Musculoskeletal symptoms risk factors and postural risk analysis of pineapple plantation workers in Johor

ABSTRACT

Introduction: Pineapple plantation workers are exposed to strenuous physical activities. This study aims to determine the prevalence of musculoskeletal symptoms (MSS), analyse the body postural risks related to work tasks and identify relevant MSS risk factors among pineapple plantation workers. Methodology: This was a cross-sectional study performed at a pineapple plantation in Johor in 2016. MSS, information on socio-demographic background and occupational history were collected via structured questionnaires. Identification and risk assessment of ergonomic hazard and postural risk analysis were performed for a subset of workers. Data were entered into statistical software and analyse according to relevant objectives. Results: A total of 108 workers participated in this study. The prevalence of MSS was 87.0% and was highest for the lower back (64.8%). In terms of ergonomic hazards, Harvesting were categorised as a task with the highest risk. Harvesting was also the task with the highest postural risk. From the multivariate analysis, lower back pain is mainly contributed by a working tenure of 10 to 25 years (Odds Ratio, OR: 3.90; 95% Confidence Interval, CI 1.05-14.4) and more than 25 years (OR: 7.45 (95% CI 1.26 to 44.0). Workers who worked more than 7-hour daily have a higher risk for reporting lower back pain. Conclusion: Pineapple plantation workers are exposed to excessive bending, twisting and carrying of heavy loads that may be linked to MSS. Effective preventive strategies are required to address MSS in this population in order to minimize risk for subsequent musculoskeletal disorders.

Keyword: Rapid Entire Body Assessment (REBA); Musculoskeletal disorder (MSD); Pineapple plantation workers