ABSTRACT

Based on data from the PT. Jasa Marga, the number of vehicles passing on the highway continues to increase from year to year. Increasing the number of vehicles resulted in decreasing air quality due to exhaust emissions produced by vehicles. Officers toll collector working for 8 hours a day in the substation to serve the toll road users. The tollbooth were quite small and it will accelerate the accumulation of exhaust gas from passing vehicles. One of the exhaust gas produced is carbon monoxide gas. Inhaled CO gas will form a bond COHb in the blood and is very harmful to vital organs such as the heart, brain and lungs because it inhibits the transport of oxygen. If left unchecked, will affect the health and impact on the high absenteeism toll collector. This causes the company to lose the opportunity to obtain high productivity.

This research is an analytical study with cross sectional design. This study aims to determine the relationship between several independent variables and the dependent variable. The independent variables studied were the individual characteristics include (gender, age, smoking habits, use of PPE at work, within the home and used vehicles to reach the workplace), the concentration of CO in the air in the work environment with COHb levels in the blood. The study sample were 30 toll collector of PT. Jasa Marga (Persero Tbk) branch Surabaya-Gempol particular tollbooth Waru by using simple random sampling. The data obtained are primary and secondary data.

Testing variables using Pearson correlation analysis, Spearman and coefficient of contingency. The results showed that the characteristics of individuals which have a relationship with COHb levels were gender (p = 0.000) smoking habits (p = 0.000) categories of smokers (p = 0.000) and the concentration of CO in the air working environment (p = 0.000).

Based on the results obtained, advices for PT. Jasa Marga to make arrangements scheduled breaks, change the type of mask and maintain their regular health checks.

Key word: concentration of CO, COHb levels in blood, workers toll collector.