

Assessment of traffic noise and the association with non auditory effect among shop lot workers in Kajang, Selangor

ABSTRACT

The objective of study is to determine traffic noise level and non-auditory effect among shop lot workers at Kajang Selangor. This cross sectional study was carried to study traffic noise exposure with annoyance and work performance level among shop lot workers in Jalan Mendaling, Jalan Tukang and Jalan Sulaiman at Kajang town, Selangor. This study involves 120 shop lot workers that exposed to the traffic noise during their working hours where they are randomly selected. Noise exposure was estimated using the Sound Level Meter for environmental noise. The traffic volume was recorded using video recorder and calculated using tally counter. One set questionnaire consist standard questionnaire was used to assess the annoyance level and work performance level among the respondents. Respondents were predominantly by male which are 94 and female, 26 respondents. The mean age of the respondent were ranged between 41 to 60 years old. Only 12.5% of respondent are ranged 21 until 30 years old. In total of 120 respondent, 54.2% of them are Chinese while Malay and India only 30% and 15.8% respectively. The result showed that the traffic noise level at study areas are exceeded the permissible sound limit of commercial and business area during daylight which is 70 dB(A). Regarding work performance, 94 respondents are having low work performance level and 82% of respondent high annoyance level during the exposure of traffic noise from four different sources which are noise from the traffic, speeding vehicle, high traffic volume and exhaust system. There is a significant relationship between traffic noise level with work performance level ($p=0.001$) and annoyance level ($p=0.026$). The average traffic noise (L_{aeq}) level at Jalan Mendaling, Jalan Tukang and Jalan Sulaiman is 71.19 dB(A) which were high and exceeds permissible sound level from road traffic, commercial and business place at day time, 70 dB(A). The exposure from the traffic noise effect the annoyance level and work performance level among the shop lot worker. In order to reduce traffic noise exposure towards the shop lot workers, some recommendation are needed to control the traffic noise such as build a noise barrier, plant trees and also enforcement of legal requirement in noise level.

Keyword: Environmental noise; Traffic noise; Average traffic noise (L_{aeq}); Annoyance; Work performance