

## ABSTRAK

Dalam menjaga dan memelihara kebersihan jalan, petugas kebersihan jalan merupakan ujung tombak dalam kebersihan lingkungan jalan raya. Petugas kebersihan jalan berisiko terpapar pencemaran udara yang dihasilkan oleh kendaraan bermotor seperti karbon monoksida (CO). CO yang terhirup dapat mempengaruhi kesehatan seperti risiko anemia karena mempengaruhi profil darah lengkap. Tujuan penelitian ini untuk membuktikan hubungan paparan karbon monoksida dalam darah terhadap profil darah untuk mengetahui terjadinya risiko anemia pada petugas kebersihan jalan Kota Surabaya. Alat pemeriksaan yang digunakan dalam penelitian ini adalah Spektrofotometer UV-Vis dengan menggunakan metode sel difusi conway dan *Hematology Analyzer*. Jenis penelitian yang digunakan merupakan penelitian korelasional menggunakan pengumpulan data dengan metode survei dan pemeriksaan laboratorium yang dilaksanakan di Laboratorium Toksikologi dan Laboratorium Hematologi Jurusan Teknologi Laboratorium Medis Poltekkes Kemenkes Surabaya pada bulan November 2023 – Juni 2024. Populasi dalam penelitian adalah para petugas kebersihan jalan yang diambil menggunakan teknik *purposive sampling* dengan spesimen yang digunakan adalah darah. Hasil Penelitian menunjukkan bahwa kadar COHb masih dalam batas normal yakni dibawah 3,5% dan didapatkan nilai RBC masih dalam batas normal, HGB lebih dari batas normal terdapat 22 responden, MCV dibawah nilai normal terdapat 21 responden, MCH dibawah nilai normal terdapat 4 responden, MCHC diatas nilai normal terdapat 15 responden, HCT dibawah nilai normal terdapat 3 responden dan diatas nilai normal terdapat 18 responden, WBC diatas nilai normal terdapat 4 responden dan PLT dibawah nilai normal terdapat 6 responden dan diatas nilai normal terdapat 12 responden. Dapat disimpulkan bahwa tidak ada hubungan yang signifikan antara kadar COHb dengan profil darah lengkap.

**Kata Kunci** : Karbon Monoksida (CO), Profil Darah Lengkap, Spektrofotometer *UV - Vis, Hematology Analyzer*

## ABSTRACT

In maintaining and maintaining road cleanliness, road cleaning officers are the spearhead in cleanliness of the road environment. Street cleaners are at risk of being exposed to air pollution produced by motorized vehicles such as carbon monoxide (CO). Inhaled CO can affect health such as the risk of anemia because it affects the complete blood profile. The aim of this study was to prove the relationship between exposure to carbon monoxide in the blood and blood profiles to determine the risk of anemia in street cleaners in the city of Surabaya. The examination tools used in this research were a UV-Vis Spectrophotometer using the Conway diffusion cell method and a Hematology Analyzer. The type of research used is correlational research using data collection using survey methods and laboratory examinations carried out at the Toxicology Laboratory and Hematology Laboratory, Department of Medical Laboratory Technology, Health Polytechnic, Ministry of Health, Surabaya in November 2023 – June 2024. The population in the study were street cleaners who were taken using purposive sampling technique with the specimen used being blood. The research results showed that COHb levels were still within normal limits, namely below 3.5% and it was found that RBC values were still within normal limits, HGB was more than normal limits, there were 22 respondents, MCV was below normal values, there were 21 respondents, MCH was below normal values, there were 4 respondents, There were 15 respondents in MCHC above normal values, 3 respondents in HCT below normal values and 18 respondents above normal values, 4 respondents in WBC above normal values and 6 respondents in PLT below normal values and 12 respondents above normal values. It can be concluded that there is no significant relationship between COHb levels and complete blood profile.

**Keywords** : Carbon monoxide (CO), Complete Blood Profile, UV-Vis Spectrophotometer, Hematology Analyzer