

# **SOCIO-ECONOMIC AND ENVIRONMENTAL RISK FACTORS OF TUBERCULOSIS IN WONOSOBO, CENTRAL JAVA, INDONESIA**

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## **ABSTRACT**

**BACKGROUND:** Tuberculosis incidence has been increasingly high in Wonosobo, Central Java, over the past years. The occurrence of tuberculosis can not be separated from the geographic, demographic, and socio-economic conditions. Poor environment is a suitable for bacteria proliferation and transmission. This study aimed to examine socio-economic and environmental risk factors of tuberculosis.

**SUBJECT AND METHODS:** This was a case control study conducted in Wonosobo, Central Java. A sample of 70 tuberculosis cases and 70 controls was collected for this study. The dependent variable was tuberculosis status. The independent variables included history of contact, house ventilation, humidity, house temperature, house density, kitchen smoke, and family income. The data was analyzed with a multiple logistic regression.

**RESULTS:** Of the 140 study subjects, 33 (47%) had primary education, and 21 (30%) were farmers. People who had contact history with tuberculosis case had 10 times as many risk of contracting tuberculosis than those did not have contact history (OR=10.00;  $p<0.001$ ). People who lived in a house with poor ventilation had 2.2 times as many risk of contracting tuberculosis than those lived in a house with good ventilation (OR=2.20;  $p<0.018$ ). High humidity increased the risk of tuberculosis 4 times as many as low humidity (OR=4.00;  $p=0.001$ ). Living in house with higher temperature increased the risk of tuberculosis 3.8 times as many as lower temperature (OR=3.80;  $p=0.009$ ). Living in a crowded house increase the risk of tuberculosis 5 times as many as living in a scant house (OR=5.00;  $p<0.001$ ). Kitchen smoke increased the risk of tuberculosis 2.5 times as many as without smoke (OR=2.50;  $p=0.007$ ). Low family income increased the risk of tuberculosis 3 times as many as high family income (OR=3.00;  $p=0.002$ ).

**CONCLUSION:** History of contact, poor house ventilation, high humidity, hot house temperature, crowded house, kitchen smoke, and low family income, are risk factors for tuberculosis in Wonosobo, Central Java.

**Keywords:** tuberculosis, environmental factor, socio-economic factor