

## ABSTRAK

Kendaraan bermotor mengeluarkan emisi gas buang yang menghasilkan polutan salah satu senyawa yang terkandung adalah karbon monoksida (CO). CO dapat menyebabkan intoksikasi pada manusia apabila terpapar dalam jangka waktu lama. Pedagang kaki lima berisiko meningkatkan kadar HbCO karena area kerja dipenuhi oleh asap kendaraan yang mengandung gas CO. Kadar CO di udara yang tinggi dapat menyebabkan kadar HbCO meningkat. Kadar HbCO yang meningkat akan menyebabkan tidak normalnya kadar hemoglobin dan menyebabkan vasokonstriksi sehingga tekanan darah meningkat. Tujuan penelitian ini adalah membuktikan adanya hubungan kadar CO di udara dengan kadar HbCO, hemoglobin, dan tekanan darah pada pedagang kaki lima di kawasan Sentra PKL Gading Fajar Sidoarjo. Penelitian ini merupakan penelitian observasional analitik dengan rancangan *cross sectional* yang dilakukan di Balai Besar Laboratorium Kesehatan Surabaya dan Laboratorium Hematologi Jurusan Teknologi Laboratorium Medis Poltekkes Kemenkes Surabaya pada bulan Maret 2022. Pemeriksaan darah dilakukan kepada 25 orang pedagang kaki lima dengan teknik *random sampling*. Hasil penelitian menunjukkan rerata hasil CO udara sebesar 13,3 *ppm* dan 11,00 *ppm*; rerata kadar HbCO sebesar 0,87%; rerata kadar hemoglobin sebesar 14,4 g/dL; rerata kadar tekanan darah sistole sebesar 128 mmHg; dan rerata kadar tekanan darah diastole sebesar 80 mmHg. Hasil data dianalisis menggunakan SPSS. Hasil uji normalitas menunjukkan data tidak berdistribusi normal. Uji statistik dilakukan menggunakan uji korelasi *Spearman*. Hasil penelitian menunjukkan terdapat hubungan antara CO udara dengan HbCO, hemoglobin, dan tekanan darah pada pedagang kaki lima di Kawasan Sentra PKL Gading Fajar Sidoarjo.

**Kata kunci:** Karbon Monoksida, Hemoglobin, Tekanan Darah

## ABSTRACT

Motor vehicles emit exhaust gas emissions that produce pollutants, one of the compounds contained is carbon monoxide (CO). CO can cause intoxication in humans if exposed for a long time. Street vendors are at risk of increasing HbCO levels because the work area is filled with vehicle fumes containing CO gas. High CO levels in the air can cause HbCO levels to increase. The increased of HbCO levels will cause abnormal hemoglobin levels and cause vasoconstriction so that blood pressure increases. The purpose of this study was to prove the relationship between CO levels in the air with HbCO, hemoglobin, and blood pressure levels in street vendors in the Gading Fajar Sidoarjo Street Vendor Area. This research is an *analytic observational* study with a *cross sectional* design conducted at the Surabaya Health Laboratory Center and the Hematology Laboratory Medical Laboratory Technology Department, Poltekkes Kemenkes Surabaya in March 2022. Blood tests were conducted on 25 street vendors using *random sampling* technique. The results showed that the average air CO level was 13.3 ppm and 11.00 ppm; the average HbCO level was 0.87%; the average hemoglobin level is 14.4 g/dL; the average systolic blood pressure level is 128 mmHg; and average diastolic blood pressure level is 80 mmHg. The results of the data was analyzed using SPSS. The results of the normality test showed that the data was not normally distributed. Statistical tests was performed using the *Spearman* correlation. The results showed that there was a relationship between air CO level with HbCO level, hemoglobin level, and blood pressure level on street vendors in the Gading Fajar Sidoarjo Street Vendor Area.

**Keywords:** Carbon Monoxide, Hemoglobin, Blood Pressure