

THE RELATIONSHIP BETWEEN PHYSICAL ACTIVITY AND THE RISK  
OF DIABETES MELLITUS IN ELEMENTARY SCHOOL CHILDREN  
(8–12 YEARS OLD)

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## ABSTRACT

**Background:** The advancement of technology and changes in modern lifestyle have led young children to spend more time indoors engaging with electronic devices, resulting in reduced physical activity levels. Insufficient physical activity during early childhood may increase the risk of developing Diabetes Mellitus (DM). **Objective:** This study aimed to examine the relationship between physical activity and the risk of Diabetes Mellitus among elementary school children aged 8-12 years. **Methods:** A cross-sectional quantitative study was conducted in May 2025 at SDN Tasikmadu 1 Malang. The study involved 154 students aged 8-12 years. Data were analyzed using the Chi-Square test. **Results:** The findings revealed that most children exhibited a moderate level of physical activity (84.4%), while 15.6% had a high level of physical activity. In terms of diabetes risk, 43.5% were classified as moderate risk, 37.0% as low risk, and 19.5% as high risk. Statistical analysis showed no significant association between physical activity and diabetes risk ( $p = 0.294$ ,  $p > 0.05$ ). **Conclusion:** There is no statistically significant relationship between physical activity and the risk of Diabetes Mellitus among elementary school children in the study setting. However, monitoring and promoting physical activity remain important to support children's overall health and prevent future metabolic disorders.

**Keywords:** Physical Activity, Diabetes Risk, Children