

UNIVERSITI TEKNOLOGI MARA

**ASSOCIATION OF EAR PLUG USAGE AND HEARING
LOSS AMONG NOISE EXPOSED GROUP IN AUTO
PARTS MANUFACTURING INDUSTRY**

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Declaration by Student

Project entitled Association of Ear Plug Practice and Hearing Loss among Exposed Group to Noise in Auto Parts Manufacturing Industry is a presentation of my original research work. Wherever contributions of others are involved, every effort is made to indicate this clearly, with due reference to the literature, and acknowledgement of collaborative research and discussions. The project was done under the guidance of Mdm Nadiatul Syima Mohd Shahid as Project Supervisor and Dr. K Subramaniam, MCIEH as Co-supervisor. It has been submitted to the Faculty of Health Sciences in partial fulfillment of the requirement for the Degree of Bachelor in Environmental Health and Safety (Hons).

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Abstract

Association of Ear Plug Usage and Hearing Loss among Noise Exposed Group In Auto Parts Manufacturing Industry

Farah Hazwani Bt Mohammed Zaini

Introduction: A personal hearing protection device is any device designated to reduce the level of sound reaching the eardrum. Ideally, the most effective way to prevent NIHL is to remove the hazardous noise. Hearing protectors should be used when engineering controls and work practices are not feasible for reducing noise exposure to safe levels. So, a cross sectional study was carried out among auto parts manufacturing industry workers in Rawang, Selangor. The objective of this study was to study the association of ear plug usage to hearing loss among noise exposed workers at auto parts manufacturing industry.

Methodology: Sixty workers (n=60) were involved in this study after considered the inclusive criteria and exclusive criteria. Questionnaires were used to obtain socio-demography data and observation methods were used to identify the ear plug usage from respondents. Noise Dosimeter (EOGE 4 Quest Tech) was used to measured the personal noise exposure and ANSI S1.4 Type 2 sound level meter was used to measure workplace noise level. All studied samples were subjected to complete Audiometric Test using pure tone Audiometer (Silent Cabin Model 'S'). The audiometric test is supervised under occupation medicine practitioner Dr. Lee Fook Sin, MBBS (Singapore), MscOM (Singapore), Crt UMW (Sydney), DTM & H (Bangkok). The results from audiogram were used as sign of hearing loss.

Results: The noise level in study area exceeded 90 dB (A) of the Permissible Exposure Level. While the mean of Lavg dB (A) among respondent was 86.87 ± 3.04 which was above the action level. Based on observation and face to face questionnaire, there were 39 respondents (n=39) who use ear plug while 21 respondents (n=21) not use ear plugs in noise exposed group. Where, most of them do not use ear plug due to not comfort and they have low awareness due to lack of knowledge in effects of noise exposure. There is significant association between ear plug practice and hearing loss, ($p < 0.05$).

Conclusion: Ear plug practice is significantly associated with hearing loss; there is higher proportion of hearing loss among those who not used ear plug than those who used along work shift among noise exposed workers.

Keyword: Hearing Loss, Noise, Ear Plug Practice.