



Comments on New Research on Clinical Health Promotion

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A systematic review highlights the need to improve the quality and applicability of trials of physical therapy interventions for low back pain

Cashin AG, Lee H, Bagg MK, et al. *PLoS ONE* 2019; 14:e0216402. doi:10.1371/journal.pone.0216402

Low back pain (LBP) is a common health problem all over the world and responsible for both acute and long-term sick leave. Over time, numerous intervention studies have been performed, however, ranging widely in research quality.

Study description

In a recent systematic review Aidan Cashin and co-workers have assessed the methodological quality and applicability of studies evaluating the effect of physical therapy interventions for low back pain.

The review included 2,215 trials, which mainly concerned adults having LBP without known aetiology.

The results showed that despite improved research quality over time, still less than half of the trials used concealed allocation or intention-to-treat analyses and about one third reported blinded assessors. Furthermore, blinding of participants or therapists took place in less than one of ten and one of fifty trials, respectively.

Comments from Professor Robin Christensen

“Cashin et al has performed an elegant meta-research project in order to assess the trajectory of methodological quality (internal validity) of randomised controlled trials testing physiotherapy interventions for low back pain.”

After reviewing the reporting standard for 2,215 trials, Cashin et al revealed that trial methodology (at least the reporting) in general has improved over time, but we still need greater emphasis on methodological features, such as allocation concealment and the reporting of intention-to-treat effects is urgently needed. Since improvement of these internal validity issues are doable, continued ignorant performance of trials (with these bias elements) testing physiotherapy interventions for low back pain should be deemed wasteful.

This is in contrast to the bias elements related to “performance bias” (masking aspects, such as blinding of patients and personal), which is in my opinion not easy to fix; these interventions are in general not feasible to mask, thus this particular bias domain will probably not be eliminated any time soon.

Further recommended reading:

- (1) Elisabeth Ginnerup-Nielsen, Robin Christensen, Kristian Thorborg, Simon Tarp, and Marius Henriksen. Physiotherapy for pain: a meta-epidemiological study of randomised trials. *Br J Sports Med* 2016 Aug;50(16):965-71. doi: 10.1136/bjsports-2015-095741.
- (2) Berthelsen DB, Ginnerup-Nielsen E, Juhl C, Lund H, Henriksen M, Hróbjartsson A, Nielsen SM, Voshaar M, Christensen R. Controversy and Debate on Meta-epidemiology. Paper 1: Treatment effect sizes vary in randomized trials depending on the type of outcome measure. *J Clin Epidemiol*. 2020 Jul;123:27-38. doi: 10.1016/j.jclinepi.2019.10.016. Epub 2020 Mar 23. PMID: 32217079