

DANGEROUS SILENCE: THE INVISIBLE THREAT OF SOLVENTS TO AUDITORY HEALTH

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INTRODUCTION: Hearing loss associated with chronic exposure to volatile organic solvents constitutes a significant occupational health concern, adversely affecting workers' quality of life and productivity. This study emphasized the presence of solvents commonly found in gasoline, such as benzene, ethylbenzene, and toluene, which are extensively employed in the petrochemical industry and fuel formulations. These substances have the potential to cause damage to peripheral auditory pathways, independent of simultaneous noise exposure, which may further potentiate their ototoxic effects. A comprehensive understanding of the relationship between hearing loss and occupational exposure to chemical solvents may contribute to the enhancement of worker health surveillance policies and support the implementation of effective exposure control measures. **OBJECTIVE:** To investigate the potential ototoxic effects resulting from exposure to petroleum derivatives, particularly gasoline, among gas station attendants and petrochemical workers. **MATERIALS AND METHODS:** A literature review was conducted covering the period from 2005 to 2023, using the SciELO, PubMed, and gray literature databases. The search strategy included a combination of keywords established in the Health Sciences Descriptors (DeCS): occupational health, hearing loss, volatile organic compounds, solvents, and gasoline, along with their respective portuguese terms. Articles were selected by two independent reviewers. A total of 150 articles with primary data were analyzed, with 25 full-text articles selected after screening by title and abstract. **RESULTS AND CONCLUSION:** According to the articles selected in this review, there were reported cases of alterations in the peripheral auditory system of the workers evaluated, such as impairment of acoustic reflexes, reduced amplitudes of otoacoustic emissions and elevated sound pressure levels. However, the limited amount of literature available on this subject — even after indications of toxic effects resulting from continuous gasoline exposure — highlights a significant gap in research concerning the auditory health and well-being of these workers.

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