

Hearing status and noise exposure levels of workers at a washing plant in Dankotuwa, Sri Lanka.

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ABSTRACT:

Noise is one of the most common causes of hearing loss. The World Health Organization estimates that 10% of the world population is exposed to sound pressure levels that could potentially cause Noise Induced Hearing Loss (NIHL) and among them 16% were found to be associated with occupational noise. The Recommended Exposure Limit (REL) for occupational noise exposures should be 85 dB(A) for 8 hours. Among the working populations who could be affected by NIHL, washing plant workers are a specific group as they are exposed to high noise levels. The findings of this study will contribute to building a knowledge based platform for a hearing conservation policy for the washing plants in Sri Lanka. This study mainly focused on determining the hearing status and noise exposure levels of workers at a washing plant in Dankotuwa, Sri Lanka. A descriptive cross sectional study design was implemented to determine the noise levels the workers were exposed to during their shifts, to evaluate hearing related complaints and audiometric measures of the workers and to determine the association between the job category and the hearing status. The study included 107 of workers engaged in different job categories within the age range of 20-50 years, males and females at a washing plant. Purposive sampling was used to recruit participants to the study. The noise measurements inside the washing plant were taken, an interviewer administered questionnaire was employed and findings of the hearing screening test and diagnostic hearing tests (Pure tone Audiometry, speech Audiometry, tympanometry and Oto Acoustic Emission testing were used) were obtained. Noise levels were found to be 69.9 to 100.3 dB(A). Among washing plant workers 43 (40.18%) were found with altered audiograms. Among those who have altered Audiograms 34 (31.77%) were found to have Noise Induced Hearing Loss (NIHL) in the right ear and 30 (28.03%) were found to have NIHL in the left ear. 37 (34.57%) workers were diagnosed with NIHL. Washing plants are hazardous occupational settings resulting in hearing loss, thus preventive measures, such as hearing conservation programs must be adopted.