

Relationship between Dietary Inflammatory Index (DII) and Body Mass Index (BMI) with Total Cholesterol Levels in Hypercholesterolemia Patients at Pakusari Health Center

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ABSTRACT

Hypercholesterolemia is a fat metabolism disorder characterized by high levels of cholesterol in the blood exceeding normal limits, one of which is a total cholesterol level of ≥ 200 mg/dL. Risk factors that can increase cholesterol levels include nutritional status and eating habits that cause inflammation. The objective of this study is to determine the relationship between Dietary Inflammatory Index (DII) and Body Mass Index (BMI) with total cholesterol levels in individuals with hypercholesterolemia. This type of research is observational analytic with a cross-sectional design. The population in this study consisted of 467 individuals with hypercholesterolemia at the Pakusari Health Center in 2023, with a sample size of 88 subjects selected through purposive sampling. Data collection used the Semi Quantitative Food Frequency Questionnaire (SQ-FFQ) to obtain eating habits before calculating the DII score, then the measurement of body weight and height to determine the BMI of the subjects, and easy touch GCU to obtain the total cholesterol level. Statistical analysis was performed using SPSS 23.0 with Pearson correlation test to determine the relationship between DII and total cholesterol levels and Spearman correlation test to determine the relationship between BMI and total cholesterol levels. The results of the study showed that the DII score obtained a p -Value < 0.05 ($p = 0.001$) with an r value of 0.632, and the BMI results showed a p -Value < 0.05 ($p = 0.120$) with an r value of -0.167. The conclusion of this study is that there is a strong relationship between DII and total cholesterol levels in patients with hypercholesterolemia at Puskesmas Pakusari, where a higher DII score corresponds to higher total cholesterol levels; however, there is no relationship between BMI and total cholesterol levels in patients with hypercholesterolemia at Puskesmas Pakusari, indicating a negative correlation.

Keywords: *Dietary Inflammatory Index, Body Mass Index, Total Cholesterol Levels*