

# **The prevalence of musculoskeletal disorder and association with productivity loss: a preliminary study among labour intensive manual harvesting activities in oil palm plantation**

## **ABSTRACT**

Production agriculture such as harvesting in oil palm plantation has been frequently associated with MSD and significant loss of productivities. This study tends to evaluate from the viewpoint of health, the association between self-reported prevalence of musculoskeletal disorders and productivities; the impact of musculoskeletal disorders on productivity. A cross-sectional study was conducted among 143 harvesters in oil palm plantation. A general questionnaire was used to collect socio-demographic background data while Nordic Musculoskeletal Questionnaire was used to determine the prevalence of MSD. Expressed in 4 different indicators; daily harvesting quantity, efficiency score, sick leave and presenteeism, the productivity data were analysed for association. There is significant association between reported acute prevalence of MSD (within 7 d) and productivity loss in terms of presenteeism ( $\chi^2=5.088$ ;  $p<0.05$ ) as well as quantity of daily harvest ( $\chi^2=7.406$ ;  $p<0.01$ ). Logistic regression adjusted for age, BMI and smoking indicate that harvesters with MSD (past seven days) were more likely to be engaged in presenteeism (OR=2.87 95% CI=1.34, 6.14) and had lower daily productivity (OR=2.09 95% CI=1.02, 4.29) compared to harvesters without MSD (past 7 d). This study reveals that oil palm harvesters suffering acute MSD (for the past week) were likely to be still present to work and produce half lesser than their healthy counterparts. Thus, further study with comprehensive surveillance strategy is essential in order to determine the urgency or need of appropriate intervention.

**Keyword:** Ergonomics; Musculoskeletal disorders; Oil palm; Harvesters; Productivity