

Occupational exposure to dust and the relationship with the respiratory symptoms, lung function among construction workers of the University of Malaysia Sabah

ABSTRACT

BACKGROUND: The respiratory tract often becomes the site of injury from occupational exposure. All construction sites generate high levels of dust, typically from concrete, silica, asbestos, cement, wood, and stone, sand, and therefore, the workers are exposed to this airborne dust and increased their risk of developing respiratory disorders. Limited studies have been conducted to assess the relationship between respiratory symptoms, lung function, and occupational dust exposure among construction workers in Sabah. **AIM:** The objectives of this study are to determine the occupational exposure to dust and the relationship with the respiratory symptoms as well as lung function among construction workers in UMS Teaching Hospital. **MATERIALS AND METHODS:** This cross-sectional study consisted of construction workers working in all sections in the development of UMS Teaching Hospital. A standard respiratory questionnaire was distributed to construction workers and lung function measurement was performed using Spirometry and the results of their respiratory status were compared between workers who were exposed and unexposed to dust. Occupational dust exposure was determined by the gravimetric method using an air sampler. The total duration of the collection was 8 h and the filters with the dust samples were analyzed in the laboratory. **RESULTS:** The result showed three parameters that were significantly associated with respiratory symptoms, namely, age, marital status, and smoking status. Male workers had a higher prevalence (42.7%) of having respiratory symptoms compared to female workers (21.4%). Widow/widower/divorced (50.0%) had a higher prevalence of having respiratory symptoms compared to married (45.8%) or single workers (25.0%). Workers who smoke had a higher prevalence (51.2%) of having respiratory symptoms compared to non-smoker's workers (22.7%). **CONCLUSION:** The highest dust exposure is the piping workstation, followed by the cement and plastering workstations. These warrant the compulsory use of personal protective equipment by construction workers during work, improving the quality of dust masks, and standardizing their usage. Effective engineering controls should also be promoted on construction sites.