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Hubungan Konsentrasi Debu Kayu dan PM2.5 dengan Keluhan Subyektif Gangguan Pernapasan Pada Pekerja di CV. Lestari Albesia Mandiri

ABSTRAK

Latar Belakang: Industri pengolahan kayu merupakan salah satu sektor kerja yang menimbulkan debu kayu di lingkungan kerja. Proses produksi seperti pemotongan, penyerutan, dan penghalusan kayu dapat menghasilkan debu kayu serta partikel halus PM2.5 yang dapat terhirup oleh pekerja dan berpotensi menimbulkan keluhan subyektif gangguan pernapasan. Penelitian ini bertujuan untuk menganalisis hubungan antara konsentrasi debu kayu dan PM2.5 dengan keluhan subyektif gangguan pernapasan pada pekerja.

Metode: Penelitian ini merupakan penelitian kuantitatif dengan desain cross-sectional. Sampel penelitian sebanyak 108 pekerja bagian proses produksi yang dipilih menggunakan teknik quota sampling. Pengumpulan data dilakukan melalui observasi, pengukuran debu kayu dan PM2.5, serta kuesioner keluhan subyektif gangguan pernapasan. Analisis data menggunakan uji Chi-square dengan tingkat signifikansi $p < 0,05$.

Hasil: Hasil penelitian menunjukkan terdapat hubungan yang signifikan antara konsentrasi debu kayu dan PM2.5 dengan keluhan subyektif gangguan pernapasan pada pekerja ($p\text{-value} = 0,000$).

Simpulan : Konsentrasi debu kayu dan partikel halus PM2.5 yang tinggi di lingkungan kerja berhubungan dengan timbulnya keluhan subyektif gangguan pernapasan pada pekerja. Upaya pengendalian seperti pemasangan dust collector, peningkatan ventilasi, serta penggunaan alat pelindung diri masker perlu dilakukan untuk menurunkan risiko gangguan pernapasan.

Kata kunci : Debu kayu, PM2.5, gangguan pernapasan, keluhan subyektif, pekerja industri

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**The Relationship Between Wood Dust and PM2.5 Concentrations and
Subjective Complaints of Respiratory Disorders in Workers at
CV. Lestari Albesia Mandiri**

ABSTRACT

Background: The wood processing industry is one of the work sectors that generates wood dust in the work environment. Production processes such as cutting, planing, and smoothing wood can produce wood dust and fine particles PM2.5 that can be inhaled by workers and have the potential to cause subjective complaints of respiratory disorders. This study aims to analyze the relationship between the concentration of wood dust and PM2.5 with subjective complaints of respiratory disorders in workers.

Methods: This study is a quantitative study with a cross-sectional design. The study sample was 108 workers in the production process selected using quota sampling techniques. Data collection was carried out through observation, measurement of wood dust and PM2.5, and questionnaires on subjective complaints of respiratory disorders. Data analysis used the Chi-square test with a significance level of $p < 0.05$.

Results: The results showed a significant relationship between the concentration of wood dust and PM2.5 with subjective complaints of respiratory disorders in workers ($p\text{-value} = 0.000$).

Conclusion: High concentrations of wood dust and fine particles PM2.5 in the work environment are associated with the emergence of subjective complaints of respiratory disorders in workers. Control measures such as installing dust collectors, improving ventilation, and using personal protective equipment (PPE) such as masks are necessary to reduce the risk of respiratory problems.

Keywords: Wood dust, PM2.5, respiratory problems, subjective complaints, industrial workers