

## **Prevalence of hearing loss and hearing impairment among small and medium enterprise workers in Selangor, Malaysia**

### **ABSTRACT**

Factories and Machinery (Noise Exposure) Regulation 1989 has always demanded employer to protect workers from noise exposure  $\geq 85$  dB. However, noise induced hearing loss (NIHL) has been the highest notifiable occupational health issue among Malaysian workers in 2014. A cross-sectional study aimed to investigate the prevalence of hearing loss (HL) among 146 adult manufacturing workers with noise exposure  $\geq 85$  dB was carried out in Selangor. Pure tone audiometry and a validated questionnaire were used to determine the hearing status and information of the respondents. The results showed that the prevalence of HL was 73.3% and the prevalence of hearing impairment was 23.3%. Male workers (63.0%) had higher prevalence of HL than female workers (36.4%). Mean hearing threshold levels of HL respondents were significantly higher than respondents with normal hearing. It was discovered that among workers with employment of more than 10 years, > 80% of them suffered from HL. Association between employment years and hearing condition (normal, non-bilateral and bilateral HL) was statistically significant,  $\chi(4) = 10.51$ ,  $p = 0.033$ , with Kendall tau-c correlation showing positive and weak ( $p = 0.18$ ) association. Highest HL cases were found at 4 and 6 kHz. World Health Organisation and Factories and Machinery (Noise Exposure) Regulation 1989 classification on degree of hearing impairment showed slight to moderate hearing impairment among the respondents and both standards did not differ much (8.9% vs 6.9%, respectively). As a conclusion, prevalence of hearing loss and hearing impairment among manufacturing workers were high. Age, male sex, monthly salary and employment years were possible influencing factors.

**Keyword:** Audiometric test; Degree of hearing impairment; Manufacturing workers; Noise induced hearing loss; Prevalence