**Audiometric Findings in Printing Workers Exposed to Noise and Chemical Agents**

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**Running title:** Auditory effects of co-exposure to noise and solvents among printing workers

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**Abstract:**

 **Background:** The co-exposure to noise and organic solvent mixtures in workplace has an auditory damaging effect. **Aim:** This study aims to describe audiometric findings in printing workers exposed to noise and mixtures of organic solvents in Mansoura University Printing Press (MUPP). **Methods:** A comparative cross sectional study in which the study group comprised 106 printing workers at MUPP and a matched comparison group from administrative departments at faculty of Medicine, Mansoura University. Noise level was measured. Each participant was subjected to a questionnaire to collect socio-demographic and occupational profiles, and use of personal protective measures, then audiometric evaluation using pure tone audiometry. **Results:** The highest average noise level was obtained from printing and assembly hall in MUPP (88.3**±**3.3). Audiometric evaluation showed that the mean air and bone conduction thresholds of the right and left ears among MUPP workers were higher than the comparison group at all frequencies. The differences in the median hearing thresholds between the study groups across all frequencies were highly statistically significant (p≤0.01) except for ACT at the frequency of 8000Hz. There was a statistically significant difference between both groups regarding the prevalence of different types of hearing impairment. It was found that 12.3% of MUPP workers and 1.9% of the comparison group had perceptive hearing loss. Among printing workers with perceptive hearing loss, 69.2% were diagnosed as noise-induced hearing loss (NIHL). **Conclusion:**  Effective intervention is recommended to improve the industrial safety of workers experiencing ototoxic effects of solvents combined with noise.

**Key words:** Printing – workers – noise exposure – solvents – auditory effects