Associations of occupational, socio-demographic and lifestyle factors with lung functions in Malaysian Traffic Policemen

ABSTRACT

Background: Apart from being exposed to various hazards, there are several other factors that contribute to the deterioration of traffic police health. Objectives: A cross-sectional study was carried out to explore the association of occupational, socio-demographic, and lifestyle factors with lung functions in traffic policemen in Kuala Lumpur (KL) and Johor Bahru (JB). Methods: A spirometer was used to measure lung function of subjects, whereas a self-administered questionnaire was used to obtain their information on background data, lifestyle, and occupational factors. The statistical test used was Spearman rho's test and chi-square test; then, the factors were further tested using Logistic regressions. Findings: 134 male subjects were selected as respondents in this study with 83% response rate. Among all the factors tested, age (FVC: $\chi = 8.42(3)$, $p = 0.04$), (FEV: $\chi = 8.26(3)$, $p = 0.04$), rank (FVC: $\chi = 8.52(3)$, $p = 0.04$), (FEV: $\chi = 8.05(3)$, $p = 0.04$), duration of services (FVC: $\chi = 11.0(1)$, $p = 0.04$), (FEV: $\chi = 6.53(1)$, $p = 0.01$), and average working hours (with the Measured FVC (litre), $r = –3.97$, $p < 0.001$; Measured FEV1 (litre), $r = –3.70$, $p < 0.001$; Predicted FVC, $r = –0.49$, $p < 0.001$; Predicted FEV1, $r = –0.47$, $p < 0.001$; and %Ratio FEV1/FV, $r = –0.47$, $p < 0.001$) were significantly related to lung function among traffic police. Conclusions: Occupational factors play a crucial role, and hence, the authorities should take action in generating flexible working hours and the duration of services accordingly. The data from this study can help by serving as a reference to the top management of traffic police officers to develop occupational safety and health guideline for police officers to comply with the Occupational Safety and Health Act (OSHA, Act 514 1994).