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NO2 Exposure Effect on the Occurrence of Pulmonary Dysfunction the Police Traffic in Jakarta

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Abstract : Introduction/objective: The impact of the development of motor vehicles is increasing the number of pollutants in the air. One of the substances that cause serious health problems is NO2. The health impacts arising from exposure to NO2 include pulmonary function impairment. The purpose of this study was to determine the relationship of NO2 exposure on the incidence of pulmonary function impairment. Methods: We are using a cross-sectional study design with 110 traffic police who were divided into two groups: exposed (police officers working on the highway) and the unexposed group (police officers working in the office). Election subject convenient sampling carried out in each group to the minimum number of samples met. Results: The results showed that the average NO2 in the exposed group was 18.72 ppb and unexposed group is 4.14 ppb. Pulmonary dysfunction on exposed and unexposed groups showed that FVC (Forced Vital Capacity) value are 88.68 and 90.27. And FEV1 (Forced Expiratory Volume in One) value are 94.9 and 95.16. Some variables like waist circumference, Body Mass Index, Visceral Fat, and Fat has associated with the incidence of Pulmonary Dysfunction ($p < 0.05$). Conclusion: Health monitoring is needed to decreasing health risk in Policeman.

Keywords : NO2, pulmonary dysfunction, police traffic, Jakarta
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