

Effectiveness of a participatory ergonomics intervention to improve musculoskeletal health: A solomon four-group study among manufacturing workers in selangor, Malaysia

ABSTRACT

The aim of this Solomon four-group study was to evaluate the effectiveness of participatory ergonomics (PE) intervention to improve musculoskeletal health among manufacturing industry workers. A total of 436 workers were randomly assigned into four groups. Intervention groups went through PE intervention while control groups went through hearing conservation programme. The main outcome measures were the prevalence and intensity of musculoskeletal pain at 9 body sites, collected by questionnaires at baseline (pretested groups) and 3 months after PE intervention (all groups). The study found that lower back has the highest prevalence rate of musculoskeletal disorders (MSD). There was significant lower prevalence rate of MSD at upper back, lower back and knee for intervention group as compared to control group. There was a significant main effect of PE intervention on the overall pain intensity at different body parts whether they are pretested or non-pretested. In conclusion, PE intervention had effectively improved musculoskeletal health among the respondents.