

## Body Mass Index, Plasma Glucose Level, and Subjective Psychological Well-Being of Diabetes Mellitus Type 2 Patients as the Risk of Tuberculosis Coincidence

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### **Abstract**

**Background.** Body Mass Index (BMI) and Plasma Glucose Level are independent risk factor for both Tuberculosis and Diabetes Mellitus, respectively, while psychological well-being might affect immune system of diabetic patients. The objective of this study was to analyze the risk of BMI, Plasma Glucose level, and subjective psychological well-being to affect tuberculosis coincidence in diabetes mellitus patients.

**Materials and methods.** This case-control study involved 492 respondents consisting of 246 diabetes mellitus patients with TB coincidence as case group and 246 diabetes mellitus patients without TB as control. The variables analyzed were BMI, mean fasting and 2-hour plasma glucose level and subjective psychological well-being using logistic regression test.

**Results.** The results showed that there were significant associations between BMI ( $p=0.001$ ; OR 3.25 with 95% CI 1.88-5.62), mean fasting glucose levels ( $p=0.001$ ; OR 3.3 with 95% CI 1.93-5.74), 2-hour plasma glucose ( $p=0.001$ ; OR 1.6 with 95% CI 1.09-2.34), subjective psychological well-being ( $p=0.001$ ; OR 2.02 with 95% CI 1.40-2.93) and diabetes mellitus with tuberculosis coincidence.

**Conclusion.** BMI, Plasma Glucose level, and subjective psychological well-being are risk factors of diabetes mellitus coincidence with tuberculosis.

**Keywords:** *Body Mass Index, Mean Plasma Glucose Level, Subjective Psychological Well-being, Diabetes Mellitus Coincidence Tuberculosis.*