

ABSTRACT

Roshita Cahyaningtyas, 2025. *The Effect of Education on the Level of Knowledge, Carbohydrate and Magnesium Intake, and Blood Glucose Levels in Type II Diabetes Mellitus Patients at Dinoyo Public Health Center. Applied Nutrition and Dietetics Undergraduate Program, Department of Nutrition, Poltekkes Kemenkes Malang. Advisors: Etik Sulistyowati and Fitria Dhenok Palupi.*

Background: Effective nutrition education is important to improve compliance of type 2 diabetes patients in managing their diet, especially choosing low glycemic index foods and regulating carbohydrate intake, to help control blood glucose levels. The success of education is influenced by duration, assistance, and other factors such as physical activity and stress. High carbohydrate intake, especially monosaccharides, is positively correlated with increased blood glucose levels. Conversely, increased magnesium intake can reduce the risk of diabetes and improve glucose parameters, so magnesium supplementation is considered an additional strategy for high-risk individuals. **Objective:** This study aims to determine the effect of education on the level of knowledge, carbohydrate intake, magnesium, and blood glucose levels in type 2 Diabetes Mellitus patients at Dinoyo Community Health Center. **Methods:** A quantitative study with a one-group pretest-posttest pre-experimental design involved 30 type 2 Diabetes Mellitus patients at Dinoyo Community Health Center. Data collected included the level of knowledge, carbohydrate intake, magnesium, and fasting blood glucose levels. Data were processed using Microsoft Excel, Nutrisurvey, and analyzed using SPSS software. **Results:** The analysis showed a significant increase in the level of knowledge after education ($p=0.000$). However, there were no significant changes in carbohydrate intake ($p=0.358$), magnesium intake ($p=0.804$), or blood glucose levels ($p=0.452$) after education. **Conclusion:** Education significantly increased knowledge, especially in the higher-educated group, but did not significantly impact carbohydrate consumption patterns, magnesium intake, or blood glucose levels. Therefore, a more intensive and sustainable educational approach is needed for optimal diabetes management.

Keywords: Education, Blood Glucose Levels, Carbohydrates, Magnesium, Knowledge