

## Effect of noise and pesticide exposures among foggers in Selangor health district offices

### ABSTRACT

Fogging activity has become one of the important methods in tackling dengue outbreaks nowadays. Despite this, it is an occupation that has known hazards namely noise and pesticides which can affect the body organs. Based on this knowledge, a cross sectional study was conducted to determine the association between hearing impairment and serum cholinesterase level among foggers from five randomly selected Health District Offices in Selangor. A total of 200 workers comprising of 100 workers exposed to fogging activity and another 100 workers not exposed were randomly selected for this study. Data was obtained through self administered questionnaire, audiometric testing and serum cholinesterase level measurement. The overall prevalence of hearing impairment was 16% with foggers having significant higher prevalence (24%) compared to the non foggers (8%) ( $\chi^2=9.52$ ,  $p=0.002$ ). Measurement of serum cholinesterase showed that exposed workers had lower level compared to the non exposed group. Similarly, those who have hearing impairment had also lower serum cholinesterase level although it was not statistically different. Among all studied factors, age and duration of exposure to fogging activities were statistically different with hearing impairment ( $p<0.05$ ). With regression analysis, the age (adjusted OR=5.15; 95% CI: 1.0665.77) and duration of exposure (adjusted OR= 2.47; 95% CI: 2.01-13.24) were found to have consistent association with hearing impairment. It was concluded that the hearing impairment among foggers were prevalent. Therefore steps in conducting hearing conservation program need to be done adequately to ensure the health of the workers is not compromised by such activities.

**Keyword:** Hearing impairment; Foggers; Pesticide; Serum cholinesterase