

Preschools indoor air quality and respiratory health symptoms among preschoolers in Selangor

ABSTRACT

Poor indoor air quality (IAQ) has been linked to increased respiratory symptoms among children. The aim of this study was to assess current IAQ status of preschools (urban, suburban and rural areas) in Selangor and its association with preschooler's respiratory health. There was a significant difference between the indoor concentration of carbon monoxide (CO), particulate matter (PM₁₀ & PM_{2.5}) and Volatile Organic compounds (VOCs) ($p = 0.001$; $p = 0.005$; $p = 0.005$; $p = 0.006$) among the preschools. Urban area preschools (UAP) recorded highest concentration of CO, PM₁₀ and PM_{2.5}. The prevalence of cough ($\chi^2 = 25.462$, $p = 0.001$) and wheezing ($\chi^2 = 27.299$, $p = 0.001$) were significantly higher among preschoolers from UAP. Statistical results showed that there was a significant association between cough and indoor CO, PM₁₀ and PM_{2.5}. The findings concluded that exposures to poor IAQ might increase the risk of getting respiratory symptoms among preschoolers.

Keyword: Preschool children; Indoor air quality; Respiratory symptoms