ABSTRACT

The rapid industrial development can improve the living standard of the employees and the society, but it also has some negative impacts. One of them is, the coal dust that is inhaled during work causing the lung disease in coal handling system workers. The aim of this study is to determine the relationship of the lung function impairment caused by exposure to dust, related to age, job period, the intelligence level, exercise habits, smoking habits, and the masks usage to the coal handling system workers at PT. PJB UP Paiton.

This research is an analytic research with cross sectional study. The test used in this research is the Chi-Square Yate's Correction for Continuity. The data’s taken from the respondents by survey method’s using a questionnaire, secondary data of dust level in the workplace, and a spirometer to measure lung capacity. Measurements were made to the total population of 14 coal handling workers, which were exposed directly with the coal dust.

The result of this study showed 0.07% of coal handling system workers have impaired lung function. Based on the bivariate test, researcher obtained: contingency coefficient of age is 0.741, contingency coefficient of job period is 0.672, contingency coefficient of intelligence level is 0.741, contingency coefficient of the masks usage is 0.588, contingency coefficient of exercise habits is 0.488, and contingency coefficient of smoking habits is 0.584.

The conclusion of this study, there were strong associations between lung function impairment with age, job period, intelligence level, masks usage, and smoking habits in coal handling system workers at PT. PJB UP Paiton, whereas correlation with exercise habits is weak.

Keywords: coal dust, impaired lung function, coal handling system workers.