren

#### Introduction

Kaohsiung Municipal Siaogang Hospital(KMSH) is a community-based hospital, it emphasis on the community health promotion. October 2015, The Education Bureau (EDB) promotes the Healthy School Policy, due to manpower shortage, therefore EDB signed an Agreement with KMSH and introduced the medical professionals into the elementary schools.

#### Purpose/Methods

Based on the elementary school Health Education Policy, KMSH designed lively and interesting health educational program to guide students to learn self-management concept. It executed in four elementary schools with 2,790 students to participated in the activities for half year, finally by in-depth interview with 12 relevant personnel, including principals, directors and school nursing to verify the program effectiveness.

#### Results

The results found better effects on students' learning by hospital conduct health education at school. Its shows the medical professions design activities which attract students' attention and improve their motivation. By school and hospital cooperation, it not only introduce medical professional to school, also both students and teachers with high options of the hospital.

#### Conclusions

Introduced the medical professionals into the schools is very helpful for health education promotion. Student would learn correct health education knowledge, the school would reduce pressure of create activities. The hospital could implement the mission of the community hospital care community people. It achieve the win-win benefits.

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## The Influence of Career Exploration Group on the Career Awareness and Vocational Values of Middle School Students

### LI Chien-Yuan, HUANG Yen-Chen, CHIEN Shih-Yun, HSIEH Hung-Yu, YEH En-Tien

#### Introduction

Middle schoolers confront the mental and physical transition between young age and adulthood, they start to understand the self- characteristics, seek for self-identity and help themselves become an independent individual. Furthermore they start to

think of future development, construct career planning, and then try to fulfill that.

#### Purpose/Methods

The department of health promotion administration center of Cardinal Tien Hospital in Taiwan cooperates with Taiwan government and local middle school to establish a Career Exploration Group, to provide middle schoolers with career guidance and professional counselors. The Career Exploration Group recruits 11 students, 2 of males and 9 of females, from Wu Feng Junior High School of New Taipei city. The inclusion criteria of participants are: having interest of understanding career awareness (1 hour class per week, eight weeks' continuous class). The concepts of the classes were: (1) Guide the participants to aware their own interest, ability and special talent, then encourage them to self-affirm these ability. (2) To help the participants to reveal their own value—what's more/ less important to you? And encourage them to maintain a neutral attitude to others' value. (3) Understanding the characteristics of various occupations by watching video and field visits. (4) Remind the skills of facing difficulties.

#### Results

The participation rate of the Career Exploration Group was 100%. 10 out of 11 participants clearly revealed some careers they wanted to pursue, including: nursing, pharmacists, cooks, performers, politicians, translators, and so on. Also they concerned about strengthening academic performance or related ability in order to achieve their goals.

#### Conclusions

Through Career Exploration Group, we can give counseling by specialists, systemically instruct the related knowledge, and having a good effectiveness of career awareness and vocational values. So we encourage more resources and manpower to investigate into Career Exploration Group.

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## A Study on the Cognitive Effect of Improving Healthy Behavior among School Children and Adolescents

**HUNG Ta-Chuan, HUANG Tsu-Hsueh, LU Shin-I**

#### Introduction

Based on the 2011 student health statistics in Taiwan, the prevalence of overweight or obesity in elementary school students was 25.4%. In addition, the prevalence of dental caries among children increases with age. Moreover, the prevalence of tobacco use among junior high students was around 7-8%. Thus, our healthcare team offers a series of health promotion activities for school students. We also conduct quiz contests with reward and actual drills to make it more interesting.

#### Purpose/Methods

In 2016, our healthcare team implemented the policy of "Health Promotion Programs for Adolescent". We took the initiative to contact the section chief of hygiene in elementary and junior

high schools in Tamsui District. We totally received replies from 12 schools, and arranged the age-appropriate health promotion lectures and activities for each group. These activities included virtual tours of dental offices, oral hygiene education, prevention and control of smoking, healthy eating tips and so on. We created quiz competitions with prizes and actual drills to ensure effective learning and knowledge retention.

#### Results

We organized 41 health promotion activities. We provided health talk on tobacco harm advocacy 16 times (4383 listeners). We collected 423 satisfaction questionnaires by sampling, which result showed that 95% of students thought this information was helpful. We gave oral hygiene education 5 times. And there were 95% of 684 students who said that they were not afraid to see the dentist anymore. Approximately 90% students answered the questions correctly during the quiz of the contest.

#### Conclusions

Our healthcare team provided age-appropriate health promotion lectures and activities to let the students acquire the knowledge, skills, information, and make healthy choices. We also used quiz competitions and rewards to enhance learning motivation. Caring their body, developing health behaviors, and cultivating the health attitude in their whole life were our final purpose of these activities.

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## Effect of hepatitis B vaccination in hepatitis B surface antibody-negative students among south Taiwan high school

**YEH Jih-Kuei, CHEN Chia-Hui**

#### Introduction

Taiwan is one of the areas of high incidence of hepatitis B infection. Hepatitis B is an infectious liver disease caused by the hepatitis B virus. There is a portion can develop chronic hepatitis B, risking serious illness or death from cirrhosis, hepatocellular carcinoma, or liver failure. A key tool for the prevention of hepatitis B infection is hepatitis B vaccine injection. Previous studies reported that 40 ~ 50% person cannot detect antibodies after 10 years hepatitis B vaccine injection.

#### Purpose/Methods

The aim of the study was to investigate the effects of vaccination with the hepatitis B vaccine in HB surface antibody -negative high school students that immunological memory disappeared. A total of 1236 students with hepatitis B vaccine injection at birth were enrolled after admission health examination in this high school. Hepatitis B vaccine (Engerix-B) was administered intramuscularly as a 3-dose series on a 0-, 1-, 6-month schedule to achieve immunity in the deltoid region among immunological memory disappeared students.



### Results

We analyzed data of medical results for students, HBsAg negative and HBsAb negative were 133 students (10.76%), available in 49(37%) male and 84(63%) female. HB antibody titres were checked one month after the completion of a series course of vaccine injection for 133 students. HBsAb levels  $\geq$  10 International Units/litre (IU/L) are considered HBsAb positive. As a result by post-immunization testing, there were 132(99.24%) students with HBsAb positive and one male with HBsAb negative. The seroprotection rate was 99.24%.

### Conclusions

Hepatitis B vaccines are extremely safe and efficacy immunogenicity. A key tool for the prevention of hepatitis B virus infection is hepatitis B vaccine injection.

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## Lifestyles and health among adolescents: the problem of smoking among young people aged 11-19 in Italy

### GORINI Giuseppe, MARCHESI Cristina, TAMELLI Marco, BOSI Sandra

#### Introduction

Smoking habit remains one leading cause of preventable death and disability, with related huge costs (HBSC Italia 2014; WHO 2011); mostly developed during adolescence, it's crucial to assess the spread of this phenomenon in order to design effective public health policies aimed at promoting its early cessation and preventing people from taking it up (Gorini, 2014; Bosi, 2013; Engels, 2006)

#### Purpose/Methods

To bring back smoking prevention among young people aged 11-19 through a multimedia advertising campaign and specific educational actions, focusing educational actions on students through policy actions, peer education and support for smoking cessation in high schools. The project is based on the ESPAD 2015 analysis, in which Italy scored alarming results compared to other European nations (i.e., Italy ranked 1st for both boys and girls on current use).

#### Results

\*Implementation of preventive actions of proven effectiveness targeted at young people. \*Targeting action at gender differences, given that the trend is rising sharply among the female population and exceeds that of the male population. boost the results of validated education programmes, considering that Italy's investments in "evidence-based" anti-smoking media campaigns have always been low;

#### Conclusions

\*Design of contents for the media campaign targeted at gender differences \*Training 50 students in Peer education and communication for their contribution to the media campaign \*Sharing the Project with stakeholders and disseminating the

tools produced \*Monitoring and evaluating the media campaign actions and the project's educational actions with the Cancer Prevention and Research Institute (Florence) \*Implementation of the education programme in schools, and training of at least 5,000 teachers and 1,000 health workers \*Implementation of the smoke cessation strategies, including multimedia strategies, disseminated by the young people involved in peer education (i.e. in school settings and social networks)

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## Used partnerships to promotion health promotion of Adolescent

### SU Yi-Lin, WU Chiu-Hui, SHEN Yen-Ting, CHANG Chih-Chieh, YANG Jui-Neng, LEE Yu-Chin

#### Introduction

Adolescence is a critical period of personal growth. Many values, habits and health behaviors are developed at this stage, So from the medical point of view and school cooperation to promote health promotion activities, to increase the concept of "prevention is better than cure" in adolescent.

#### Purpose/Methods

The purpose of this study was to increase quit smoking rate of adolescents and improve deviant behavior of adolescents. March to October 2016, Our hospital established the young medical service team, adolescent health promotion clinic, held health education lectures and smoking cessation classes, mental health care services in school.

#### Results

There were 20 health education lectures, 4,898 participants; psychological health care services in campus , service participants for 18 students, 3 months quit smoking rate35%, 85% of students indicated that they were helpful in self-care after promotion program.

#### Conclusions

Health promotion is a new approach in health services of today, Adolescents are a major challenge for health workers, in order to promote adolescents health promotion, to improve health knowledge, and maintain their self health.

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## Social-demographic factors of betel quid chewing in Taiwanese adolescent students

**WANG Ying-Wei, CHEN Ran-Chou, JOH Yann-Yuh, LO Yuan-Ting C., WU Chen-Yuan**

### Introduction

Betel quid (BQ) chewing plays an important role for oral cancer and increased risk of cardiovascular disease, type 2 diabetes mellitus and chronic kidney disease in Taiwan. The prevalence of BQ chewing among junior, general and vocational high school students were 0.80%, 0.39% and 3.38%, respectively. The strategies are needed to prevent BQ chewing. The study aims to explore the social-demographic factors related to BQ chewing in Taiwanese adolescent students.

### Purpose/Methods

The Global Youth Tobacco Survey (GYTS) in 2015 is a school based surveillance survey among adolescents. Logistic regression was used to analyze the social-demographic factors associated with BQ chewing. The semi-structured interview was used to collect focus group discussions conducted in 11 cities or counties with high BQ chewing rate. Content analyses on focus groups discussions were classified into person, family and society factors in relation to BQ chewing.

### Results

The result indicates that personal factors result in BQ chewing includes studying at night schools, dropout, peer pressure, and tobacco smoking. Family factors included parents or relatives were current chewers and family's engaging in related businesses (cultivation or vendors). Social factors contributed to BQ chewing were students that received BQ from temples during traditional festivals as well as indigenous weddings. Logistic regression showed that men (AOR=5.36), unemployed parents (AOR =1.58), low education in fathers (AOR =2.29), have part time jobs (AOR =3.60), not taking betel quid hazards lessons (AOR =1.53), and consider betel quid is not carcinogen (AOR =1.65) were associated with chewing behavior in vocational high school students.

### Conclusions

Public awareness campaigns for betel quid hazards are needed for vocational high school students. Those social-demographic factors associated with BQ chewing among adolescent students could be considered as key factors in BQ prevention strategies, and further cooperation is needed with other departments.

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## Encouraging youth patients's acceptability for nebulization therapy through rewarding plans

**HE Ya-Chen, HSU Chi-Chen, WANG Chao-Lin, CHUANG Shu-Ting, CHIEN Sou-Hsin**

### Introduction

Children will always have a great fear of treatment during hospitalization. The fears will often cause the low effective of the treatment, uncooperative of wailing and nervousness of the youth patients. This project is aims to utilize reward mechanism by means of QC to focus on 124 preschool- school hospitalized children to promote the acceptability for nebulization therapy and the satisfaction of children's families toward patient education.

### Purpose/Methods

This project began on June 2016. The nursing staffs put their heads together to come out the rewarding card for nebulization therapy and the questionnaire for the satisfaction toward patient education of nebulization therapy. The acceptability of youth patients and satisfaction of the families can be effectively encouraged and promoted through the utilizing of rewarding card and questionnaire.

### Results

Three months after enforcing rewarding cards and patient education of nebulization therapy, the results show that among 124 youth patients whose percentage of acceptability up to 90% are one 108(87.1%) children .As for the satisfaction category, there are 121 people choosing "very satisfied" which is 97.5 %.

### Conclusions

To increase the satisfaction toward the patient education through rewarding mechanism can show its unique idea for patient education. By utilizing it on different age of patients, it can not only show the satisfaction of families toward understand the progress of acceptability of youth patients and maintain good physician-patient relationship.

### Comments

In order to present the satisfaction for patient education of nebulization therapy, the primary is to set up the rewarding mechanism and design the form. If we can increase the cooperative motive of youth patients through rewarding mechanism, the families can encourage youth patients, decrease the tension of caregivers and enable for medical team control the progress of therapy and increase the satisfaction toward patient education.

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## Session P2.10: Health promotion for the elderly

### Care Coordinator Program for elderly patients

**TSANG Wai Yi, TANG S K**

#### Introduction

A comprehensive discharge planning and Care Coordination is the key areas for elderly patients. In collaboration with multidisciplinary of the health care team, the Care Coordinator will use expert knowledge of internal and external resources to lead the coordination of patient-centered and plan of community care facilitating the flow of elderly patient across the continuum from admission to discharge and back to community.

#### Purpose/Methods

The program took place from Sep 2014 to Jan 2015. Target elderly with discharge problems and poor disease control, such as Heart Failure or fall. They may without enough care support and repeated admission. Care coordinator will consider all of patient's needs and make a comprehensive discharge planning with input from the patient and caregiver. The interventions included: 1. Develop a shared decision making approach that consider patient factors and preferences, social and medical needs. 2. Conduct comprehensive pre-discharge planning assessment of patient/ caregiver to provide self-care in community. 3. Manage follow up appointments as patient needs. 4. Triage appropriate care team for patient's disease monitor and rehabilitation. 5. Consideration family support, transportation and social needs in community. 6. Update information sharing between different professional parties and community care providers.

#### Results

80 patients under program and 36% were female. There were statistically significant showing that the average number of reduction of readmission by 35.6% ( $p < 0.001$ ) in elderly patients with complex medical disease. Patients and caregiver also noted with improved their caring stress and disease's symptoms control.

#### Conclusions

The Care Coordinator program provides comprehensive assessment and post discharge support for patients and caregiver that are effective in reducing the readmission and enhance care coordination between patients and health care provider.

#### Comments

Coordinate patient's Individualized discharge planning & support was improving patient health outcomes.

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### A salient medical system for personal health indexing assessment HSU Yu-Shan, HSU Ming-Fu

#### Introduction

The elderly population has increased considerably from the beginning of this century, becoming a critical issue to most developed countries. As the elderly population needs much more medical treatments and healthcare services, the government's financial burden will increase. However, it is very complicated work for healthcare experts or physicians to provide summarized reports on people's personal health after a thorough medical check-up due to hundreds of parameters. Moreover, GME reports contain a large amount of information, where even some information is not explored. As a matter of fact, such an exploration is impossible manually, because the difficulties of the combined effects grow exponentially with ever greater volumes of dissimilar test outcomes, the large number of longitudinal records, and the total number of patients.

#### Purpose/Methods

To deal with the aforementioned task, this study introduces an emerging model that contains text mining technique and artificial intelligence (AI) technique. The text mining is implemented to establish a domain-specific lexicon and then extract the valuable information from GME reports. The textual information and numerical information were fed into AI technique to construct the model for personal health index forecasting.

#### Results

To examine the usefulness of the proposed model, this study compares it with three other forecasting models: rough set theory (RST), discriminant analysis (DA), and adaptive neuro fuzzy inference system (ANFIS). The average forecasting quality of each model is 86% (proposed medical system), 81% (RST), 72% (DA), and 83% (ANFIS).

#### Conclusions

Governments can consider the potential implications of the results herein to announce much more suitable public health policies. Medical professionals can also utilize this model as a decision support system to assist in making reliable and trustful judgments.

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### The characteristics of nursing home residents and association factors of acute hospitalization

**HWANG Seo Eun, LEE Soo Hyung, CHO Hye Min, KIM Jae Chul, KIM Joo Yeon, KIM Moo Young**

#### Introduction

In Korea, elderly population is growing at a most fastest rate than any other countries. and long-term care facilities for elderly are also increasing exponentially. but We have little preparation for more organized and systematized long-term care facilities. so our hospital, Seoul Medical Center, had started nursing home visiting program since 2014. We had surveyed about general characteristics and acute aggravation history. and wish to know reason for acute hospitalization.

**Purpose/Methods**

We collected data from 309 persons from nursing homes in Korea. Three medical specialists developed a medical paper that includes demographic information, physical and cognitive evaluation scales, and history of admission for the past one year.

**Results**

Seventy percent of participants were over 80 years of age and 64.8% of them had severe cognitive disorders. The mean Korean Activities of Daily Living(K-ADL) score was  $16.01 \pm 4.072$ , and they had  $2.65 \pm 1.410$  comorbidities and were taking  $5.61 \pm 3.307$  drugs on an average. Fifty percent of them had been prescribed medicines without seeing a physician for a year. Underlying congestive heart failure ( $p = 0.002$ ) and gastrointestinal disease ( $p < 0.001$ ) were associated with hospitalization. The group that had experienced admission had a higher K-ADL score ( $p = 0.002$ ). The participants who had severe cognitive disorders ( $p = 0.002$ ) and health insurance ( $p = 0.02$ ) had experienced less hospitalization.

**Conclusions**

This study revealed the characteristics of nursing homes residents and showed that they had been neglected by medical services. Additionally, it concluded that it is necessary to carefully monitor and manage the nursing homes residents who have a risk factor for hospitalization

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## Elderly Patients with Respiratory Failure: Risk Factors and Outcome Evaluated by SOFA score

**LI Chi-Ting, LEE Ming-Chieh****Introduction**

Consequently, as early as in September 1993, Taiwan was officially an aging society as the proportion of those aged over 65 had exceeded 7% of the country's population. As technology and medical care improves, more patients can be resuscitated successfully and subsequently require mechanical ventilation. Compared with younger patients, elderly patients are more difficult to wean from ventilators due to respiratory muscle weakness and low surface tension in their lungs, which restricts lung expansion. As the percentage of the older population still rising in Taiwan, we are facing an increasing number of ventilator-dependent patients. Considering the need for assessing of prognosis in elderly patients in intensive care unit (ICU) the purpose of this study was to identify risk factors in a population of elderly patients with respiratory failure.

**Purpose/Methods**

This study was a retrospective study. Patients with 65 years or more of age, who stayed in ICU for 24 hours or more were included.

**Results**

In this study 211 patients were involved, with a mean age of  $72 \pm 13$  years. Of them, 112(53%) patients successfully extubated, and 99 (47%) patients died. The extubated and dead patients of

those with systemic inflammatory response syndrome (SIRS) and adenocarcinoma were  $37 \pm 48$  vs.  $58 \pm 49$  patients ( $p=0.001$ ) and  $3 \pm 17$  vs.  $13 \pm 33$  patients ( $p=0.007$ ). The mean SOFA score was  $6.2 \pm 3.3$ . Those scores above 3 were respiration system  $37 \pm 48$  vs.  $66 \pm 47$  patients ( $p < 0.001$ ), cardiovascular system  $12 \pm 32$  vs.  $46 \pm 50$  patients ( $p < 0.001$ ) and kidneys  $49 \pm 50$  vs.  $64 \pm 48$  patients ( $p=0.018$ ). The logistic regression analysis results shown the independent determinants of higher mortality were: kidney OR=2.68(CI 95%:1.162-6.390)  $p=0.021$ .

**Conclusions**

Elderly respiratory failure of patients with kidney failure had 2.68-fold higher risk of mortality rate. Therefore, it is better to prevent or detect kidney failure early to reduce mortality.

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## It's like my second home-Tamsui North Coast Elderly Day Care Center

### CHEN Hsiangyi, LEE Shu-Chen, TSAI Li-Li, CHANG Yu-Shin

**Introduction**

Tamsui North Coast Elderly Day Care Center is a community-based dementia and disability mixed day care institute that offers local elderly residents with a friendly and healthcare environment. To implement the care concept of social participation and community integration, we emphasize on the integration of community elements and day care so that the elderly can enhance the connection with community culture and perceive the family-like warmth.

**Purpose/Methods**

1. Physical Environment—For the overall environmental design of the Day Care Center, we decorate the scenes of community features in the day care center while extending the central space to the surrounding green land of the garden. 2. Caring Process—The integration of community resources are introduced to the daytime activity design for elderly while each Thursday is the "Community Clock-In" activity. 3. Increase exchange — The day care center opens some area to the public, namely the senior's club, where the community elderly would use the recreational and leisure area of the day care center.

**Results**

1. Increased activity participation: The elderly are very interested in community clock-in activity and also looks forward to the visit by the community groups at the center. 2. More stabilized emotional issues with elderly suffering dementia: Going outdoor will help elderly feel cheerful and relaxed, thereby improving the twilight symptoms. 3. Enhancing self-value and sense of belonging: More than one elderly have expressed in the interview that day care center is second home for them. They like the life here and are not excluded by the community.

**Conclusions**

The establishment of community-based day care center substantially brings health promotion and aging delay resources into the community. The importance of interaction between

elderly and social group as well as maintaining positive contact and communication with the society, which is the key psychological support and source of hope in elderly.

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## The associated factors of unexpected re-admission for elderly patients in a regional hospital in Taiwan

### HSIAO Chia-Li, SUN Li-Chen

#### Introduction

Studies reported that elderly and patients with organ dysfunction or chronic diseases tended to re-admit to hospitals. Re-admission to hospitals increased medical costs and caused problems for patients and their family. So, it is an important issue for hospitals, patients and their family.

#### Purpose/Methods

Aim: To figure out the associated factors of unexpected re-admission for elderly patients Methods: The characteristics and associated factors of re-admitted elderly patients were recorded by retrospectively chart review.

#### Results

Total 102 re-admitted patients, who had the interval between last discharge and the date of admission less than 14 days, were recruited during April 2013 and July 2014. Among them, 65% of patients were male and the mean age was 80 years. In self-care abilities, 33% and 39% of patients were represented as total dependence, evaluated by Activities of Daily Living Scale and Instrumental Activities of Daily Living Scale, respectively. In application of assistive devices, wheelchair is the most common used device (30%). In respiratory care devices, sputum sucker is the most used device (13%). The main care giver after discharge was offspring (40%). The patients carrying catheters while discharge accounted for 73% and most of them had more than two catheters. 78% of patients had wounds while discharge. 85% of patients did not receive discharge planning service during hospitalization.

#### Conclusions

Our study found that the associated factors of unexpected re-admission were male, elderly more than 75 years, activities restrictively by wheelchair, limited self-care abilities and total dependence, carrying catheters while discharge and not receiving discharge planning service at last hospitalization. Therefore, we need actively provide discharge planning service and related disease information for elderly patients and their family during hospitalization in our daily clinical practice.

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## Increasing Nasogastric Intubation Removal Rate by Swallowing Training and Food Thickener

### WU Mei-Chuan, CHIANG Chia-Ling, LEE Ming-Tsung, LU Chia-Wen, TENG Heng-Yi

#### Introduction

Dysphagia may result in malnutrition, dehydration, inhalation pneumonia, weight loss, and increase in mortality. Nasogastric intubation is a routine management to maintain adequate nutrition and hydration. Long term intubation of nasogastric tubes is an important issue in healthcare. This study aimed to increase the removal rate of nasogastric intubation by way of swallowing training and use of food thickener to elevate the quality of life.

#### Purpose/Methods

Workshops on dysphagia were held in 2014-2015. Topics in the workshops included swallowing training skills and methods of food thickener use. A manual on swallowing training was prepared. A health education booklet on swallowing training was also organized. We also made a video and a series of figure cards. A pre-test and a post-test of swallowing evaluation and the cognition of the participated nurses were carried out.

#### Results

Fifteen workshops on dysphagia were held and 689 participants attended and were qualified. Seven hundred sets of manuals on swallowing training were distributed and 500 health education booklets were disseminated. Mean scores of the pre- and post-tests of swallowing evaluation and the cognition were 72.7 and 96.1, respectively. During the period, 57 patients were recruited and 28 succeeded in removal of nasogastric intubation. The removal rate was 49.1%.

#### Conclusions

Long term intubation of nasogastric tubes may result in many complications, such as nasopharyngeal injuries, gastroesophageal reflux disease, and inhalation pneumonia, so as to influence the quality of life. This study applied swallowing training and use of food thickener to facilitate the removal of nasogastric intubation according to the preset schedule. A clinical practice guideline was developed.

#### Comments

It is suggested the nursing staff that care patients with long term intubation of nasogastric tubes refer to this guideline of swallowing training, and benefit those who need this service.

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## The Outcomes for “Animal-Assisted Therapy” for Senior Patients with Dementia



## HSU I-Ping, HSU Pei-Chien, YANG Ya-Chun, TSAI Hui-Ni

### Introduction

In order to enhance positive emotion and reduce negative feeling of senior patients with dementia, we recruited senior citizens with dementia and conducted 8-week diversified courses of "Animal-Assisted Therapy" (AAT) in Wenshan District Health Center, Taipei, Taiwan. We report the preliminary results of AAT.

### Purpose/Methods

We conducted AAT courses, by using auxiliary activities design and setting case-treatment goal, to enhance sense of support, independence, pleasure and other positive emotion and to reduce hopeless feeling, boredom and other negative feelings, and to promote social interaction, to improve the quality of life of dementia elderly. The assessment tools included "Caregiver Burden Scales" for the caregivers and "Mini-Mental State Examination" (MMSE) for the subjects, respectively.

### Results

The score of MMSE was significantly improved from  $16.33 \pm 6.52$  before intervention to  $19.67 \pm 7.81$  ( $p < .001$ ) after intervention. The average post-test burden score of the primary caregivers was  $4.44 \pm 1.88$ , significantly lower than the pre-test of  $5.13 \pm 1.63$  ( $p < .05$ ). The average post-test depression score of the primary caregivers was  $7.22 \pm 2.77$ , significantly lower than the pre-test average score of  $11.67 \pm 5.81$  ( $p < .05$ ). The cognitive scores of the patients had been improved significantly.

### Conclusions

After the intervention of AAT, the relief in physical and mental load of caregivers is remarkable and the subjects' social interaction is enhanced. The family members expressed the need of this intervention. It shows that the continuous service in the community is meaningful. The center will advocate dementia-related information through community activities, increasing people's understanding and knowledge of dementia. Also continue to provide the intervention of AAT to more senior citizens with dementia.

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## Associations among Health Behavior, Mental Health Status and Cognitive Status of Elderly of Health Examination — Using a Medical Center as an Example

### LEE Hsiu-Lan

#### Introduction

This study was to compare the health behaviors, mental health and cognitive status between elderly people (age  $\geq 55$  years for non-aboriginal and age  $\geq 65$  years for aboriginal people) with and without regular health examination in a medical center

#### Purpose/Methods

Data were extracted from the elderly health examination data base of Health Management Department for 4 years data collection. All subjects had answered the Elder Health Routine Check Up questionnaires during their examination and 5573 subjects were included for the analysis. Statistical methods with SPSS 17.0

#### Results

1. 572 people (10.3%) had a regular health examination at the same hospital, while 5001 people (89.7%) did not regularly have a health examination 2. Statistical significances were noted in the rates of among subjects who received regular health check up and did not receive regular check up in age, living area, educational level, medication history, reasons for medication use (including hyperlipidemia, heart disease etc.), past health history (hypertension, hyperlipidemia, pulmonary disease, stroke, periodontal disease, hepatitis B, prostate cancer, cardiovascular disease, prostatic hypertrophy), no family health history, and having family history of hypertension, hyperlipidemia, and breast cancer. In addition, there were statistical differences among transportation, tooth brushing, and intake of milk, vegetable and fruit. Subjects who received regular health examinations were found to have better mental health, cognitive status and higher referral clinics for health related problems 3. Subjects who were females, live alone, longer medication use and less educational level than high school reported significantly worse mental health and mental status. Gender, living area, and history of medication use were significantly related to regular health routine check up

#### Conclusions

These results may help us understand the mental health, cognitive status and health check results of elderly people, thus with implication for public health

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## The effect of automated physiological monitoring system for elderly with hypertension on a community hospital

### LIU Yi Lien, YANG Pei Chun, CHEN Wan Ling, SHYU Ren-Shi, WANG Chiung Lang

#### Introduction

The ever-growing aging population in Taiwan has triggered a corresponding increase in the demands for primary care services. The current hospital center healthcare is becoming inconvenient to deal with the conditions which demand immediate treatment such as cardiovascular disease. To provide individual healthcare and enhance interactive social contact in community, automated physiological monitoring system is used to acquire and monitor the physiological signals of a patient. In addition, it enables medical professionals to diagnose cardiac symptoms remotely and electronically manage medical reports and suggestions.

**Purpose/Methods**

This study aims to develop a community-based health monitoring system which monitors the physiological parameters of the elderly patients' blood pressure using sensors which are connected to WiFi that transmits the information to the local server. We initiated continuous physiological monitoring to 30 elderly patients aged 65-80 with hypertension in a community hospital from July 2015 to July 2016. The home monitoring electric sphygmomanometer was given to each participant, and a monitoring care protocol was created to determine whether the participants were monitored via telemetry. A computing platform was incorporated into the project which alerted the doctor if any parameter of the patient deviated from the normal value. In other words, it helped the doctor to monitor the patients' blood pressure at regular intervals.

**Results**

The pre-post results showed that the automated physiological monitoring system had beneficial effects on systolic blood pressure (decreased  $5.0 \pm 1.3$  mmHg in SBP) after one year behavioral intervention,  $P < 0.05$ . However, there was no beneficial effects on diastolic blood pressure.

**Conclusions**

Automated physiological monitoring system appear suitable for continuous monitoring of elderly patients with hypertension on a community hospital.

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## The Effectiveness of Applying Margin Theory in Elderly Suicide Caring Visiting

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**Introduction**

In recent years, the chronic illness affects elderly' physical and psychological function, impact family interaction and increased feeling of loss. The hospital has been connect with local health authorities to work together for elderly suicide prevention and health promotion since 2010. The full-time community caring visitor began to involve in community mental health promotion activities. The purpose of this study was to explore the effectiveness of applying theory of Margin in elderly suicide caring visiting.

**Purpose/Methods**

96 subjects were 65 old incomplete suicide elderly who was reported by the local health authority. The community caring visitor applied Margin Theory Of Needs to provide supportive and caring interviews, case by case to discuss with the elderly and meet their needs, help the elderly to obtain new resources and responsibilities, to analysis six months suicide rate after the intervention of the theory, and the suicide reporting and suicide rate within 30 days.

**Results**

The result showed that from January to June, the elderly repeat suicide rate was 5.2% ( $n = 5$ ), repeat suicide rate was 2.1% in 30 days ( $n = 2$ ). In July-December 2015, a total of 108 health authorities reported cases of attempted suicide over the age of 65, providing Margin Theory Of Needs sufficiency of suicidal care, followed by suicide rate 2.8% ( $n = 2$ ) within 30 days. Before and after the intervention, the suicide rate decreased by 2.4% and 0.2% within 30 days.

**Conclusions**

The theory of Margin could provide physical and psychological supports, to guide the elderly examine their life once again, to find the meaning and value of life, thereby reducing the risk of suicide. In addition, the number of suicide cases investigated by the Taiwan Bureau of Statistics shows signs of rising year by year. Perhaps the future application of theory of Margin to prevention of old people's suicide.

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## The job achievement of elderly volunteers by analysis &quot;The satisfaction questionnaires survey in Cardinal Tien Hospital Xindian&quot;

**LEE Chung Ying**

**Introduction**

The purpose of this study is to examine the job achievement of the elderly (above 65 years old) volunteers in the hospital. Taiwan is being an aging society in recent years, the increasing healthy elders, those who would be very important human resource after they retired from their works. And for them, to perform in the role of volunteer might be a good choice to continue interpersonal relationship and improve their self efficiency.

**Purpose/Methods**

Questionnaire survey was conducted and 378 volunteers of Cardinal Tien Hospital in Xindian was as the research sample.

**Results**

1. The results show that "job achievement, positively predicted, altruism, recognition, possibility of growth, self efficiency, contribute to the community, and been supported. 2. According to the skill variety in different volunteer applied units in hospital, volunteer supervisor did the job design and job assignment before volunteer recruitment, therefore the survey shows the elderly job achievement positively result.

**Conclusions**

1. The proportion of elderly volunteers in Cardinal Tien Hospital Xindian is about 52.33%, and the result of this survey shows that elderly volunteer could also equal to the task supervisor assign, and with positively job achievement. 2. But, the limitation is that the defects of the research design, so the research result could not be inferred to other volunteer teams.

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## A Study to Explore the Care-giving Experiences on the Primary Caregivers and the Related Factors

**HSIAO Chia-Li**

### Introduction

In Taiwan, the aging was rapidly, and the need of long-term care was increasing also. The primary caregivers play the vital parts. For elevating the quality of care, we have to understand the care-giving experience on The primary caregivers.

### Purpose/Methods

**Purpose** To understand the care-giving experience on the primary caregivers and the related actors **Materials and Methods** A cross-sectional study to descriptive the home care patients and the primary caregivers. Recruited 120 participants. The questionnaire included: primary caregiver personal attributes, disease conditions, to take care of reaction scale.

### Results

The primary caregivers felt the positive and the negative experience of care. The positive experiences predictors of the patient's emotional relationship was significantly. The negative experiences predictors of the living with patients, relative can share the work, economy status, and the frequency of the care per week were significantly.

### Conclusions

The primary caregivers could feel the positive and the negative experience of the significant predictors, especially on the communication with patients and the frequency of the care per week. To understand the primary caregivers in take care of the real situation in clinically. More support and encouragement, and less the negative experience of care.

### Comments

Key word: home cars, primary caregivers, care-giving experience

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## Using Systematic Nursing Instruction To Help Elder Patients With Pneumonia For Lung Expansion

**CHIANG Shu-Chuan, JHUANG Jia-Ci, LAI Szu-Yu, WU Mei-Chuan, TENG Heng-Yi, HUANG Ssu-Wei**

### Introduction

Pneumonia is a common elder respiratory disease. "Ineffective airway clearance" is the major nursing problem. Elder patients have a clod admitted due to the lobe lung infiltration, experienced frequently ineffective cough and did not able to expel sputum smoothly. Integrate team resources with systematic nursing guidance to help elder patients with pneumonia for lung expansion and reduce patient repeated hospitalized.

### Purpose/Methods

The cooperation from many professional teams, including physicians and clinical nurse specialist, nurse, rehabilitation physician, respiratory therapist and discharge preparation teams. Developing the senior patient screening sheet of pneumonia, standardized procedure based on the principles of health education for senior patients, and establishing the information and consultation system to audit and follow up the caregivers learning outcome and adopted to provide individual treatment plan.

### Results

In January 2015 to December total 150 patients with pneumonia, Patient hospitalization fourteen days of discharge rate is 16% in 2015.Using systematic nursing instruction execution rate 85%. This study demonstrated that implementing systematic nursing instruction. Patient hospitalization fourteen days of discharge rate is 5% in 2016, Decreased 11%.

### Conclusions

Lung expansion is an important clinical intervention. Using systematic nursing instruction and invites the family to join this process to learn proper care techniques. As well as setting up a suitable care and care program to assist in the sustainability of lung expansion in elderly pneumonia cases and effect recovering from ineffective airway clearance. It could be reduced due to poor quality of home care into hospital again.

### Comments

Using systematic nursing instruction provide patient-centered care,combined with the medical team to create valuable medical services,which can effectively improve the quality of nursing care and patient satisfaction with medical care, the proposed extended to the hospital and nursing administrators to improve the quality of nursing care and reference.

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## A Family Caregiver's Retrospect: Reflection on Hospice at Home

**HUANG Yu-Hui, WANG I-Min, YANG Hsin-Yi, CHEN Wei**

### Introduction

In response to the impact of population aging, advanced countries of the world have considered hospice care a top concern in constructing the comprehensive community-based long-term care system. This policy promises dying patients to designate their home as terminus of life. In Taiwan, however,

there is a long way to go in this regard, especially in palliative measures and supportive cares. To establish the "Hospice at Home"- oriented care system, cross-sector coordination and multi-disciplinary integration are necessary.

#### Purpose/Methods

This study conducted in-depth interviews with a family caregiver to explore the difficulty he suffered and possible assistance he desperately needed, with respect to the care of his beloved elder who was not long for this world. Based on the interview records, we coded and analyzed the verbatim drafts, tried to interpret the nature of problem, and ultimately to find out feasible solutions.

#### Results

1. Empowerment of caregivers: To relieve the pain of losing beloved elders, family caregivers should be educated to get familiar with agonal symptoms, and become skilled at care techniques. 2. Intervention of palliative cares: Community Hospice Team should ASAP discuss issues with patients and their families, such as DNR and death certificate, etc. 3. Correction of misconceptions: Under the influence of traditional filial piety, some incurable elders were hospitalized eventually, and therefore suffered even more pain and misery.

#### Conclusions

As an oriental proverb goes, "Leaves falling from tree tops turn back to roots," which is somewhat similar to the "Hospice at Home" concept. Nowadays in Taiwan, over-medicalization has become a serious problem. To make end-of-life patients carefree in the "Final Mile", all government public services and private institutions must first abandon departmental selfishness, then interconnect together, and reshape a friendly "Hospice at Home" environment.

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## Medical care Out of Fence: The Experience in Taking Care of One Oncological Elderly in Terminal stage

**CHANG Lee-Fen, PAI Hui-Wen, CHEN Wei**

#### Introduction

Taiwan, just like all of developed countries, has the common problems with aged societies, which old adults will 14% of general population. It is very difficult for the elderlies with disability and multiple comorbidities to access hospitals. The project of integrated home medical care (from NHI, National Health Insurance of Taiwan) has been facilitating the proactive team care to deal with the sick elderlies with easily accessing medical service, and furthermore, it helps hospice cases to stay at home with adequate end-of-life care. This article is to elaborate the story of how one old adult with cancer in terminal stage and his family experienced the peaceful dying process and comfort with integrated care through geriatric home medical care team.

#### Purpose/Methods

This article is based on qualitative, narrative method and action research with oral informed consent of family members and

patients. We will do discourse analysis and further discussion on context materials.

#### Results

(A) Proactive team care: It transcends the current institutionalized care into home-based primary care, which improves the medical accessibility and proximity of family life. (B) The serenity: During the period of care, the medical team explored the Japanese and the favorite Japanese songs hidden deep in the heart for half century. Even though with the physical suffering, patient's heart was comforted and blessed with every expectant visit smile. (C) Peaceful dying at home: Patient died with no CPR. However, he could farewell his life with favorite Japanese songs and appreciation with no regret.

#### Conclusions

There will be more frail and disable elderlies in our aged society. Thus, our effort in lights of ageing in communities and end-of-life care at home is utmost. Gradually with trickling integrated team care into communities, that will flip the vision of traditional medical care.

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## Experience, Acknowledge, Attitudes and demand of education toward advance directive among Pre-Clinical medical students

**CHUANG Hui Jung**

#### Introduction

As the coming of aged society and the improvement of medicine, the care of terminal patients become a big issue as well as advance directives. However we observed that still many patients didn't receive proper care at the end stage of life. Therefore, we wonder to step forward to understand the experience, acknowledge, attitudes and demand of education toward advance directives among pre-clinical medical students.

#### Purpose/Methods

In order to improve the care for patients who are at the end stage of life, we analyzed the experience, acknowledge, attitudes and demand of education toward advance directives among pre-clinical medical students by using a structured questionnaire. We select the students in four major medical universities in Taiwan who are going to participate to clinic in the future 1-2 year. The effective samples were 354. The data were analyzed by t-test, Chi-Square test, Fisher's Exact test, Anova test and Pearson product-moment correlation.

#### Results

1. The acknowledge of advance directives was significantly difference on grade. 2. There is no significant relationship between attitude and acknowledge of advance directives, but attitudes and demand of education correlated positively. 3. More than 70% students would like to promote and do advance directives. 4. Students view advance directives as an important life issue and also think it is important to make advance care

planning by self. However to discuss death is an prohibition in Taiwan culture, also without enough confidence to discuss disease prognosis with patient and their family. 5. The time to remove life-survive machine, the time to discuss advance directives, the skill of truth-telling of illness are the most 3 point that students want to know.

### Conclusions

Based on the finding of the study, students have positive attitude toward educational demand and advance directives. Also think the care-skill of terminal patients are a big and must-learn issue. Those issue should be in class and including in internship.

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## Session P2.11: Diverse age-friendly care initiatives

### Development of health promotion program for elderly

### PARK Dong Kyun, JUNG Eun Young, KANG Hyung Wook, HEO Jungyeon

#### Introduction

At 2015, population over 65 years was 13.1% of the total population in South Korea. Life expectancy was 82.4 years in 2014, while healthy life expectancy was 65.4 years. Health promotion program for the elderly does not reflect the characteristics of the elderly. Therefore, it is required to develop health promotion program specialized for the elderly and the effectiveness of the program should be evaluated.

#### Purpose/Methods

The purpose of this study is to develop a health promotion program for elderly and to verify the effectiveness of this program. A total of 69 elderly persons (rural: 32, urban: 37) was recruited. The program was community-based for rural group, whereas it was individual-based for urban group. Health Promotion Life-style Practice (HPLP), body weight and blood pressure of the subjects were measured at baseline and after the program.

#### Results

The result showed that the average score of HPLP increased by 0.15. It means that the behavior of the subjects changed to be healthier after the program, but it is not statistically significant. This could be due to a small number of samples. The body weight and blood pressure of the subjects from urban group decreased with statistically significant. On the other hand, body weight and blood pressure of the subject from rural group increased, but it is not statistically significant.

#### Conclusions

The existing health promotion programs for the elderly, such as workout, health education, and chronic disease care, were separately operated. Thus, this study developed an integrated health promotion program for the elderly to supplement the previous programs. The limitations of the study were a small

number of sample and the short period of practicing program. Future studies could be developed with various sample in the long period of time.

#### Comments

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## Risk Assessment of Osteoporotic Fractures among People Aged Over 50 in Hualien County

### CHEN Chien-Ju, LIN Yea-Pyng, CHEN Wan-Hsin, LIN Ping-Han

#### Introduction

Osteoporosis is a high prevalence of comorbiddiseases among the elderly that even a fall may cause them to be bedridden, or more seriously, death. Located at eastern Taiwan, Mennonite Hospital has long been taking the healthcare of people in the rural areas. In 2016, it has started to investigate osteoporotic fracture risk assessment for people aged over 50 and provided an effective early intervention program to reduce the incidence of fracture based on the results of the assessment.

#### Purpose/Methods

Two assessment tools of FRAX (WHO Fracture Risk Assessment Tool) and OSTA Osteoporosis Self-assessment Tool for Asians) were used by the investigation, and the FRAX risk factor questionnaire to rule out BMD item. A total of 165 people were recruited from rural areas, and people who are evaluated as high osteoporotic fracture risk can measure bone density depending on their will.

#### Results

1. After using FRAX assessment, a total of 13% of people were mainly found to have a high risk of osteoporotic fracture, and 60% of people with a high risk of hip osteoporotic fracture. 2. After using OSTA assessment, 21% of people were found to belong to high risk group of osteoporosis. 3. The correlation between FRAX hip osteoporotic fracture and OSTA value was found to be very high after being examined with P test. 4. There were four people who measured bone density, among the three's T-score was found to exceed -3.5.

#### Conclusions

1. Under the circumstance of insufficient medical resources in the rural areas of Hualien County, using questionnaire tool to carry out fracture risk survey is a good way to reduce screening cost. 2. The perceived severity of osteoporosis also plays an important role in people willing to return hospital measured bone density. As a result, proposes to strengthen the on health education.

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## A Novel Design "Magic Clam" for Shoulder Contracture

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### Introduction

Shoulder and elbow contracture are common complications at nursing facilities. On average, 56% of patients have less than 70° of external shoulder rotation after being bedridden for 3 months. Serious complications as humeral fracture and muscle tears often occurred during postural changes. We had designed a "Magic Sleeves", publicized earlier at the HPH conferences in Connecticut 2016, for elbow contracture and successfully reduced contracture rate. Shoulder contracture is the remained issue for bedridden patients to prevent above complications.

### Purpose/Methods

Unmet needs and demands for correction of shoulder external rotation ROM losses prompted us to design "Magic Clam". It consists of two rigid rods holding the back of body as the pivot hinge of clam, and two rigid plates with bandage as the shells of clam. The end of shells contained two slings connected to the pivot hinge with standard weight. With increase of external weight, the shells would open and the shoulder would perform passive external rotation.

### Results

Forty residents, mean age 76 years, at nursing facilities were included. They received three 10-minute sessions a day, 6 days a week, for 12 weeks, during which upper limbs were placed in maximum comfortable external rotation on the "Magic Clam". All of them received up to 10 minutes of shoulder exercises before using the mechanics. The 10-minute "Magic Clam" of positioning the shoulder in maximum external rotation significantly improved the range of motion to 23.6 degree after 12 weeks.

### Conclusions

The "Magic Clam" is convenient equipment to relief contracture of shoulder. If we combined with positioning to prevent adduction and flexion contracture, the joint will free for passive and active range of motion. With the help of our previous design of "Magic Sleeves", we can provide better relief of shoulder and elbow contractures and recommend the treatment be implemented early for bedridden persons.

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## Study on the Relationship between the Social-Support of Patients Undergoing Primary Hip Replacement and Self-Efficacy for Function Ability in a Medical Center of Southern Taiwan

LEE Pei-Shan, HUANG Yuu-Tzy

### Introduction

The WHO mentioned that nearly of 25% people would suffer from physical disabilities because of bone joint problems until 2050. The initial total hip replacement majorly causes degenerative arthritis of the hip and the change of pathological, which is relevant to aging muscles and skeleton. Patients with this type of difficulties could relieve pain by increasing positive self-efficacy and treating proper medicine to implement self-efficacy for function ability and physical function ability self care.

### Purpose/Methods

135 undergoing primary hip replacement patients from the south region of a Medical Center were collected. Factor analysis was used to categorize the dimensions of social support; furthermore, t-test, ANOVA test and correlation analysis were applied to screen the factors influencing self-efficacy for function ability.

### Results

Study concluded that patients after undergoing primary hip replacement have a positive impact on self-efficacy for function ability regarding emotional information, appraisal support, and instrumental support. Thus, this result suggested enhancing the emotional information and appraisal support could improve positive self-efficacy for function ability.

### Conclusions

Multiple regression analysis were applied to ascertain the relationship between patient characteristics, social support, and the self-efficacy for function ability. The results of social support can be divided into two categories: emotional information and appraisal support, instrumental support. Correlation analysis showed emotional informational and appraisal support, instrumental support and self-efficacy for function ability were positive correlations; Independent samples T-test found sex status affects the emotional informational, appraisal support, instrumental support. ANOVA test showed age, and education affect self-efficacy for function ability.

### Comments

Future medical centers or government agencies can expand the collection of data and samples.

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## The Illness Experience of Elderly Hepatocellular Carcinoma Patients Receiving Continuous Treatment

LI Li-Ming, LIN Hung-Ru, YU Lo-Yip, CHEN Si-Hsuan, CHANG Te-Hsin, LEE Mei-Yu

### Introduction

Hepatocellular carcinoma ranks the second place in occurrence among all cancers in Taiwan. The elderly hepatocellular carcinoma accounts for 60.5% of all total death number.

### Purpose/Methods

This study was to explore the illness experience of elderly hepatocellular carcinoma patients receiving continuous

treatment. A qualitative design was used. Purposive sampling and semi-structure in-depth interviews were conducted with participants who were treated at the oncology units in a teaching hospital in northern Taiwan. Fourteen participants aged 68-79 years old, were completed the interviews.

### Results

A content analysis of the interviews revealed seven themes: sense of helplessness and eventual acceptance regarding definite diagnosis, experience of the pain and discomfort during treatment, resilience and longing for the continuation of treatment, try not to bother family members, findings ways to care for one-self, prepares to face the one's end, and show of altruism and personal development.

### Conclusions

Anxiety, side-effects and the compulsory bed rest caused the elderly hepatocellular carcinoma patients lots of torment and suffering during the treatment. After several courses of treatment, the patients would try strategies to alleviate discomfort and take care of themselves, by lifestyle changes or alternative therapy to care the liver and to avoid becoming the burden of the family. The patients felt helplessness when they saw the other patients died, but they would gradually accept one's eventual demise. Good dying was the wishes for most patients. They inspected the meaning of having hepatocellular carcinoma themselves. They became grateful to the medical staff, shared the experience and helped the other patients by the mentality of altruism. Nurses should understand the patient's expectations, and provide timely information, appropriate nursing care, and spiritual support during treatment.

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## Creative Diabetes Education in Seniors patients at Mackay Memorial Hospital, Taiwan

**CHANG Mei-Chen, LEE Chun-Chuan, TSAI Shiow-Ling, LIN Jui-Ying, LI Pei-Chen, WEI Shu-Ping**

### Introduction

The traditional health education may be insufficient in fulfilling the needs of the seniors patients. This education is mostly conveyed in a setting that resembled classrooms. However, this setting can bore the patients and hinder their learning interests. Therefore, a diversified creative education model was used in the planning of diabetes education for increasing the patient's interest as well as learning results. For improving the willingness of the patients in receiving the education and increasing learning efficacy.

### Purpose/Methods

This education is aimed to have fun during the discussion process. Education model: The education questions were focused on the 7 diabetes self-care behaviors (AADE7). Two teams of 4 are to pick 4 questions. The teams are encouraged to discuss the questions, with available books and related materials

for reference, and answer the questions. This education was commenced in April, 2016. Until in September, 2016 there is a total 70 patients that have participate in this activity. And that targets the needs of the elderly for example: education tools noted for the seniors group of hearing and vision.

### Results

Participants is an average of 68 years. Creative small group education selected in 7 behaviors percent, participants are mostly interested in the diet. The questions have a total response of 87%. Most of the incorrect answers were regarding the consumptions of grains in the diet section. These topics will be emphasized in the follow-up education. The majority of the participants >90% are very satisfied and satisfied regarding the creative education.

### Conclusions

It is with hope that this team work and innovative diabetes care education can improve diabetes patient living quality, reduce comorbidities, and promote diabetes patient physical and mental health. The goal of the education model development is to utilize limited human resources, with mutual collaborations and learning, for creating more interesting ideas for improving diabetes health education.

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## Establishing a Patient Recall Program for Elderly Patients with Higher Colorectal Adenoma Prevalence

**CHENG Wei-Chun, WU Shu-Fang, CHEN Chiu-Ying, SHEU Bor-Shyang**

### Introduction

The colorectal cancer is the third leading cause of cancer death and the first incidence cancer in Taiwan. Colonoscopy is current standard in prevention colorectal cancer development. In Taiwan, a national screening program with biannually immune fecal occult blood test was provided to all men or women aged 50 to 75 years. In our Colon Polyp Patient Recall Program (CPPRP), we intended to remind and recall high risk patients for surveillance after initial colonoscopy.

### Purpose/Methods

Our hospital is a regional hospital in southern Taiwan with about 1200 colonoscopy performed annually. CPPRP was part of a patient care quality improvement initiative in our hospital started since 2016. To focus on most high risk patients, we analyzed colonoscopy findings of 2260 patients, who received colonoscopy with colon polyps removed in our hospital from Jan 2012 to Aug 2016. Patient age, method of polyp removal and most advanced polyp histology were analyzed.

### Results

In 2260 patients with colon polyps removed from Jan 2012 to Aug 2016, 58.4% were found to have adenoma (as the most advanced lesion), and 2.3% were malignancy. For elderly patients (defined as more than 65 years of age), the adenoma or cancer rate was higher as 70.6% (54.5% for non-elderly,  $p < 0.001$ ). For diminutive

or small polyps removed by biopsy forceps, adenoma and advanced adenoma rate were 62.8% and 7.6% for elderly (44.5% and 3.1% for non-elderly respectively,  $p < 0.001$ .)

#### Conclusions

Elderly patients had increased risk to have colorectal adenoma or advanced lesions, even in diminutive or small polyps removed by biopsy forceps only. CPPRP should put more resources for elderly patients to enhance their adherence for surveillance.

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## Improvement of urinary incontinence for elderly suffered from cerebral apoplexy through pelvis muscle exercise

HUANG Shu-Ping, TSAI Yi-Fan

#### Introduction

40% to 60% of the patients suffered from cerebral apoplexy experienced urinary incontinence. The symptoms of urinary incontinence could be improved through clinical rehabilitation and medical treatment. However, there are still 25% patients who experienced urinary incontinence after discharge from hospital. The repeated infection of urinary system increased caretaker workload and cost, and affected the quality of life of patients. In the unit of post rehabilitation from cerebral apoplexy, 48% of the elderly suffered from urinary incontinence. The average age of the patients is 66.3 with more women than men. The implementation of pelvis muscle exercise can improve the high frequency of urination through contraction of anus and urethra muscles. The project investigated the use of pelvis muscle exercise in reducing urinary incontinence for elderly suffered from cerebral apoplexy.

#### Purpose/Methods

A total of 20 elderly patients (10 female and 10 male) who experienced urinary incontinence after cerebral apoplexy were taught on pelvis muscle exercise from July to October 2015. The patients were educated on the muscle exercise through educational video and training by nurses. Rectal and vaginal touch examinations were conducted to ensure accuracy of pelvis muscle exercise. Caretakers were to remind patients to conduct exercise after three meals a day and before sleep. Each exercise includes 6 seconds of contraction and 6 seconds of rest with a repeat of 4 to 8 times. A progressive exercise includes exercise in lying position to sitting and standing position. The exercising processes were supervised and recorded by the nurses.

#### Results

The weight of urine decreased from 750g/day to 230g/day for male and 630g/day to 120g/day for female before and after they discharge from hospital (with an average hospitalization days of 26.8 days). It was also observed the frequency of urination decreased from 11.5 to 7.6 times a day for male and 12.8 to 9.5 times a day for female.

#### Conclusions

The use of pelvis muscle exercise can improve the urinary incontinence for elderly suffered from cerebral apoplexy. The improvement of the condition helps patient to return to normal life after discharge from hospital. The method should be referred for future clinical care.

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## Creating an Age - Friendly environment by the implementation of Bundle Care for prevention of catheter-associated urinary tract infections at a medical center

CHANG Hsin-Hsin, CHANG Ying-Ying, TIEN Kwei-Lien, WANG Jann-Tay, SHENG Wang-Huei

#### Introduction

Elderly patients have increased risk of healthcare-associated infection (HAI) at hospitals. According to the 2006 to 2015 Taiwan Nosocomial Infections Surveillance System, the most common HAI is catheter-associated urinary tract infections (CAUTIs). Well-structured infection control programs are imperative in order to prevent CAUTI.

#### Purpose/Methods

CAUTI result in significant morbidity, mortality, and medical cost. This prompted us to investigate the impact of infection control measures, such as CAUTI bundle. This study was carried out at a teaching hospital. A bundle care was implemented in the entire hospital, particular focus on ICUs, since 2010. We start with the 4C program (Clean practice, products, equipment, environment). The bundle elements, included daily care and placement of the catheter. We have a comprehensive educational program to promote bundle, which includes optimization of the catheterization process, producing teaching videos for learning purposes, clinical audit. Objective Structured Clinical Examination and competitions to test the operators' practical knowledge and skills. A computer-based infection surveillance system and checklist was also developed.

#### Results

During the CAUTI surveillance period, a total of 4060 patients admitted to the acute care hospital were enrolled, and 2289 catheterized patients elderly than 65 years were monitored for CAUTI incidence. These 2289 patients included 1070 males (46.7%) and 1219 females (53.3%). The CAUTI infection density elderly population decreased from 2.4 per 1000 patient-days (%) in 2012, 1.7 in 2013, 1.6 in 2014, 1.8 in 2015, and 1.8 in 2016, respectively ( $p < 0.0001$ ). Overall catheter utilization rate had decreased.

#### Conclusions

Our results shown the implementation of CAUTI bundle care raise the quality of care of elderly hospitalized patients. UTIs should be targeted for prevention and control interventions in

the elderly population, and measures directed specifically at urinary catheterization would be of benefit.

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## Evaluation on the effectiveness in using low frequency laser therapy in treating wound of decubitus chronicus

### HSIAO Lang-Fang, TSAI Yi-Fan

#### Introduction

Decubitus chronicus is the most common problem in long term care. It does not only result in pain of patients but also more resources in taking care of the patient. Nonetheless, the wound healing for decubitus chronicus is slow which cause stress and tiredness to patients' families and caretakers. In a municipal long term care service, there were a total of 48 long term care patients in 2015 and 2016. Amongst all, 5 patients were hospitalized due to decubitus chronicus (stage 4). In a palliative meeting, the patients' families confronted their wish to send off the patient with full body. Hence, the medical team made the decision to use low frequency laser therapy to speed up the wound recovery.

#### Purpose/Methods

The purpose of the research is to evaluate the use of low frequency laser therapy in treating wound from decubitus chronicus. The long term care service hospital has 5 patients aged between 68 and 102 with decubitus chronicus and a total of 6 wounds of stage 4. The low frequency laser therapy was carried out by occupational therapist 3 times a week and 5 minutes per time. The total duration of the therapy was 8 weeks with a regular examination of wounds every 2 weeks. The progress of wound recovery was calculated through AUTOCAD.

#### Results

The 2 months therapy was conducted since May 2015. The first case had 2 wounds with a recovery rate of 43%. The second case had only 13.4% recovery rate due to diabetes. The third to fifth case had recovery rate of 75.7%, 49.7% and 65% respectively. The results reflected the effectiveness of low frequency laser therapy in treating wound of decubitus chronicus.

#### Conclusions

The result indicated the effectiveness of low frequency laser therapy over a period of 2 months in treating the wound. An average of 49.2% recovery rate was observed through such therapy. The result from this research is similar to the case raised in the article "Low level laser therapy for healing acute and chronic wounds - the Extencicare experience" (1993), reaffirming the use of such method for wound recovery. The therapy method should be provided to other long term care as reference for future caretaking.

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## Nursing Intervention on Prevention for Elderly Fall in the Hospital of Taiwan

### FANG Szu-Ting, LU Huei-Lan, SHEN Shu-Hua

#### Introduction

Falls will cause elderly patients not only injured, activity decreasing and complication but length of stay prolonged and medical budget increasing even medical dispute. Many studies indicated that elderly patients fall in hospital easily affect individual psychosocial conditions and family emotion.

#### Purpose/Methods

The purpose of this study is to explore root causes of elderly fall in hospital and strategies that how to improving nursing care quality on prevention.

#### Results

The risk causes that make elderly fall can be divided into eight items, age, sex, consciousness state, medication, hospital environment, timing of fall, diagnostic disease, and caregivers. Usually fall will be caused not only by single factor but also sometimes multiple factors. Nursing intervention should be considered as three parts: patient (potential risk factor, assessment, visual board and health education), equipment and environment (environmental performance and auxiliary tool) and medication (side effect, drug prescription pattern and effective monitor procedure).

#### Conclusions

The incidence of elderly fall will increase with ages especially the elderly patients in hospital. Regarding the elderly patient with tendency of stumble, nursing staff might make a careful assessment, find out solution for improvement and provide a complete plan to prevent or minimize the incidence based on risk causes.

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## A review of reduce the use of physical restraint in a nursing home

### CHEN Ming-Yu

#### Introduction

Since the Nursing Home Reform Act of 1987, the average rate of physical restraint use in nursing homes has fallen from more than 40% in the 1980s to a current rate of approximately 10% in the United States. The improper use of physical restraints may increase the risk of death, weight loss, agitation, serious injury and increased duration of hospitalization. In 2015, the physical restraint rate was nearly 60% in nursing homes much higher than the rest of the medical facilities in Taiwan had a physical restraint rate of 24.64%. A variety of strategies may be needed to improve resident care and avoid the use of restraints. Every appropriate option must be tried before restraints are considered.

**Purpose/Methods**

We analyzed the Physical Restraint Reporting. The reasons for the physical restraints include prevention of falls, reduction of physical and cognitive capacity, lack of perceived alternatives and lack of adequate assessment. The strategies include: 1. Revise a SOP of physical restraint. 2. Explain the necessity of using a restraint to the patient and the family, 3. Be sure all of the alternatives had been attempted. 4. Document the time and the types of restraining device used.

**Results**

The restrain cognitive score of the staff rose from 58 to 94, the hours of physical restrain reduced to 334 hours (55.5%), the hours of restrain less than 4 hours reduced to 226 hours (60.2%), the falling case of a year decreased 92%, and the unplanned extubation case decreased 68%.

**Conclusions**

Balance the patient safety and the care quality; educate staff the restrain cognitive; standardize the care procedures; establish inspection system and integrate the medical team to achieve the win-win situation.

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## Session P2.12: Community health promotion

### Health Promotion Strategies to Improve Community Awareness of Early Signs & Symptoms of Stroke in United Christian Hospital

**YU Chung Tsang Mick, TAM Yin Ming, TANG Siu Keung, NG Yuen Bing, LAM Suet Wan, WONG Sau King, LO Harriet, WONG Eric, LUNG Kasey, CHAN Andy, HUI Peggy, WAN Maurice, CHAN Echo, LEE Peggy, LAM Jacky, CHAN Yim Yi, POON Esther, LEE Dara, WONG Vikie, CHAN Ryan, CHAN Chun Kong, CHEUNG Ka Yin, NG Ping Wing**

**Introduction**

Low rates of thrombolysis for ischemic stroke in Hong Kong have mainly been attributed to prehospital delays in presentation. Recognition of stroke signs and symptoms by the patients, relatives and bystanders can reduce delay in seeking treatment. Health promotion strategies are one of the effective ways to improve community awareness of early signs and symptoms of stroke.

**Purpose/Methods**

1. Enhance the community awareness of early signs and symptoms of stroke 2. Educate the public and health workers about primary stroke prevention 3. Empower clients for self-monitoring of risk factor and management strategies United Christian Hospital Stroke Team in collaboration with Stroke Society, Patient support groups and District Councilors organized a series of stroke awareness promotion campaigns since 2014. The objectives are to promote primary stroke prevention and enhance the awareness of early stroke signs and symptoms. The campaigns were organized including bus parade, health talks, recognition of stroke warning signs "FAST", atrial fibrillation screening, stroke risk profile screening, promotion of physical exercise and healthy lifestyles.

**Results**

6 stroke awareness promotion events in a regional hospital and the community were held from 2014 to 2016. Over 3,800 citizens and health care workers participated in the events. They acknowledged the importance of stroke prevention. With enhancing publicity for early recognition of stroke warning signs and symptoms as well as hospital arrival, thrombolytic therapy could be timely administered in eligible patients with acute ischemic stroke. The rate of IV-rtPA was found increased from 4% in 2014 to 9% in 2016 despite there are other variances affecting the rate of thrombolysis.

**Conclusions**

The structured and sustained stroke awareness promotion programme is an effective strategy to enhance the awareness of early stroke symptoms in the community. We would design programs to cater the younger age group in delivering these important messages in future.

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### Health promotion for the risk of heat stroke in the living environment of poverty

#### FUJII Motohiro, OHNO Giichiro

**Introduction**

The death of heat stroke in Japan has declined at the peak of 17.31 million in 2010, but it reaches 9.68 million in 2015. However, welfare recipients increased from 882,000 in 1995 to 2,163,000 in 2014. For prevention of heat stroke, the living environment is important. But air conditioners are not sufficiently prepared in poverty, and the risk of heat stroke is expected to be high. We compared the environmental risk of heat stroke in residence of poverty and others.

**Purpose/Methods**

We screened patients who seem to be at high risk of heat stroke in Nagareyama city. Except for patients who are hospitalized and are expected to have difficulty in visiting, staff members in multiple occupations did a door-to-door visit during five days in July in 2015 and 2016. We investigated the type of residence, the person living together, the temperature and humidity, the setting of thermo-hygrometer and air conditioner and electric



fan, the heat stroke indices. We defined welfare recipients as poverty.

### Results

We screened 80 patients and visited 43. Receiving welfare protection was 7 patients. There was no difference in the setting of a thermo-hygrometer and a fan. In 2015, the setting of air conditioners was significantly higher 23 (100%) in non-poverty than 2 (66.7%) in poverty ( $p=0.0047$ ). And in 2016, it was significantly higher 12 (92.3%) in non-poverty than 1 (25.0%) in poverty ( $p=0.0055$ ). There was no difference between temperature and humidity in both years.

### Conclusions

It was suggested that the environmental risk of heat stroke is not so high, although installation of air conditioners is low in the house of poverty.

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## Different Types of Health Examination and People Satisfaction Related Research — Chiayi City Integrated Health Screening as an Example

### LIU Tz-Jie, CHEN Mei-Tsu, HUANG Sheng-Hsiung, TWU Shiung-Jer

#### Introduction

In, 2015 Chiayi city integrated health screening used new thinking, moving health screenings to hospitals from communities of the past eight years. With more flexible screening time, more friendly hospital environment and better quality of service, we attract more youth participation and enhance the quality and satisfaction of public health screening.

#### Purpose/Methods

The subjects of this study are 5,855 people who were examined and accepted in a regional teaching hospital in Chiayi city. They were provided with free health screening and satisfaction questionnaire. Descriptive and differential statistical analysis were used to understand whether people's attitude towards service staff, efficiency, inspection process and site planning satisfaction were affected by different health screening patterns.

#### Results

The results showed that 2,214 (37.81%) male and 3,461 (62.19%) female were involved in hospital type screening. 589 (10%) were first participants in integrated screening. Age distribution is 1,202 people (20.53%) 30 to 39 years, 3,031 people (51.76%) 40 to 64 years, and 1,622 people (27.71%) over the age of 65. In the past, people who were screened were mainly Chiayi citizens over 55 years old. 2014 community-based integrated screening for 30 to 54-year-old people totaled only about 44.6% , compared to 2015 hospital-based integrated screening for the same age group increased to 51.6%. Further analysis of the results showed 93% satisfaction for staff attitude, 90.3% satisfaction for staff

efficiency, 88.1% satisfaction for inspection process, and 87.5% satisfaction for site planning.

### Conclusions

How to continuously improve the quality of health screening and public satisfaction is a topic of concern. Through different types of health screening to give people a better quality health screening environment, young people are more willing to participate in relevant screening activities. Improving people's confidence in the health screening and satisfaction helps to achieve the purpose of health promotion.

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## Behavioral Health Survey of General Public Over 20 Years Old in a District of Taiwan

### LIN Yi-Hui, SU Yi-Ching, HUANG Yen-Chen, HSIEH Hung-Yu, YEH En-Tien

#### Introduction

According to the death registration data of the Department of Health of Taiwan (R.O.C.) in 2015, the death toll of cardiovascular related disease keeps mounting and has already over people who have cancer. Cardiovascular related disease endanger public health and become more and more serious. Four factors, including health care, genetic factor, environment and lifestyle, affecting public health. Among the four factors, lifestyle affected public health most. This investigation focus on public health behavior who over 20 years old in Xindian District of Taiwan in 2015, and planning community service to reduce the death toll of cardiovascular related disease.

#### Purpose/Methods

The main research subject of this study was general public over 20 years old in Xindian District of Taiwan in 2015. We used structured questionnaire exercise in community multiphase health screening for analyzation

#### Results

In this survey, 1005 questionnaires were sent out. The valid recovery rate was 96.3%. In half month dietary, 50.6% of people often eat fat meat and pluck, only 33% of people admit having five fruits and vegetables every day. Frequency of exercise over three times a week was 37.9%, exercise duration over 30 minutes every time was 52.3%, walking was the most exercising type, which occupied 52.7%.

#### Conclusions

According to the data result from this survey, we could organize community cooking club for healthy dietary instructions and community stride club to enhance healthy behavior motivation.

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## The cost-effectiveness of a three-year community-based health management program in improving health condition among low socioeconomic people in Taichung, Taiwan

**HSU Pi-Shan, LU Ying-Liang, LIN YANG Yu-Hui, CHEN Ming-Yu, CHAO Day-Yu, LAI Chung-Liang**

### Introduction

According to the 2013 survey conducted by Ministry of Health and Welfare on the group with low SES, high percentage (63.8%) of chronic disease and catastrophic illness per household was observed and 13.5% among them were without medical treatment or intervention. More than 50% of the adults in low SES had relative lower educational level with limited self-care knowledge. For those people, financial assistance alone is not enough to improve their life.

### Purpose/Methods

Health management was delivered by a transprofessional team which include a core and back-up team members. From August 2012 to July 2015, we enrolled individuals in a unit of family which were randomly selected from low SES groups provided by Social Affairs Bureau of Taichung City. The core team members visiting their households within the community directly. We evaluated life style, life quality, medical problems, environment, and social problems. The care plan was made on an individual base. The care plan included the medical intervention, health promotion and education, health examination, safety promotion, as well as financial assistance services. Life quality was evaluated through SF-12 questionnaire.

### Results

During the whole period, overall 561 subjects from 346 households were recruited. Improvement of life quality in better general health, emotion, more energetic and social activities participation with less life restriction ( $p < 0.005$ ). The medical compliance of chronic diseases elevated from 43% to 87%. 36.4% of the people were willing to reverse their unhealthy life style behaviors. The overall medical costs decreased 7.4% and 10.9% during the 2nd and 3rd year, respectively. The drop in medical cost was mainly in in-patient care and out-patient visits during the 2nd and 3rd year of the program, respectively.

### Conclusions

The community-based health management was cost-effective in improving self-awareness and health condition in low-SES group. It will significantly decrease the total medical cost after the 2nd year follow-up.

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## Setting up a health promotion service model to remote area with the combination of social and medical resources

**CHEN Hui-Jen, ZHANG Yu-Xin, MA Chen-Lai, LEE San-Ank**

### Introduction

People in the remote area are suffered from the difficulties to obtain proper medical care and cancer screening as compared with the plain area. People in the remote area should receive four cancer screening service just as anybody else in Taiwan for early screening and health purpose. Lishan area is the most remote area in Taichung city after the 921 earth quake and followed by the Hoping autonomous district. The neighboring Nantou country has numerous mountains and aboriginal villages. Therefore, we apply a health promotion service project for people of these remote areas based on our service contents from 2013 to 2016 by combining social and medical resources.

### Purpose/Methods

We drive the vehicles with breast photography service and the vehicles with Pap smear test services and the vehicles with elder group activity as well as the vehicles with auxiliary equipment from Tungs' Taichung Metro Harbor Hospital to Lishan area and Hoping area which cost more than 9 hours. In the purpose of applying a health promotion service project for people of these remote areas and combine social and medical resources.

### Results

In 2013 there are 50 people receive four cancer screening service. In 2014 it was increased to 92 people receive four cancer screening service and 158 people receive elder group activity service. In 2015 there are 55 people receive four cancer screening service and 47 people receive physical fitness service as well as 187 people receive elder group activity service. Also in Hoping area and Lishan area there are 186 people receive four cancer screening service. There are 94 people receive physical fitness service and 88 people receive elder group activity service.

### Conclusions

As we all know people in the remote area are suffered from the difficulties to obtain proper medical care and cancer screening as compared with the plain area. By doing this way people in the remote area can receive four cancers screening service and Pap smear test services.

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## Share the pervention medical service to build a healthy community

**LU Chung-Ying, WU Shu-Ling, CHIEN Hsiung-Fei**

### Introduction

One mission of Taipei Medical University Hospital (TMUH) is "To develop the health promotion community". 34.3% obesity rate and 11.5% teenagers smoking rate in Taipei 2014. These unhealthy habits cause the future worse diseases even cancers. To educate / promote the healthy knowledge for the communities is not only important but also contact the targets directly, especially by using the professional resources is more convinced.

### Purpose/Methods

(1) TMUH combined with governments, schools, companies and private groups to reach healthy agreement. (2) To post up the "Healthy LOGO" and posters in the restaurants. To announce the consequence after obesity and smoking by the media, patients evaluation and TMUH newsletter. To set 2 new healthy and safety walking pathways with the billboards. (3) To hold the healthy education lectures in different communities. (4) To hold the "Healthy Eating coloration competition" for the elementary school students to attract the young students inform healthy issue. (5) To track the process by regular cross-departments meeting every season. Besides, we designed the survey on the drawing paper. Once we collected the papers, we also collected the data to adjust the direction in the future.

### Results

(1) 10 restaurants has cooperated with TMUH for servicing the low-fat, low-sugar and low-salt meal. (2) 1,147 people who participated the health weight control program lost weight to 1,444 kg by regular exercise, healthy eating and the positive pressure from the group support. (3) 1,635 students who participated the Smoking-free education; 57 smoking residents has accepted the track by the nursing phone call. (4) 284 young competitors for coloration competition, and TMUH has chosen top 3.

### Conclusions

TMUH owns the prevention medical teams, software and hardware, such as doctors, nurses and dietitians also the equipments. TMUH is devoted to establish healthy communities by informing resident the correct health knowledge. Hopefully the residents could have the healthy living spontaneity.

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## Education of self-care and allergy control in community and family

### FANG Li-Ching, WANG Jen-Yu

#### Introduction

Allergic disease is more and more popular globally. Asthma, allergic rhinitis, atopic dermatitis, and urticaria all bothered people much. Sometimes, asthma attack is serious and life threatening. In Taiwan, children have high prevalence of wheezing episodes and are awoken by night cough. About 20% of elementary school students were diagnosed as asthma in Taipei. Improper usage of medicine is a major problem. Before raising the dose, it would be more benefit to correct the misuse of medicine. In oriental society, most people fear for steroid, even if the proper low-dose steroid can reduce hospitalization

and death rates. Therefore, we want to educate the community to know more about allergic disease.

#### Purpose/Methods

We conducted some educational activities on the first Saturdays and Sundays of May every year since 2008. The activities are composed of one educational fair, series of competing games for children, and several symposiums. We have at least 15 game stands in the educational fair every time. All participants need to break through the barrier totally. The competing games were designed for elementary school students. Those who completed the fair stands or won the game could get small gifts for allergy prevention. The symposiums introduced new medicine information.

#### Results

After eight years' work, more and more people join those activities. The whole family can learn about how to use medicine for asthma controlling and relieving. More parents could temporarily handle the emergency situation before arriving hospitals. Children could happily get knowledge about allergic disease and the prevention ways not just in schools. Nurses and doctors share new information between symposiums.

#### Conclusions

Education of correct concept about allergic disease and allergen avoidance brings large benefit in community health. Let the whole family face the allergy will be better than just teaching the patient in hospitals.

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## Establishment of healthy promotion environment in the community for an example of the increasing access to medical treatment to influenza vaccination injection

### CHENG Yu-Ting, TSENG Wei-Jung, LIAO Yu-Kuei, CHIANG Li-Shiang, KAO Cheng-Chih

#### Introduction

A flu pandemic from July 1, 2015 to February 28, 2016 with a cumulative total of 1109 confirmed cases reported in which 84 cases of the confirmed cases of influenza were reported deaths in Taiwan. Therefore, the government provides public-fee influenza to high-risk groups (> 6 months), we linked 8 groups (55 clinics) to form the network that could increase public awareness of influenza prevention and improve vaccination rates. The hospital and community physicians are concerned about community outbreaks and community epidemic prevention together.

#### Purpose/Methods

The goal of the present work is to offer health promotion environment to be able to increase access to medical treatment and to provide good epidemic prevention network in the

community. We linked the local government and the clinics to establish the network. At the same time, our network supports and teaches people how to inject the influenza vaccine in the community. This network worked the risk group including the patients, and students in Pingtung County, Taiwan. The risk group exposures and people infected with flu in the community are assessed to improve the health promotion.

### Results

Our epidemic prevention network used methods that web in Pingtung Christian Hospital announcement the clinics, injected the influenza vaccination, in Pingtung County and told people that go the clinics to inject near their homes in phone. Our partners, are in this network, arrived the goal which were asked by the government. In November 1 to 25(18 working days), we finished 66 schools (about 12000 students) injected the influenza vaccinations and educated them how to prevent the influenza.

### Conclusions

The community epidemic prevention work need communities, the clinics and hospitals to be finished. Besides the large of Vaccinations, we must educate people that they access to medical treatment and get the health education near the clinics. The community empower to become healthy promotion environment.

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## Strategies to Improve Influenza Vaccination among Adults Aged 50 Years and Older

**LI Wan Chen, TSENG Hung Ju**

### Introduction

In Taiwan, influenza viruses are most prevalent in autumn and winter. Influenza is a serious threat to people with low resistance especially. Influenza vaccination is a cost-effective clinical prevention for elderly persons. Higher influenza vaccination rate will reduce disease threat and related health care utilizations in a health care system. Since 2001, the Department of Health (DOH) in Taiwan provided free influenza vaccine for all elderly people (65 years old). For the first time in 2016, those aged 50-64 years old adult are included as part of the seasonal influenza vaccination program.

### Purpose/Methods

The purpose is to increase people receiving influenza vaccine to ensure their own health. We carried out health education, including a press conference, put a scrolling text, posting posters related to disease prevention advocacy. In addition to the people receive vaccination in the hospital, our health care team provided collective influenza vaccination service in the community or the general large companies, and was exempted from the registration fee.

### Results

From October 1, 2016 to November 12, we conducted 5 times vaccination in community and 6 times in the general large companies. The number of people over 65 years of age was 1054

in our hospital, compared with 745 in the same period last year (increase of 41.5%). The new target group, 50-64 year old vaccination number of 2,044 people, of which employees account for 1,033 people (50.5%), community 448 people (21.9%), and 563 outpatients (27.5%).

### Conclusions

Collective influenza vaccination is recognized by the World Health Organization as the best way to increase coverage through peer effects, therefore our health care team go to the community or the company collective influenza vaccination, increase the willingness to vaccination, not only to protect the health of vaccinated persons, and prevent the spread of the influenza virus, to further promote public health.

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## Using Health Information System(HIS) to increase healthy promotion for influenza vaccination in patients

**KAO Cheng-Chih, CHIA Pei-Fang, KUO Ming-Li, LEE Chung-Chen, CHANG Tzu-Yao, HSIAO Fang-Fei, KUEI Liso-Yu, CHANG Mei Hui Chang**

### Introduction

Every year the government provides public-free influenza to high-risk groups to be able to prevent flu outbreak. In order to increase the patients' willingness to receive influenza vaccination and to know whether the patients themselves are eligible for vaccination. Our hospital established the outpatient information system to increase the understanding of our physicians for disease prevention and patient health promotion. Through the initiative prompted the system, physicians take the first step to take the initiative to ask their patients whether they are willing to fight influenza by having influenza vaccine and public health education is important to increase awareness and to prevent influenza.

### Purpose/Methods

The outpatient system guides people commonly targeted by flu. When the patient visits, inserting their health insurance card, system will automatically prompt according to detected conditions, the physician informs the eligible patient whether the condition is acceptable for application of the influenza vaccine. The physician will inquire whether there is a willingness to have shot, and other medical records of the. If he/she was referred, we will reply in the referral information to inform the former clinics. Then it will follow-up for the injection of flu vaccine.

### Results

In October 1 to November 25, the physicians used HIS to ask about 20000 patients and injected 3800 doses and replied to 783 referral information to clinics. It is important because besides that the patients got and received medical attention, they were

educated with epidemic knowledge. On the other hand, the clinics could join the epidemic network for Pingtung County.

#### Conclusions

If the clinical care can be patient-centered, through the use of Health Information System (HIS) this system will prompt the physicians that they can pay more attention to patients, especially those who are in risk group. In addition to the treatment, patients will receive health education that can help them prevent infectious diseases like flu.

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## Competencies and Responsibilities of Health Education Specialist in South Korea

### KIM Young-Bok, KIM Hyekyeong

#### Introduction

The national regulatory on health promotion and certified health education specialist system help to improve health potential and health status of population. Since the National Health Promotion Act was enacted and amended in 1995 and 2003, health education and promotion programs have been activated in national level. The national certified system for the Korean Certified Health Education Specialist (KCHES) has started in 2009, and the 1st national examination for the KCHES was held on March, 2010.

#### Purpose/Methods

This study was to find resources to enhance professionalism of the KCHES by analyzing the problems of the national system and identifying the roles of the KCHES. The problems and issues of the current operating system of the KCHES and the competencies and responsibilities of health education specialist were assessed by Delphi. Delphi of thirty three health promotion experts and other stakeholders were performed from 09/ 30 to 10/07, 2013.

#### Results

The roles and competencies needed to perform the National Health Promotion Project (32 focus subjects in 6 divisions) are consistent with the roles and competencies of the KCHES. To enhance the roles of health education specialist, it required the skills to assess community problems, to plan and evaluate programs, to perform action plan, to develop educational strategies and materials and to analyze data required to solve complex problems in specialized field.

#### Conclusions

The necessary field skills will be developed gradually by identifying the roles and demands of the KCHES. In addition, the specialized areas of various settings should be suggested to enhance the competencies and responsibilities and to ensure the professionalism of the KCHES.

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## The evaluation health education to elevate correct medication knowledge and ability in community

### LEI Yi-Fen, CHEN Chih-Fang, CHANG Ya-Hui, LEE Wei-Ying

#### Introduction

The study expects to combined with community pharmacies, schools and pharmaceutical service, with the health resources of local communities to provide a wide range of pharmaceutical care services, to evaluate the effectiveness of cognition and behavior and strengthen the safety of correct medication in community.

#### Purpose/Methods

This research from March to November 2015, Based on "five core abilities in correct medication in over-the-counter cold medicine articles", and to evaluates the effectiveness by "The questionnaire of knowledge and ability of correct medication". The method undergoes a pre-test before the survey, accompanied by a post-test during the survey and a post-post-test 3 months after the survey. The outcomes are compared with one another and analyzed.

#### Results

It is estimated that 2,827 people have participated, 40 hygiene education lectures being held. At the pre-test before health education the average correct ratio is 41% and after health education the average correct ratio for post-test in medication knowledge accounts is 89%. After 3 months, the average correct ratio for post-post-test is 73%. The health education gains widely recognition from people in correct medication, with a nearly 90-percent satisfaction rate for lecturers and their topics.

#### Conclusions

There is an obvious increase to raise community people's awareness of correct medication and health knowledge after the process strategies and medication conducts provided by pharmacists visiting communities. On top of that, correct concepts of medication permeate people, widen the scope of service and scrutiny for medication safety, and decrease the waste of health care and medical resources.

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## Community health promotion for noting DNR and no LST will in NHI card

### CHEN Ru-Yih, HUANG Tzu-Ya, CHEN Hon-Jhe, CHENG Jin-Shiung

#### Introduction

In Taiwan, the law recognizes that a full competent adult may prewrite the letter of intent for the decision of do-not-



resuscitate (DNR) and/or no life-sustaining treatment (LST) in terminally dying status. And the central competent authority shall note this will in the national health insurance (NHI) card.

#### Purpose/Methods

To ensure legal autonomy of avoiding suffering from futile terminal treatment, we propagated prewriting and noting the will of DNR and no LST through community health promotion activities in southern Taiwan. The Integrated Hospice Palliative Care Network for Veterans in Taiwan provided financial support for the activities. We provided short lectures to convey idea of good dying in terminal phase, used video clip of CPR simulation to illustrate the suffering and futile procedure for terminal ill condition, and introduced the example of prewriting form. We provided prize for Q and A to increase the interest of participants. We set locations to collect the finished prewriting forms and sent them to the competent authority of Ministry of Health and Welfare (MOHW) for noting the will in NHI card. The MOHW authorized website provided statistic information of certificate noting results.

#### Results

From January 2013 to September 2016, we had 42 community promotion activities. There were 3,679 participants totally. We assisted 2,649 persons accomplishing DNR and no LST noting in the NHI card. We got MOHW annually awards for excellence of promotion for noting in 2014, 2015 and 2016.

#### Conclusions

Individual's preference for medical care at end-of-life should be respected. However, it is possible that individual will become unconscious or fail to express clearly his/her will in terminal dying status. Noting health individual's decision of DNR and no LST in NHI card can ensure the will being effective legally for lifetime. Our promotion activities can increase people's knowledge of related legal procedure and ensure the will being identified whenever individual seeks medical attention.

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## Different ways of skin care education in Atopic dermatitis

### WANG Jen-Yu, FANG Li-Ching

#### Introduction

Atopic dermatitis is a common inflammatory disease of skin. About 20% of children suffered from it globally. Young children may be unable to sleep well for severe itching. Atopic dermatitis also may be the beginning of atopic march. It is a great challenge for mothers in helping their babies less than one-year-old to get a good control of the atopic dermatitis. In Taiwan, more than 90 % of allergic patients are allergic to mite. Usage of proper skin emollient and getting rid of mite can much improve skin condition.

#### Purpose/Methods

About home-care education, we separated patients into three groups in our hospital. The first group is educated via a 15 minutes complete oral explanation by nurses. The second group

is educated via a 3 minutes video introduction initially, followed by a 10 minutes oral explanation. The third group is educated via a taken-home patient handout listed with detailed information.

#### Results

People in the second group understood more quickly than the other two groups. The education effect was largest in the second group and lowest in the third group. The third group needed most nurses for explanation in the following days. Because people still have many questions after reading the handout. The nurses and patients of the second group got most satisfaction in the three groups.

#### Conclusions

Video can show image and music at the same time. Thus, serious topics can be introduced via an interesting video. Besides, patients' nervousness could be lessened within just 3 minutes. Explanation by professional staff is still important and can reduce misunderstanding. Nowadays, most people have not much time to go to hospital. Therefore, the patient handout is necessary for those who have no time. Patient education materials should be variable for different kinds of necessities.

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## Association between postprandial Glucose and Intraocular Pressure

### KAO Tung-Wei, WU Chen-Jung, CHEN Wei-Liang, WU Li-Wei, WANG Chung-Ching, PENG Tao-Chun

#### Introduction

The aim of this study was to investigate the association between postprandial glucose and intraocular pressure in a relatively healthy population.

#### Purpose/Methods

We examined 1,439 adults getting a health check-up in a health promotion center at Tri-Service General Hospital (TSGH) in Taiwan between 2012 and 2013. All participants underwent examinations to measure metabolic variables and intraocular pressure. Multiple linear regression analyses were performed to assess the relationship between postprandial glucose and intraocular pressure. The levels of postprandial glucose were divided into quartiles with subjects in the lowest quartile being regarded as the reference group to perform quartile-based analysis. Covariate adjustment was designed for three models for further analysis.

#### Results

Subjects with higher quartiles of postprandial glucose level had a higher systolic blood pressure, a greater waist circumference and an elevated fasting glucose level (all  $p < 0.001$ ). The  $\beta$  coefficient with adjusted covariates showed a significant positive association between postprandial glucose and intraocular pressure. The trends of intraocular pressure across increasing quartiles of postprandial glucose were statistically significant (all  $p$  for trend  $< 0.001$ ). Thus, higher levels of postprandial glucose positively correlated with elevated intraocular pressure.

### Conclusions

Our study highlighted the finding that individuals with a higher level of postprandial glucose had a positive correlation with elevated intraocular pressure. Fluctuations in postprandial glucose may affect the aqueous humor production of the ciliary body or the aqueous humor outflow of trabecular meshwork. However, the association between postprandial glucose level and glaucoma warrants further longitudinal studies or trials to verify these findings for their application to clinical practice.

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## Application of Regular Comparison to Improve SMBG Accuracy by Community Hospital : Taiwan Experience

### WANG Chia-Jen, LIU Yu-Chi

#### Introduction

100 cases of patient deaths in 1992-2009, and 12,672 serious health hazards in 2004-2008 were caused by inaccurate Self-Monitoring of Blood Glucose (SMBG) (Harper Lias, 2010). In order to enhance diabetes patients' SMBG accuracy, we provide regular comparison and instrument operation education, thereby improving patients' glycemic control and safety.

#### Purpose/Methods

SMBG results were collected and compared with lab data. To determine whether the variation accord to ISO15197 specifications. In the meanwhile we educated patients how to operate and check their blood glucose meter correctly, especially how to identify whether the meter with or without built-in plasma regression parameters.

#### Results

54 patient results were collected in 2016. There was no significant difference between the results of SMBG and our lab data (Mean: 158.3 vs. 160.7 mg/dL). But 5 (9.3%) results have more than 20% difference. Among the 8 incorrectly operate blood glucose meter cases, 7 of them are using glucose meters without build-in plasma regression parameters, one is batch discrepancy, and there is no expired strip using.

#### Conclusions

Compared SMBG results with lab data, there was no significant difference between two groups with average difference -1.9%. Among 7 SMBG results from meters without build-in plasma regression parameters, 5 of them (71.4%) are out of ISO15197 acceptable range with an average -25.9% differences. Results show that the build-in plasma regression parameter is the main reason which caused the differences. On long-term monitoring of blood sugar, the mean HbA1c of SMBG patient with regular comparison decreased and the population of well-control group (HbA1c <7.0%) was improved to 27.8% and poor-control (HbA1c >9.0%) to 5.56%. In poor-control group, it also improved when compared with our outpatient diabetic population (5.6 vs. 7.3%, N=5719). We can conclude that accurate SMBG is helpful in

improving patients' blood glucose control, and the improvement is more obvious in group with poor blood glucose control.

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## Analysis of Injury Pattern and its Prevention- a case in the Xizhi District of New Taipei City

### SU Yi-Lin, WANG Chin-Hsiang, YANG De-Ren, CHANG Chih-Chieh, YANG Jui-Neng, LEE Yu-Chin

#### Introduction

Injury is an important international public health issue. The safe community program of the WHO has been recognized as an effective means to improve safety, reduce the incidence of injuries, and decrease the severity of injuries. In the Xizhi District of New Taipei City, the sixth leading cause of death is injury. A community project with a focus on the prevention of injuries is being promoted to establish a safe community, based on international accreditation indicators, with the goal of becoming a member of the network of safe communities.

#### Purpose/Methods

The purpose of this study was to cooperate with the safe community project in the Xizhi District of New Taipei City through the development of a monitoring system of community injuries, which will serve as a valuable data source for future studies involving the injury prevention program. Using the database system of the trauma registry in New Taipei City, injury patterns in the Xizhi District of New Taipei City will be analyzed, prevention issues will be prioritized, and recommendations will be made to the community leaders. The total number of registered injuries was 12,067.

#### Results

Overall, Unintentional injury was 91.5%, Crashed into the thorns 35.6%, Fall accident 25.7%, Road transport accident 20.4%. The accident-prone location with the highest incidence of injuries in the Xizhi District of New Taipei City was the street, followed by the home. Traffic accidents, especially those which occurred when riding a motorcycle, had the highest incidence of the different types of trauma. Within the different age groups, injuries in the 0-5 year old age group happened mostly at home, usually as a result of falling or slipping; Falling or slipping was the main type of home injuries for those 65 years of age and older.

#### Conclusions

Based on the findings of this study, the safety community program should establish clear procedures to prevent motorcycle accidents. Also, falling and slipping in the home are important prevention items for groups of all ages in the Xizhi District of New Taipei City.

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## Health Behavior and Satisfaction with Life among Retirees in Taiwan

**SHEN Shu-Chiao, HUANG Hui-Ting**

### Introduction

In Taiwan, the average age of retirement was formerly between 55 and 65 years. Understanding retirees' satisfaction with life and their health behavior and habits can assist the Taiwanese government to develop and promote relevant policy for the elderly.

### Purpose/Methods

Understand health behavior and satisfaction with life among retirees in Taiwan. This study adopted a structured questionnaire design involving a 5-point Likert scale to investigate six dimensions of retirees, including health integrity and satisfaction with life.

### Results

A total of 50 retirees were recruited for this study. The average retirement age for military, public servants, and teachers was 56 years, whereas employees of private enterprises retired at an average age of 62 years. The retirees were mostly diagnosed with cancer or hypertension; only 25% of the retirees perceived themselves as physically well. Satisfaction with life after retirement average score achieved 4.1 points.

### Conclusions

Among the 6 dimensions, participants scored 3.65 points in overall health liability, followed by 3.1 points in perceived optimism, and 2.8–2.85 points in exercise, nutrition intake, interpersonal relationships, and stress reduction. Most of the retirees expressed that they had no postretirement plans. Among the 50 retirees, 30% continued to work after retirement, 10% regularly engaged in community service, and 10% helped take care of their grandchildren. Retirees generally perceive that they could start a new life after retirement; however, most of them do not have postretirement plans.

### Comments

To improve retirees' quality of life after retirement, family members can encourage retirees to participate in community clubs to strengthen interpersonal relationships and prevent alienation. In addition, community centers can be built and diverse activities can be arranged. Furthermore, partnership, collaboration, and professionals' education can help encourage retirees' community participation and development of positive, healthy behaviors.

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## Community Screening Of Dementia

**CHIEN Chun-Ying, HUANG Hui-Ting, CHUO Ying-Hsiang, LIN Kuan-Hung**

### Introduction

Dementia is an increasing problem in countries with aging populations. Specific to the context of the current study, the Taiwan Alzheimer's Disease Association (2013) estimated that more than 157,000 people are currently living with dementia and that 720,000 people will be living with this disease by 2056. Medication therapy is not the only way to fight with this disease. Non-pharmacological therapy has a more important role in this war against dementia.

### Purpose/Methods

Community screening can help hospital to found mild dementia patients, and give the non-medical therapy to control disease and keep they can self-care function. The Ascertain Dementia 8 (AD8) questionnaire developed by Washington University in St Louis is a screening tool with 8 questions to reliably differentiate non-demented from demented individuals even at the very mild stage.

### Results

2014~2016 Taiwan Adventist Hospital neurology combine the Sungshan department of health to screening the AD8 questionnaire in total 33 communities. Nurses and volunteers went to the Park or office of community to screening, and doctors will be a health speaking. Two years total have 300 elders (more than 65years) get AD8 questionnaire. A score of two points are 101 (33%), finally diagnosis MCI (3%); Dementia (3%); Dementia was follow up in the other hospital have 8 peoples (8%); more than peoples are normal.

### Conclusions

Earlier detection for dementia patients in community screening and creating non-pharmacological therapy for all elderly citizens are very useful in treatment of early dementia patients. It is also very important to help our senior citizens to delay severe disability and enjoy better life quality.

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## Session P2.13: Tobacco-free health services

### How to create an all-directional tobacco-free hospital

**HUANG Chi-Chen, HSUEH Wei-Chun, CHEN Chin-Yun, SUN Feng-Ching**

### Introduction

Adult smoking rate is 19% of which male is 35% and female is 4% in Taiwan, only 33% quit among smokers which shows the importance of fully promotion on harmful tobacco prevention. we won the golden global prize from Taiwan's "internet certification of global tobacco-free health-care service" and shared our successful experience on how to create a healthier tobacco-free environment.

### Purpose/Methods

Patients, family: 1. Set quit-smoke referral process for outpatient, emergency, hospitalization. 2. Discover smokers by setting quit-

smoke clinic and reinforce informatization. Community,school:  
 1.hold quit-smoke class by health clinic and head of community.  
 2.hold competition to reinforce quit-smoke motive of juvenile.  
 3.Offer quit-smoke message by website, broadcast. Hospital  
 staff: 1.Value staff health promotion, help set quit-smoke plan.  
 2.Set bonus-penalty by superior counseling. 3.Demand tobacco-  
 dealer to obey rule of tobacco-free environment.

### Results

1.Cases of outpatient,emergency and hospitalization referral of  
 quit-smoke cure is 23%;The rate of admonish by medical staff for  
 smokers is 90%. 2.Student CO improvement rate of school quit-  
 smoke class is 86%,amount of reduced tobacco is 97%, successful  
 rate of quit-smoke is 78%. 3.Questionnaire survey of cognition  
 behavior shows community people reach 92%. 4.Service rate of  
 staff quit-smoke class is 93%,amount of reduced tobacco is  
 80%,successful rate of quit-smoke is 57%.

### Conclusions

To implement tobacco-free policy and provide better care of  
 harmful tobacco prevention,our hospital continues to train  
 professional caregiver and low, middle,high level quit-smoke  
 health instructors.High level is responsible for quit-smoke  
 education in pharmacy department, emergency, ward,  
 community. After education,we perform trace of telephone  
 interview every three, six months.Currently,tracing rate of quit-  
 smoke reaches 100%.We train volunteers and guards to join  
 promotion of harmful tobacco prevention and create actively  
 healthy tobacco-free medical environment and community.

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## Used WHO Healthy Workplace Model to Promote Tobacco Control Program in Hospital

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 Hui, CHANG Chih-Chieh, YANG Jui-Neng,  
 LEE Yu-Chin**

### Introduction

Tobacco use is a major preventable cause of premature death  
 and disease. Around 40% of men in Taiwan are smokers,  
 resulting in over 18,000 deaths from tobacco related diseases  
 each year. Forty smokers tried to quit smoking but failed in the  
 past year. The hospital has the responsibility and the function of  
 promoting the tobacco control. WHO Healthy Workplace  
 Framework and Model, included the physical work environment  
 、 the psychosocial work environment、 personal health  
 resources and enterprise community involvement. In order to  
 work together and to continually improve processes to protect  
 and promote the health, safety and well-being of all workers, as  
 well as the environment in which workplaces are enduring.  
 Health Workplace Continuous Improvement Process include  
 eight steps: Mobilize, Assemble, Assess, Prioritize, Plan, Do,  
 Evaluate, Improve.

### Purpose/Methods

The aim of this program was to carry out these policies. The  
 overall aim was to develop a health promotion model for anti-  
 smoking that could then be expanded to other hospitals.  
 According to the WHO Healthy Workplace Framework and  
 Model, there are eight steps, these are building healthy public  
 policy, creating supportive environments, strengthening  
 community action, developing personal skills and reorientation  
 of the health services.

### Results

The results of this project is smoking behavior login rate 85.2%;  
 rate of advising patients to quit smoking 74.2%; rate of advising  
 patients to quit smoking in passive smoking 57.8%; 3 months to  
 quit smoking rate of adolescent 35%.

### Conclusions

Based on the results of this program, it is suggested that such  
 steps be taken at once so that by investing in health promotion,  
 community health is improved.

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## Discussion on effectiveness of smoking cessation clinic

**WU Chia-Yu, CHENG Su-Fen, HUNG Jui-  
 Lan, LIN Mine-Kuei, HUANG Meei-Jyhi,  
 YANG Mei-Feng, SU Chiou-Ling, CHANG  
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### Introduction

According to WHO statistics, the world can be attributed to  
 smoking more than 5 million deaths, 600,000 second-hand  
 smoke, smoking is a global important issue of public health and  
 preventive medicine, Health and Welfare Department and the  
 National Health Service to cooperate with the smoke In Taiwan,  
 the top ten causes of death are all related to smoking, including  
 cancer, heart disease, stroke and chronic lung disease. In  
 addition, smoking is the most common cause of death. Disease,  
 etc., every year at least 2 million people died of smoking, an  
 average of 25 minutes every 1 people because of smoke and lost  
 their lives. Evidence-based medicine found that almost all  
 smoking-related illness risks can be significantly reduced as soon  
 as smoking is stopped. The National Health Service launched the  
 Second-Generation Smoking Cessation Treatment Service  
 Program in March 2012 to increase smoking cessation  
 medications and to train smoking cessation professionals, The  
 hospital's smoking cessation clinic integrated the smoking  
 cessation medical resources with the forward-looking strategy,  
 actively promoted the comprehensive smoking cessation service  
 and provided the best smoking cessation process and drugs, and  
 the cessation physicians and the health teachers played the  
 director's smoking cessation service.

### Purpose/Methods

Purpose: Provide high-quality, high-volume, high-success out-  
 patient smoking cessation treatment and smoking cessation,  
 integration of medical resources for smokers and non-smoking

professional, , To help smokers early success out of cigarettes harm, retrieve their health and self-confidence. Methods:The hospital's smoking cessation clinic team includes physicians, smoking cessation teachers and pharmacists. The service process provides smokers with professional and smooth smoking cessation services according to referral, health education, medical consultation, prescribing and receiving procedures. The most safe and clinically proven Confirmed the Effective smoking cessation drug varenicline and combine NRT, and contains CO and lung function, SPO2 detection. Follow-up follow-up sessions were conducted at 3 and 6 months by telephone or face-to-face care to track smoking cessation services and success rates .

### Results

The total number of people receiving smoking cessation drug treatment: 793 in 2013, 1263 in 2014, 1564 in 2015. The total number of people receiving smoking cessation education: 5456 in 2013, 6437 in 2014 and 7291 in 2015. Success rate of smoking cessation after 3 months of smoking cessation: 39% in 2013, 38% in 2014 and 37% in 2015; 6 months quit rate: 39% in 2013, 32% in 2014 and 38% in 2015.

### Conclusions

The standard and effective smoking cessation process increases the volume and success rate of smoking and helps the whole population to reduce the smoking rate. The professional health education of the teachers provides the smokers and the passive students with the most effective smoking cessation methods. Smokers right education, coupled with a brief medical advice can really enhance the motivations of smokers to quit, and the more professionals involved in counseling, the more effective, with the use of smoking cessation drugs, professionals Care and support, so that the success rate of smoking cessation improved significantly, the hospital for the implementation of policies to improve the medical quality of the people, and actively service to help smokers quit smoking, physicians and health care professional and caring care for smokers to achieve a satisfactory Quit smoking rate.

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## Grasp the golden opportunity to promote health~ Discussion on effectiveness of patients' smoking cessation

**CHENG Su-Fen, HUNG Jui-Lan, LIN Mine-Kuei, HUANG Meei-Jyhi, WU Chia-Yu, YANG Mei-Feng, SU Chiou-Ling, CHANG Chin-Fang, CHENG Jin-Shiung**

### Introduction

In Taiwan, smoking cessation rate compared with Europe and the United States is relatively low, smoking affects people's health and longevity, the sooner the better to quit smoking in good health and survival years. Early quit smoking is dominated by outpatients, with drug treatment; nurses are less likely to receive training in smoking cessation, usually only oral advice and

encouragement, the Health and Welfare Department in 2012 launched the "second-generation quit smoking treatment services program" Emergency and inpatients were included in the treatment of smoking cessation for the object, while nursing personnel involved in smoking cessation training courses. In line with the Government's policy, the hospital has been promoting the role of smoking cessation teacher in clinical practice since 2012, and has achieved remarkable success in quitting smoking.

### Purpose/Methods

Purpose:With the intervention of smoking cessation health education, smoking cessation patients in the hospital will be provided with the knowledge and care about smoking cessation education, and the desire to quit smoking will be improved. Methods:Since 2013 ,In this hospital, from manual referral to the current evolution of the use of electronic information systems, according to different stages and needs of smokers to provide individual cognitive education, lifestyle adjustment, withdrawal symptoms, stress management And diet and exercise counseling and provide manuals for smoking cessation, if smokers have quit smoking difficulties, the need for drug treatment, will assist the consultation physician and provide drug guidance. The first consultation takes about 20-30 minutes. During the hospital stay, it takes about 1 to 3 days for a visit. The consultation time is about 5-10 minutes. Consultation is provided during the consultation or by telephone. Finally, telephone interviews were conducted at 3 months, 6 months and 1 year to track the results. The following is the electronic information system with the hospital situation: 1. Outpatient: In conjunction with the cancer screening system, the physician asks for a history of smoking (including passive smoking) at the time of consultation, and automatically identifies and records the patient's smoking status via the computer and provides referral services. All cases of smoking were noted in the outpatient or inpatient department and managed on a case-by-case basis. Patients who had undergone smoking cessation services were provided with a special smoking cessation service. On the same day, Teach and admonish. 2. Inpatient: The referral of the primary care nurse by the ward, the hospital electronic information integration, providing nursing consultants can quickly organize smokers to visit the list, to the wards for smokers, to provide one-on-one individual Consultation.

### Results

Excluding telephone use and death, the number of telephone tracking January to March in 2016 has received health education 959 patients. After 3 months of health education, the number of successful smokers was 350, with a success rate of 37% (target value of 33%). After 6 months of health education, the number of successful smokers was 287, with a success rate of 30% (target value of 25%).

### Conclusions

The health hazards of cigarettes not only smokers, as well as their surrounding friends and relatives, is the country want to solve the problem. Patients and their families in hospitals will be more concerned about health issues, when patients are generally willing to participate in smoking cessation counseling higher; through the integration of hospital resources, electronic medical records and referral links in the ward unit for smokers to ward Face to face smoking cessation counseling health education, can have more time and more visits, so that smokers understand the benefits and disadvantages of smoking cessation, learning to deal with withdrawal symptoms, adjusting the lifestyle and the face of smoking cessation pressure, Enhance the will to quit smoking and reduce the health of smokers and passive smokers harm. With the professional background and experience in



clinical practice, teachers of smoking cessation can provide consultation and support for the various needs and problems of hospitalized smokers, and can improve the rate of smoking cessation.

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## Increase Frequency of smoking cessation consultation improved success rate of smoking cessation

**LIN Mei-Jen, NEOH Choo-Aun, CHEN Bao-Chen, TOK Teck-Siang**

**Introduction**

Smoking is a preventable cause of increased morbidity and mortality. Therefore, interventions have been used to assist smokers in overcoming their addiction. The aim of the study was to describe if higher frequency to promote smoking cessation associated with higher success rate of smoking cessation.

**Purpose/Methods**

In this study we included patients applied to our smoking cessation unit from Jan, 2015 until Dec, 2016, in a prospective study. A total of 289 adult included were included in this study from the OPD and 89 adults from the ward. Patients were followed-up for 3 months.

**Results**

There is no different between the group from OPD and the group from ward. At 3 month time, the number of patients who successes in smoking cessation was higher for patients who received more frequent smoking cessation consultations (2.3±1.6 times) as compared to (1.8±1.3times) .

**Conclusions**

This study has shown the important of increasing the number of time of smoking cessation consultation to increase the successful rate of patient smoking cessation. This study also shown that even at ward or at OPD we must always take opportunity to persuade patient to quit smoking, and the more time you consult with them the chances of their success in smoking cessation will be getting higher and higher. Success to quit smoking was positively associated with frequency of consultations.

**Comments**

We should increasing the number of time of smoking cessation consultation to increase the successful rate of patient smoking cessation.

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## Applying Nursing Information System to Raise the Rate of Smoking Cessation in Hospitalized Patients

**CHANG Ya-Hsiu, SHYU Ren-Shi, PAN Yi-Fan, CAI Xue-Yu, YANG Pei-Chun**

**Introduction**

Both smoking and exposure to secondhand smoke are health risk factors for patients, which are preventable and controllable. In a "Smoke-free Hospital" policy, health care workers should assess each patient's smoking habit and exposure to secondhand smoke. Therefore, the hospital is introducing nursing care information system to assess and provide smoking cessation education.

**Purpose/Methods**

Since September 2015the hospital has used its information system to assess and record patients' smoking status. This has enabled the nursing staff to provide smoking cessation counseling and health education guidance to those patients who have been identified as smokers.

**Results**

From January until December 2015, 2,679 in-patients were recorded as smokers, of which 2,262 received counseling. In September 2015, all in-patients with a smoking history were introduced in the Nursing Information System. As a result, of the 1,542 in-patients with smoking history recorded from January until July 2015, 1,542 received smoking cessation counseling, a rate of 100 percent.

**Conclusions**

Thanks to the introduction of this system, patients identified as smokers are all given information about the dangers of smoking, and those who mention that they would like to quit smoking are given special smoke cessation counseling, hence contributing to a truly "smoke free" hospital.

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## The Effectiveness of Using Hope Theory in Smoking Cessation -A Experience of Psychiatric Recovery Home in Southern of Taiwan

**TSAI Yu-Chun, WANG Hsueh-Yin, LU Huei-Lan**

**Introduction**

The Jia-Ho psychiatric recovery home has been established on the end of 2015 in southern of Taiwan. In this community-based recovery home, more than 30 percent of residents had smoking issue. The purpose of this study was to using hope theory in smoking cessation. Residents to participate in smoking cessation groups, smoking health educator applied hope theory in group

interaction, look forward to through group motivation, enhance members hope and effectiveness of smoking cessation.

#### Purpose/Methods

The subjects were 9 smokers, invited to participate a smoking cessation group, once a week, 90 minutes a section, total of six weeks on Aug. to Sep. in 2016. Used hope theory in smoking cessation groups as treatment content, group dynamics of communication and self-help guided members to develop problem solving skill in quitting smoking. The measurement included the amount of smoke, exhaled carbon monoxide value (CO), Fagerstrom test for nicotine dependence (FTND), to understand the effect of smoking cessation before and after the activities.

#### Results

The result showed that the 1 day smoking amount decreased from 28 cigarettes to 5. The CO has dropped from 13 ppm to 2.6 ppm. FTND reduced from 6.3 points to 2.6 points. A total of three members quit smoking successfully, five members for the low degree of addiction, leaving only one member was still moderate addiction. Group average attendance as high as 96.3%, the overall satisfaction was 95%, members of the group can express that they live together, but also to participate in group smoking cessation, can encourage each other to remind each other, feel promising to succeed.

#### Conclusions

Through group dynamic of communication and interaction, guiding members to support each other, and strengthen problem-solving skills, this study found that to provide specific targets and a positive message for smokers, thereby reducing the smoking rate. Hope theory has a significant positive effect on smoking cessation efficacy, and can be applied to clinical therapies.

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## Social Support Associated with Smoking Cessation Behavior for Coronary Heart Disease Inpatients

**TSAI Yen Ping, MIAO Nae Fang, WEI Fang-Chun**

#### Introduction

Tobacco use is serious threat to global health. For smokers, the risk of developing coronary heart disease (CHD) is two times higher than for nonsmokers and a 70 percent higher risk for angina pectoris than do nonsmokers. Enlisting the social support of the smokers with smoking cessation in a short time could significantly reduce and eventually eliminate excess sudden cardiac death (SCD) risk.

#### Purpose/Methods

A cross-sectional study was conducted among CHD inpatients who are a current smokers or a former smoker in a medical center in northern Taiwan. We analyzed data from the self-assessment questionnaire to examine the association between social support and smoking cessation behavior.

#### Results

Compared with aspects of social supports, whether from a family or a social member, has been shown to provide more emotional support, but medical professionals provide mostly information provision. It has been found that family members tend to have significantly enhance on emotional support, tangible support and informational support ( $p < 0.05$ ). Smokers who considered quitting within one month or who successfully quit were found to benefit from social support most.

#### Conclusions

The evidence suggested that smokers found benefits from social support to be successes in smoke cessation. During hospital stay, smoking cessation was triggered by medical professionals who provide information provision to emphasize on the connections between related diseases and smoking. The existence of social support from family has enhanced the emotional support and tangible support. Additionally, social members provided informational support as encourage and compliments. With this framework that can incorporate a successful smoke cessation among CHD inpatients.

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## "No Smoking And A Life Long Health": The Effectiveness of Health Education Program for Tobacco cessation at Kaohsiung Municipal Min-Sheng Hospital.

**CHANG Mei-Yen, CAI Jia-Rong, LEE Hsien-Ju, YU Ciou-Sia, LAI Chun-Huang, YEN Chia-Chi**

#### Introduction

Smoking is harmful for all organs throughout the body which impacts on the daily life and even results in death. According to the World Health Organization statistics for each year, about 500 million people die in the world due to smoking related disease, one person die for every 6 seconds, in average. In the "Adult Smoking Behavior Survey in Taiwan 2010", the smoking rate was 9:1 for men and women, 1.5 times than U.S. and 1.8 times than Canada. The official statistics by Taiwan Executive Yuan showed that the adult smoking rate was 17.1% in 2016. However, in Taiwan, smokers' intention to quit smoking is lower than that in Europe and the United States. Therefore, there is a demand for more diversified, accessible and barrier-free service and environment to increase the smokers' intention to quit smoking. More than 90% our outpatient nursing staff have received qualified training for being educators, and can actually practice smoking cessation and health education in our outpatient department.

#### Purpose/Methods

In order to enhance the health of the community, to promote tobacco control, to boost awareness of tobacco hazards, to provide smoking cessation related services, to offer customers correct cessation pathways and information, to increase

cessation success rate; our hospital adopts the following strategies: 1. We establish smoking-related public health policy committee, which is suitable for our hospital. Our hospital president Dr. Yen Chia Chi, announce that this hospital is smoking-free, and all staff should follow this plan. 2. We develop inspection systems and implementation measures. 3. We create a supportive environment. 4. Through integration with the community, we strengthen the overall mobility. 5. We develop health knowledge and professional skills for educators.

### Results

In 2016, 437 people joined the program of tobacco-quit health service, which was higher than our expected target -300 people, compared to 2015 more 164 people accepted the service, and the growth rate was 60%.

### Conclusions

We hoped that we can enhance the recognition of tobacco harmfulness by patients, and their families, employees of the hospital, and people in the community. We wish to reduce the hazard of tobacco, to build a tobacco-free environment, and therefore to promote the health of citizens.

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## A Report on the Results of Smoking Cessation Classes at Hospital - Professional workplace smoking cessation for health, work, and well-being

**LEE Yi-Ju, LIN Hsiu-Mei, LEE Shu-Chen, HUANG Wei-Hsin**

### Introduction

According to the Ministry of Health in 2015, the top ten causes of death are, number 1, cancer, including lung cancer mainly due to smoking. Mackay Memorial Hospital to undertake "2016 annual smoking cessation program", and the Government together to create a smoke-free and friendly environment. From the workplace will start implementing a smoke-free concept into the family, improve people's quality of life, and create a healthy life vision.

### Purpose/Methods

Participants will learn about the health hazards of smoking, learn how to deal with the pressure, and seek professional support in time. 1. Incentive Scheme: Participate in individual and group awards. 2. Curriculum features: Reshaping the image of health, awareness of smoking, smoking cessation diet, exercise and music to relieve pressure, drug guidance, experience sharing courses to build team relationships to strengthen students success. 3. After-school telephone tracking: Continuous care and encouragement and support to enhance the success.

### Results

1. Follow-up of the results 3 months after course: continue to quit rate 42%. 2. Cigarette Smoking Knowledge Test: The score

of the Smoking Cigarette Test was 79.3. The average score was 85.6 (8%) after the class. 3. Conduct a press conference for successful smoking cessation. Successful participants can share the experience of smoking cessation, encourage smoking cessation partners, to participate in our hospital course.

### Conclusions

Participants responded favorably to this smoking cessation program by encouraging incentive payments and establishing effective team relationships to support and motivate each other to maintain a sustained rate of cessation. However, it is not easy to invite the eligible participants. Therefore, the participants are invited to attend the program 1 month before the next course. Recommending other eligible participants who also want to quit smoking, to provide incentives for smoking cessation and other measures to improve the effectiveness of enrollment.

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## For a patient-friendly environment

**CHOU Ling-Ling, CHENG Jin-Shiung**

### Introduction

Hospital environment needs to be clean and safe. However, sometimes we find patients and their family smoking in the gardens. According to our record in the year of 2015, there have been 6845 people smoking around the area of VGHKS. (Veteran General Hospital Kaohsiung). Despite the warning from our staff and the fine punishment from police, smoking still prevailed among the whole area.

### Purpose/Methods

First, we try to identify the hot spot of smoking. Our investigation includes Admission Area, Outpatient Department (OPD), Emergency Department, and the vicinity of hospital convenience stores. After the thorough investigation, we found out that the hot spots of smoking are around hospital garden and convenience store. Therefore, we alternately arranged volunteers and our security guard to admonish the smokers in these area each hour. Also, we relocated monitors around the area of the convenience store, and used broadcaster to specifically warn the smokers every five minutes. At the end, our approach is effective, and the number of smoking cases are in the decline.

### Results

Tobacco cessation is beneficial for every person. The participation of our volunteers is why we can successfully solve this issue. Since most of our volunteers and patients are veteran, the cultural bonding between them facilitates our Tobacco regulation in the hospital.

### Conclusions

Tobacco cessation program in our hospital still has room for improvement. We are urging for more resources in the program, especially for third party cooperation.

### Comments

Smoking would not only harm the health of the smoker but also deteriorate the environment of our hospital. Everyone is responsible for tobacco cessation. If we help every smoker

realize the danger of smoking, we will definitely create a clean and safe environment which benefits many patients and their family. Under our dedication to the program, we are sure that the goal is near.

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## Outcome of continuous effort for smoking cessation at work places

**KANNA Ueno, YOSHIE Takai, MIHO Kimura, AKIO Koike, MAYUMI Inamura, TETSUYA Shinobi, ISAO Fukuba, KAORU Hirasawa**

### Introduction

Our hospital has 401 beds and 1000 staff. We support non-smoking workplace actively, with a target to reduce the smoking rate of hospital staff to less than 10%. An examination is made on effective supports for staff smoking cessation by analyzing our work in the last 5 years.

### Purpose/Methods

2011-2015: Target for reduction of staff smoking rate was set as less than 10%. The Non-smoking Promotion Team (doctors, public nurses, pharmacists and nutritionists) lead following activities: - Fostering non-smoking supporters - Delivery service of non-smoking class to department meetings - Publication of non-smoking information through e-learning system on hospital PC - Establishment of smoking-cessation outpatient program for hospital staff - Non-smoking training at the orientation seminars for new comers - Patrol on tossed cigarette butts on hospital property and publication of the news - Handing out fliers on WHO World No Tobacco Day

### Results

Staff smoking rate: 14.0% for FY2011, 12.8% for FY2012, 11.5% for FY2013, 10.8% for FY2014, 11.3% for FY2015. Three were certified as non-smoking instructor. The host workplace of delivered non-smoking class set their target to reduce unit smoking rate, and reduced the total smoking rate. The smoker's motivation to quit smoking were enhanced by the fresh news and topics provided through the e-learning system available on hospital PC.

### Conclusions

Although the hospital efforts for smoking rate reduction is not the kind to see a massive outcome within a short period of time, smoking rate is considered to be successfully reduced by continuing various activities patiently. In order for smoking medical staff to initiate behavior to quit smoking, not only general information but also new facts on adverse effects of smoking on health can be provided. And it takes both individual training and workplace intervention. For these goals, skill up by non-smoking supporters is required.

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## Conflicts and Compromises in Only Non-Smoker Hiring: Experiences from Smoke-Free Network Hospitals in Taiwan.

**WANG Hsiu-Ling, YANG Yuan-Han, HSIEH Ming-Yen, LIU Hui-Chung, KWAN Aij-Lie, LOH Joon-Khim**

### Introduction

Tobacco use is responsible for approximately 20,000 deaths in Taiwan each year —about one death out of every five because of smoking-related diseases. Taiwan has joined the ENSH -Global Network for Tobacco Free Health Care Services with 179 hospitals by 2014, but not yet implemented WHO "nonsmoker-only hiring". Based on a conceptual ladder of anti-tobacco-interventions range from simply monitoring behavior, inform and educate, and ultimately to fire smokers, program availability and use of incentives vary by hospital size

### Purpose/Methods

To investigated the employee wellness program configuration provided by hospitals. How managers viewed on smoke-free hiring policies in a ethical, and public health context. A formal invitation letter was mailed to 179 hospitals. 85 top manager hospitals agreed to participate. Self-reported agreement of anti-tobacco policies rated on a 5-point scale. 53 valid responses returned. 47.9% worked at regional hospitals, 26.1% local hospitals, 15.9% medical centers. 49.8% nonprofit hospitals, 36.8% public. 56.4% is females. 70.9% aged 41-55 years. 47.3% master graduated. 61.6% had 6–10 years of work experience.

### Results

What interventions adopted to reduce tobacco use, as described as follows. make tobacco use illegal(44.4% disagree); fire smokers(92.6% disagree);financially penalize smoking; refuse to hire (9.3%agree);financially reward not smoking(70.4% disagree);applicants for nicotine test be positive should not be hired(75.5% disagree);reduce copayment for complete cessation, even not quit(100.0% agree);simply monitor the current situation(62.9% agree). Arguments for not hire tobacco users policies, including higher cost of tobacco users for employers, increased cessation rates, addition control;employees serve as role models for patients. Arguments against not hire smokers including many smokers addicted to nicotine, inconsistent with mission of health care facilities.

### Conclusions

The two perspectives-managerial values & professional norms offer the potential for conflict.

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## Session P2.14: Chronic disease management

### Home hospitalization service: Organisation and technical aspects

**RUGGERI Federico, MOZZONI Lorella, SANCHEZ Liliana, BARBERINI Mariano**

#### Introduction

The spread of Home Care Service is expanded with the increase of elderly patients, suffering from chronic or incurable diseases, since the introduction, in clinical practice, new methods of administration, avoiding or reducing unnecessary hospital admissions and the use of expensive and inconclusive treatments, despite a relatively low social cost. The creation of the Service follows the need to find an alternative to long hospital stays of patient requiring treatment in the medium and long term.

#### Purpose/Methods

The service consists of doctors and nurses and can take advantage of the collaboration of various consultants. The Service plays a key role in the transition period of the patient from the hospital setting at home. At the time of placement of the patient, the home care personnel are informed about the type of treatment and its possible complications. In this way, we have good level of cooperation with various health figures, distributed mainly in the territory, and consequently it enhances the relationship of trust with the patient. For this purpose, and for greater clarity, the service issues a specific informative manual. The control of patients in therapy takes place primarily at home, afterwards through a weekly phone contact, allowing you to maintain a reassuring psychological relationship between user and service. Patient's clinical status can be evaluated, if conditions permit, periodically. The visits are planned regularly and, if necessary, is available by phone a 24 hours/24 staff. Currently we take care for 224 patients, including 36 in high-complexity care. For these (i.e. rare diseases, severe neurological disorders strongly invalidating), the Service is actively collaborating with a multidisciplinary Team for several years. Particular importance is given to the collection and processing of data that belong to the Center through the computer system. In this context, great importance take the "medical records computerized", allowing all operators, doctors and nurse managers, the services rendered, the clinical evolution of the pathology, therapeutic, laboratory and instrumental data of the patient.

#### Results

Goals a) optimization of therapeutic needs; b) continuity between hospital and home environment; c) reduction of costs and complications; d) better performance; e) integration between hospitals and home care; f) maintenance by the patient of a good social life; g) independence of the patient from the hospital environment; h) improvement of the quality of life of the patient i) creation, if there is need for hospitalization, of preferential channels in order to protect vulnerable patients

#### Conclusions

Works status is advanced. Complications related observed, in the experience of the service, are similar to those reported by type and frequency widely in literature: their number is however

falling steadily, thanks to the progressive consolidation of clinical experience and collaboration degree multidisciplinary.

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## Clustering of health risk factors related with chronic disease in Korea population

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#### Introduction

Chronic diseases are leading causes of health problem around the world. Lifestyle-related components are known as major risk factors for chronic disease, therefore, we need to manage them. These risk factors tend to show co-occurrence with each other, this phenomenon is called clustering.

#### Purpose/Methods

We aimed to identify clusters of health-risk factors related with chronic disease. By observation of clusters, we will present evidence for effective multi-component health intervention programs. We collected 123,300 participants who were examined by the Korea Association of Health Promotion in 2015, and chose smoking, high risk drinking, and lack of physical activity as major risk factors. To find combinations of them, we calculated ratios of observations divided by expected frequency. Odds ratios were computed to find the level of relevance between one risk factor and others using chi-square with 95% CI (used SPSS version 21.0).

#### Results

Combinations of risk factors were similar irrespective of sex. For both men and women, the most popular risk factor was lack of physical activity, 44.4% of total participants. Except for no risk factor and lack of physical activity, males presented a ratio higher than 1 in all combinations of risk factors, particularly the cluster of smoking and high risk drinking had the highest rate of 1.84. In contrast, females only showed a ratio higher than 1 in physical inactivity (1.24) and no risk factor (1.37). By computing odds ratio, we could observe that smoking and high risk drinking had strong relationship. Participants physically inactive tended to smoke and binge drink for both men (2.14) and women (10.24), the highest ratio among all combinations.

#### Conclusions

The three risk factors produce different kinds of clusters according to sex, and the interaction between them is mediated by components of the cluster. So, health intervention programs for chronic diseases should consider not only multiple risk factors, but also the combination of them.

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## Refilling prescriptions through an online booking system in Southern Taiwan

**HSU Pi-Chao, CHANG Hui-Min, YEH Ming-Chin, LEE E.K., CHENG Jin-Shiung**

### Introduction

In recent years, upon receiving a prescription from their doctor, most patients then take the prescription to community pharmacies to be filled instead of going to the Veterans General Hospital of Taiwan (VGHS). This was preferred by patients primarily due to the convenience factor as it saved a great deal of time versus having a prescription filled at the Hospital's pharmacies. However, because prescriptions were primarily being filled in the community pharmacies, the Hospital's pharmacies were not able to determine if patients were taking their medication on a regular basis.

### Purpose/Methods

The Veterans General Hospital of Taiwan implemented a pharmacy service platform that uses an online booking system in order to provide patients with a faster and more convenient way to fill and refill prescriptions at the hospital's pharmacies. This study in particular involved the collection of data during a 12-month period following the launch of the online booking system for patient use.

### Results

This study showed the online booking system had steady increases in usage after the launch of its service from 986 patients per month in October 2015 to 1,998 patients per month in October 2016. The ratio of patients who did not return to VGHS pharmacies for their prescription refills also decreased progressively after the system was launched (9.54% vs. 2.02%). Patients who went to VGHS pharmacies to refill their 2nd and 3rd prescriptions in particular showed a statistically significant difference (4.51% vs. 35.52%,  $p < 0.001$ ).

### Conclusions

After the implementation and launch of the online booking system, patients were able to save time because pharmacists were able to prepare prescription refills as soon as an order was received online. All patients through an online booking system that sent the orders to the pharmacists electronically thereby speeding up the process, giving patients a convenient method of filling prescriptions and allowing hospitals to track medication use and adherence.

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## Association between noise induced hearing and endothelial progenitor cell loss in the workers

**CHEN Wei-Liang, PENG Tao-Chun, KAO Tung-Wei, WU Li-Wei, WANG Chung-Ching, WU Chen-Jung, LIAW Fang-Yih**

### Introduction

The noise induced hearing loss is an important issue. Endothelial progenitor cells (EPCs) are circulating mononuclear cells derived from the bone marrow, which have the potential to proliferate, migrate and differentiate into mature endothelia. In recent studies, numerical decline and functional impairment of circulating EPCs has been associated with aging and senescence of vascular system, and more pronounced numerical and functional decline of EPCs have been associated with CAD and atherosclerosis among elderly. Our purpose is to explore the association between noise induced hearing and endothelial progenitor cell loss in the workers.

### Purpose/Methods

The study is conducted in the Keelung shipyard in Taiwan from January 1, 2015 to December 01, 2015. The definition of hearing impairment is made as the pure-tone average 25-dB hearing level of pure-tone thresholds at low/mid frequencies (500; 1,000; and 2,000 Hz) and high frequencies (3,000; 4,000; 6,000; and 8,000 Hz). The association between noise induced hearing and endothelial progenitor cell loss is investigated using logistic regression.

### Results

The 86 participants completed the completed the audiometric examination and structured self-administered questionnaires. The eligible subjects had a mean age of  $44.21 \pm 8.9$  years. There are 8.2% of subjects with less than 25 years of age, 43.0% of subjects with 25-44 years old, 48.8% of subjects aged more than 45 years old. Habits of cigarette smoking, noise exposure experience, and the presence of endothelial progenitor cell remain the main risk factors of low frequency noise-induced hearing loss. Habits of cigarette smoking and noise exposure experience are the main risk factors of high frequency noise-induced hearing loss.

### Conclusions

Good function of endothelial progenitor cell may be associated with low frequency noise-induced hearing loss. Function of endothelial progenitor cell might be a useful tool for evaluating the risk of noise-induced hearing loss.

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## Evaluation of asthma disease management and Asthma Pay-for-Performance program under National Health Insurance in a Medical Center in Southern Taiwan.

**CHEN Yu-Wen, LIN Hsiao-Fen**

### Introduction

Asthma is chronic respiratory disease, which effected 300 million people worldwide. Almost 250,000 people died in asthma attack, and the prevalence of asthma is increasing. In a medical center in Southern Taiwan which implements Asthma Pay-for-Performance program since March 2015. The main purpose is encouraging institutions setting up asthma care team by extra point payment. Help asthma patients strengthen the ability of self care and improve the quality of life.

### Purpose/Methods

Physicians assess the severity of patients first, and refer to asthma case manager. Case manager conducts health education and case management. Asthma health education including the basic concept of asthma, the prevention of allergens, the treatment of asthma(including device technique), the self management during asthma attack, the meaning of PEF rate. Help patients to establish personalized asthma action plans. After 3 times follow-ups, the annual evaluation executed. The evaluation score includes Severity, ACT score, Symptoms during days and nights.

### Results

Totally 692 people included in this program in 2015, there are 253 people completed annual evaluation. The severity evaluation score is elevated from 2.20 to 2.79, the ACT score is elevated from 2.34 to 2.44, symptoms score of days and nights separately elevated from 3.35 to 3.68 and 3.46 to 3.87.

### Conclusions

The severity of asthma, ACT score, symptoms of days and nights are improved. The Asthma Pay-for-Performance program could help asthma patients have better care.

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## The experience of health education about mite avoidance measures in asthmatic patients

### LIN Hsiao-Fen, CHEN Yu-Wen

#### Introduction

Asthma is one of the most common diseases of children. The prevalence of asthma within the children in Taiwan rose from 1.3% in 1974 to 19.7% in 2008. Some studies represented that the most common allergen in Taiwan is mites. According to the GINA guideline, when the allergic person exposures in the allergen may worsen the condition of asthma. Therefore, some studies suggested that allergen avoidance could be a benefit for these patients and could decrease in nonspecific bronchial hyper-reactivity.

#### Purpose/Methods

Through the case-management, we provided the information of the general characters of mites and the principle of prevention. These are included reducing heavy curtains, blankets, dolls, and replacing wool or feathered bedding with synthetic materials or using mite-proof bed covers; wash all bedding and blankets regularly in hot water; use dehumidifiers or air conditioners to

maintain relative humidity at 50% or below; choose HEPA air purifier or vacuum cleaners and clean house at least every two days.

#### Results

The outcome of asthma severity among these cases was 59% improved, 37% consistent and 4% worsened. Some patients responded that their asthma signs had improved after following the instruction. Most of them could comply with reducing the heavy bedding and dolls. However, due to the economical consideration, some couldn't afford to buy dehumidifier or mite-proof bed covers. We suggested alternative methods such as increasing the frequency of washing bedding and so on. Mite avoidance is positively helpful to asthmatic patients.

#### Conclusions

Being a healthcare provider, we should supply the knowledge of mite avoidance to our patients. Nevertheless, mite avoidance is a strategy of controlling the condition of asthma but that is not the only one. Asthmatic patients still need other treatment, for example using the inhaled corticosteroids. Therefore, providing the appropriate health education and suitable allergen prevention base on the situation of patients is vital to the healthcare providers.

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## Improving ten most chief complaints of Chronic obstructive pulmonary disease patients by mobile nursing education model

### KUO Tsung-Huai, CHEN Hui-Fei, HUANG Yu-Huey, KUO Ya-Ling, SHIH Ai-Wei, LEE Shu-Ling

#### Introduction

Chronic obstructive pulmonary disease(COPD) is a preventable, treatable, partial reversible disease with high prevalence worldwide. About 60 to 80% patients were not under well-control because they cannot use the inhaler device correctly. If we can improve the technique, we can increase the adherence and compliance. We can decrease the exacerbation rate, emergency visit, hospitalization rate, anxiety, depression and economic burden. So how to use the inhaler device correctly is a very important factor.

#### Purpose/Methods

Patients with moderate to severe ventilation limitation by pulmonary function test included. They were taught to use the inhaler device correctly from beginning by case manager of mobile nursing information system. Intervention measures including at first, third and sixth month the correct technique and questionnaires at the sixth month. Ten questions:1.cough. 2.Sputum 3.chest tightness 4.sleep 5.stair-climbing 6.home daily activity. 7.Outdoor activity 8.Morning activity 9.Appetite 10.mood. Score point: 0(nil) 1(almost none), 2(seldom), 3(sometime), 4(often), 5( almost)

### Results

60 patients, average FEV1 52.11, included under regular followed-up. Male 49(82%), female 11(18%). Age 40-65(15%), above 65(85%). The total score point change before and after intervention measures 32.7 to 17(p<0.001). The ten questions: cough 3.45 to 2.13(38%,p<0.001), sputum 3.38 to 2.00(40.9%,p<0.001), chest tightness 3.49 to 1.75(49.5%,p<0.001), sleep 3.28 to 2.39(55.3%,p<0.001), stair climbing 3.93 to 2.37(39.8%,p<0.001), home activity 2.95 to 1.53(48%,p<0.001), outdoor activity 3.13 to 1.62(54.8%,p<0.001) morning activity 3.2 to 1.62(49.5%,p<0.001), appetite 2.75 to 1.32(52.1%,p<0.001), mood 3.22 to 1.43(55.4%,p<0.001). All reach significant improvement.

### Conclusions

Nursing case manager assess patient's need. Using patient-centered mobile nursing education model by offering individualized technique. Demonstrated by placebo device and pamphlet illustrator. Patient can learn how to use inhaler device repeatedly and correctly. It help to slow down the decline of pulmonary function test. Decrease the exacerbation rate. Improve quality of life. Enhance physician-patient relation, even adherence and compliance. The most often seen ten main chief complaints improve statistically significantly by assistance of mobile nursing education model.

### Comments

Different inhaler device has different technique to use correctly especially in old age group. Wrong technique result in poor compliance and adherence. In this study, we intervene with mobile nursing education model. It can make sure the patient could use the device correctly by using correct technique. All ten main chief complaints in OPD can improve significantly. The adherence, compliance, even quality of life were enhanced. Economic burden of health decrease due to decreased emergency visit, hospitalization rate and days.

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## Quality of Life and associated factors among Ischemic Stroke Patients

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### Introduction

Stroke is a major cause of death and death rate is 33.8/100,000 in Korea. Recurrence rate is about 25% during 5 years after attack. Recurrent patients are more likely to be complicated or fatal. Compliance, post-acute care, etc. may be important to prevent re-attack. We investigated quality of life, compliance, and associated factors among stroke patients in post-acute stage.

### Purpose/Methods

We used the WHODAS IIK questionnaire to quantify the level of quality of life. We interviewed 382 ischemic stroke patients in post-acute stage from October 2015 to March 2016 at 10

Regional Cardiocerebrovascular Centers. We analyzed relationship between quality of life and socioeconomic, degree of disability, history of stroke, mRS, compliance.

### Results

Overall quality of life is associated with age, mRS, knowledge in compliance, and motivation in compliance. Understanding & communication is associated with age, mRS, and motivation in compliance. Getting around is associated with age, history of stroke, mRS, knowledge and motivation in compliance. Self-care is associated with age, education, disability grade, mRS, knowledge and motivation in compliance. Getting along with people is associated with age, history of stroke, knowledge and motivation in compliance. Life activities is associated with age, disability grade, history of stroke, mRS, knowledge and motivation in compliance. Participation in society is associated with marital status, history of stroke, mRS, knowledge and motivation in compliance.

### Conclusions

Stroke patients in post-acute stage show different level of quality of life according to factors like age, marital status, education, disability level, mRS, history of stroke, knowledge and motivation in compliance. Associated factors are little bit different according to the subgroups of quality of life.

### Comments

We need to check the level of quality of life and design intervention program considering associated factors. We suggest a comprehensive post discharge care to improve quality of life among stroke patients.

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## Factors associated with awareness of acute myocardial infarction (AMI) symptoms among Korean patients with ST-elevation myocardial infarction (STEMI)

**KIM Hee-Sook, EUN Sang Jun**

### Introduction

In AMI, the patient delay (patient's delay in deciding to seek treatment) comprises most of prehospital delay time. Early warning signs of AMI is an important early indicator and awareness (knowledge) of the symptom is known as a prerequisite for patient's decision to seek medical care.

### Purpose/Methods

To develop strategies to reduce prehospital delay for AMI patients, this study aimed to investigate factors associated with awareness of AMI symptoms among Korean STEMI patients. This was a prospective multicenter study with a descriptive design using face-to-face interviews. The study participants were patients hospitalized with STEMI at 6 percutaneous coronary intervention (PCI)-capable tertiary hospitals located in diverse regions of Korea between July 2014 and June 2015.

### Results

A total of 350 patients were included in the analysis. 28.3% (n=88) of the patients were aware of AMI symptoms. According to univariate analysis, knowledge of symptoms was significantly greater in men, those under 65 years of age, those with a higher education level, and those with "other (including professionals)," "driver," or "office" occupation, compared to each counterpart. Patients with hypertension, diabetes, dyslipidemia, prior angina, or prior stroke showed no significant differences in awareness of AMI symptoms when compared to without. Patients with prior MI had much greater awareness of AMI symptoms than those without (86.7% vs. 25.3%,  $p < 0.001$ ). In the multivariate analysis, patients with prior MI or dyslipidemia had significantly higher OR for awareness of AMI symptoms, whereas there was no statistically significant difference between patients with or without hypertension, diabetes, prior angina, or prior stroke, similar to the univariate analysis.

### Conclusions

The finding of this study indicates that Korean STEMI patients have low awareness of AMI symptoms and that a more intensive intervention targeting patients especially at high risk of cardiovascular disease is needed to raise their awareness of symptoms.

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## Building a culture of health with a patient centered health care model for chronic HCV patients

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### Introduction

Hepatitis C virus infection is a major global public health issue, with 170 million people chronically infected world widely. As the leading cause of cirrhosis, hepatic decompensation, and hepatocellular carcinoma, it also causes significant mortality and morbidity in Taiwan. Combination therapy of pegylated interferon and ribavirin is the current standard treatment by the National Health Insurance (NHI) in Taiwan. The treatment is notorious for its side effects, leading to high treatment dropout rate.

### Purpose/Methods

HCV therapy tracking and management project (HTTMP) in our hospital aims to help patients overcome the obstacles through patient education, phone interviews and patient support group supervised by trained case managers to help them achieve complete HCV treatment. We retrospectively reviewed our treatment cohort and the medical records since 2014. All patients who participated in Enforcing Hepatitis C Treatment Program of National Health Insurance Administration in National Cheng Kung University Hospital were enrolled.

### Results

From January 2014 to September 2016, a total of 331 chronic HCV-infected patients were treated in our hospital. HTTMP

initiated in Jan 2015. For the 168 cases treated with pegylated interferon and ribavirin regimen before HTTMP, 9 cases (5.4%) dropped from treatment due to side effects. After HTTMP, 163 cases were treated with the same regimen and only 2 cases dropped (1.2%,  $p = 0.034$  by Fisher's exact test). The treatment dropout rate decreased significantly after implementation of this project.

### Conclusions

Based on our experience of HCV therapy tracking and management project (HTTMP) implemented in a medical center in southern Taiwan, we successfully built a culture of health with a patient centered health care model for chronic HCV patients. By using these combined modalities, completion rate for pegylated interferon and ribavirin therapy is markedly improved. The model is proved useful to enhance patient adherence and achieve favorable treatment outcomes.

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## Catch my event, Tag me to society

### AHN Juhee

### Introduction

In Korea's lifesaving status in 2014, despite the rapid rescue arrival of 42%, The reason for the low rescue rate of 2% is lack of personal information and delayed guardian communication. It is very important to find out the changes in the body condition of cardiovascular disease patients (especially Diabetes, Hypertension, Osteoporosis slip etc.) and connect them to the medical institutions.

### Purpose/Methods

In 2014, the Korean government initiated the LIFE TAG business by creating a medical safety net project group, contracting with the safety administration, university hospitals and automobile companies. The pilot project began in 2015, our Suwon Hospital participated in 2016 and is still underway. We check the body condition through tag device worn on the wrist connected to the cellphone and bluetooth, and the contents and place are known to the nearest fire station and registered family in case of emergency. It is also possible to measure the normal state of motion and sleep stability

### Results

We have recruited 100 people for the demonstration project and secured participants of various ages within a week. Participants who checked their heart rate, exercise status, and fatigue status were more satisfied with their mobile phone, they found one fall and three hypoglycemia for 3 months and were rescued from an important risk.

### Conclusions

With the increasing number of adult diseases, aging and singles, early detection of emergencies has become an important structural goal. LIFE TAG activity was confirmed to be a form of health promotion connecting residents and social safety net through early disaster structure. Particularly, participation of public medical institutions increased the trust and participation of residents. Even if I was in danger alone, it was a great relief for

all the participants that the society saved me and connected me with my family and my treatment hospital.

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## Utilizing Teamwork for Reducing the Delay of the Execution of First Electrocardiogram in Acute Coronary Artery Syndrome

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### Introduction

Acute coronary heart syndrome is a common indication in the emergency room. For these patients, an electrocardiogram (ECG) examination within 10 minutes of admittance to the emergency can provide early interpretation to facilitate emergency treatments for good prognosis. From Jan to April, 2016, only 57.14% of acute coronary heart syndrome emergency patients received their first electrocardiogram in less than 10 minutes. The aim of this project is to utilize teamwork to reduce the delay of ECG execution to improve patient safety, improve the hospital's emergency medical response ability, and increase medical care quality.

### Purpose/Methods

The team established brainstorming Improvement plan includes: 1. Course training for strengthening assessment techniques; 2. Information technology aids, with chest pain and tightness mandatory assessment options; 3. Broadcasting system for team notification; 4. visualized concept for labeling and reserving exclusive beds; 5. Assign designated nurse in each shift; and 6. Case-by-case analysis and discussion.

### Results

In June to September, 2016, the rate of first ECG performed in less than 10 minutes for acute coronary heart syndrome emergency patients increased to 87.5%.

### Conclusions

This project aims to shorten the first ECG execution time for acute coronary artery syndrome emergency patients. The care quality of the patients were improved case studies, course training, software aids, broadcast warning, and designating beds and executive staff.

### Comments

Through teamwork and brainstorming, appropriate improvement strategies can effectively shorten the first ECG execution time in acute coronary heart syndrome emergency patients for the best emergency treatment and care.

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## Quality improvement method can improve rate of early mobilization in patients with acute myocardial infarction

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### Introduction

Most patients after acute myocardial infarction suffer from prolonged bed rest. However, prolonged bed rest was shown to reduced stroke volumes, oxygen peak uptake and cardiac deconditioning. The project is the first study to improve the rate of early mobilization in acute myocardial infarction (AMI) via quality improvement method.

### Purpose/Methods

The consecutive uncomplicated AMI patients at Kaohsiung Veterans General Hospital were enrolled from Jan. 2011 to June. 2015. The patients were divided into 4 groups: pre-intervention period (n=337) from Jan 2011 to June 2012, interventional period (n=60) from July to September 2012, post-intervention period (N=214) from October 2012 to June 2013 and maintenance period (N=467) from July 2013 to June 2015. The early mobilization is defined as mobilization within 48 hours after admission. The key interventions include direct rehabilitation order by cardiologist, nursing staffs assisting early rehabilitation protocol, computerized rehabilitation recording system and establishment overhead lift system in intensive care unit (Likorall, Sweden).

### Results

The rate of early mobilization increased from 19.3% in pre-intervention period to 62.1% in post-intervention period and 63.4% in maintenance period ( $p < 0.001$ ). The median time of mobilization improved from 3.01 days to 1.79 days in post-QCC period and 1.8 days in maintenance period ( $p < 0.001$ ), and length of hospital stay also decreased from 6.7 days to 4.9 days in post-QCC period and 4.85 days in maintenance period ( $p < 0.001$ ). There was no difference of rate of ventricular tachycardia, rate of ventricular fibrillation, or in-hospital mortality among these 4 periods.

### Conclusions

The establishment of early rehabilitation protocol and overhead lift system via by quality improvement methods can improve the rate of early mobilization, median time of mobilization and length of hospital stay without increasing legthl ventricular arrhythmia and in-hospital mortality.

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## Improvement of risk factors for coronary heart disease by team - based care: A community hospital report

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### Introduction

Risk factors for coronary heart disease are smoking, obesity, older than 65 years of age, hypertension, hyperlipidemia, diabetes, and lack of exercise. If not paying attention to the care of this disease, these risk factors may lead to acute myocardial infarction and sudden death. We provide a program of cares that enables patients with coronary artery disease to understand the risk factors for atherosclerosis, the symptoms of coronary artery disease and daily life care to improve the incidence of acute myocardial infarction in patients with coronary artery disease.

### Purpose/Methods

Patients with Coronary heart disease discharged from our hospital with the goal of risk factor decreased by 10%. 3 month later. The current situation analysis found that patients with coronary heart disease often do not know the importance of medication. Therefore, we prepared drug education posters and providence of individual drug guidance, regular telephone call to track medication adherence, and the dietary guidance health education cards for our patients.

### Results

The total risk factor for coronary heart disease decreased from 32.2 to 21%. Indicating that this intervening measures can decrease coronary heart disease risk factors by our program.

### Conclusions

The use of phone visits and coronary heart disease-related health posters to strengthen coronary heart disease patients to understand the importance of medication and disease awareness, dietary education and other information, can decrease the risk factor decrease rate. If hence, comprehensive team care can effectively decrease the incidence of coronary heart disease risk factors.

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## Fight for Bone Loss - A Holistic Care Protocol of Osteoporosis in Southern Taiwan

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### Introduction

World Health Organization (WHO) has pointed that Osteoporosis is the second leading killer disease in the world after cardiovascular disease. According to studies, non-persistence

and non-compliance with osteoporosis prevention medication remain significant barriers to optimal reduction of osteoporotic fractures. Kaohsiung Medical University Hospital proposed a series of projects in 2011 to establish the holistic care team for osteoporosis, patient association for osteoporosis, and the so-called Taiwan Osteoporosis Care Association. The holistic care network has been set up and the comprehensive planning for treatment and prevention has been activated thereafter.

### Purpose/Methods

The population with high risks for osteoporosis, children, teenagers and social vulnerable groups have been screened and recruited into program. The protocol provides professional education course and simulation program for the staffs and volunteers. Community service with primary care units has been provided to carry the burden of the prevention for osteoporosis.

### Results

From 2011 to 2016, 2500 patients were recruited into the exclusive education program during their follow-ups at the Department of outpatient service. The active re-visiting rate and satisfaction rate were up to 94 % both. 795 medical staffs were accredited in 11 workshops. 633 volunteers were approved in 7 effective volunteer training workshops. 3858 persons attended the screening program in 23 events. Joint education programs with broadcasting companies and local colleges were delivered in 8 events. Running and races events have been held on the World Osteoporosis Day every year. 54590 runners joined the activities and 5403 persons received the education and screening programs.

### Conclusions

The holistic care protocol and network provided a comprehensive planning for treatment and prevention of Osteoporosis. The active re-visiting rate and satisfaction rate attenuated the non-persistence and non-compliance during the fight for bone loss.

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## Saving times for hemodialysis patient with access failure

HU Chin Yuan

### Introduction

the prevalence of end-stage renal disease patients in Taiwan is high. Hemodialysis is more favored over peritoneal dialysis. In our hospital vascular access failure patient was normally sent to ER for urgent surgical intervention to restore the vascular access function for hemodialysis. Patients and family often needs to wait for 4~8 hours before they could be sent to OR for the procedure. in extreme cases, patient even needed to wait for 12 hours! which increased the risks of electrolytes imbalance and arrhythmia. our deputy in chief noted the problem and was willing to help to improve this situation.

### Purpose/Methods

we developed a systemic collaborative program for the vascular access failure patients. our hospital also assigned a special nurse to take care of the co-operation and communication for the

patient, local clinic, and in-hospital vascular surgeons. The system was designed to help both the satellite clinic and patients' family to get more convenient medical and surgical help once the patients' access have failed.

### Results

The vascular-access first initiative was done and reviewed its effect by questionnaire to both the local hemodialysis clinic doctor and nurse and the patients and their family. Significant time-saving was achieved from average 8~10 hours' waiting to within 4 hours. It is of help for both the satellite clinic and the family. Satellite clinical staff perceived less stress since their patients is more easy to get prompt treatment. Family of the patient spent less time for waiting in the ER till midnight.

### Conclusions

Our vascular-access first initiative significantly reduced the waiting time period for the patients and their family, hence reduced the working time for ER and HD room staff and made the health care system more efficient and friendly.

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## Blood pressure, Fluid gain Status Comparisons in Different Shifts of Hemodialysis Patients

**CHIANG Wan Shan, HUANG Chiu Hsiang,  
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### Introduction

Water control has been a problem for hemodialysis patients. Water control is good or bad has a great impact on the patient's blood pressure and cardiovascular system. So, we want to know the unit of patients with blood pressure and dialysis ultrafiltration correlation.

### Purpose/Methods

The purpose of this study was to compare the differences of blood pressure (BP) levels and fluid status among 3 shifts of hemodialysis (HD) patients. A cohort of 412 stable maintenance HD patients three times a week from a single center were divided into three groups (morning shift n=140; afternoon shift n=132; and night shift n=140) based on their regular HD shifts. Both BP, actual ultrafiltration (UF) volumes of all patients during each HD session from November 1, 2015- to November 30, 2015 were collected and the mean values were used for analysis. The observation period started from November 1, 2015 to September 30, 2016.

### Results

Compared to pre-HD diastolic BP, pre-HD systolic pressure was significantly correlated to body weight gain ( $\beta=0.21$ ; 95% CI: 0.003, 0.033,  $p<0.001$ ).  $\Delta$ systolic BP also showed a significant correlation to body weight gain ( $\beta=0.18$ ; 95% CI: 1.77, 5.55,  $p<0.001$ ). The patients in night shift (i.e., group 3) were youngest with least co-morbidities. However, they had the highest levels of pre-HD mean BP and body weight gain, even taking highest percentage of antihypertensive. Group 3 also had a highest level

of  $\Delta$  systolic BP after HD (Group 1: 2: 3 = 5.0mmHg: 4.2mmHg: 10.3 mmHg,  $p=0.02$ ).

### Conclusions

Compared to the other two shifts, night shift HD patients tend to be under a higher fluid gain, a hypervolemic status and had the worst blood pressure control.

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## The Necessity of Fabry Disease Screening in Chronic Kidney Disease Patients

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### Introduction

The genetic disease cause factor, GLA, in Fabry disease locates in chromosome Xq22. Most patients are male and it often started from childhood or puberty. The enzyme activity in newborn screening is usually lower than 1%. The symptoms of the onset of the disease are periodical severe pain, proteinuria, and abnormal vision. With the development of the disease, when patients reach 30-50 years of age, there will be kidney system problem.

### Purpose/Methods

The method we use is to run statistical data 2015 to 2016 using Fabry disease screening in 124 chronic kidney disease patients in our hospital. The male Fabry disease screening item is  $\alpha$ -galactosidase ( $\alpha$ -GalA) enzymes analysis. We will use Plasma Lyso-Gb3 (globotriaosylsphingosine) for female Fabry disease screening. If the analysis results are positive, those patients will have run DNA sequencing of GLA gene to confirm.

### Results

In our 124 chronic kidney disease patients statistical data, the average age is 56.5 years old. There are 91 male (73.4%), and 33 female (26.6%). The result of female Fabry disease screening result is negative. However, one of 91 male Fabry disease screening is positive (1.0%). The laboratory data of NAG/GLA is 46.7, the data  $\alpha$ -galactosidase recheck is 4.06 nmol/mg Prot/hr and  $\beta$ -galactosidase is 52.69 nmol/mg Prot/hr. In DNA sequencing, we found out that there is GLA gene mutation (c.639+919G>A)HGMD.

### Conclusions

In our 124 chronic kidney disease patients statistical data, male patients have higher rate of getting Fabry disease than female. From our statistical results, there are 1.0% patients who have chronic disease do not aware of getting Fabry disease. Therefore, there is a necessity for chronic kidney patients without evident cause to have Fabry disease screening.

### Comments

Fabry disease, an X-linked disorder of glycosphingolipids that is caused by mutations of the GLA gene that codes for  $\alpha$ -galactosidase. Therefore if patients have chronic kidney disease

patients, there is a necessity to run Fabry disease screening. It helps to find the cause of the disease and find out if the family carries Fabry disease.

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## Effects of Head Posture on Oxygenation Saturation, Comfort, and Dyspnea in Patients With Liver Cirrhosis-Related Ascites

**HSU Wen-Chuan, HO Lun-Hui, LIN Mei-Hsiang, LIN Rui-Hsiang**

### Introduction

Chronic liver disease and cirrhosis are collectively ranked as the ninth most prevalent cause of death in Taiwan. Ascites is the most common comorbidity associated with liver cirrhosis. Different body postures affect pulmonary ventilation and arterial oxygen partial pressure. Thus, ensuring proper body posture in patients is an important clinical nursing intervention that significantly affects the recovery of patients.

### Purpose/Methods

This study investigates the effects of head posture on oxygenation saturation, comfort, and dyspnea in patients with liver cirrhosis-related ascites. A quasi-experimental study design was used. A total of 252 participants were recruited from a medical centre hospital in Taiwan. Participants were allocated randomly into three groups of bed-elevation angles: 15 degrees, 30 degrees, and 45 degrees. Data were analyzed using descriptive statistics. The generalized estimating equation was used for statistical analysis, with the level of significance set  $\alpha = .05$ .

### Results

Results showed that patients in the three groups earned similar scores for the degree of difficulty in the oxygen values. The supine group earned significantly different scores than the other two groups in terms of blood oxygen values related to time to change the angle of the three groups at five minutes after adjusting the angle ( $p < .01$ ). This study found no differences among the three groups in terms of comfort. In terms of breathing, this study found a significant difference between 45-degree and 15-degree supine dyspnea ( $p < .05$ ).

### Conclusions

Patients with ascites at 15 degrees supine and with better access to better oxygen saturation had superior results to their peers at 30 degrees and 45 degrees supine. Furthermore, this group was less likely to perceive breathing difficulties.

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## Purple NG bag phenomenon

**KAO Chris**

### Introduction

Purple urine bag syndrome (PUBS) is a rare occurrence and considered benign condition, in which the patient has a purple-colored urine bag following urinary catheterization for hours to days. Most of authors believe it is a mixture of indigo (blue) and indirubin (red) that becomes purple. Previous studies showed that PUBS occurred predominantly in chronically catheterized, constipated women, which was often related to their urinary tract infection condition. In our case, we found a novel situation that purple nasogastric drainage bag occurred on a 79 y/o female, who was a case of ascending colon adenocarcinoma status post right hemicolectomy, with lung, liver and peritoneal cavity metastasis, admitted due to ileus for which nasogastric tube drainage for symptom relief. We will discuss about the etiology, pathogenesis, clinical associations, prognosis, and future directions of this phenomenon.

### Purpose/Methods

case reports: A 79 y/o female, who was a case of ascending colon adenocarcinoma status post right hemicolectomy, with lung, liver and peritoneal cavity metastasis, admitted due to ileus for which nasogastric tube drainage for symptom relief

### Results

The purple NG bag vanished gradually as the ileus symptoms relieved by local RT.

### Conclusions

Discuss about the possible mechanism and the relationship between ileus and purple NG bag phenomenon.

### Comments

Purple NG bag phenomenon, as PUBS, is generally benign process. The appearance of the purple color may be astonishing for family, caregivers, and healthcare workers who are unaware of this phenomenon and tend to become alarmed because of the sudden inexplicable discoloration of the NG tube and bag. We here want to present this case to reveal the possible relationship between this phenomenon and the clinical intestine obstruction under the basis of our experience and current knowledge of PUBS. Besides, through this special case discussion, the mechanism of PUBS could be disclosed more and more clearly.

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## Session P2.15: Diabetes management

### The Effectiveness of Diabetes Shared Care on Improving Health Promotion Behaviors in Patients with Diabetes

**CHAN Shao-Hua, TSAI Ming-Yan, CHEN Yu-Wen, CHIU Ge-Lin, WANG Jing-Jy**

#### Introduction

Receiving health education is crucial for the control of blood sugar for patients with diabetics. The Diabetes Shared care of diabetes provides accessible, continuous and integrative medical services to prevent the complications and delay the progress of the disease for patients with diabetes.

#### Purpose/Methods

To examine the effects of the Diabetes Shared care on improving healthy diet, disease attitude, healthy behavior, self-efficacy and diabetes knowledge as well as blood sugar control for patients with diabetes. The Diabetes Shared care was applied to the experimental group while the comparison group received regular care. The diet habits scale, diabetes knowledge scale, diabetes control health promotion scale were used to collect data at baseline and 6-month after the intervention. Data were analyzed by independent t-tests and chi-square.

#### Results

Findings of this study showed that those in the Diabetes Share care group had better HbA1c control, healthy diet, disease attitude, health behaviors, self-efficacy and diabetes knowledge ( $p < 0.5$ ) compared with the comparison group. These results indicated that the Diabetes Shared care model is beneficial to overall health behaviors and blood control.

#### Conclusions

Results of this study would promote the application of the Diabetes Shared care model by more medical institutions to facilitate better medical care.

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### The Effect of Diversified Education on the Self-management for Patients with Type 2 Diabetes Mellitus

**SHIH Ai-Wei, WANG Ching-Fen, HOU Chi-Chun, HUANG Ling-Ting, HSIEH Ming-Chuan, LI Yu-Ching**

#### Introduction

The purpose of this study is to help the patients with diabetes to implement knowledge through different types of health education models and to improve self-care, including balanced diet, regular exercise and blood sugar monitoring. With the integration of multiple health education strategies and regular follow-up visits, not only can significantly improve the knowledge and behavior of patients with diabetes, but also enhance patients' self-management to achieve the purpose of controlling blood sugar.

#### Purpose/Methods

This 6 months activities inquired the monthly individual health educations and once every 2 weeks themes of group health educations (including discussion and sharing forum, education videos, fun games of complications) specifically for type 2 diabetes and  $A1C > 7.5\%$  of the total 100 patients, moreover, with the two questionnaire assessments before and after and record self-management behaviors by monthly telephone tracking. The data were analyzed by descriptive statistics and repeated t-test statistical methods.

#### Results

The mean value (standard deviation) of self-management of diabetes was 1.2(0.34) before and 1.5(0.31) after education, p-value was significantly different ( $P < .001$ ). Frequency of self-monitoring blood sugar increased from 1.2( $\pm 1.92$ ) to 2.1( $\pm 2.42$ ),  $P < .001$ . The number of patients exercise 5 times a week increased from 37 to 47(47%); ingestion of appropriate staple food increased from 18 to 42(42%). Average A1C decreased from 10.5% to 9.0%,  $P < .001$ ; average fasting blood sugar was decreased from 214.5mg/dl(174.6) to 174.6mg/dl(76.55),  $P < .001$ .

#### Conclusions

The multiple health educations has a positive impact on patients' self-care behaviors. Increase in the sharing of successful cases can promote interaction and discussion between patients. Through peer care and experience sharing can incentive self-management of patients to achieve a healthy lifestyle.

#### Comments

It is recommended to extend the use to different chronic diseases. Different kinds of regular and continuous health education strategies can be used to enhance the self-management skills of patients with chronic disease and enable them to be more active in decision-making of behavior change and effective self-care to improve their quality of life.

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### Pay-for-Performance Programs in Diabetes Care: The Perspective of Medical Satisfaction and Value Co-creation

**YAN Yu-Hua**

### Introduction

Few studies address quality of care in pay-for-performance (P4P) diabetes programs from the perspective of patients' perceptions. This Study aimed to explore the relevance among interaction, trust, co-decision-making, information disclosure, medical satisfaction and value co-creation.

### Purpose/Methods

Large-scale survey was conducted from April to June in 2014 of P4P diabetes patients. The total number of qualified outpatient was 313 and the return rate was 50.2%.

### Results

Significant impacts were observed after the implementation of the P4P programs for diabetic patients. Interaction ( $\beta=0.155$ ,  $p<0.01$ ) and information disclosure ( $\beta=0.698$ ,  $p<0.001$ ) has a significant positive affect on medical satisfaction, Interaction ( $\beta=0.134$ ,  $p<0.01$ ) and information disclosure ( $\beta=0.563$ ,  $p<0.001$ ) has a significant positive affect on Value co-creation.

### Conclusions

A good patient-physician relationship can be established through information disclosure and the effective communication of both parties, fluent communication between both parties helps improve satisfaction with medical service and facilitate the creation of higher value. Health authorities could develop policies to increase participation in P4P programs and encourage continued improvement in health care outcomes.

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## Effect of the Pay-for-Performance Program for Diabetes in Taiwan

### CHEN Yi, YAN Yu Hua

### Introduction

In Taiwan, The diabetes share care network has promoted the advantages and techniques of diabetes case management. Based on network recommendations, the Pay-for-Performance (P for P) program of National Health Insurance payment for diabetes medical treatment under the Bureau of National Health Insurance now provides package payment and requires quality interdisciplinary care and case management. In 2015, there is still fifty seven percent diabetes patients did not be enrolled in the Taiwan P4P program for diabetes.

### Purpose/Methods

This is a retrospective study. This study was Diabetes with nationwide data for the year 2015 from the national health insurance medical care quality information public network in Taiwan. The remained cases were 464,374 after some selection criteria and the four groups in the P4P program (Clinic, Community hospital, Regional hospital, Medical center).

### Results

There was 57 percent of diabetic patients didn't be enrolled because of unavailability. In ANOVA analysis, availability of P4P program in Clinic and hospital accreditation level, Of P4P participants, 464,374 effective samples were acquired 27.4, 38.5, 41.2 and 47.2% were fundus examination ( $p<0.001$ ); 48.3, 55.9,

52.7 and 61.2% were Urine Protein ( $p<0.001$ ); 81.8, 83.7, 77.1 and 80.7% were Fasting lipid profile ( $p<0.001$ ); 48.3, 55.9, 52.7 and 61.2% were Glycated hemoglobin ( $p<0.001$ ); 27.7, 43.9, 51.5 and 41.0% were Participation rate by P4P Program for Diabetes ( $p<0.001$ ).

### Conclusions

Our results suggest different level of hospital was associated with the availability of P4P program, with valuable information regarding the impact of the P4P program of diabetes care through a direct comparison of equivalent groups of patients receiving regular care. Under the single-payer NHI system, the use of financial incentives under the DM-P4P program may be an effective means to ensure the quality of follow-up treatment.

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## Medical Resource Utilization of Type 2 Diabetes Mellitus with versus without Cardiovascular Complication

### HUANG Cheng-Fen, CHEN Chieh-Fan, CHEN Shu-Lin

### Introduction

Type 2 diabetes mellitus (T2DM) is the representative of costly chronic illness in the world. Cardiovascular disease (CVD) is the major cause of morbidity and mortality in T2DM. This study investigated predictors of medical resource utilities of T2DM with versus without CVD to allocate medical resource and management organization.

### Purpose/Methods

Our retrospective cohort study analyzed administrative claims data from Taiwan Bureau of National Health Insurance (BNHI) program since 1996 through 2010. We included 809,682 DM patients and 193,435 patients had CVD complications.

### Results

About OPD visits per year, DM with CVD had 3.483 visits more than non-CVD DM ( $P<0.001$ ). Among them, low socioeconomic status had more than 2.99 visits ( $P<0.001$ ). Age had significant effect ( $>65/55\sim64/40\sim54$  y/o compared to  $<40$ y/o,  $\beta=1.991/1.024/0.207$ ,  $P<0.001$ ). Greater CCI had more visits (CCI 2 :  $\beta=2.303$ , CCI3 :  $\beta=2.067$ , CCI 1 :  $\beta=0.237$ ,  $P<0.001$ ) but male had less OPD visits ( $\beta=-0.146$ ,  $P<0.001$ ). About hospitalizations per year, DM with CVD had more than 30% hospitalization frequency than non-CVD DM ( $P<0.001$ ). Among them, low socioeconomic status had most significant effect ( $\beta=0.642$  ,  $P<0.001$ ). Greater CCI of 2 and 3 had 17%~27% more than CCI of 0 ( $P<0.001$ ). Male had a little difference with female ( $\beta=0.01$ ,  $P<0.001$ ). Age had non-consistent effect on hospitalization ( $>65/55\sim64/40\sim54$  y/o compared to  $<40$ y/o,  $\beta=0.02/-0.104/0.112$ ,  $P<0.001$  ).

### Conclusions

Diabetic patients with CVD complication had greater medical resource utilities and low socioeconomic status had predominant effect. The healthcare organization should set up supportive system.



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## Using “Diabetes Conversation MAP” to Enhance Insulin Perception of Diabetic Patients

**WANG Chin-Hui, CHEN Shih-Che, LEE Shu-Ling, SHIH Ai-Wei, CHEN Kuo-Pao**

**Introduction**

An amount of people in Taiwan still have wrong perception about insulin that it would result in hemodialysis or blindness. Traditional way of health education is on the basis of 1-on-1, so that the health educators teach most of the time but the patients do not express much. Because of that, we designed an activity of health education for small groups, for enhancing the participation and right conception of the patients, and then clarify the misperception about insulin by discussion.

**Purpose/Methods**

120 patients who would use insulin instead of OHA, or who would change the dose or frequency of insulin were chosen. This activity was held every 2 weeks, and persisted for 12 weeks. We used “Diabetes Conversation MAP” as subjects, e.g. “How Diabetes Works?” or “Living with Diabetes”. 8 to 10 patients joined every time, and had pre- and post- questionnaire by “Evaluation Form of Diabetes Self-management” and “My Perception about Insulin” from DAWN Study, to analyze the perceptive change.

**Results**

Average HBA1C dropped from 9.7% to 8.6%. After scoring answers from “My Perception about Insulin” questionnaire, some results were found. “Not sure insulin would improve health” scored 15.1 from 11.1. “Worried about treatment” scored 10. from 7.9. “Caring about inconvenience” lowered from 14.5 to 11.8. “Caring about others’ feeling” changed from 10.9 to 9.7. “Afraid of pain and difficulty” scored from 14.9 to 12.4. “Not knowing side effects” scored from 13.4 to 7.9. All results were statistically significant, with  $p < 0.001$ .

**Conclusions**

As health educators, we can use graphical tools to motivate patients to discuss their conditions. During the discussion, they can share their experience, learn from each other; and, by the support from them, gain effective learning and empower the willingness, ability, and preparedness for self-management. Thus, the goal of good blood sugar control would be achieved.

**Comments**

Diabetes control is not only done by patients themselves, but their families need to join the health education, to understand the condition and reasons for changing life styles. Therefore, as health educators, we should not ignore the mental part of patients and the perception with health education for families.

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## Prevalence of comorbidities among patients with type 2 diabetes

**KIM Suyoung, NAH Eunhee, HAN Seokhee, CHAI Jong-Yil**

**Introduction**

The patients with type 2 diabetes (T2DM) often have one or more comorbidity. To make a clinical decision for the choice of medicine as well as to manage chronic diseases, understanding individual or combination of comorbidities is necessary.

**Purpose/Methods**

This study aimed to investigate the prevalence of comorbidities in T2DM patients, including overweight/obesity (OW/O), abdominal obesity (AO), hypertension (HTN), anemia, hyperlipidemia (HLD), liver disease or kidney disease. This study included 212,562 adults with T2DM defined by fasting blood sugar  $\geq 12$ mg/dL, hemoglobin A1c  $\geq 6.5\%$  or a diabetes diagnosis, using a large sample of T2DM patients from 16 health promotion centers in Korea from Jan 2014 to Dec 2015. Data was summarized by descriptive analyses on the combinations of comorbidity of condition by subgroups of age and gender.

**Results**

Of the Korean adults with T2DM, 79.6% had one or more comorbidity. The highest prevalence of individual comorbidities was 50% in OW/O, followed by 41.2% in AO, 40% in HLD, 25.7% in liver disease and 19.7% in HTN. There is an increasing trend toward comorbid condition in older age, such as HTN, anemia and kidney disease. Conversely, there is a trend toward decreasing prevalence of comorbidities in older age such as OW/O, HLD and liver disease. Most individual comorbidities were higher in men except for AO. In female, the prevalence of AO increased with age. Also 55.4% of the subjects had at least two comorbidities with T2DM. The high comorbidity burden was a combination of obesity and other disease; 35.4% in OW/O and AO, 22.4% in OW/O and HLD, 18.4% in AO and HLD, 16.19% in OW/O and liver disease.

**Conclusions**

There is a high prevalence of comorbidity of two or more diseases including obesity among T2DM patients. To effectively treat and manage T2DM, there should be a careful consideration about the presence of multi-morbidity and be a careful approach to health promotion including chronic disease management.

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## Comparable Immunogenicity between Patients with Diabetes, Obesity, Diabesity and Healthy Adults

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HUANG Kuo-Chin**

**Introduction**

Vaccination in patients with chronic diseases is an important issue about health promotion hospital. Diabetes is a disorder composed of diabetes mellitus and obesity, which brings the concern of the influences on immunogenicity resulting from diabetes-related immune dysfunction. Our study aimed to clarify the comparability of immunogenicity between patients with diabetes, obesity, diabetes and healthy adults.

**Purpose/Methods**

Patients aged more than 40 years receiving regular visits at Family Medicine clinics of a teaching hospital in Taiwan, were enrolled during Jan, 2008 to Dec, 2010. All the study participants received questionnaire survey and serologic status examinations. Immunogenicity was evaluated by using IgG seropositivity of 7 vaccine-preventable diseases, including measles, mumps, rubella, tetanus, diphtheria, pertussis, and anti-HAV. Chi-square tests and multivariable logistic regression analyses were performed to calculate and compare the seropositivity between 4 groups.

**Results**

Totally 575 patients were enrolled, including 468 healthy adults, 44 patients with diabetes, 71 with obesity, and 13 with diabetes. The percentages of seropositivity of 6 vaccine-preventable diseases are not significantly different among 4 groups. Exclusively, the seropositivity of rubella is significantly different among 4 groups, both in univariate and multivariable analysis.

**Conclusions**

The immunogenicity of 6 vaccine-preventable diseases is comparable in patients with diabetes, obesity, and diabetes, in comparison with healthy adults, with the exception of rubella. Healthcare providers shall suggest patients with diabetes, obesity, and diabetes to receive scheduled vaccine as healthy adults.

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**A Study on the Current Status in the  
use of oral antidiabetic drugs by  
outpatients with diabetes in a  
Regional Hospital in Northern  
Taiwan**

**SHIH Po-Jen, LIN Yu-Wen, YANG Nan-  
Ping, LIN Ching-Feng**

**Introduction**

In the regulations for medication promulgated by National Health Insurance (NHI) Administration on May 1st, 2016, the components of oral hypoglycemic agents (OHA) for patients with type II diabetes should be no more than 4 types. If 3 types of

hypoglycemic agents still failed to control weight, insulin therapy is recommended. Patient education on healthy lifestyle/diet and regular exercise (e.g. procedures to control obesity and calorie consumption) in hospitals should be emphasized to increase medication safety in patients with diabetes.

**Purpose/Methods**

This study used descriptive analysis investigating two months (March and April as well as May and June) of results regarding the use of hypoglycemic agents before and after the promulgation of NHI regulations for medication on May 1st, 2016 in order to understand correlations between prescriptions for patients with diabetes and the use of hypoglycemic agents.

**Results**

The quantities of populations using hypoglycemic agents between March and April as well as May and June in 2016 were 5538 and 5410 persons. The patients using more than 4 types of OHA were 29 and 28 (0.52%) persons, although 23 (79.3%) and 21 (75.0%) of them did not receive insulin treatment. As a result, there were no significant correlations between physician's prescriptions. The overall data indicated that the use of insulin in patients were still rather low (~11%).

**Conclusions**

The results supported that active blood glucose control could reduce the incidence of complications. Previously patients with diabetes usually required insulin injection to compensate insulin insufficiency, but the failure in weight control became negative impacts on the acceptance of insulin injection. We hope to combine fewer than 4 drugs with different working mechanisms and lower doses to overcome drug resistance and side effects in order to achieve better efficacy and consequently benefit patients with diabetes.

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**To Promote A Healthy Diet  
Knowledge Program for Diabetic  
Patients**

**LIN Yu-Hui, SU Li-Chen, LAI Chun-Huang,  
YEN Chia-Chi**

**Introduction**

In recent years, due to the rapid socio-economic development, population aging, lifestyle and eating habits change, diabetes has become a major disease threat to people's health, the average medical costs higher than non-diabetic patients. The Min-Sheng Hospital is the elderly goodwill hospital, the majority of patients were elderly, their knowledge of diabetes-related nutrition deficiencies, through diet education of dietitians to establish the correct principles of diabetes diet control, improve the correct and healthy dietary diabetic knowledge

**Purpose/Methods**

1. To a good reliability and validity of the nutrition knowledge scale, to participate in the diabetic patients before the test, the operating division to give diabetics healthy eating health

education, the post-test 2. Results were analyzed before and after testing

### Results

1. Improve the nutritional knowledge of patients with diabetes The total score of the average score before the test 6 points, the operating division to give Diabetes Health Diet after education significantly improved to post-test 9 points. 2. Enhance the effectiveness of nutrition and health education The higher the error rate in the nutrition knowledge scale, the significant improvement was achieved after the diet education. 3. Improve the patient's ability to self-care and quality of life Through the promotion of knowledge of diabetes, improve patient self-care ability and quality of life.

### Conclusions

The program to understand the extent of diabetic patients with healthy diet knowledge and found that nutrition problem, through nutrition education to enhance the correct choice of food and application, thereby improving diabetes control, to confirm the effectiveness of nutrition and health education implementation.

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## Consumption of fructooligosaccharides have no effect of enterocyte damage in patient with diabetes

**HOU Yi-Cheng, LIN Yi-Yin, LIU Hao-Wen**

### Introduction

A prebiotic (fructooligosaccharides) is a nondigestible food ingredient that beneficially affects the host by selectively stimulating the growth and (or) activity of one or a limited number of bacteria in the colon, thus improving host health. Diabetes is a condition of multifactorial origin, involving several molecular mechanisms related to the intestinal microbiota for its development. Intestinal fatty acid binding protein (I-FABP) is a sensitive marker to study enterocyte damage.

### Purpose/Methods

Our aim is to clarify the currently described effects of prebiotics in the prevention and management of type 2 (T2DM) diabetes mellitus. All participants were enrolled in Taipei Tzu Chi Hospital since January 2015. We studied the effects of fructooligosaccharides on bowel function in healthy volunteers and T2DM with or without 10 g/d fructooligosaccharides treatment for 6 weeks. The fructooligosaccharides were aimed to be isoenergetic (30~40kcal/day) and were mixed with self prepared beverage, the dose of fructooligosaccharides was gradually increased during the first 3 d, by 5 g/d, to prevent adverse gastro- intestinal side effects. Blood samples including enterocyte damage marker IFABP, IL-6, TNF- $\alpha$ , AC glucose, HbA1c, TG were collected at begin and the end of the 6 week.

### Results

We enrolled 120 cases, 52 healthy volunteers, 68 cases with type 2 diabetes mellitus. N=66 (55%) were receive fructooligosaccharides treatment. DO (N=28), HO (N=22), DF (N=40), HF (N=30). Participants average age were 48.58  $\pm$  17.56 years old, 60.8% were female, 77.2% of them were meat eaters. Compare baseline and 6 weeks with or without fructooligosaccharides intervention, there were no significant different between 4 group in IFABP, IL-6, TNF- $\alpha$ , AC glucose, HbA1c, TG.

### Conclusions

Consumption of fructooligosaccharides have no effect of enterocyte damage in patient with diabetes.

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## Prescriptive appropriateness of insulin therapy in hospital and continuity of hospital-community care

**MANICARDI Valeria, MICHELINI Massimo, PAGLIANI Ugo Aldo, BOSONI Irene, MANICARDI Enrica, DI MARE Antonio**

### Introduction

Of the hospitalized patients with diabetes mellitus (DM), 1 in 4 is admitted to the medical wards and 1 in 3 to intensive care. The inpatient discharged with insulin is fragile and needs therapeutic education to be able to manage it. The aim of the project was to create informatic support tools for a semi-guided, evidence-based and flexible prescription of the insulin therapy, and to provide supported discharge to diabetic patients in their transition back into the community

### Purpose/Methods

We designed a semi-guided spreadsheet for appropriate insulin prescription, within the therapy software application (PSC), which enables identification of the patient and of the prescribed and administered medication. The physician enters the patient's weight and obtains the daily insulin requirement. The spreadsheet calculates the insulin doses to be assigned at baseline, at meals, and the automatic variations at meals based on predefined glucose levels. 3 days before discharge, the team of diabetes specialists starts giving instructions to the patient

### Results

Prior to discharge, patients who start insulin treatment during hospitalization are given instructions on insulin therapy and the use of pens, along with their treatment plan, materials and post-discharge appointment. The PR44 on prescriptions and PR15 on supported discharge were produced; they were presented to all 6 hospitals, approved by the Hospital management teams, and applied in 2016. Consultations with pre-discharge teams have tripled. Discharge with Insulin Pens has resulted in savings of € 25,000/p.a. for the hospital in Montecchio and just under € 250,000 for the ASMN hospital in Reggio Emilia

### Conclusions

The semi-guided system of insulin prescription guarantees prescriptive appropriateness and autonomy for the nurses in setting dosages that are appropriate to meals. The use of pens enables continuity of care from the hospital to the community for the discharged patient. Education and supply of materials provide support to the patient upon discharge

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## Performance of Diabetes Share Care in Taiwan

**CHEN Ran-Chou, LEE Hui-Lan, HSUEH Hsiao-Chu, CHIA Shu-Li**

### Introduction

Diabetes mellitus is the fifth cause of death in Taiwan, 9530 people died of the disease in 2015. According to results of the 2013–2015 Nutrition and Health Survey in Taiwan, diabetes prevalence in citizens aged 18 years or higher was 11.8%. A total of 2.27 million Taiwanese people had diabetes. The promotion of diabetes prevention in Taiwan follows the model of Diabetes Shared Care Network model, providing quality care for patients with diabetes.

### Purpose/Methods

Diabetes Shared Care model in Taiwan, basing policies such as early screening, referrals and treatment interventions on international scientific evidences. We referenced the standards of medical care in diabetes published by the ADA and other guideline to devise our policies and train team-based professional medical staff. We also monitor indicators of diabetes care quality (e.g. HbA1C level, fasting lipid, micro-albuminuria and fundus examination) to improve our care quality, and promote support groups to work with patients to improve their disease.

### Results

According to data of National Health Insurance Administration, the diabetic patient enrollment rate in P4P is 43% in 2015, the HbA1C level examination rate is 92.1%, fasting lipid examination rate is 79.7%, fundus examination rate is 36.8%, and micro-albuminuria examination rate is 52.8%. We also promote 229 Diabetes Health Promotion Institution, care of 675,640 diabetic patients, coverage rate 60.6%. And we promote 514 support groups to work with patients to improve their healthy lifestyle, coverage rate is 97.8% in Taiwan.

### Conclusions

Through these efforts and collaboration with other departments, the standardized mortality rate of diabetes in Taiwan (population standardized) have decreased from 37.1 per 100,000 in 2002 to 24.3 per 100,000 in 2015, a drop of nearly 34.5%, indicating our preventive measures have produced tangible results.

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## Effect of diabetes prevention program for high-risk individuals with prediabetes in a HPH of Korea

**NAH Eunhee, CHU Jieun, LEE Jeonghee, HAN Seokhee, CHAI Jong-Yil**

### Introduction

Type 2 diabetes mellitus(T2DM) has become a highly problematic and increasingly prevalent disease worldwide. T2DM can develop complications and is difficult to be completely cured without intensive care. For this reason, prevention is crucially important. And pre-diabetes is clinically significant state for prevention. Thus, this study was designed to see the effect of diabetes prevention program which consists of lifestyle intervention and tight glucose/HbA1c level control for Korean adults with prediabetes.

### Purpose/Methods

From November 2015 to September 2016, This study was performed for high-risk individuals with prediabetes in the health promotion centers of Korea Association of Health Promotion(KAHP) in Korea. The participants are 439 adults (aged 30 to 70) with pre-diabetes(HbA1c 5.7~6.4% or Fasting Blood Sugar 100~125mg/dL). They were randomly assigned to either intervention group 1 (IG1) or intervention group 2 (IG2). IG1 consisted of the targets of lifestyle intervention and tight glucose/HbA1c level control. For IG2, only tight glucose/HbA1c level control were conducted. IG1 was evaluated for diet habit(Mini Dietary Assessment, MDA), alcohol consumption and physical activity.

### Results

After 6-month intervention, there was a significant decrease in mean fasting blood sugar in the IG 1,2, with no between-group difference. However, mean HbA1c was increased significantly. In IG 1, there was a significant positive improvement in dietary habit (MDA score), alcohol consumption and physical activity.

### Conclusions

This study found that lifestyle intervention and regular blood test to check glucose and HbA1c level make positive changes for controlling the hyperglycemia in prediabetes. However, for improvement of HbA1c level, more intensive and long-term intervention are required. KAHP has a plan to conduct this program for the people with prediabetes to 2018, expecting to prevent type 2 diabetes and contribute to the health promotion.

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## Nationwide Medical Resource Utility in Diabetes with Cardiovascular Complications

**SU Chin-Ming, CHEN Chieh-Fan, ZENG Xun-Zhi, CHEN Shu-Lin**

**Introduction**

Diabetes is the most popular non-communicable disease (NCD) in many countries. In Taiwan, the prevalence of diabetes had increased to 9.2% and it became the top five leading cause of death. Cardiovascular complications were the most prominent reasons.

**Purpose/Methods**

Diabetes with cardiovascular complication was extracted from the National Health Insurance Research Database for analysis. The age, socioeconomic status and Charlson comorbidity index were compared with outpatient visits and hospital days by logistic regression. The newly diagnosed diabetic patients during the research year were excluded.

**Results**

Of 809 682 patients were enrolled and followed up in 2010, 193 435 (23.89%) had cardiovascular complications. Compared with non-cardiovascular complication diabetes, age, socio-economic status and Charlson comorbidity index were statistically significant differences in outpatient visits and hospital days ( $P < 0.01$ ). Terms of gender, women's outpatient visits was significantly higher than men, but the number of hospitalizations was significantly lower than men, while the average number of days in hospital is not significant differences. And diabetes with more than one cardiovascular complication had higher medical resource utilization.

**Conclusions**

Diabetic patients with cardiovascular complications have more impact of medical resource utilization than without cardiovascular complications. We need allocate limited medical resource to prevent cardiovascular complication in diabetes.

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## Healthcare Utilities of Hospitalized Type 2 Diabetes Mellitus with Cardiovascular Complication : A Cross-Sectional Study in Taiwan

**HUANG Cheng-Fen, CHEN Chieh-Fan, CHEN Shu-Lin**

**Introduction**

Type 2 diabetes mellitus (T2DM) have great challenges in public health, esp. those have complications. We investigate the determinants of healthcare utilities of T2DM with cardiovascular disease (CVD) complication for making health policy and promotion.

**Purpose/Methods**

We performed a cross sectional analysis from the Longitudinal Health Insurance Database from 1996 to 2010 in Taiwan. There were 193,435 patients with CVD complications among 809,682 DM patients during this period. Multiple linear regression analysis estimated the relative impact of characteristics, including with/without CVD, gender, age, socioeconomic status,

and Charlson co-morbidity index (CCI) on medical resource utilities.

**Results**

Low socioeconomic status had 63% more frequent hospitalization ( $P < 0.001$ ). Multiple CVD associated co-morbidities had increased effect on hospitalization frequency (four/three/two/one compared to zero CVD co-morbidities : 1.566/1.451/0.798/0.253,  $P < 0.001$ ). Greater CCI after excluding CVD had more admissions (CCI3 :  $\beta = 0.264$ , CCI 2 :  $\beta = 0.167$ , CCI 1 :  $\beta = 0.079$ ,  $P < 0.001$ ). Male had a little more in-patient care ( $\beta = 0.011$ ,  $P < 0.001$ ). Age had variant effect ( $>65$  y/o :  $\beta = 0.015$ , 55~64 y/o :  $\beta = -0.103$ , 40~54 y/o :  $\beta = -0.11$  compared to  $<40$  y/o,  $P < 0.001$ ). Among the hospitalized DM with CVD patients, low socioeconomic status had significantly longer length of stay (LOS) ( $\beta = 2.693$ ,  $P < 0.001$ ). Multiple CVD associated co-morbidities had predominant effect on LOS. (four/three/two/one CVD co-morbidities compared to zero : 4.675/4.510/2.938/1.100,  $P < 0.001$ ). Greater CCI after excluding CVD also had longer LOS (CCI 3 :  $\beta = 1.0$ , CCI 2 :  $\beta = 0.601$ , CCI 1 :  $\beta = 0.362$ ,  $P < 0.001$ ). Male had a little more stay in hospital ( $\beta = 0.026$ ,  $P < 0.001$ ). Age had variant effect ( $>65$  y/o :  $\beta = 0.27$ , 55~64 y/o :  $\beta = -0.337$ , 40~54 y/o :  $\beta = -0.375$  compared to  $<40$  y/o,  $P < 0.001$ ).

**Conclusions**

The health policy should pay more attention on the DM with CVD patients, esp. those are low socioeconomic status and have more CVD associated co-morbidities.

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## Session P2.16: Miscellaneous

### A Study of Participative Satisfaction of Teenage Volunteers: Using A Hospital In The Southern Area of Taiwan As An Example

**LIANG Shiow-Ching, WU Yu-Ling, YEN Chia-Chi, LAI Chun-Hung**

**Introduction**

The teenagers' participation in the volunteer program is conducive to their growth and learning, but due to academic factors, they cannot participate in long-term volunteer programs. A 30-hour short-term volunteer program was launched by this hospital, where participants were required to complete a four-hour training program. Early service, by senior volunteers and teenage volunteers work together. In the latter part, by the teenage volunteers to complete the service independently. This program aims to provide teenagers with the supported and multi-faceted learning opportunity.

**Purpose/Methods**

The questionnaire survey was conducted in June to September 2016 for the short-term volunteer program. To explore participative motivation, attitude, satisfaction of teenage volunteers. The satisfaction level is measured using likert



scale. The higher the score, the more satisfied it was. Statistical analysis was performed by descriptive statistics, t-test, one-way ANOVA and Pearson product-moment coefficient correlation analysis.

### Results

A total of 10 teenagers participated in this study, and the results from the statistical analysis showed that: 1. Gender, volunteer experience, and cadre experience posed no significant differences in terms of their impacts on participation motive, attitude, or satisfaction. 2. In terms of the teenage volunteers' learning motivation, learning new things scored the highest. 3. Participative satisfaction was the highest towards volunteer partners, followed by institutional employees. 4. There was a high correlation between participation attitude and satisfaction.

### Conclusions

The study found that teenagers who participated in the short-term volunteer program had a higher motivation for learning, positive engagement in interpersonal interactions. Show that the program is shaped by the positive, supportive environment, contribute to teenager participative satisfaction. This finding will help to understand teenager's participation in volunteer program, but also can provide teenage volunteer program implementation.

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## The purpose of this study is to explore the epidemiology of Hansen's Diseases in Taiwan

### WU Li-Ling, LAY Huey Jen

#### Introduction

The purpose of this study is to explore the epidemiology of Hansen's Diseases in Taiwan

#### Purpose/Methods

We reviewed the medical record data from 1930 (Japanese colonial period) to 2012 in Taiwan Lo-Sheng sanatorium

#### Results

Total 2923 patients admitted to sanatorium. Prevalence rate is 2.7-3.18 per ten-thousand in 1960's. The peak onset age is in 21-30; 31-40; 41-50yrs, and sexual ratio (male / female) is 4.5:1. The top 4 prevalence areas were Penghu, Taipei, Taitung, and Tainan. Patient's average death age below 60yrs in 1970's. In the past, 52% of leprosy patients has not been well classified. Tuberculoid type was major type. Leprosy reaction, Tuberculosis relative disease and GI system problem were the major causes of death in Japanese colonial period. Cardio-vascular disease, Tuberculosis relative disease, Tumor, and suicide were the major death causes after 1970's. There were 146 suicide victims

#### Conclusions

Through our study, we can understand the prevalence and demographic data of leprosy in Taiwan in past century.

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## Evaluation of elevating respondent's bed head by 20 to 30 degree to prevent respiratory tract infections

### LIN Yuwen, TSAI YI-FAN

#### Introduction

Prevention of respiratory tract infection (RTI) is an emerging issue which is discussed widely. According to Centers for Disease Control and Prevention in the United States, the half sitting position has the lowest cost in implementation for RTI prevention. However, such position might risk issues like discomfort of patients, falling respiration tube, occurrence of pressure sores and thrombus. By elevating the bed's head by 45 degrees, it can prevent ventilator associated pneumonia (VAP). Nonetheless, elevating to 45 degrees can result in hyperpnea and insufficient air. As such, an elevation of 20 to 30 degrees was discussed and experimented to prevent RTI.

#### Purpose/Methods

The project aims to discuss the effects of elevating bed's head by 20 to 30 degrees in preventing the occurrence of RTI. A comparison method was conducted to investigate into the difference in quality of prevention of RTI between the different degrees in elevation of bed's head. One group of respondent has elevation of bed's head of 45 degrees for 1 hour after meal while another one has elevation of 20 to 30 degrees

#### Results

The method was conducted from October 2015 to October 2016. A similar result was reflected for elevating 45 degrees and 20 to 30 degrees of respondent's bed head. The occurrence of RTI was also similar for both cases.

#### Conclusions

The result from the project reflected a similar result from the research by Schallom and Marilyn in 2015. The difference in elevation degree did not result in a significant decrease or increase in RTI occurrence.

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## The rate of prophylactic antibiotics be used within one hour before surgical incision

### YEN Chia-Chi, LAI Chun-Huang, LI Ta-Kuan, CHENG Ming-Fen, WANG Yu-Hsuan, XIAO Yu-Zhen

### Introduction

Surgical site infections excess hospital days and increase health care costs, even lead to patient's death. Use prophylactic antibiotics properly before surgery had been proved it could reduce the chances of infections, especially clean-contaminated wounds. Compared with other hospitals, we need to improve validity and achieving rate of this quality indicator, therefore we had a plan to raise the rate of prophylactic antibiotics be used within one hour before surgical incision.

### Purpose/Methods

We have three purposes. One, raise validity and achieving rate of indicator reporting by arrange meeting to explain definition, conditions of case collection and elimination, and how to use information system and calculate value of indicator correctly by cross compare daily record, name list and medical record. Two, reduce time expending on data collection by use antibiotics check list of inpatient. Three, simplify process of data reporting by build column we need on system and let system result statistical statement.

### Results

We got three results. One, validity and achieving rate of indicator reporting of prophylactic antibiotics be using within one hour before surgical incision raised from average 81% to 95%. Two, members used to omit or give incorrect data, now they know definition, conditions of case collection and elimination, how to use information system. Three, time for data collection had decreased from 8 to 4 hours per month, then 10 minutes per month lastly.

### Conclusions

Improve healthcare quality is important for hospitals. Monitor indicators of clinical quality in plenty is a way for modification. Our achieving rate of indicator reporting of rate of prophylactic antibiotics be using within one hour before surgical incision was obviously low. And staffs reject to collect data because it takes time. After this plan, not only the rate has raised much, but also saved much time. This plan enhances willingness of participate in quality monitoring and improve our healthcare quality.

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## The predictors of Computed Tomography Utilization in Traumatic Brain Injury at Emergency Department

### XIE Qi-Zhen, CHEN Shu-Lin

#### Introduction

Abundant computed tomography (CT) utilizations were found in the recent years in many countries. The associated predictors of CT for traumatic brain injury (TBI) have little discussion, so we performed this study to understand their predictors.

#### Purpose/Methods

We collected systemic survey from the Longitudinal Health Insurance Database (LHID) 2010 and analyzed the associated

factors. The database contains original claim data of 1,000,000 beneficiaries enrolled in year 2010. It randomly sampled from 23,251,700 registered individuals between Jan. 1st 2010 to Dec. 31 2010. The main outcomes were present as adjusted RR with 95% confidence interval (CI).

#### Results

As growing calendar year and age, it's more likely to perform CT in TBI patients. The age group of 50~65, 65~80 and  $\geq 80$  had adjusted RR 3.18 (95% CI 2.96-3.41), adjusted RR 4.83 (95% CI 4.44-5.25), and adjusted RR 6.79 (95% CI 6.09-7.58). Female has less like to receive CT than male (adjusted RR 0.83; 95%CI, 0.80-0.87). Co-morbidities have more probability to order CT in CCI score 1 (adjusted RR 1.24; 95%CI 1.17-1.31) and CCI score  $\geq 2$  (adjusted RR 1.66; 95%CI 1.54-1.78). Compared with medical centers, regional hospitals had more probability to receive CT (adjusted RR, 1.15; 95%CI 1.09-1.20) and district hospitals had less probability (adjusted RR 0.71; 95%CI 0.67-0.75). The seniority of emergency department physicians had no effect (adjusted RR 1.01; 95%CI 1.00-1.01).

#### Conclusions

Utilization predictors of CT in TBI include calendar year, age, gender, co-morbidity and hospital level; but not seniority of emergency department physicians.

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## How to Improve Trauma Care in a Medical Center

### HSU I-LIN

#### Introduction

Trauma is the leading cause of death in younger people so prevent mortality is very important. Many reference strong suggested trauma team would improve the quality of care but factors in ER may be neglected. Our hospital develop the trauma care improve program steps by steps since 2009. This retrospective study revealed the important factors to improve the trauma care.

#### Purpose/Methods

All the admission trauma patients registered between 2009/9/1~2013/12/31 in Cheng Kung University Hospital (total 1500 admission beds). The ICD-9 code at least one between 800.00 and 959.9 but excluded 905~909. It also included OHCA (out hospital cardiac arrest), IHCA(in hospital cardiac arrest), transfer in and out hospital. The trauma team was built since 2010/9/1. The ER rebuilt after 2012/6/6. The 24 hours attending care system in ER was set after 2012/12/1. We compared with trauma patients survival during different period.

#### Results

Trauma patients with ISS (Injury Severity Score) greater than 25 has significantly improved in survival and length of admission.

#### Conclusions

Not only the trauma team will improve the survival of trauma patients but also ER care system.

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## Epidemiologic Characteristics of Traumatic Brain Injury at Emergency Department in Taiwan

**YU Min-Jen, CHEN Chieh-Fan, ZENG Xun-Zhi, CHEN Shu-Lin**

**Introduction**

Traumatic brain injury (TBI) is a common emergency condition all over the world and it represents a global public health concern. For policymaking and medical resource allocation, we should understand the epidemiological characteristics in our own country.

**Purpose/Methods**

We designed a retrospective cohort study to analyze the administrative claims data from National Health Insurance Administration Databases (NHIRD) between 2006 and 2011. Main outcomes were presented as percentage and ratios (%). The main outcomes were present as percentage (%) and compared with ANOVA.

**Results**

There were 41816 emergency department (ED) TBI visits in Taiwan from 2006 through 2011. The proportion of male was higher in both Non-CT and CT use groups (54.42% and 55.58%,  $P < 0.05$ ). Male was significant in admitted patients (59.23%). Youngest people ( $< 18$  y/o) had the highest proportion (31.34%) in non-CT use; the second younger people (18~35 y/o) was predominant in CT use group (25.03%) ( $P < 0.01$ ). With comorbidities, more victims received CT in higher Charlson comorbidity index (CCI) group but not in non-CT group (CT use : 19.39% in  $CCI \geq 2$ , 18.58 in  $CCI = 1$ ; non-CT use : 7.2% in  $CCI \geq 2$ , 14.34% in  $CCI = 1$ ) ( $P < 0.01$ ). Regional hospitals received most TBI patients in both non-CT and CT use groups (45.75% and 52.28%) ( $P < 0.01$ ). Seniorities of ED physicians didn't have significant difference between non-CT and CT use groups.

**Conclusions**

The epidemiological characteristics of TBI in Taiwan have their own presentation, and preventive measures should focus on high-risk populations, such as adolescent and young men. Continuous civil infrastructure development and public health policy reforms may help to reduce the societal burden of TBI.

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## National Trends in Application of Computed Tomography among Traumatic Brain Injury at Emergency Department

**YU Min-Jen, CHEN Chieh-Fan, ZENG Xun-Zhi, CHEN Shu-Lin**

**Introduction**

Emergency department (ED) is the first healthcare contact to head injury. We conducted the study to understand the nationwide computed tomography (CT) application among traumatic brain injury (TBI) patients in Taiwan.

**Purpose/Methods**

This retrospective cohort study analyzed nationwide administrative claims data via the National Health Insurance Administration Databases (NHIRD) from 2006 to 2011. We assessed the changes during this period in CT application while ED visits for TBI. Main outcomes were presented as percentage and ratios (%).

**Results**

Our collected data had 41816 ED visits due to TBI within the six-year study period. CT application increased 41.71%, from 37.28% in 2006 to 52.83% in 2011. The ratios of TBI patients received CT at ED in Taiwan from 2006 to 2011 were 37.28%, 40.43%, 44.77%, 47.26%, 50.46% and 52.83%, increased year by year. Growth rate was highest in the group of more than 80 years old, which had 3.5 folds growth.

**Conclusions**

CT application in TBI patients at ED has sustained increase from 2006 to 2011. More than half victims have received CT in 2011, though there were steady traumatic brain injury visits compared with 2006.

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## Direct Medical Costs of Hospitalized Traumatic Brain Injury: A Cross-Sectional Study in Taiwan

**CHEN Ching-Yi, CHEN Chieh-Fan, ZENG Xun-Zhi, CHEN Shu-Lin**

**Introduction**

This study evaluated the direct medical costs of hospitalized traumatic brain injury in Taiwan. We aim to determine the effect of calendar year of injury, age, gender, co-morbidities, hospital levels and seniority of surgeon on the costs.

**Purpose/Methods**

We conducted a retrospective cohort study from the six years data via Taiwan Bureau of National Health Insurance (BNHI) program.

**Results**

Using 2006 as the baseline, the direct medical expenditure was significantly decreased in 2007 ( $p < 0.01$ ), non-significant change in 2008 ( $p = 0.889$ ) and significantly increased from 2009 to 2011 ( $p < 0.01$ ). As age increasing, the direct medical expenditure

increased ( $p < 0.01$ ). Female had less direct medical expenditure than male ( $p < 0.01$ ). Large CCI predicted increased direct medical expenditure ( $p < 0.01$ ). No significant influence from surgeon's seniority ( $p = 0.24$ ).

### Conclusions

There was no sustained trend in direct medical costs with evolution of the times. Male, elderly, co-morbidities, higher hospital level were predictors of increased direct medical cost; but seniority of surgeon wasn't.

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## Medical Utilization among Patients with Cerebrovascular Disease Affecting in Taiwan

LU Chen-Luan, YAN Yu Hua

### Introduction

Cerebrovascular disease had been ranked the third in the top 10 leading causes of death in Taiwan, 2014. In these stroke victims, based on the related epidemiologic survey, those above 45 usually owned higher incidence & mortality rate. Rather, the mortality rate of patients over 65 is 3.46 times higher than those under the age of 65. Major sequelae of cerebrovascular disease included musculoskeletal weakness or dysfunction, cognitive impairment, speech and swallowing disturbance. For these patients, specific rehabilitation programs using Bobath concept and visual cue are suggested, in order to shorten the recovery period and medical expenditure, nevertheless, further studies are still required.

### Purpose/Methods

This research collected cerebrovascular disease affecting files from between 2010-2014 from the National Health Research Institute databases to use as secondary data. It applied a retrospective and cross-sectional study to interpret the expenditure on NHI in 2010 by cerebrovascular disease affecting patients'. Except for a descriptive analysis, the study also employed a multivariable regression analysis and stepwise regression analysis to examine the predisposing factors, need factors and enabling factors developed by the Anderson model and the utilization of intensive care factors, and the supply of medical service factors as independent variables. It then uses the logarithm of OPD expenditure as the dependent variables for a correlative analysis.

### Results

The patients with autism spectrum disorders increased from 2,349 in year of 2010 to 6,522 in 2012. The analyses also found that the cerebrovascular disease affecting patients utilized more OPD care and medical cost gradually in the past years.

### Conclusions

Medical utilization by cerebrovascular disease affecting patients was varied and determined by predisposing, enabling, and need factors. The study results suggest that the fairness and appropriateness of medical utilization by cerebrovascular

disease affecting need to be taken into account as part of policy making to improve the quality of their health care.

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## To Improve the Effectiveness of Retinal Examination in Show Chwan Memorial Hospital in Taiwan

LO Hsin-Yi, TSENG Ming-Shiu, LEE Shu-Ling, SHIN Ai-Wei, JHANG Cian-Ci

### Introduction

Diabetic retinopathy, the most cause of adult blindness, is usually found within five years after diabetes is diagnosed. The risk factors include the duration of disease, hypertension and hyperglycemia. The prevalence of retinopathy in the patients with type 2 diabetes is 40%, regardless of its duration. American Diabetes Association recommends that when diagnosed with type 2 diabetes, patient should accept dilated fundus examination. If no retinopathy was found, the examination should be followed up per year.

### Purpose/Methods

By using the method of Quality Control Circle, three departments of outpatient clinic, ophthalmology and health education center were integrated. Having enhancing the medical staff on-job training, we increased the amount of dilated fundus examination. Publicity leaflets, regular small-guards, publicity video were performed to disseminate the information of diabetic retinopathy. To increase the accessibility, we added outpatient index route, provided specialist's guiding for the mobility and the elderly and added specialized ophthalmology inspection clinic.

### Results

During 2015, there was 6209 outpatient with diabetics. From January 2016 to February 2016, the number of the people who accept fundus examination was 96 (7.3%). After we executed the plan for six month, the number rose to 1133. From August 2016 to October 2016, the number of the examined people was 661 (37.6%) and 304 people (37.6%) were screened out with retinopathy. The screened-out patient will be followed up at the department of Ophthalmology. Thus, improving the rate of retinal screen is helpful for the patient with diabetes.

### Conclusions

Screening out early diabetic retinopathy, dilated fundus retinal examination once a year is the most economical way for diabetic retinopathy-induced blindness prevention. For the purpose of early diagnosis and treatment, complications of diabetes should be prevented effectively by promoting dilated fundus examination not only in the hospital but also in community.

### Comments

Patient often can't finish the examination of diabetic retinopathy due to the reason such as lack of symptom, knowledge, or fundus examination education, waiting too long time, feeling trouble in examination, not knowing the necessary of follow up, time being not to match, not enough advocacy and so on. If we enhance health education, simplify the inspection process, and carry out

the examination, it will be helpful for the prevention of complications and the reduction of medical expenses.

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## Evaluation of the use of chewing gum to improve extreme thirst of long term Haemodialysis Patients

**CHI JI-LING, LIN MEILING, TSAI YI-FAN**

### Introduction

Haemodialysis patients experience thirst regularly due to the limited blood amount in their kidneys. Nonetheless, they were unable to reduce the feeling of thirst through regular drinking of water. The consumption of water during dialyse could result in increased speed of dehydration and triggered blood pressure changes and thus risk of life lost. A total of 109 long term haemodialysis patients in hemodialysis center in June 2016 experienced extreme thirst according to Likert Scale. This project discusses the use of chewing gum to reduce the extreme thirst of long term haemodialysis patients and improve both their mental and physical comfort.

### Purpose/Methods

The aim for this project is to use chewing gum as a replacement for water to effectively reduce the extreme thirst of haemodialysis patients. By using the visual analogue scale (XI) and dialysis thirst inventory (DTI) as measurement methods, examinations were conducted to evaluate the thirst level of patients. The experiment group's patients were randomly given chewing gums with one of the following flavor: no sugar, xylitol or glucitol. Patients were to have chewing gums 6 times a day and 10 minutes each time. The controlled group were given 50ml of artificial saliva solution to gargle. The experiment was conducted over two weeks. After the first round, a random group were selected after 2 weeks to conduct another 2 weeks of experiment. A total of 6 weeks were used for the data collection.

### Results

A total of 32 patients were selected for the research from July to September 2016. Both controlled and experiment groups patients experienced extreme thirst according to visual analogue scale. The result of the experiment group reflected a fall of DTI value from  $16.6 \pm 5.0$  to  $15.4 \pm 4.8$  ( $P < .05$ ) in second week, indicating an obvious improvement of thirst level. Nonetheless, both groups showed a reduction in thirst level over time.

### Conclusions

Although both groups improve the thirst level of the patients, the controlled group reflected stark improvement since week 2 and constant progress over the week. The result of this project shows the effectiveness of chewing gum in reducing extreme thirst of long term haemodialysis patients and should be a reference for future clinical care.

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## Improve Hypophosphatemia Diet Compliance Rate in Hemodialysis Cases

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### Introduction

Control of Hyperphosphatemia is crucial in Hemodialysis treatment. Normally conformity with Hypophosphatemia diet plan is the top priority. Various health education tools are usually employed in clinical trials of diet plan compliance such as use of colored pictures and food models and posters to strengthen patients' impression (Ford, Pope, Hunt, & Gerald, 2011). This project will improve the compliance of low phosphate diet in Hemodialysis treatment by means of Quality Control Circle (QCC).

### Purpose/Methods

Records show there are 70 patients with phosphorus higher than 5.5mg/dl for 3 consecutive months during October of 2013 and September of 2014. 1.Improving patients' recognition of low phosphate diet:set display posters regarding Hyperphosphatemia, keep dietary records 2.Promoting patients' incentives to lower blood phosphorus: customize "phosphorus-lowering plan" ,"dietary record" 3.Providing proper health education: design and produce health education tools such as colored photos to help elderly and foreign care provider recognize high phosphate food.

### Results

After commencement of the project, a record of low-phosphorus compliance by patients undergoing Hemodialysis treatment collected from November of 2014 through October of 2016 shows that patients with a blood phosphorus level higher than 5.5mg/dl in 3 consecutive months have decreased from 70 patients to 14 patients.

### Conclusions

The Quality Control Circle method applied in this project may also be employed in other Hemodialysis studies to help prolong patients' life and improve their life quality. As the results are positive, it is worth being shared with our peers.

### Comments

Hyperphosphatemia not only would cause itchy skin of Hyperphosphatemia patients, but may also result life-threatening complications such as vascular calcification and renal bone disease. Through phosphate-lowering dietary control, probability of complications occurrence can be reduced and patients' life quality be maintained.

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## Sex and Preparation Agent Choice Is Associated with Adequate Bowel



## Preparation- Keystone Data for Colonoscopy Quality Improvement

**CHENG Wei-Chun, CHEN Chiu-Ying, WU Shu-Fang**

### Introduction

Colonoscopy to remove adenomas is current standard in prevention colorectal cancer development. In Taiwan, a national screening program with biannually immune fecal occult blood test was provided to all men or women aged 50 to 75 years started since year 2000. However, only high quality colonoscopy can prevent cancer, and the key is good colon preparation. In our Colonoscopy Quality Improvement Initiative (CQII), one of the goals is to improve colon preparation to enhance adenoma detection and resection during colonoscopy.

### Purpose/Methods

Our hospital is a regional hospital in southern Taiwan with about 1200 colonoscopy performed annually. CQII is one of the healthcare quality improvement projects started since 2016. To enhance colon preparation, we analyzed colonoscopy performed from February to July 2016. Patient age, sex, procedure season, colon preparation agent, colon preparation level and pathology findings were analyzed.

### Results

During the study period, 865 patients (432 males, 49.9%) received colonoscopy in our hospital. In which, 90.2% had adequate colon preparation. Female sex and preparation agent as sodium phosphate or polyethylene glycol (recommended agents) were significantly associated with adequate preparation, but not age or procedure season. For standard agent, 93.2% of patients can achieve adequate preparation (female 96.5% v.s. male 90.0%). Having adequate colon preparation is associated with higher adenoma detection rate during colonoscopy (40.0% v.s. 28.2%, p

### Conclusions

For CQII project in our hospital, we enhanced patient education and used illustrations and video clips to enhance pre-colonoscopy diet adjustment. Since Aug 2016, we strongly urged patients to use recommended preparation agents as sodium phosphate or polyethylene glycol, especially for male patients who tend to have inadequate bowel preparation. We expect to see better colon preparation with higher adenoma detection/removal rate in the future follow-up.

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## Factors Related to Bowel Preparation before Colonoscopy

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### Introduction

Colorectal cancer (CRC) is one of top ten leading cancer in Taiwan in 2013 based on HPA. Colonoscopy is proven to be the most important screening tool for colon cancer. During screening, the diagnosis and treatment can be directly given. but the bowel preparation before screening is related to the success rate and results.

### Purpose/Methods

This study discusses over the association between related influencing factors for colon cleaning level and colonoscopy results. Patients with colon cancer screening recorded by Colonoscopy Report filled by a doctor from a hospital in Taiwan, conducting retrospective study with relative factors as analysis variables, adopting Chi-square Test, Independent-Sample T Test of SPSS statistical.

### Results

Since 2015, there were 379 patients registering their screening date. According to the results, among 191 males and 188 females, there were 80 patients <50 years old, 299 ≥50 years old. The colon cleansing level was evaluated by Aronchick Scale; 63:excellent, 171:good, 87:fair and 58:poor and the incomplete rate of colon cleansing level reached 38.3%. The findings were reached based on the above: 1. The colon cleansing level shows a significant difference (p=.032) in terms of gender 2. There are significant differences between colon cleansing level and overall screening time (p=.018) 3. There are significant differences (p=.008) between overall screening time and colon cleansing agent application with regard to PEG 4. There are significant differences (p=.004) between overall screening time and premedication application. 5. There are significant differences (p=.005) between "from terminal ileum to anus" and age.

### Conclusions

According to the research, the colon cleansing level is essential for successful colonoscopy implementation. It's recommended to conduct education protocols, such as education through "videos", "poster" and "training" for nursing staff. By all the above can the perceptions of patients be raised and the incomplete rate of colon cleansing level be improved.

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## Risk factors of falls in leprosy residents

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### Introduction

Elderly leprosy residents, with multiple handicaps caused by neuropathy are high risk group to experience falls. It is the first research in Taiwan to examine the risk factors of falls in leprosy residents.

### Purpose/Methods

It's a retrospective case-control study. The experimental group (fall group) and the control group (non-fall group) were matched at a 1:2 ratio. Data were collected from 2013 to 2015, with a total

of 152 persons. The independent variables are risk factors predicting the risk of falls. Statistical methods are: (1) Descriptive statistics; (2) Inference statistical univariate analysis: chi-squared test when the independent variable is a category variable; (3) Inference statistical multivariate analysis: the main influencing factors are put into multiple logistic regression analysis.

### Results

Chi-square test showed: 40.4% of the injured patients after falls attend to emergency room for treatment, with significant difference ( $p < .007$ ). Factors related to falls and injuries after the fall is analyzed by t-test. The age of the fall group was significantly higher than that of the non-fall group ( $P < .003$ ). For the EHF (eye, hand, foot) disability rating scale, a significant risk of eye disability ( $p < .015$ ) was shown. Further analysis of fall risk factors by logistic regression analysis showed that the percentage of falls was reduced by 80% for residents with more intensive care (OR = .20, 95% CI = .09-.48). Comorbidity (OR = 1.32, 95% CI = 1.02-95): for each additional comorbid condition, the odds of falls increased by 1.32 times. EHF disability rating results: (1) Eye disability (OR = 1.14, 95% CI = 1.10-1.89); (2) Hand disability (OR = .69, 95% CI = .54-.90)

### Conclusions

The age, co-morbidity, and EHF disability rating of leprosy residents were the independent risk factors for the prediction of falls, especially eye disability rating. Early detection of fall risk factors, taking appropriate precautions and aid will prevent falls and decrease its severity in elderly with rare diseases.

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## The efficiency of urinary catheter bundle care and early urinary catheter removal on reducing urinary tract infection

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### Introduction

Urinary catheter often induce urinary tract infection, one of the most common nosocomial infections, will increase the medical costs. Urinary catheter bundle care and early removal of urinary catheter would reduce the incidence of nosocomial urinary tract infection and improve the quality of medical care. We evaluate the relationship of urinary tract infection incidence after we initiate urinary catheter bundle care. Prevent prolonged invasive urinary catheterization, reduce the incidence of urinary tract infection.

### Purpose/Methods

We designed urinary catheter bundle care checklist and daily care assessment sheet for patient with urinary catheter and reinforce the sterile technology of urinary catheter indwelling. For every patient with urinary catheter, we remind physicians to evaluate the necessity of urinary catheter according to daily care

assessment sheet and wordpad for every patients. For patient who still need urinary catheter, we reinforce on hand hygiene, urinary catheter fixation, prevent catheter obstruction, and clearance of external urethral orifice.

### Results

Urinary catheter bundle care help to remind physicians for evaluation of early urinary catheter removal. The case number of urinary catheter removal in our ward was 89 person during 2015 January to October. Total 68 successful urinary catheter removal in 89 cases, successful removal rate 76%, was recorded. The urinary tract infection incidence in our ward among 2015 was 1.59‰; and 0.70‰ in 2016 January to July after we initiated urinary catheter bundle care.

### Conclusions

Despite time and manpower consumption, definite implementation of urinary catheter bundle care showed significant efficiencies. There were significantly reduced of urinary tract infection rate, shortening hospitalization duration, and improved quality of medical care.

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## The influence to catheter related urinary infection by application of [catheter evaluation, reminder, feedback] catheter removal mechanism

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### Introduction

Urinary infection is one of the most common sites of infection related to medical care. 80% of medical care related urinary infections are related to catheter indwelling. The best prevention strategy is to avoid inappropriate use of catheter and remove unnecessary catheter.

### Purpose/Methods

Use retrospective method and the patients from Jan 2012 to Apr 2015 who has catheter indwelling for over 48 hours in ICU as the objects of study. Use 「catheter evaluation, reminder, feedback」 mechanism from Sep 1st, 2013. The information system prints out automatically everyday the patient name list of catheter indwelling over 5 days. The nurses and physicians evaluate the necessity of catheter indwelling, remove catheter if the case does not conform to the indication. Design 「the number of patients who has successfully removed catheter」 and 「the trend of urinary infection rate」 feedback board.

### Results

The total number of catheter indwelling patients is 1966. Catheter related urinary infections decreased significantly from 11.71‰ to 6.91‰ ( $p < .001$ ); catheter utilization rate

decreased significantly from 76.56% before use of this mechanism to 68.80% ( $p < .001$ ).

### Conclusions

ICU is the high risk unit of infection. As the patients are severe, invasive medical treatments are large in amount and broad spectrum antibiotics are widely used. [catheter evaluation, reminder, feedback] mechanism effectively reminds the medical group to remove catheter early in time in order to improve the density of catheter related urinary infection, shorten the number of days in hospital, reduce the medical cost and improve the medical care quality of the patients.

### Comments

This mechanism process makes medical group follow the standard work flow procedure, is used persistently in patients of catheter indwelling. After the removal of catheter, the bladder urine volume can't be evaluated effectively which leads to reset of catheter. So from Nov, 2014 the unit starts to use bladder ultrasound machine to evaluate bladder residual urine volume in order to avoid unnecessary reset of catheter.

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## Implementation of Bundle Care to Prevention of Catheter Associated Urinary Tract Infections at Intensive Care Unit

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### Introduction

Urinary tract infection has long been considered the most common healthcare-associated infection (HAI), accounting for approximately 40% of all HAIs annually in Taiwan. The purpose of our study was to reduce CAUTI by implementing the care bundle. At Intensive Care Unit CAUTIs rate reaching 7.2 cases per 1000 urinary catheter days in 2014.

### Purpose/Methods

I-CARE intervention was performed in September 2014 with coordinated strategy comprised of (1) I-CARE slogan: Indication, Clean, Aseptic, Remove-early, Easy and smooth (2) team works with focus on nurse oriented catheter removal protocol (3) real time feedback data on CAUTI infection density and numbers of successfully removal of urinary catheter (5) auditing system.

### Results

The CAUTI was significantly decrease in the intervention period (August 2014 to July 2015) compared to the baseline (July 2014), with the infection density 5.2% in the intervention period v.s 7.2% at baseline ( $p = 0.030$ ). 134 CAUTIs to 97 CAUTIs, down 37 times, estimated annual savings of US \$ 148,000 in medical expenses. The literature pointed out that the infection of a medical expenses increased by US \$ 4000.

### Conclusions

In conclusion, hospitals should strongly consider employing interventions to avoid unnecessary catheter placement and to prompt removal of unnecessary catheters. Nurses are responsible for most management of indwelling urinary catheters. Implementation of a nurse-empowered catheter removal protocol. The nurse directed I-CARE UTI care bundle was effective in reduction of CAUTI.

### Comments

One study surveyed physicians, residents, and medical students regarding the presence of urinary catheters in their patients, and 28% were unaware that their patients had catheters in place. Furthermore, physicians were unaware of patients who were inappropriately catheterized 41% of the time. The nurse directed I-CARE UTI care bundle was effective in reduction of CAUTI. In future, we will use portable bladder ultrasound scanners accurately measure even relatively small urine volume.

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## Investigation of Survival Rate Prediction in ICU

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### Introduction

In previous studies on the APACHE-II system about severity of disease, the measured total score was referred to predict the mortality rate of the patients. Some studies even measured the survival rate by adapting the APACHE-II score with the GCS. However, the APACHE-II system has already included the GCS score in acute physiology evaluation, so that repeated calculation may lead to inaccurate results.

### Purpose/Methods

The main purposes of this study are 1. to explore the impact factors of the APACHE-II system, and 2. to discuss whether there is any difference in the prediction survival rate between surgeries and top five severe chronic diseases. A total of 485 patients were enrolled in the intensive care unit to predict the survival rate.

### Results

This study discovers the following results: I. Upon predicting of severity of disease by the logistic regression model, the higher the APACHE-II was, the lower the survival rate was. The prediction accuracy rate was 79.8%. II. Upon predicting of the acute physiology score, age, and the chronic health status of the patient, the higher the score was, the lower the survival rate was. The prediction accuracy rate was 80.6%. III. The accuracy rate of predictions upon the acute physiology score, age, chronic health status, gender, whether surgeries have been performed, and the top five severe chronic diseases was 81.9%, which was the highest.

### Conclusions

It is suggested that the three major components of APACHE-II scoring system (acute physiology score, age, chronic health

score), the significant details of the acute physiology score, whether surgery, and whether or not suffering from five chronic diseases should be taken into consideration. Individualized and accurate assessments are made to improve the quality of medical care and can be used as a basis to assess whether the operation of medical treatment in the ICU is sound during the hospital accreditation by the Ministry of Health and Welfare.

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## Reducing the risk of metal contaminants in Patient's Meal

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### Introduction

Metals are danger foreign objects found in patient's meals provide by food service in hospital, which were unintentionally introduced to patient's meals at all stages of processing of foods. In order to minimize the risk, a good food safety inspection system is needed to be set up to help ensure the safety of patient's meals. Therefore, since 2009, a metal detector was purchased in our hospital to protect patients from harm.

### Purpose/Methods

There were around eleven ten thousands meal-boxes produced monthly in a university hospital in Taiwan. A metal detector is placed at the end of line for a final patient's meal and staff's lunchboxes for inspection of metal contaminants. Standardized test for metal detector was done before starting the inspection each time. Quantity of metal contaminants and food species contaminated was analyzed from 2009 to 2016 (70 months).

### Results

From 2009 to 2016, 67 metal contaminants were detected. There were 31 steel brushes, 9 iron wires, 7 iron sheets, 4 blades, 2 staples, 14 others. Rate of Metal contamination was 0.00103%. The highly contaminated food species was wheat and soy bean product (26 cases), next was vegetables (10 cases), pork and chicken (5 cases), rice and noodle product (4cases), respectively.

### Conclusions

A metal detector can be help to protect patients to exposure to metal contamination in food service of hospital. Claims to the supplier from the study are (1) Avoid of using staples in food processing (2) Inspect the equipment and cutting machine after work finished.

### Comments

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