

ABSTRACT**THE EFFECTS OF WOOD DUST LIPOPOLYSACCHARIDE (LPS) ENDOTOXIN LEVEL ON INCREASING C-REACTIVE PROTEIN (C-RP) IN BLOOD SERUM AND DECREASING LUNGS FUNCTION OF MOJOAGUNG SAWMILL WORKERS JOMBANG REGENCY**

Wood dust which contains LPS (Lipopolysaccharide) endotoxin may cause respiratory duct inflammation, decreasing lungs function and pneumonitis. The aim of this study was to analyze the effects of LPS endotoxin level on increasing blood serum C-RP level and decreasing lungs function of sawmill workers. The researcher applied observational analytic method with longitudinal prospective study design. The samples of this research consist of 11 workers of Mojoagung sawmill in Jombang Regency. As the techniques of data collection, the researcher applied interview, personal dust measurement, personal endotoxin measurement, taking the workers blood sample and conducting spirometry test. The workers blood serum C-RP level and lungs function were measured before and after working. C-RP level and lungs function were dependent variables of the research. Meanwhile, personal endotoxin level as independent variables. Age, years of service served, and smoking habit as confounding variable.

The findings of this research indicated that average workers age was 39,45 years old and most of them had been working for 19,55 years, and 75% of the workers were light smoker. After working for 8 hours, the average personal wood dust level was 0.58 mg/m^3 and average personal endotoxin level was as much as 58 EU/m^3 . The average increase of C-RP level in the workers blood serum was as much as 0.13 mg/L or about 36,5% while the decrease of FVC and FEV1 were 63,6% and 72,7% respectively. Personal endotoxin level did not have effect on increasing blood serum C-RP level and decreasing lungs function (multiple regression test, $p > 0,05$). Hence, it can be concluded that wood dust LPS endotoxin level does not affect the sawmill workers increasing blood serum C-RP level and decreasing lungs function.

Keywords: *sawdust, LPS endotoxin, lungs function, C-Reactive Protein (C-RP), sawmill workers*