

## Analisis hubungan pajanan debu uang kertas dengan gangguan fungsi paru pada tenaga kerja bank x 1996

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### Abstrak

Ruang lingkup dan Cara penelitian : Bahan dasar uang kertas adalah serat kapas. Di Bank X uang kertas tak layak edar dihancurkan menjadi debu dan serpihan-serpihannya. Banyak laporan mengatakan debu dan serat kapas berpengaruh negatif pada fungsi paru tenaga kerja dengan menyebabkan terjadinya obstruksi. Selama ini belum diketahui dengan pasti pengaruh debu uang kertas terhadap fungsi paru. Suatu studi cross sectional dengan pembandingan telah dilaksanakan di Bank X Jakarta untuk mengetahui prevalensi gangguan faal ventilasi paru yang berupa obstruksi kronik dan akut serta restriksi dan dianalisis hubungannya dengan kadar debu total, umur, lama kerja, kebiasaan merokok, gejala klinis serta riwayat alergi. Sampel adalah tenaga kerja di Bagian Kas sebagai kelompok terpajan dan tenaga kerja pada Bagian Sumber Daya Manusia (SDM) sebagai kelompok tidak terpajan. Data keduanya dianalisis dan dibandingkan.

Hasil dan Kesimpulan : Kadar rata-rata debu total pada Bagian Kas 243,0 hg/m<sup>3</sup> dan Bagian SDM 42,8 pg/m<sup>3</sup>. Kadar debu tersebut berbeda bermakna (  $p = 0,00$  ). Kadar ini tidak dapat dibandingkan. Gejala klinis yang menonjol adalah batuk-batuk (pada Bagian Kas 51,3% dan Bagian SDM 11,3% ) yang secara statistik berbeda bermakna (  $p = 0,00$  ). Prevalensi obstruksi kronik pada Bagian Kas 19,4% dan di Bagian SDM 32,3% ; obstruksi akut di Bagian Kas 7,7%, di Bagian SDM 8,1 %; dan restriksi di Bagian Kas 14,1 %, di Bagian SDM 11,3 % . Uji statistik tidak menunjukkan perbedaan bermakna antara obstruksi kronik dan akut serta restriksi dengan kadar debu, umur, lama kerja, merokok,- gejala klinis yang berupa batuk-batuk serta riwayat alergi. Efek debu uang kertas pada kelainan faal ventilasi paru belum terlihat.

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<i>Analysis on the Relationship between Exposure to Paper-Money Dust and Lung Function Disturbances in Workers of Bank X, 1996

Scope and methods :

The main ingredient of paper money is cotton fibers. In Bank X used paper money which is not proper for circulation is destroyed into dust and very fine pieces. Many reports state that cotton dust and fibers negatively affect the lung function by causing obstruction. So far until recently the actual effects of paper money dust to the health of the lungs have not been exactly known. A cross-sectional study with the use of control group has been carried out in Bank X, Jakarta to ascertain the prevalence of pulmonary ventilator disturbances in the forms of chronic and acute obstruction as well as restriction, and analysis has been done on their correlations with total dust concentration in the workroom air, age, length of employment, smoking habits, clinical symptoms and history of allergy. The study samples have covered the workers of the Division of Finance as the exposed and entire workers of the Division of Human Resources Development (HRD) as the unexposed group. Data collected from these two groups were analyzed and compared.

Results and Conclusions :

The average concentrations of paper-money dust were 243.0 ug/m<sup>3</sup> at the Division of Finance and 42.8 ug/m<sup>3</sup> at the Division of HRD. These dust concentrations were of statistically significant difference ( p = 0.00 ). The prominent clinical symptom was coughs found in 51.3 % of workers of the Division of Finance and 11.3 % in the Division of HRD. Statistical analysis has shown significant difference (p = 0.00). The prevalence rates of chronic obstruction were 19.4 % in the Division of Finance and 32.3 % in the Division of HRD. The prevalence rates of acute obstruction were found 7.7 % in the Division of Finance and 8.1 % in the Division of HRD\_ The prevalence rates of restriction were 14.1 % in the Division of Finance and 11.3% in the Division of HRD. The statistical analysis has not shown significant correlations among chronic and acute obstruction as well as restriction with dust concentration, age, length of employment, smoking habits, and clinical symptom (coughs) and history of allergy. Exposure to paper-money dust has resulted in clinical symptom i.e. coughs, but its effects to the lung function have not been revealed by this study.</i>