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Occupational Noise Exposure Among Grass Cutter Workers in UiTM Shah Alam

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Structured Abstract

Background: Occupational noise exposure is a serious health problem for workers in high-noise situations, particularly those performing outside grass cutting tasks. Grass cutter workers, who sometimes operate without hearing protection, are exposed to gear that can produce dangerously loud noise levels. The purpose of this study was to examine the personal and environmental noise exposure of grass cutter workers at UiTM Shah Alam (Zone 1), determine their compliance with regulation limitations under the Occupational Safety (Noise Exposure) Regulation 2019, and investigate their knowledge and preventative activities.

Methods: The study used calibrated tools to detect both area and personal noise, including the Larson Davis 831C Sound Level Meter (SLM) for ambient measures and the Spartan 730 noise dosimeter for individual exposure. Data were taken from four workers utilizing identical backpack-style GIANT TL-43 grass cutters. Questionnaire questionnaires were also given to collect information about workers' knowledge, symptoms, and use of hearing protection. All data were descriptively analysed using Microsoft Excel and compared to the limitations established by the Occupational Safety (Noise Exposure) Regulation 2019.

Results: The findings found that three out of four workers surpassed the allowable noise dosage (100%) when projected to an 8-hour workday, with one worker exceeding 300%. Time-Weighted Average (TWA) readings varied from 84.0 dBA to 90.2 dBA, and peak levels for all workers surpassed 130 dBA, which is significantly beyond the Maximum Exposure Limit (115 dBA). A questionnaire study revealed that 25% of workers experienced tinnitus symptoms, yet none wore hearing protection or received noise hazard training.

Conclusion: All measured and forecasted noise exposure levels exceeded the Occupational Safety (Noise Exposure) Regulation 2019 limit of 85 decibels (A), putting workers at risk of Noise-Induced Hearing Loss. The lack of hearing protection use and poor awareness underscore the critical need to adopt hearing conservation programs, equipment updates, and organized safety training.

Keywords: Occupational noise exposure, grass cutter, personal dosimetry, hearing conservation, Occupational Safety (Noise Exposure) Regulation 2019

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