

ABSTRACT

The Relationship Between Heat Exposure and Safety Awareness Among Workers at PT Mahligai Indococo Fiber South Lampung

By

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Background: Heat exposure in tropical industrial settings is a major factor affecting workers' safety. Excessive heat exceeding the Threshold Limit Value (TLV) can cause physiological strain, leading to reduced safety awareness. A coconut fiber processing company has several work areas with high thermal exposure that may influence workers' safety behavior.

Methods: This analytical observational study with a cross-sectional design involved 70 workers. Heat exposure was measured using the Wet Bulb Globe Temperature (WBGT) index through a heat stress monitor assisted by the Lampung Occupational Health and Safety Center. Safety awareness was assessed using the Indonesian version of the Nordic Occupational Safety Climate Questionnaire (NOSACQ-50). Data were analyzed using univariate and bivariate analysis with the chi-square test ($p < 0,05$).

Results: Most workers in the production area were exposed to heat above TLV, with the drying section recording the highest WBGT. The majority had moderate to low safety awareness levels. Bivariate analysis showed a significant relationship between heat exposure and safety awareness ($p < 0.05$); Workers exposed to levels above the TLV had lower awareness than those exposed to levels at or below the TLV.

Conclusions: There is a significant relationship between heat exposure and safety awareness among workers at PT Mahligai Indococo Fiber. High heat exposure decreases safety awareness; thus, continuous heat control and safety education are needed to improve safe work behavior.

Keywords: Heat exposure, Industrial workers, NOSACQ-50, Occupational safety, Safety awareness, WBGT.

ABSTRAK

Hubungan antara Paparan Panas dengan *Safety Awareness* pada Pekerja di PT Mahligai Indococo Fiber Lampung Selatan

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Latar Belakang: Paparan panas di lingkungan industri tropis merupakan faktor penting yang memengaruhi keselamatan pekerja. Suhu yang melebihi Nilai Ambang Batas (NAB) dapat menimbulkan tekanan fisiologis yang menyebabkan penurunan *safety awareness*. Perusahaan pengolahan sabut kelapa memiliki beberapa area kerja dengan paparan panas tinggi yang berpotensi memengaruhi perilaku keselamatan pekerja.

Metode: Penelitian observasional analitik dengan desain potong lintang ini melibatkan 70 pekerja. Paparan panas diukur menggunakan indeks *Wet Bulb Globe Temperature* (WBGT) melalui *heat stress monitor* dengan pendampingan Balai K3 Lampung. *Safety awareness* dinilai menggunakan *Nordic Occupational Safety Climate Questionnaire* (NOSACQ-50) versi Bahasa Indonesia. Data dianalisis secara univariat dan bivariat menggunakan uji *chi-square* dengan ($p < 0,05$).

Hasil: Sebagian besar pekerja di area produksi terpapar panas melebihi NAB, dengan WBGT tertinggi pada area penjemuran. Mayoritas memiliki tingkat *safety awareness* sedang hingga rendah. Analisis bivariat menunjukkan hubungan signifikan antara paparan panas dan *safety awareness* ($p < 0,05$); Pekerja yang terpapar pada kadar di atas NAB memiliki tingkat kesadaran yang lebih rendah dibandingkan dengan mereka yang terpapar pada kadar sama dengan atau di bawah NAB.

Kesimpulan: Terdapat hubungan bermakna antara paparan panas dan *safety awareness* pada pekerja PT Mahligai Indococo Fiber. Paparan panas tinggi menurunkan *safety awareness*; diperlukan pengendalian panas dan edukasi keselamatan berkelanjutan untuk meningkatkan perilaku kerja aman.

Kata Kunci: Keselamatan kerja, NOSACQ-50, Paparan panas, Pekerja Industri, *Safety awareness*, WBGT.