

Blue-collar worker sedentary exposure at work and non-work: systematic review of studies using objective measurement

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Background

Occupational exposure to sedentary behaviour is now being recognised as an emergent occupational hazard¹. There is compelling evidence that excessive total sedentary exposure is related to a number of chronic diseases and mortality, in particular if occurring for long uninterrupted periods. To date research and interventions on sedentary behaviours at work have mainly targeted white-collar desk-bound occupations. However concerns have been raised that many blue-collar workers are also at risk, and that this may be contributing to the poor health outcomes commonly associated with blue-collar work. To understand the potential health implications for blue-collar workers a thorough understanding of their total sedentary exposure (work and non-work) is required. Therefore the aim of this study was to systematically review the available evidence from studies based on objective measurements of sedentary behaviour among blue-collar workers.

Method

In May 2017 a standardised search of Cinahl, Embase, Medline, PubMed and Scopus databases was conducted using terms related to sedentary behaviour, accelerometer/inclinometer, and work. Selection criteria included peer-reviewed journal article published in English and using objective measurement of sedentary behaviour.

Results

Database searching resulted in 878 papers being identified, with 17 studies reporting on 13 datasets meeting inclusion criteria. Work and non-work data were reported in 14 studies covering samples comprised of various industries combined as well as samples comprised of a single industry. Industries covered were: agriculture, construction, cleaning, manufacturing, mining and transport/delivery. Studies of combined industries generally reported sedentary exposures at work of between 2.4 and 3.1 hours/day, with one report on drivers showing 7 hours/day. In combined industries, the average sedentary exposure out of work was 5 ½ hour/day. Similarly work exposures to prolonged sitting (bouts >30 minutes duration) were around ½ hour/day at work and 3 hours/day at non-work. Studies specifically on construction, cleaning, manufacturing and transport samples reported a similar trend for work exposure to be less than non-work exposure, except for one study on bus drivers.

Discussion

The evidence collected in this systematic review suggests occupational sedentary exposure to be substantial for many blue-collar workers, but their non-work sedentary exposure generally to be greater. Prior studies of white-collar workers have found approximately equal work and non-work exposures suggesting occupational sedentary exposure is of proportionally greater importance for these workers. However the poorer health and work longevity outcomes for blue-collar workers suggest occupational exposures are likely to still be important for blue-collar workers. Therefore designing blue-collar work to provide an appropriate balance between sedentary and activity exposure is likely to be important for sustainable health and productivity of blue-collar workers.

References

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