Work characteristics at midlife and musculoskeletal pain among municipal employees

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Background

Musculoskeletal pain and disorders are common and often lead to chronic pain and it is one of the leading cause of disability among older adults. Evidence on the role of midlife work activities in musculoskeletal pain is scarce. This study aims to evaluate how midlife work-related characteristics predict musculoskeletal pain after 28 years of follow-up.

Methods

A prospective population-based study was conducted among the Finnish Longitudinal Study on Municipal Employees (FLAME) initially aged 44 to 58 (N=6257). Baseline data was collected in 1981 and the last follow-up was done among the survivors in 2009. Both physical and psychosocial work-related characteristics such as muscular work, work postures, physical climate, possibility to influence at work, risk of accident, work management, uninspiring work during midlife were measured through questionnaire at baseline. Musculoskeletal pain (yes/no) in 9 different locations of the body was measured at the follow-up. Those 9-items were then combined to represent 4 body sites (Neck, upper extremities, low back and lower extremities). A variable with 5 categories (0 = no pain to 4= pain in all 4-sites) was created. Generalized Linear Regression Models with Poisson assumption was used to calculate the risk ratios (RR) and their 95% confidence intervals (CIs) for musculoskeletal pain in multiple body sites.

Results

Low-back pain (81%) was the most frequently reported pain among the older adults followed by neck and shoulder pain (75%) among those who replied at the last follow-up in 2009. Almost two-third of them reported musculoskeletal pain in multiple-site. Midlife work characteristics such as, high muscular work (RR= 1.9, 95% CI= 1.5-2.4), poor work posture (RR = 1.7, 95% CI = 1.4-2.2) and high risk of accident (RR =1.2, 95% CI = 1.0-1.6) independently predicted the risk of musculoskeletal pain in multiple site almost after 3 decades. Medium level of restless work environment also predicted the risk of multiple site musculoskeletal pain among older adults (RR= 1.5, 95% CI= 1.2-1.9) even after controlling for age, gender, occupation at baseline, health and lifestyle related variables.

Conclusion
These results among municipal employees indicates that some of the physical and psychosocial work characteristics at midlife are important predictors of musculoskeletal pain in multiple sites at the old age. Work-related musculoskeletal pain should be taken into account to more effectively target preventive measures among older adults.