

The relationship between duration of benzene exposure with liver enzymes in car painting workshop workers

ABSTRACT

Benzene is a carcinogenic compound that can be found in a car painting workshop in Surabaya. The source of benzene in the car painting workshop comes from thinners. Inhalation is the main route for benzene to enter the body. The duration of benzene exposure can affect the accumulation of benzene concentrations. If work safety is not considered, the benzene compound can cause the liver disease. Furthermore, SGOT and SGPT are basic parameters of liver function. The study aims to determine the relationship between the duration of benzene exposure with SGOT and SGPT levels in car painting workshop workers. Method: observational research with a cross-sectional approach was applied as the method of this study. The research was conducted in a car painting workshop in 2019 with 20 workers. The variables were the duration of benzene exposure (hours/day) and levels of SGOT and SGPT. Data analysis used the Fisher's Exact Test and Coefficient Contingency test. Results: Workers worked with a duration of benzene exposure ≤ 8 hours/day by 70% and > 8 hours/day by 30%. The measurement results exceeded the normal limit with the value of SGOT of 15% and the SGPT of 30%. Furthermore, the Sstatistical test show p-values between the duration of benzene exposure and SGOT (0.202) and SGPT (0.303), body weight with SGOT (1.000) and SGPT (1.000), education with SGOT (0.199) and SGPT (0.182) and alcohol consumption with SGOT (1.000) and SGPT (1.000). Conclusion: There was no relationship between the duration of benzene exposure with SGOT and SGPT levels in car painting workshop workers in Surabaya with a p-value >0.05 .

Keyword: Car painting workers; Duration of benzene exposure; SGOT; SGPT