

Faal Paru pada polisi lalulintas Jakarta Pusat dan faktor-faktor yang mempengaruhi = Lung functions and their influencing factors on traffic policemen in Central Jakarta / Martinus Ginting

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Abstrak

ABSTRAK

Pendahuluan: Polusi udara akibat kepadatan kendaraan merupakan bahaya serius bagi kesehatan sehingga orang yang terpajan polutan terus menerus mengalami peningkatan risiko terjadinya penurunan faal paru. Polisi lalulintas merupakan subjek yang terus menerus terpajan dengan emisi gas buang kendaraan sebagai risiko dari pekerjaannya. Gas buang kendaraan terdiri dari nitrogen oksida, karbon monoksida, bahan partikel dan lainnya yang dapat menyebabkan kerusakan bronkiolus terminal dan menurunnya kompains serta kapasitas vital paru. Penelitian ini bertujuan menilai status faal paru polisi lalulintas Jakarta Pusat dan apakah terdapat hubungan antara pajanan terhadap polusi gas buang kendaraan dengan penurunan faal paru. Disamping itu juga dilakukan analisis hubungan antara penurunan faal paru dengan berbagai faktor yang mempengaruhinya.

Metode: Penelitian potong lintang ini melibatkan 170 polisi lalulintas di Polres Jakarta Pusat, usia 20-55 tahun, masa kerja minimal 2 tahun. Data kesehatan secara keseluruhan diamati menggunakan Kuesioner Proyek Pneumomobile Indonesia dan pemeriksaan fisis dan status kesehatan paru secara khusus diamati menggunakan foto toraks dan spirometri. Kadar CO-ekshalasi juga dianalisis. Analisis statistik dikerjakan menggunakan SPSS versi 17.

Hasil: Dalam penelitian ini didapatkan sampel total adalah 130 subjek tetapi 9 subjek dropout karena tidak menyelesaikan pemeriksaan secara lengkap dan benar. Data subjek yang dilakukan analisis adalah sebanyak 121 dengan karakteristik 33,9% memiliki usia antara 41-50 tahun dengan rerata usia 37,0 tahun (SD 8,8); 57,9% memiliki berat badan lebih; 55,4% merupakan perokok aktif; 64,5% menggunakan alat pelindung diri secara buruk; 47,9% memiliki masa kerja >10 tahun; 100% bekerja 56 jam seminggu. Rerata kadar CO-ekshalasi adalah 8,7 (SD 5,0). 9,9% subjects memiliki foto toraks normal, hanya 16,7% yang merupakan kelainan paru dan 83,3% merupakan kelainan nonparu. 19% subjek memiliki kelainan faal paru yaitu 60,9% kelainan restriksi ringan dan 39,1% kelainan obstruksi ringan dan sedang. Tidak terdapat hubungan bermakna secara statistik antara variabel independen usia, status nutrisi, riwayat merokok, penggunaan alat pelindung diri, durasi kerja terhadap variabel dependen pemeriksaan spirometri. Hanya variabel masa kerja subjek yang semakin lama memiliki hubungan bermakna secara statistik terhadap penurunan hasil pemeriksaan spirometri dengan $p=0,0014$.

Kesimpulan: Penelitian ini menunjukkan lamanya masa kerja polisi lalulintas berhubungan bermakna secara statistik dengan penurunan faal paru.

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ABSTRACT

Introduction: Air pollution due to road traffic is a serious health hazard and thus the persons who are continuously pollutant exposed, may be at an increased risk. In this respect, traffic policemen are at a risk, since they are continuously exposed to emissions from vehicles, due to the nature of their job. Automobile exhaust consists of oxides of nitrogen, carbon monoxide, particulate matter, and others, which cause injury to the terminal bronchioles and a decrease in the pulmonary compliance and vital capacity. The present study was aimed at assessing the pulmonary function status in traffic policemen in Central Jakarta whether prolonged exposure to vehicular exhausts had any detrimental effect on their lung functions. The relationship between decrements of lung function and various influencing factors also analyzed.

Methods: Across-sectional study was conducted in 170 traffic policemen in Central Jakarta, age 20-55 years, working periods at least 2 years. The data of overall health status was observed using Indonesia Pneumomobile Project Questioner and physical examinations and lung health status was observed using thorax X-ray and spirometry. Level of CO-exhalation was also analyzed. The statistical analysis was carried out with SPSS PC software version 17.

Results: Total samples included in this study were 130 subjects, 9 subjects were dropped out because uncompleted study's tests. Analyzed subjects were 121 whose characteristics were 33,9% were in age classifications 41-50 years and mean age was 37,0 (SD 8,8); 57,9% overweight; 55,4% active smokers; 64,5% bad masker application; 47,9% in working periods >10 years; 100% had 56 working hours in a week. Mean CO-exhalation level was 8,7 (SD 5,0). 9,9% subjects had abnormal thorax X-ray that 16,7% were lung abnormality and 83,3% were nonlung abnormality. 19% subjects recorded lung function decreased included 60,9% mild restriction and 39,1% mild and moderate obstruction. There were no statistical significant between age, nutrition's classifications, smoking history, protective mask applications, working duration as independent variables and spirometry parameters as dependent variables. Longer working periods were the only dependent variable had statistical significant with decreasing spirometry results with $p=0,0014$.

Conclusion: This study showed that working periods had statistical significant with lung function decrement.