

CPH News and Views

A semi-monthly column on emerging topics related to healthy workplaces

Issue #43: Musculoskeletal Pain and Exercise Self-Efficacy as contributors to low level of physical activity and quality of life.

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Musculoskeletal disorders (MSDs) are a variety of conditions that occur in the muscles, tendons, ligaments, and bones. They include osteoarthritis, connective tissue disorders such as tendonitis, and localized pain such as in the low back. They are attributed to multiple factors, including physical workload, awkward job postures and repetitive motions.

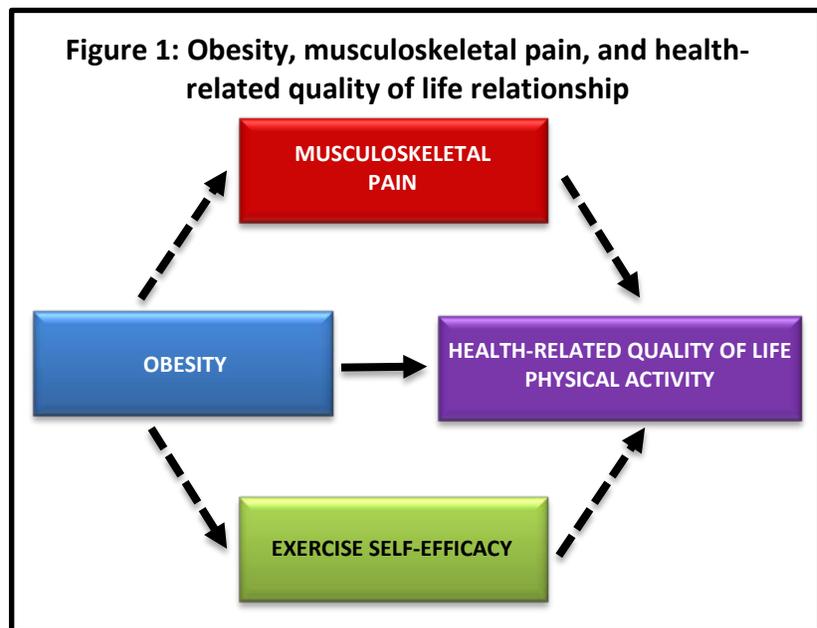
Nursing home employees are involved in regular patient lifting, transferring, and repositioning activities and are frequently exposed to ergonomic risk factors such as repetitive and forceful movements [2]. In particular, overexertion accounts for 48% of injuries and illnesses amongst nursing aides, orderlies, and attendants [2]. In one large group of nursing home employees we showed that a notable proportion of these disorders, and their costs, could be eliminated through an injury reduction program that relied on widespread use of patient handling devices [3].

Excess body weight contributes to increased loading on joints, postural changes, joint misalignment, decreased ability or willingness to walk, and changes in gait patterns. These, in turn, may further contribute to the risk of MSDs in overweight people [1]. Thus, the combination of obesity and MSDs has significant potential negative implications on work productivity, health habits, and health-related quality of life (Figure 1).

In a related study in the same workforce, we evaluated MSD pain in weight-bearing (back and knee) joints and non-weight-bearing (shoulder, wrist-forearm) joints in a group of nursing home employees who were overweight or obese (Body Mass Index higher than 25).

Musculoskeletal pain in these overweight workers was most frequent in the weight-bearing joints of low back and knee. [4]. In addition, increasing levels of obesity were related to a decrease in general health status and decreased physical function.

Participants also reported lower level of daily physical activities (current, moderate and vigorous) and lower “self-efficacy” (or confidence) as body weight increased, meaning that overweight workers felt less confident in their ability to exercise and therefore did less. Other researchers



have reported that overweight and obese individuals tend to walk with shorter step length, lower cadence, and lower walking speed [5, 6]. This suggests that overweight and obese individuals may exercise less energetically due to the fear of MSD pain, which would be consistent with our finding of lower self-efficacy for exercise.

Implications for Occupational Health and Programs to Promote Health

Obesity and joint pain contribute to impaired quality of life and physical inactivity. Obesity's adverse effects on physical function may be partly due to its direct effect on risk of musculoskeletal pain. Interventions to promote physical activity in obese employees should attempt to boost self-confidence about exercise, while also increasing awareness of the health risks from the combination of being overweight and having MSD pain. Adequate prevention and treatment of MSD pain may also be a necessary part of any exercise program. Weight loss programs should account for the presence of joint pain in overweight or obese participants, which may be an important barrier to physical activity.

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