

## **Exposure to respirable dust (PM10) and respiratory health among traffic policemen in Selangor**

### **ABSTRACT**

**Background:** Exposure to traffic air pollutants has shown a significant health effect on the respiratory systems and a decrease in lung function among traffic policemen.

**Objective:** The main objective of this study is to determine the relationships between personal exposure levels to PM10 and respiratory health among traffic policemen working at Traffic Police Station in Petaling Jaya, Selangor and general duty policemen attached to Police Headquarters, Putrajaya as a comparative group.

**Results:** The median personal exposure level of PM10 among the traffic policemen was  $208.33 \pm 49.02 \mu\text{g}/\text{m}^3$  compared to only  $49.02 \pm 49.01 \mu\text{g}/\text{m}^3$  among the comparative group. Result from Mann Whitney U test showed that there was a significant difference ( $p < 0.001$ ) between the two study groups. There was a significant difference in FVC (litre) with  $z = -5.218$ ,  $p < 0.05$ , FEV1 (litre) with  $z = -4.987$ ,  $p < 0.05$ , FVC% predicted with  $z = -3.716$ ,  $p < 0.05$ , and FEV1% predicted with  $z = -2.593$ ,  $p < 0.05$  between exposed group and comparative group.

**Conclusion:** The result from this research showed that the traffic policemen are at risk of respiratory diseases, as reflected by an increase in the reported respiratory symptoms and reduction in lung function.

**Keyword:** Traffic air pollutants; Respirable particles (PM10); Respiratory symptoms; Lung function