ABSTRACT

THE RELATIONSHIP BETWEEN NOISE INTENSITY AND FATIGUE LEVELS AMONG WORKSHOP WORKERS AT PT ADILUHUNG SARANASEGARA INDONESIA

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Abstract

Noise is a physical factor in the work environment that can cause adverse health effects, one of which is work-related fatigue. Workshop areas in shipyard industries have a high potential for noise exposure due to continuous use of production machinery. This study aimed to analyze the relationship between noise intensity and work fatigue levels among workshop workers at PT Adiluhung Saranasegara Indonesia, Bangkalan, Madura*, in* 2025. *This study employed a quantitative analytical method with a cross-sectional design. The study population consisted of* 69 *workers, with a sample of* 59 *respondents selected using a cluster random sampling technique. Data were collected through direct noise measurements using a Sound Level Meter* (SLM) *and assessment of work fatigue using the Industrial Fatigue Research Committee* (IFRC) *questionnaire. Data analysis was conducted using univariate and bivariate analyses with the Spearman Rank correlation test at a significance level of* $\alpha = 0.05$. *The results showed that noise intensity levels exceeding* 85 dBA *were classified as high risk* (79.6%), *and the majority of workers experienced moderate levels of work fatigue* (57.6%). *The statistical analysis revealed a significant and positive relationship between noise intensity and work fatigue level* ($p = 0.001$; $r = 0.490$*). In conclusion, increased noise intensity is associated with higher levels of work fatigue among workshop workers. Therefore, the implementation of noise control measures based on the hierarchy of hazard control is necessary to reduce work fatigue and improve occupational safety and health.*

Keyword : Noise exposure, Work-related fatigue, Occupational Safety and Health, Workshop workers