

Lecture

The Effects of Daily Movement and Sitting Time on Sleep and Health in Elderly

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Background and Research Question

It is expected that by 2050, the world's population aged ≥ 60 years will rise to a total of 2 billion. However, although people are living longer, they are not necessarily living healthier than before. Both physical activity and sleep have been described as important key-indicators for 'healthy aging'. The aim of this research is to examine associations between physical activity, sleep and health outcomes (quality of life, well-being and daily functioning).

Methods: In a 1st phase, a systematic review was conducted to screen for associations between physical activity and sleep in older adults. The 2nd phase consists of an intervention study, focusing on the effects of a community-based multicomponent health program (promoting walking, strength training and healthy nutrition) on sleep, quality of life, well-being and daily functioning in older adults. A first start wave resulted in 10 intervention groups and 10 control groups. Physical activity and sleep of participants from both groups were objectively and subjectively measured before and after the 12-week program by the use of Actigraph™ accelerometers wGT3X-BT and validated self-reported questionnaires (IPAQ, PSQI). Health outcomes were measured with self-reported validated questionnaires (SF-12, WEMWBS).

Results and Conclusion: This research focused on detecting effects from daily movement and sitting time on sleep and health in an elderly population. From the current systematic review, first conclusions show there is clear evidence that physical activity is associated with improved sleep. Reallocating time between movement behaviours does not result in significant changes in sleep in real-life. Participating in a real life exercise program does however increase daily movement and wellbeing. Given the age-related decline in sleep and its effect on health, physical activity is predicted to play an important role in a general lifestyle contributing to active and healthy ageing.

Keywords: Healthy ageing, sleep, physical activity, daily movement, sedentary time, sitting time, health, older adults.

