

Survey of Prevalence of Noise Induced Hearing Loss in Hawkers and Shopkeepers in Noisy Areas of Mumbai City

Authors : Hitesh Kshayap, Shantanu Arya, Ajay Basod, Sachin Sakhuja

Abstract : This study was undertaken to measure the overall noise levels in different locations/zones and to estimate the prevalence of Noise induced hearing loss in Hawkers & Shopkeepers in Mumbai, India. The Hearing Test developed by American Academy Of Otolaryngology, translated from English to Hindi, and validated is used as a screening tool for hearing sensitivity was employed. The tool is having 14 items. Each item is scored on a scale 0, 1, 2 and 3. The score 6 and above indicated some difficulty or definite difficulty in hearing in daily activities and low score indicated lesser difficulty or normal hearing. The subjects who scored 6 or above or having tinnitus were made to undergo hearing evaluation by Pure tone audiometer. Further, the environmental noise levels were measured from Morning to Evening at road side at different Location/Hawking zones in Mumbai city using SLM9 Agronic 8928B & K type Digital Sound Level Meter) in dB (A). The maximum noise level of 100.0 dB (A) was recorded during evening hours from Chattrapati Shivaji Terminal to Colaba with overall noise level of 79.0 dB (A). However, the minimum noise level in this area was 72.6 dB (A) at any given point of time. Further, 54.6 dB (A) was recorded as minimum noise level during 8-9 am at Sion Circle. Further, commencement of flyovers with 2-tier traffic, sky walks, increasing number of vehicular traffic at road, high rise buildings and other commercial & urbanization activities in the Mumbai city most probably have resulted in increasing the overall environmental noise levels. Trees which acted as noise absorbers have been cut owing to rapid construction. The study involved 100 participants in the age range of 18 to 40 years of age, with the mean age of 29 years (S.D. =6.49). 46 participants having tinnitus or have obtained the score of 6 were made to undergo Pure Tone Audiometry and it was found that the prevalence rate of hearing loss in hawkers & shopkeepers is 19% (10% Hawkers and 9 % Shopkeepers). The results found indicates that 29 (42.6%) out of 64 Hawkers and 17 (47.2%) out of 36 Shopkeepers who underwent PTA had no significant difference in percentage of Noise Induced Hearing loss. The study results also reveal that participants who exhibited tinnitus 19 (41.30%) out of 46 were having mild to moderate sensorineural hearing loss between 3000Hz to 6000Hz. The Pure tone Audiogram pattern revealed Hearing loss at 4000 Hz and 6000 Hz while hearing at adjacent frequencies were nearly normal. 7 hawkers and 8 shopkeepers had mild notch while 3 hawkers and 1 shopkeeper had a moderate degree of notch. It is thus inferred that tinnitus is a strong indicator for presence of hearing loss and 4/6 KHz notch is a strong marker for road/traffic/ environmental noise as an occupational hazard for hawkers and shopkeepers. Mass awareness about these occupational hazards, regular hearing check up, early intervention along with sustainable development juxtaposed with social and urban forestry can help in this regard.

Keywords : NIHL, noise, sound level meter, tinnitus

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