Noise-induced Hearing Loss: 3 Year Update

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ABSTRACT

Noise-induced hearing loss (NIHL) is still a world-wide leading environmental and occupational health risk in industrialized countries and the second most common form of sensorineural hearing impairment, after presbyacusis. According to Medline database, over 600 papers on NIHL were published in the last three years (2011-2013). Majority of investigations were designed to evaluate the prevalence of NIHL in different populations; to assess the role of individual risk factors for NIHL, including genetics; to verify and further develop medico-legal and clinical methods of NIHL and tinnitus evaluation (speech in noise, otoacoustic emission), to develop new strategies for preventing acoustic traumas (diet, pharmacological intervention, the use of new generation hearing protectors); and to assess the effectiveness of hearing loss preventive campaigns.

A substantial attention has been given to personal music players. It seems that, compared to data published in SCENIHR report in 2008, the number of young individuals at risk of developing NIHL due to their use systematically increases. Thus, apart from limiting upper output level and labeling the devices, there seems to be a need for public health campaigns, which would target this phenomenon. It has been stressed that more longitudinal studies should be developed with the use of at-ear noise exposure dosimetry to understand the dose-response relationship between noise exposure and hearing loss. Significant advances have also been made in neurobiology of hearing disorders, including noise-induced hearing loss and tinnitus. This presentation will discuss the most important research results on NIHL in humans.