

# Keluhan respirasi dan faal paru pekerja yang terpajan debu karbon hitam pabrik tinta PT X di Bogor = Respiratory complaints and lung function worker exposed carbon black dust ink factory PT X in Bogor

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## Abstrak

Latar belakang : Kemajuan sektor industri memberi dampak baik dan buruk. Debu yang dihasilkan dalam proses industri dapat berdampak buruk terhadap kesehatan paru. Belum ada penelitian tentang efek debu karbon hitam terhadap keluhan respirasi dan gangguan faal paru di Indonesia.

Tujuan : Penelitian ini mencari keluhan respirasi dan faal paru pekerja yang terpajan debu karbon hitam di PT X Bogor yang berdiri tahun 2006.

Metode : Penelitian potong lintang sejak bulan November 2012-April 2013. Sejumlah 248 subjek diperiksa dengan total coverage sampling kemudian dipilih sesuai kriteria inklusi. Dilakukan wawancara dengan kuesioner, pemeriksaan fisis, foto toraks, spirometri dan pemeriksaan carbonmonoxide (CO).

Hasil : Ada 207 subjek inklusi dengan kebanyakan laki-laki (81,2 %), didapatkan keluhan respirasi sejumlah 68 (32,8 %) berupa flu, sesak, batuk, dahak kronik, batuk dahak, dahak, batuk kronik dan mengi. Hasil spirometri rerata VEP1/KVP  $93,5 \pm 4,4$  (79,2 - 98,8). Tidak didapatkan hubungan bermakna secara statistik antara jenis kelamin, usia subjek, tingkat pendidikan, status gizi, status perokok, kadar CO, kondisi debu, penggunaan masker, kelainan foto toraks dan lama kerja dengan terdapatnya kelainan faal paru. Terdapat hubungan bermakna antara jenis kelamin laki-laki, status perokok aktif dan kadar CO 10 dengan terdapatnya keluhan respirasi dengan nilai  $p < 0,05$ .

Kesimpulan : Tidak ada hubungan antara kadar debu dengan keluhan respirasi dan kadar debu dengan faal paru yang bermakna secara statistik pada penelitian ini.

.....Background : Advances in the industrial sector gives good and bad impact. Dust generated in industrial processes may adversely affect the health of the lungs. No studies on the effects of carbon black dust on respiratory complaints and lung function disorders in Indonesia.

Objective : This research looks at respiratory complaints and lung function of workers exposed to carbon black dust X Factory in Bogor which was founded in 2006.

Methods : A cross-sectional study from November 2012-April 2013. A total of 248 subjects examined by total coverage sampling then selected according to the inclusion criteria. Conducted interviews with questionnaires, physical examination, chest Xray, spirometry and carbon monoxide (CO) inspection.

Results : There were 207 subjects with the inclusion of mostly male (81.2%), respiratory complaints obtained a number of 68 (32.8%) in the form of the flu, tightness, cough, chronic sputum, phlegm cough, phlegm, chronic cough and wheezing. Spirometry results mean  $93.5 \pm 4.4$  FEV1/FVC (79.2 to 98.8). No statistically significant between sex, age of subjects, level of education, nutritional status, smoking status, the rate of CO, dust conditions, the use of masks, chest X-ray abnormalities and work duration with lung function abnormalities. There is a significant relationship between male gender, current smoking status and CO levels 10 with the presence of respiratory complaints with  $p < 0,05$ .

Conclusion : There is no correlation between the dust with respiratory complaints and of dust with lung function statistically significant in this study.