



## Editorial

# Teen Sleep Deficit – a Global Epidemic impacting health

It is crucial to involve adolescents when targeting the problem of short sleep

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Sleep deficit is a global epidemic, in adults as well as among children and adolescents (1). The amount of sleep per night has decreased by one hour among children and adolescents worldwide during the last century (2).

#### **Consequences**

Sleep deficit is causing many psychological and physiological problems. Across age-groups, insomnia is a predictor for depression (3) and in adults sleep deprivation is linked with serious physical illnesses such as cardiovascular disease, diabetes, and hypertension, as well as an alarmingly increased risk for accidents (1). Additionally, short sleep duration among children and adolescents is associated with obesity (4) and poorer academic performance (5).

#### **Recommendations**

Relevant recommendations have been established for children and adolescents to reduce sleep problems (6). For healthy individuals with normal sleep, the American National Sleep Foundation suggests that appropriate sleep duration for newborns is between 14 and 17 hours, infants between 12 and 15 hours, toddlers between 11 and 14 hours, preschoolers between 10 and 13 hours, and school-aged children between 9 and 11 hours. For teenagers, 8 to 10 hours was considered appropriate, 7 to 9 hours for young adults and adults, and 7 to 8 hours of sleep for older adults (6). However, the implementation seems to be a challenge.

#### **Challenges with implementation**

There are many suggestions for how to solve the problem of sleep deficit and insomnia, including SoMe restrictions and even structural changes at societal level. For example, the American Academy of Pediatrics published 2014 a policy statement urging middle and high schools to adjust start times to permit students to obtain adequate sleep and improve physical and mental health, safety, academic performance, and quality of life, and suggested that middle and high schools not start before 8:30 AM (7).

It seems that if youths participate in sleep interventions, positive effects are seen, at least on increasing their knowledge about sleep. The problem is the low participation rate in such interventions. For example, when trying to limit the use of electronic media before bedtime, only 20% of the invited adolescents choose to participate (8).

Amongst others, low participation may reflect a pre-contemplation stage, proceeding to the stages of first changing attitude and then behavior when engaging in the process of changing unhealthy lifestyles. Clear and easy-to-information is required to support moving to the next stage (9).

Another part of the explanation may be involvement of addiction symptoms to the specific lifestyle of being reachable 24/7 for friends and family as well as us-



## Editorial

ing amusement with TV-shows, YouTube clips, games or social media as identified in a recent study, which also mention the necessity of being able to study hard (often during nighttime) (10).

The good message is that generic tools exist on health promotion to describe and support the process of changing useful – also in case of addiction.

### So how can we move forward?

Trying to implement interventions that are unattractive to teens does not seem to be the best way to make progress. Rather, we have to listen to the voices of the adolescents to create possible solutions to steer the worldwide epidemic of sleep deficit onto a healthier road that leads to adequate sleep. We also need to accept that some level of support is necessary to change lifestyle, but how?

Interestingly, the teens themselves point at new and very relevant solutions to improve implementation in their daily living. Recent focus group interviews suggest that teens find it important to prioritize sleep in spite of the reachable SoMe-lifestyle as mentioned above (10). Parental involvement was welcomed by the adolescents, both in the focus group interviews with teens at school (10) as well as in interviews with adolescents with experience of staying overnight in hospital (11).

The teens focus on a missing link between recommendations and implementation and welcome parental support as part of the solution. The next generation of research on sleep deficit and insomnia should involve both groups.

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