

**PENGARUH PAPARAN *RESPIRABLE DUST* DAN KARAKTERISTIK
INDIVIDU TERHADAP FAAL PARU TENAGA KERJA (Studi Pada Tenaga
Kerja Bagian Boiler di PT X, Sidoarjo)**

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ABSTRAK

Batubara merupakan bahan bakar fosil yang dapat digunakan sebagai bahan bakar mesin boiler. Penggunaan batubara sebagai bahan bakar dapat menghasilkan debu yang dapat mencemari udara di lingkungan kerja. Debu batubara dapat terhirup oleh tenaga kerja sehingga debu dapat masuk kedalam paru-paru melalui saluran pernapasan yang dapat mengakibatkan gangguan faal paru. Tujuan dalam penelitian ini adalah untuk mengetahui pengaruh paparan *respirable dust* dan karakteristik individu terhadap faal paru tenaga kerja bagian boiler PT X Sidoarjo.

Penelitian ini menggunakan metode survei analitik dengan pendekatan *Cross Sectional*. Data penelitian didapatkan dari pengukuran kadar *respirable dust*, pemeriksaan faal paru, dan karakteristik individu didapatkan dengan memberikan kuesioner. Populasi penelitian ini adalah 4 seluruh tenaga kerja di bagian boiler dan sampel penelitian sebanyak 4 tenaga kerja bagian boiler PT X Sidoarjo. Data dianalisis secara deskriptif dan dengan menggunakan uji *Chi Square*.

Hasil penelitian kadar *respirable dust* semua responden menunjukkan kategori dibawah NAB yaitu 3 mg/m³. Hasil pemeriksaan faal paru menunjukkan 75.00% faal paru responden mengalami gangguan faal paru berupa restriksi ringan. Karakteristik individu (umur, masa kerja, kebiasaan memakai APD, dan kebiasaan merokok) tidak berpengaruh terhadap faal paru responden dengan mendapatkan nilai ($p > 0,05$).

Disarankan pihak industri melakukan pemantauan paparan debu kepada para tenaga kerja secara kontinu, melakukan pemeriksaan faal paru tenaga kerja secara berkala, memberi peraturan kepada tenaga kerja agar bersikap disiplin dalam penggunaan alat pelindung diri seperti respirator.

Kata Kunci: *Respirable Dust*, Karakteristik Individu, Faal Paru

Jumlah daftar bacaan

Buku : 7

Jurnal : 25

THE INFLUENCE OF RESPIRABLE DUST AND INDIVIDUAL CHARACTERISTICS AGAINST WORKERS' LUNG FUNCTION (Study on Workers in the section of Boilers in PT X, Sidoarjo)

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ABSTRACT

Coal is a fossil fuel that can be used as boiler engine fuel. The use of coal as fuel can produce dust that can pollute the air in the work environment. Coal dust can be inhaled by workers therefore dust can enter the lungs through the respiratory tract which can result in pulmonary physiology disorders. The purpose of this study is to know the effect of exposure to respirable dust and individual characteristics of lung function in the boiler section of PT X Sidoarjo.

This research uses analytic survey method with Cross Sectional approach. The research data were obtained from measurements of respirable dust levels, pulmonary examination, and individual characteristics obtained by giving questionnaires. The populations of this study were 4 workers in the boiler section and the sample of the study were 4 workers in the boiler section of PT X Sidoarjo. Data was analyzed descriptively and by using Chi Square test.

The results of the respirable dust level of all respondents showed a category below the NAV of $3 \text{ mg} / \text{m}^3$. The results of pulmonary physiology showed that 75.00% of respondents experienced pulmonary physiology in the form of mild restriction. Individual characteristics (age, years of service, habits of wearing PPE, and smoking habits) did not affect the respondent's lung physiology with a value ($p > 0.05$).

It is suggested to the industry to monitor dust exposure to workers on a continuous basis, conduct regular lung physiology checks, provide regulations for workers to be disciplined in the use of personal protective equipment such as respirators.

Key Words: Respirable Dust, Individual Characteristics, Lung Function

Total reading lists

Book : 7

Journal: 25