

Hearing loss among airport employees, Isfahan-Iran

Kamaleddin Abedi (MSc)*¹, Mohsen Zare (MSc)², Mohsen Rahiminezhad (MSc)³

Ebrahim Valipour (BSc)⁴, Abolfazl Barkhordary (PhD)⁵

Gholam Hossein Halvaneh (MSc)⁶, Seyyed Jalil Mir Mohammady (PhD)⁷

¹Academic Instructor, Department of Occupational Health, Zanjan University of Medical Sciences, Zanjan, Iran.

²MSc of Occupational Health, Isfahan University of Medical Sciences, Isfahan, Iran. ³Academic Instructor, Department of Occupational Health, Isfahan University of Medical Sciences, Isfahan, Iran. ⁴BSc of Occupational Health, Isfahan University of Medical Sciences, Isfahan, Iran. ⁵Assistant Professor, Department of Occupational Health, Yazd University of Medical Sciences, Yazd, Iran. ⁶Academic Instructor, Department of Occupational Health, Yazd University of Medical Sciences, Yazd, Iran. ⁷Academic Instructor, Department of Occupational Medicine, Yazd University of Medical Sciences, Yazd, Iran.

Abstract

Background and Objective: Aircraft as a safe means of transportation may cause occupational diseases and hearing loss. Prevention should be implemented for airport employee. This study was done to determine the scale of hearing loss among Isfahan airport employees in 2005.

Materials and Methods: This historical cohort study was conducted among Isfahan International airport employees. 80 employees were selected in four different case groups, the control group consist of two sub-groups. The sub-group I (18 subjects) including the administrative airport employees (low noise exposed) and the sub-group II (32 subjects) including non-airport employees (non-noise exposed). The sound pressure level was measured and equivalent level (Leq) was calculated for all groups. Also the history of participants about past noise exposure and other confounding variables was determined by a questionnaire. Pure tone audiometry was carried out on conventional frequencies (0.5-8 KHz).

Results: The mean age of subjects was 40.03±9.75 and 37.85±8.15 for exposed and non-exposed groups respectively. Leq (noise equivalent level) for Ramp and traffic workers was estimated more than 95 dBA. 35.7% (n=10) of Ramp workers were suffering in their right ear from noise induced hearing loss (26-40dB) and 32.1% (n=9) of them in their left ear. Relative risks of noise induced hearing loss in Ramp workers in comparison with control group were 9.4 and 7.5 for right and left ears. A significant difference was found between the hearing thresholds of exposed and non-exposed groups (P<0.05).

Conclusion: This study showed that occupational exposure to noise cause hearing loss among airport employee. It is suggested strategies of noise assessment and prevention should be implemented for airport employees.

Keywords: Hearing loss, Audiometry, Noise, Employee, Airport

* **Corresponding Author:** Kamaleddin Abedi (MSc), E-mail: kamal.abedi@gmail.com

Received 6 Sep 2008

Revised 25 Apr 2009

Accepted 12 Jul 2009