

Pengaruh Paparan Ozon (O<sub>3</sub>) di Udara Ambien terhadap Gangguan Fungsi Paru pada Penyapu Jalan (Studi Wilayah Jagakarsa, Jakarta Selatan Tahun 2019) = Influence of Ozone exposure (O<sub>3</sub>) in ambient air against impaired function Lung on Road sweeper (Study of Jagakarsa area, South Jakarta 2019).

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Abstrak

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Peningkatan konsentrasi ozon di udara dapat memberikan dampak kesehatan pada manusia terutama pada fungsi sistem pernafasan manusia. Penelitian ini bertujuan untuk Menganalisis hubungan antara konsentrasi O<sub>3</sub> di udara ambien dengan gangguan fungsi paru pada penyapu jalan di Kecamatan Jagakarsa, Jakarta selatan. Penelitian ini menggunakan desain studi cross sectional. Jumlah sampel pada penelitian ini adalah 78 dan jumlah sampel pengukuran fungsi paru adalah 30 orang. Hasil penelitian menunjukkan bahwa Responden yang terpajan konsentrasi O<sub>3</sub> > 54,34 µg/Nm<sup>3</sup> sebanyak 10 orang (66,7%) mengalami gangguan fungsi paru dan responden yang terpajan konsentrasi O<sub>3</sub> &#8804; 54,34 µg/Nm<sup>3</sup> sebanyak 7 orang (46,7%) mengalami gangguan fungsi paru. Hasil uji statistik menunjukkan bahwa tidak terdapat hubungan antara konsentrasi O<sub>3</sub> di udara ambien (p=0,705) dengan gangguan fungsi paru. Ada hubungan faktor lain seperti status merokok (p=0,011) dan kebiasaan olahraga (p=0,049) dengan gangguan fungsi paru. Hubungan antara konsentrasi O<sub>3</sub> di udara ambien dang gangguan fungsi paru memiliki nilai OR=1,5 artinya seseorang yang terpajan konsentrasi O<sub>3</sub> > 54,35 µg/Nm<sup>3</sup> 1,5 kali dapat menurunkan fungsi paru dibandingkan dengan konsentrasi O<sub>3</sub> &#8804; 54,35 µg/Nm<sup>3</sup>.

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**ABSTRACT**

Increased ozone concentration in the air can provide a health impact in humans, especially respiratory system function. This research aims to analyze relationship between O<sub>3</sub> concentration in the ambient air with impaired pulmonary function in the road sweeper in Jagakarsa, South Jakarta. The study uses a cross-sectional study design. The number of samples in this study was 78 and pulmonary function measurement samples were 30 people. The results showed that respondents were exposed to concentrations of O<sub>3</sub> > 54.34 µg/Nm<sup>3</sup> hr as much as 10 people (66.7%) Suffered pulmonary dysfunction and respondents were exposed to concentrations of O<sub>3</sub> &#8804; 54.34 µg/Nm<sup>3</sup> hr as much as 7 people (46.7%) Suffered pulmonary dysfunction. Statistical results showed that there was no relationship between O<sub>3</sub> concentration in ambient air (p = 0,705) with impaired pulmonary function. Any other factor that relationship with smoking status (P = 0,011) and the exercise habit (P = 0,049) with impaired pulmonary function. The relationship between O<sub>3</sub> concentration in ambient air OR lung function has a value of OR = 1,5 meaning that someone who is exposed to concentrations O<sub>3</sub> > 54.35 µg/Nm<sup>3</sup> hr 1.5 times can decrease lung function compared to concentration O<sub>3</sub> &#8804; 54.35 µg/Nm<sup>3</sup> hr.