

***The Relationship Between Zinc and Magnesium Intake and Fasting Blood Glucose Levels
in Patients with Type 2 Diabetes Mellitus at the Internal Medicine Clinic of RSU
Kaliwates***

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ABSTRACT

Diabetes mellitus is a metabolic disease characterized by elevated blood glucose levels above normal levels due to impaired insulin secretion, insulin action, or both. This condition can lead to various complications if not properly controlled. In addition to pharmacological therapy and lifestyle changes, micronutrient intake such as zinc and magnesium is also recommended. Zinc is known to support glucose homeostasis through antioxidant mechanisms and a direct effect on insulin metabolism. Magnesium plays a role in glucose metabolism, insulin function, and inflammation and oxidative stress. This study aims to determine the relationship between zinc and magnesium intake and fasting blood sugar levels in patients with type 2 diabetes mellitus at the Internal Medicine Clinic of Kaliwates General Hospital. This study used an observational method with a cross-sectional approach. The study sample consisted of 83 respondents selected using a purposive sampling technique. Data on zinc and magnesium intake were collected through interviews using the Semi-Quantitative Food Frequency Questionnaire (SQ-FFQ) method, while data on fasting blood sugar levels were obtained from laboratory examination results in patient medical records. Statistical analysis using the Spearman correlation test showed that the p -value for the relationship between zinc intake and fasting blood glucose levels was ($p=0.827$), while the p -value for the relationship between magnesium intake and fasting blood glucose levels was ($p=0.887$). Based on these results, it can be concluded that there is no significant relationship between zinc and magnesium intake and fasting blood glucose levels in patients.

Keyword: *diabetes mellitus, blood glucose levels, zinc, magnesium.*