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SEDENTARY BEHAVIOUR AND MUSCULOSKELETAL HEALTH – A SYSTEMATIC LITERATURE REVIEW

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Objectives

To date scientific interest in sedentary behavior (SB) has primarily focused on cardiometabolic outcomes and cancer. Little is known about effects of SB on the musculoskeletal system. The aim of this review is to summarize and critically assess literature on SB and musculoskeletal health in adults.

Methods

We conducted a systematic literature search for reviews in Pubmed and EMBASE using the key terms sitting/sedentary in combination with pain, function, muscle. Reference lists were manually checked for further reviews. We assessed methodological quality using the AMSTAR instrument (Shea et al 2009). We included reviews if they studied the effect of sitting *per se* (being seated) on the musculoskeletal system in adults. Studies reporting on whole body vibration, awkward posture, poorly adapted workstations, lifting and bending, and studies focusing on computer work exclusively were excluded.

Results

The first search yielded 2755 reviews. After removing duplicates and applying the inclusion/exclusion criteria 8 reviews were left. Outcomes include: low-back pain (LBP; 4 reviews), neck pain (NP; 3 reviews) and osteoarthritis of the hip (OAH; 1 review). Review quality was high. Reviews used varying outcome definitions, SB assessment and categorization. Only one review included original studies on leisure time sitting.

Conclusions

Data available consistently suggest that sitting *per se* is not associated with an increased the risk of developing LBP. In fact some studies suggest a protective effect. However, sitting seems to be associated with the development of NP. The limited data available suggest that SB is not associated with OAH. Since sitting is ubiquitous also in leisure time, future studies should assess also this context, and include further relevant musculoskeletal outcomes such as strength, muscle and sensory function, motor control.