

ABSTRAK

Gas karbon monoksida merupakan hasil pembakaran tidak sempurna dari kendaraan bermotor dan peralatan yang menggunakan bahan api. Gas karbon monoksida yang diserap oleh tubuh akan terbentuk ikatan *carboxyhemoglobin* dalam darah. Kadar *carboxyhemoglobin* yang meningkat menyebabkan penyempitan pembuluh darah akibat kurangnya oksigen dalam tubuh sehingga berdampak pada peningkatan tekanan darah. Tujuan penelitian ini adalah menganalisis adanya hubungan kadar COHb (*carboxyhemoglobin*) dalam darah terhadap tekanan darah. Jenis penelitian ini observasional analitik dengan pendekatan *cross sectional*. Populasi dalam penelitian ini adalah pekerja bengkel motor. Spesimen darah vena yang diambil secara *purposive sampling* dengan masa kerja lebih dari 3 tahun, berjenis kelamin laki – laki, dan tidak memiliki riwayat penyakit hipertensi. Penelitian di laksanakan di Balai Besar Laboratorium Kesehatan Surabaya pada bulan Oktober 2021 – Juni 2022 dengan menggunakan alat Spektrofotometri Uv-Vis. Hasil penelitian menunjukkan nilai rata – rata pada kadar CO di udara ambien 18,5 ppm dan 19 ppm, kadar COHb (*carboxyhemoglobin*) sebesar 1,25% dan tekanan darah 121,35/75,88 mmHg. Berdasarkan uji spearman menunjukkan nilai $< 0,05$, dapat disimpulkan bahwa terdapat hubungan antara kadar COHb (*carboxyhemoglobin*) terhadap tekanan darah pada pekerja bengkel motor di Kabupaten Mojokerto.

Kata Kunci : *Carboxyhemoglobin*, tekanan darah, pekerja bengkel motor, Spektrofotometri Uv-Vis.

ABSTRACT

Carbon monoxide gas is the result of incomplete combustion of motor vehicles and equipment that uses fire materials. Carbon monoxide gas that is absorbed by the body will form carboxyhemoglobin bonds in the blood. Increased levels of carboxyhemoglobin cause constriction of blood vessels due to lack of oxygen in the body so that it has an impact on increasing blood pressure. The purpose of this study is to analyze the relationship between COHb (carboxyhemoglobin) levels in the blood and blood pressure. This type of research is analytic observational with a cross sectional approach. The population in this study were motorcycle repair workers. Venous blood specimens were taken by purposive sampling with a working period of more than 3 years, male, and had no history of hypertension. The research was carried out at the Surabaya Health Laboratory Center in October 2021 - June 2022 using the Uv-Vis Spectrophotometry tool. The results showed the average values for CO levels in the ambient air were 18.5 ppm and 19 ppm, COHb (carboxyhemoglobin) levels were 1.25% and blood pressure was 121.35/75.88 mmHg. Based on the Spearman test showing a value of <0.05 , it can be concluded that there is a relationship between COHb (carboxyhemoglobin) levels and blood pressure in motorcycle repair workers in Mojokerto Regency.

Keywords: Carboxyhemoglobin, blood pressure, motorcycle repair workers, UV-Vis Spectrophotometry.