ABSTRACT

Benzene is an aromatic compound which is easy to evaporate that is found in fuel oil. Benzene in the air can affect to human’s health if inhaled by them because benzene can be metabolized in the body. Benzene can cause some health disturbance if its continuity inhaled in the high frequency and exposure.

The method of this research was an observational analytic and descriptive with cross-sectional and analyzed analytically using logistic regression to know the correlation. There were 16 respondents in this study taken from population compatible from defined criteria. Interviews were conducted to get information about the studied variables. The independent variables were benzene’s concentration in ambient air, worker’s age, work hour, work days, length of employments, nutrition status, and worker’s health disturbance. The dependent variable was urine t,t-muconic acid’s concentration.

The results of this research, it found that benzene’s concentration in ambient air at 2 fuel oil station in DKI Jakarta there were no one that reached to the threshold values in filling area nor office area at that fuel oil station. All respondents were male, aged between 21 – 42 years old with work’s hour was 8 hours in a day and work 6 days in a week with diverse length of employments between 2 until more than 6 years. 4 of 8 exposure respondents had t,t-muconic acid’s levels exceed from BEIs. Kidney disturbance is correlated with benzene exposure in ambient air (p = 0,024).

The conclusion of this research is respondents who is exposure by benzene have chance to get kidney disturbance. Therefore, workers should use PPE and the company should enhance the green open space.

Keywords: Benzene’s concentration, urine t,t-muconic acid’s concentration, health disturbance, SPBU employee.