Participatory Ergonomics To Prevent Work-Related Musculoskeletal Disorders Among Cabin Cleaners in Hong Kong

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Introduction
Musculoskeletal disorders are the leading cause of work disability and lost work productivity. Cleaning is a physical demanding job which associated with multiple ergonomic, physical and psychosocial hazards, elevating the risk for work-related musculoskeletal disorders. Aircraft cabin cleaning is a unique type of cleaning work characterized by a high concentration of physical activities in confined time, shift work and limited working space. The occupational risk factors among aircraft cabin cleaners are unique and preventing strategies need to be specially designed to address these issues. An ErgoCoach model was developed based on Participatory Ergonomic principle and Job Coach model. The ErgoCoach model emphasizing workplace-based intervention and the participation of workers as the expert of injury prevention. The purpose of this research was to investigate the effectiveness of ErgoCoach Model in preventing of Work-Related Musculoskeletal Disorders among aircraft cabin cleaners.

Methodology
A controlled trial was conducted on 100 cleaners recruited from 2 local aircraft cabin service companies. The aircraft service companies were assigned into intervention and control groups. The intervention group (n=50) participated in the ErgoCoach programme over a 4-week period, with ergonomic training, workplace training, equipment skill enhancement and exercise programme based on the findings from our previous studies. The control group (n=50) received a general education on manual handling. Both groups had baseline and follow-up assessments, which included the prevalence of musculoskeletal disorders, perceived physical workload, job satisfaction, psychological stressor, reported occurrence of awkward posture and the reported sick leave.

Results
The intervention group showed statistically significant decreased in prevalence of lower back (p=0.039), knee (p=0.039) and ankle & feet (p<0.005) disorders after the intervention. The intervention group exhibited a decreasing in perceived physical demand, psychological stressor, reported awkward posture and reported sick leave. The control group showed no change in prevalence of musculoskeletal disorders and other outcomes.

Conclusions
This study showed that ErgoCoach Model could help to decrease the work-related musculoskeletal disorders among aircraft cabin cleaners and the exposures of work-related risk factors were decreased.

Keywords
Participatory Ergonomic, Work-related musculoskeletal disorders, Aircraft Cabin Cleaner