

Pajanan PM_{2,5} terhadap Kadar malondialdehyde pada sopir angkutan kota di Terminal Kampung Melayu tahun 2019 = PM_{2,5} exposure to malondialdehyde levels among public transportation drivers in Terminal Kampung Melayu in 2019

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Abstrak

Sopir angkutan kota (angkot) atau mikrolet di Terminal Kampung Melayu, Jakarta Timur, menghabiskan waktu berjam-jam di jalan sehingga terpajan particulate matter (PM_{2,5}) dalam konsentrasi yang tinggi sehingga dapat menyebabkan masalah kesehatan bahkan kematian dini melalui mekanisme stres oksidatif. Malondialdehyde (MDA) adalah salah satu produk sampingan dari stres oksidatif yang menjadi biomarker peroksidasi lipid. Dalam tesis ini, peneliti mengukur PM_{2,5} pada 130 driver saat mereka mengendarai angkot selama satu kali pulang pergi. Kadar MDA diperiksa dari sampel urin, indeks massa tubuh (IMT) diukur dengan berat dan tinggi badan, dan data variabel lainnya (masa kerja, durasi kerja, kebiasaan merokok, konsumsi alkohol, konsumsi vitamin, konsumsi minuman energi, kebiasaan olahraga, dan trayek angkutan) dikumpulkan dengan kuesioner dan observasi. Hasil penelitian menunjukkan bahwa pajanan PM_{2,5} dan IMT secara signifikan berhubungan dengan kadar MDA ($p < 0,05$). Secara keseluruhan, tesis ini menyarankan pengemudi untuk mengontrol berat badannya agar kadar MDA dalam tubuh tidak meningkat serta agar sopir melindungi kesehatan dirinya.

.....Mikrolet drivers in Terminal Kampung Melayu, East Jakarta, who spent long hours on road are exposed to the high concentration of fine particulate matter (PM_{2,5}) which can lead to health problem even premature death through oxidative stress mechanism. Malondialdehyde (MDA) is one of byproduct from oxidative stress which becomes a biomarker of lipid peroxidation. In this study, we measured PM_{2,5} in 130 drivers while they were driven one round trip. MDA levels were examined from a urine sample, body mass index (BMI) were measured with body weight and height, and other variables data (working year, work duration per day, smoking habit, alcohol consumption, vitamin consumption, energy drink consumption, sports activities, and driving route) were collected by questionnaire and observation. The result shows that PM_{2,5} exposures and BMI were significantly associated with MDA levels ($p < 0.05$). Overall, these results suggest drivers maintain their body weight to reduce MDA levels and protect drivers' health.