

ABSTRACT

Introduction

Road traffic noise is the most severe and pervasive type of noise pollution worldwide. Traffic noise has become a serious public health problem nowadays. Transport drivers are more vulnerable to hearing impairment due to traffic environment and fast-growing urbanization. The aim of study was to determine the noise level inside the Sri Lanka Transport Board buses, hearing impairment of state transport bus drivers and its associated factors in the selected districts of Eastern Province, Sri Lanka.

Methodology

A cross-sectional descriptive study was carried out among 256 state bus drivers from Ampara and Batticaloa district depots using systematic sampling technique from July to October 2018. A pre-tested interviewer-administered questionnaire, a screening tool to assess the level of hearing impairment of drivers, and a calibrated sound level meter was used as tool to measure equivalent noise level inside the sub sample of 60 SLTB buses were used to collect data. Descriptive method of statistical analysis was undertaken in presenting the findings in relation to the stipulated objectives.

Results

Nearly 89% (n=53) of the buses exceed the 85 dB(A) noise level, and 21.7% of buses (n=13) exceeded above 90 dB(A). According to hearing impairment assessment by the hearing tool, hearing of majority of the study participants (84.4%, n=216) was not affected. Mild hearing impairment was observed in 14.1% of the study population (n=36) while moderate hearing impairment was observed in only 1.5% of the population (n=4) and none of them had severe impairment. Almost equal percentage of drivers were affected from long distance, and short distance work shifts (15.6% and 15.7% respectively, p=1.000). Almost similar numbers of drivers were affected by hearing impairment in both who are working more than nine hours and less than nine hours of work per day (15.7% and 15.5% respectively). The association between hearing impairment and playing music on board wasn't statistically significant (p= 0.292). More than one-third of participants (40%, n=6) who had a history of ear diseases, surgeries or head trauma were having impairment compared to no history of ear diseases. The association between hearing impairment and

history of ear diseases, surgeries or head trauma was a statistically significant one ($p=0.017$).

Conclusions

Overall, this study concluded noise level inside the SLTB buses in Eastern province exceeded the 85-dB limit prescribed under WHO standards of occupational noise exposure. The years of service of a bus was the only factor shown a statistically significant association with level of noise inside the bus. Based on the findings of the screening tool, hearing of majority of the study participants (84.4%) was not affected. Further, the hearing of only 15.7% was found to be affected. There was no statistically significant association found between hearing impairment and work station, marital status, mode of transport to work, route type, working hours, service experience, playing music on board or participant's leisure time music listening habits even though there was a slight rise in the hearing impairment among these comparison groups. Only "history of ear diseases, ear surgery or head trauma" of the participant was shown to have a statistically significant association with hearing impairment.

Keywords: Noise pollution, Hearing Impairment, Public transport drivers