ABSTRACT

Using basement as a parking space on buildings in Surabaya is preferred because of the limited land. But it can cause health problems for workers that work in *basement* as a result of air pollutants from motor vehicles, including CO. In *basement*, air circulation can’t go smoothly so it can accumulate everyday. CO that enters body can bind to hemoglobin and form COHb as a result of variety of health problems on workers happens. This study was purposed to identify the levels of CO gas, blood COHb levels and worker health problems in the basement of Waterplace apartment, Surabaya.

This study was an observational study with cross-sectional study design. Purposive sampling technique is used to obtain the 20 respondents. Data for levels of CO were obtained from direct measurement, while COHb blood levels obtained with the blood sample of respondents. Characteristics of respondents, respondents habits and health problems was collected by interview using a questionnaire. Data was analyzed descriptively and showed in table and percentage.

The results of study, the majority of respondents were male, in the age group of 21-29 years old, have a 12-hour working hours, and have ≤12 month working period. Respondents have smoking habit, didn’t drink oxygenated water and already eat fruit and vegetables every day. CO gas measurements showed results below the standards but 90% of respondents have a high COHb levels.

Conclusion of this study is the CO gas levels are still below the standard but majority of respondents had a blood COHb levels above the standard. CO gas levels can affect blood COHb, but high levels of COHb is not always same as the number of health problems. Health problems which felt mostly by workers are dizziness, impaired concentration, fatigue, impaired vision and nausea.

Keywords: CO, blood COHb, health problems, basement workers