MUSCULOSKELETAL DISORDERS IN SINGLE AND MULTIPLE BODY REGIONS AMONG MANUAL MATERIAL HANDLERS: PREVALENCE RATES AND VALIDATION OF CASE STUDIES

Dr. Ali Alhemood
Kuwait Institute for Scientific Research
P.O. Box 42885, SAFAT
Kuwait, KUWAIT
13109 SAFAT
ahomood@safat.kisr.edu.kw

Theme

Youth and New worker issues

Problem

To date, the biological basis of musculoskeletal pain is not clearly understood despite many decades of extensive research. Alternatively, health and safety professionals have relied on self-reported symptoms to assess musculoskeletal outcomes. In this regard, the definition of outcome influences the association with risk factors and the prevalence rates for different regions of the musculoskeletal system.

Objective

The aims of this study are 1) to validate case definitions for MSD's in the workplace; and 2) to determine the prevalence rates on the basis of these case definitions for single and multiple body regions. The worker population in this investigation was drawn from a group of manual material handlers employed at PIC (Petrochemical Industries Corp) of Kuwait.

Methods

Fifty-five material handlers participated in this cross-sectional study. Each participant was asked to fill out a modified version of the Nordic Musculoskeletal symptom survey, with an added question on the intensity of symptoms. The symptom frequency was assessed using a 6-point linguistic scale; the symptom intensity was evaluated by a 5-point linguistic scale. A dichotomous scale was used to document the 1 month prevalence, and functional consequences of MSD symptoms. An MSD case was defined in this study as a "high" frequency and/or intensity symptom as reported by the study participant. The validity of MSD cases was examined with respect to the functional consequences of symptoms.

Results

The results of this exploratory study demonstrated the prelimary validity of our outcome measure as follows: a) the percent of participants reporting functional consequences were consistently higher and much more pronounced for the MSD cases relative to the controls. B) the MSD cases relative to the controls had significant odds ratios in association with MSD functional consequences. Using our definition, the prevalence rates of MSD cases ranged from 1.82% to 34.55% among the material handlers. In particular, the lower backs as expected had the highest rates, followed by the neck (27.27%), knees – lower legs (25.45%) ankles – feet (23.64%), upper back (20%), shoulders – upper arms (20%). The prevalence rates of cases in multiple body regions were also pronounced. In addition, symptoms in the lower back region were not independent from those in the upper back, neck, shoulders and knees.

Conclusions

The results of this study suggest that it is important to pay attention to the definition of musculoskeletal outcomes. Furthermore, one should examine the prevalence of MSD for single and multiple body regions, indicating that a holistic approach should be adopted in examining the associations between work-related variables and musculoskeletal outcomes.