

**ABSTRACT****The Effect of Limestone Dust Exposure Against Increased Blood Serum TNF and Declining The lung Function On Miners In Jadi Village Semanding District Tuban Regency**

Non-specific defense mechanism reaction can occur to workers in case they inhale the dust, such as sneezing, coughing, mucociller transport disorder and fagochitosis by macrofag. The aims of this study was limestone dust exposure on the increasing of the blood serum TNF $\alpha$  and declining lung function on the miners. This analytical research method was observational, however according to the time of research, the method was longitudinal prospective study. The sample of this research was divided into exposed group of 7 limestone miners and non-exposed group consisted of 6 office employees. Data collecting technique used interview, measuring total amount dust, measuring the personal dust, taking blood sample and spirometri. The independent variable was personal dust degree of limestone miners, the dependent variable was blood serum TNF $\alpha$  degree and the function of lungs. Age, working period, and smoked habit were the confounding variable. The result of this research showed that the mean of personal dust miners was 10,407 mg/m<sup>3</sup> and office employee was 0,265 mg/m<sup>3</sup>. The increasing of blood serum TNF $\alpha$  miners was 71,43% and on office employees was 16,7%. The decreasing of FVC and FEV1 miners 85,7% and 71,4% while office employees were 50% and 16,7%. Personal limestone dust did not influence significantly to the increasing of TNF $\alpha$  (Multiple Regression test  $p > 0,05$ ), in the other hand, it influenced to the declining the lungs function of miners (Multiple Regression test  $p < 0,05$ ). Age, working period and smoked habit neither influenced on the increasing of TNF $\alpha$  nor the declining the lungs function. Conclusion: personal limestone dust does not influence on the increasing of blood serum TNF $\alpha$ , but it influences on the declining the lungs function of miners after working.

*Keywords: Limestone dust, Limestone Miners, Blood Serum TNF $\alpha$ , Lungs function.*