

Factors Associated with HbA1c Levels in Patients with Type 2 Diabetes Mellitus: Isoflavone, Fat, and Glycemic Load Intake (Working Area of Summersari Public Health Center, Jember Regency)

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ABSTRACT

Type 2 Diabetes Mellitus (T2DM) is a chronic disease characterized by elevated blood glucose levels due to decreased insulin production by pancreatic beta cells. HbA1c level monitoring is commonly used to assess long-term glycemic control in T2DM patients. Dietary factors such as isoflavone intake, fat intake, and glycemic load play a role in the regulation of HbA1c levels. This study aimed to determine the relationship between isoflavone, fat, and glycemic load intake and HbA1c levels in patients with T2DM in the working area of Summersari Public Health Center, Jember Regency. This research employed an observational analytic design with a cross-sectional approach. A total of 79 subjects were selected using incidental sampling, and sample allocation for each village was determined using proportional allocation formula. Data were collected using a subject identity questionnaire and a Semi Quantitative Food Frequency Questionnaire (SQ-FFQ). Bivariate analysis was conducted using the chi-square test, while multivariate analysis was performed using logistic regression. The results of the bivariate analysis showed a significant relationship between isoflavone intake and HbA1c levels (p -value = 0.001), fat intake and HbA1c levels (p -value = 0.000), and glycemic load and HbA1c levels (p -value = 0.003). The multivariate analysis revealed that fat intake was the most dominant factor, with a p -value of 0.005 and an odds ratio (OR) of 31.3. In conclusion, there was a significant relationship between isoflavone, fat, and glycemic load intake and HbA1c levels in patients with T2DM in the working area of Summersari Public Health Center, and fat intake was identified as the strongest risk factor (p = 0.005; OR = 31.3).

Keywords: *Isoflavones, Fat, Glycemic Load, HbA1c, Type 2 Diabetes Mellitus*