

## ABSTRAK

**Fransiska Krisdianti Sihotang : Hubungan Asupan Serat Dan Status Gizi Dengan Kadar Glukosa Darah Pada Pasien Diabetes Melitus Tipe 2 Rawat Jalan Di RSUD Dr.Pirngadi Medan. Skripsi. Program Studi Gizi. Fakultas Teknik. Universitas Negeri Medan. 2025.**

Penyakit degeneratif menjadi ancaman yang menakutkan bagi lansia, salah satunya Diabetes Melitus (DM). Diabetes Melitus dipengaruhi oleh beberapa faktor seperti usia, aktifitas fisik dan konsumsi serat. Penelitian ini bertujuan untuk mengetahui hubungan asupan serat dan status gizi dengan kadar glukosa darah sewaktu pada pasien diabetes melitus tipe 2 rawat jalan di RSUD Dr.Pirngadi Medan.

Penelitian ini adalah penelitian kuantitatif dalam bentuk survey-analitik dengan pendekatan potong lintang (*cross sectional*). Jumlah sampel dalam penelitian ini ditentukan dengan rumus Lemeshow sebanyak 41 orang ditambah dengan sampel *drop out* (DO) 10% menjadi 45 orang. Cara pengambilan sampel dengan cara *purposive sampling* berdasarkan kriteria inklusi dan eksklusi. Instrumen penelitian menggunakan lembar kuesioner yang dianalisa secara univariat dalam bentuk distribusi frekuensi, secara bivariat dengan menggunakan uji korelasi *pearson* dan analisa multivariat dengan regresi linier berganda.

Hasil penelitian menunjukkan bahwa mayoritas responden dengan asupan serat kurang sebanyak 35 orang (77,8%), mendapatkan status gizi obesitas sebanyak 24 orang (53,3%) dan memiliki kadar glukosa darah tinggi yaitu  $\geq 200$  mg/dL sebanyak 36 orang (80%). Hasil analisa bivariat asupan serat dengan kadar glukosa darah sewaktu menunjukkan hubungan yang signifikan didapatkan nilai p-value sebesar 0,001 dengan koefisien korelasi sebesar -0,46. Artinya semakin rendah asupan serat yang dikonsumsi, maka semakin tinggi kadar glukosa darah sewaktu. Hasil analisis bivariat pada status gizi dengan kadar glukosa darah sewaktu menunjukkan hubungan yang signifikan didapatkan nilai p-value 0,000 dengan koefisien korelasi sebesar 0,539. Artinya semakin meningkat nilai IMT, maka semakin tinggi kadar glukosa darah sewaktu. Sedangkan Analisa multivariat diperoleh persamaan  $Y = 54,506 + (-5,588 X_1) + (10,670 X_2)$ , nilai F 13,108 dan Adjusted R Square 0,355. Kesimpulannya adalah ada hubungan signifikan antara asupan serat dan status gizi dengan kadar glukosa darah sewaktu pada pasien diabetes melitus tipe 2 rawat jalan di RSUD Dr.Pirngadi Medan. Untuk itu diharapkan kepada pasien diabetes tipe 2 untuk dapat menerapkan gizi seimbang dengan panduan piring makan yaitu  $\frac{1}{2}$  dari piring makan terdiri dari sayuran dan buah-buahan,  $\frac{1}{4}$  dari piring makan sumber protein,  $\frac{1}{2}$  dari piring makan sumber karbohidrat. Aktif melakukan kontrol kadar glukosa darah setiap bulannya serta rajin melakukan aktivitas fisik setiap hari untuk menjaga status gizi normal.

**Kata Kunci :** Diabetes melitus tipe 2, asupan serat, status gizi

## ABSTRACT

**Fransiska Krisdianti Sihotang: *The Relationship Between Fiber Intake and Nutritional Status with Blood Glucose Levels in Outpatients with Type 2 Diabetes Mellitus at Dr. Pirngadi Hospital, Medan. Thesis. Nutrition Study Program. Faculty of Engineering. State University of Medan. 2025.***

Degenerative diseases are a frightening threat to the elderly, one of which is Diabetes Mellitus (DM). Diabetes Mellitus is influenced by several factors such as age, physical activity, and fiber consumption. This study aims to determine the relationship between fiber intake and nutritional status with random blood glucose levels in outpatients with type 2 diabetes mellitus at Dr. Pirngadi Hospital, Medan. This study is quantitative in the form of a survey-analytical with a cross-sectional approach. The number of samples in this study was determined by the Lemeshow formula of 41 people plus a 10% dropout (DO) sample of 45 people. The sampling method was purposive sampling based on inclusion and exclusion criteria. The research instrument used a questionnaire sheet that was analyzed univariately in the form of a frequency distribution, bivariate using the Pearson correlation test, and multivariate analysis with multiple linear regression.

The results showed that the majority of respondents with low fiber intake were 35 people (77.8%), had obesity nutritional status of as many as 24 people (53.3%), and had high current blood glucose levels of  $\geq 200$  mg/dL as many as 36 people (80%). The results showed that the majority of respondents with low fiber intake were 35 people (77.8%), had an obesity nutritional status of 24 people (53.3%), and had high blood glucose levels of  $\geq 200$  mg/dL of 36 people (80%). The results of the bivariate analysis of fiber intake with random blood glucose levels showed a significant relationship with a  $p$ -value of 0.001 and a correlation coefficient of -0.46. This means that the lower the fiber intake consumed, the higher the random blood glucose levels. The results of the bivariate analysis of nutritional status with random blood glucose levels showed a significant relationship with a  $p$ -value of 0.000 and a correlation coefficient of 0.539. This means that the higher the BMI value, the higher the random blood glucose levels. Meanwhile, multivariate analysis obtained the equation  $Y = 54.506 + (-5.588 X1) + (10.670 X2)$ ,  $F$  value 13.108, and Adjusted R Square 0.355. The conclusion is that there is a significant relationship between fiber intake and nutritional status with random blood glucose levels in outpatients with type 2 diabetes mellitus at Dr. Pirngadi Medan Regional Hospital. For this reason, it is expected that type 2 diabetes patients can apply a balanced diet with a guide to the dinner plate, namely  $\frac{1}{2}$  of the dinner plate consisting of vegetables and fruits,  $\frac{1}{4}$  of the dinner plate protein sources,  $\frac{1}{2}$  of the dinner plate carbohydrate sources. Actively control blood glucose levels every month and diligently do daily physical activities to maintain normal nutritional status.

**Keywords:** Type 2 diabetes mellitus, fiber intake, nutritional status