Cardiorespiratory fitness, physical workload, and lifestyle-related factors in occupational groups associations with sickness absence and cardiovascular disease

av

Daniel Väisänen

Akademisk avhandling

Avhandling för doktorsexamen i idrottsvetenskap vid Gymnastik- och idrottshögskolan, som enligt beslut av rektor kommer försvaras offentligt fredagen den 9 juni 2023 klockan 9:00, i Aulan, GIH, vid Gymnastik- och idrottshögskolan, GIH, Stockholm.

Opponent: Professor Ulf Ekelund
Norwegian School of Sport Sciences, Norway
Abstract:

The main aim of this thesis was to study cardiorespiratory fitness, physical workload, and lifestyle-related factors, with a special emphasis on cardiorespiratory fitness in an occupational context and the associations with cardiovascular disease and sickness absence across a wide range of occupations. A secondary aim was to study trends in cardiorespiratory fitness in different occupational groups over the last decades.

The thesis is based on data from health profile assessments performed in the Swedish working population over the last decades and consists of four studies. Paper I examines health risk factors across a diverse range of occupational groups and finds that high-skilled occupations have a more favorable health risk profile than low-skilled occupations, with some sub-major categories displaying a more unfavorable health risk profile than others. Paper III demonstrates that individuals in low-skilled and blue-collar occupations have a significantly higher risk of incident cardiovascular disease than high-skilled white-collar workers. Cardiorespiratory fitness, smoking, and body mass index partially explain this association. Paper IV shows that occupational physical workload is associated with sickness absence, where a higher physical workload is related to a higher risk of total sickness absence due to musculoskeletal and cardiorespiratory causes but a lower risk of sickness absence due to psychiatric causes. Higher cardiorespiratory fitness is associated with reduced predicted days of sickness absence, where a higher physical workload is related to a higher risk of total sickness absence due to musculoskeletal and cardiorespiratory causes. Paper II finds a consistent decline in cardiorespiratory fitness from 2001 to 2020. This decline is more pronounced in low-skilled occupations, regardless of their classification as white-collar or blue-collar. Forecast analyses revealed a continuing downward trend in cardiorespiratory fitness, particularly in low-skilled occupations.

In conclusion, promoting smoking cessation, reduced obesity, and physical activities to improve cardiorespiratory fitness may reduce the disparity in cardiovascular disease incidence observed across occupational groups. The decline in cardiorespiratory fitness, particularly in low-skilled occupations, is concerning and calls for targeted interventions that can reach out to those who need it most. This could be achieved through structural and individual-level changes at the workplace and in society at large.

ISBN: 978-91-988127-1-8
http://urn.kb.se/resolve?urn=urn:nbn:se:gih:diva-7633

Daniel Väisänen, Gymnastik- och idrottshögskolan, Lidingövägen 1, Box 5626, SE-114 86 Stockholm, Sweden, e-mail: daniel.vaisanen@gih.se