

Assessment of Ergonomic Risk Level and Working Performance of Pre-Cast Construction Workers in Sabah

ABSTRACT

A cross-sectional study was conducted on 116 male pre-cast construction workers in Sipitang, Sabah to evaluate the association between Ergonomic Risk Level exposure and their working performances for 6 months (June to November 2014). Initially, a structured interview using a modified-Standardized Nordic Questionnaire was conducted on each study subject to determine the prevalence of Musculoskeletal Disorders (MSDs). The results showed that 93 out of 116 subjects (80.17%) complained of experiencing ache, pain or body discomfort during and after work with high percentage of MSDs prevalence affecting the wrist (78.5%), shoulder (73.1%), and lower leg (71.0%) regions of the body. Pictures and videos of workers performing their routine tasks were analyzed using Rapid Entire Body Assessment (REBA) tool to generate individual Ergonomic Risk Level classification. The results showed that all subjects were exposed to Medium (56.90%), High (29.31%) and Very High (13.79%) level of Ergonomic Risk. Pearson Correlation and One-way ANOVA test was conducted to determine the association between Ergonomic Risk Level and the subjects' individual working performances. The results indicated that there was a significant negative association between Ergonomic Risk Level and the workers' performances in terms of tendency to work overtime ($p < .001$, $r = -.55$) and the frequency of taking unpaid leaves ($p = .038$, $r = .56$). In conclusion, continuous exposure to significant Ergonomic Risk Level among the pre-cast construction workers has triggered the development of MSDs which eventually affected their working performances.