

## ABSTRACT

**N. Sahila Sukma W. P. M., 2025** *The Effect of Application of the T-Model Plate on GD2JPP Levels and Average Glycemic Load of Daily Menus in Type 2 Diabetes Mellitus Patients. Applied Nutrition and Dietetics Undergraduate Program, Department of Nutrition, Malang Ministry of Health Polytechnic. Advisors: Dwipajati, SST, M.Gz., and Endang Widajati, SST., M.Kes., RD.*

**Background:** Type 2 Diabetes Mellitus (DM) is a metabolic disease with a high prevalence in Indonesia, including the city of Malang. Its management emphasizes Medical Nutrition Therapy (MNT) using the "T-plate model" concept as a modification of the 3J principle (appropriate type, amount, and schedule). This concept focuses on visual portion division: 50% vegetables, 25% carbohydrates, and 25% protein. This division aims to control blood sugar levels. The T-plate model is considered effective because it increases fiber intake at a 2:1 ratio to carbohydrates, which slows glucose absorption and reduces the total daily glycemic load. Although the effectiveness of similar portion approaches has been demonstrated globally, there have been no specific studies in Indonesia analyzing the effect of the T-plate model concept on 2-hour postprandial glucose levels (GD2JPP) and the average daily glycemic load of meals in patients with type 2 DM.

**Objective:** This study aims to analyze the effect of using the T-plate model on 2-hour postprandial blood glucose levels (GD2JPP) and the average glycemic load of the daily menu in patients with type 2 DM. The study design used a quantitative method with a pre-test post-test control group design, involving two groups, namely the treatment and control groups, during a one-month intervention. The paired t-test statistical test was used. **Results:** Type 2 DM patients were elderly (60-74 years old), female, elementary school graduates, with cardiovascular disorders, DM < 5 years, and routinely taking medication. There was an increase in energy, carbohydrate, and fiber intake, as well as changes in the type of food and meal schedule accuracy. **Conclusion:** The results showed that the use of the T-plate model was not significantly associated with GD2JPP levels but was significantly associated with the average daily glycemic load.

**Keywords:** Type 2 diabetes mellitus, T-plate model, postprandial blood glucose, glycemic load