

Respiratory health of male steel workers in the Eastern Coast of Peninsular Malaysia

ABSTRACT

A cross sectional study was carried out to determine the prevalence of respiratory symptoms and associated factors with respiratory health among male steel workers. A total of 424 male workers in the steel production plant were recruited using a stratified random sampling. Subjects were interviewed regarding respiratory symptoms using a British Medical Research Council (BMRC) Questionnaire on respiratory symptoms and were examined their lung function using spirometry. Prevalence of chronic cough, chronic phlegm, chest tightness and shortness of breath were 35.8, 32.8, 23.4 and 22.4%, respectively. Age, duration employment and smoking were among the factors associated with respiratory symptoms ($p < 0.05$). Forced Expiratory in 1 sec (FEV1) and %FEV1/FVC of workers were significantly reduced as compared to the healthy population ($p < 0.05$). The effect of cigarette on FEV1 was shown among the current smokers ($\hat{\rho}^2 = -0.099$, $p < 0.05$). Level of dustiness was significantly reduced the FVC ($\hat{\rho}^2 = -0.047$, $p < 0.05$) while duration of work was significantly reduced the %FEV1/FVC ($\hat{\rho}^2 = -0.214$, $p < 0.01$). Lung function test revealed some degree of impairment as compared to healthy population and smoking also had an additive effect on respiratory health, thus required further extensive epidemiological and pathological studies for the health and safety of the steel mill workers.

Keyword: Respiratory symptoms; Lung function; Steel workers