Assessment of the noise annoyance among subway train conductors in Tehran, Iran.

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Abstract

Subway transportation system is a new phenomenon in Iran. Noise annoyance interferes with the individual's task performance, and the required alertness in the driving of subway trains. This is the first study conducted to measure the level of noise and noise annoyance among conductors of subway organization in Tehran, Iran. This cross sectional study was conducted among 167 randomly selected train conductors. Information related to noise annoyance was collected by using a self-administered questionnaire. The dosimetry and sound metering was done for the conductors and inside the cabins. There were 41 sound metering measuring samples inside the conductors' cabin, and there were 12 samples of conductors' noise exposure. The results of sound level meter showed that the mean Leq was 73.0 dBA ± 8.7 dBA and the dosimetry mean measured Leq was 82.1 dBA ± 6.8 dBA. 80% of conductors were very annoyed/annoyed by noise in their work place. 53.9% of conductors reported that noise affected their work performance and 63.5% reported that noise causes that they lose their concentration. The noise related to movement of train wheels on rail was reported as the worst by 83.2% followed by the noise of brakes (74.3%) and the ventilation noise (71.9%). 56.9% of conductors reported that they are suffering from sleeplessness, 40.1% from tinnitus and 80.2% feeling fatigue and sleepy. The study results showed the high level of noise and noise annoyance among train conductors and the poor health outcome of their exposure to this level of noise.