

The Association of Soy Isoflavone Intake and Sleep Quality with Total Cholesterol Levels among Patients with Hypercholesterolemia in Jember Regency

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ABSTRACT

Hypercholesterolemia is a condition characterized by total cholesterol levels exceeding the normal range. Total cholesterol levels are influenced by various factors, including soy isoflavone intake and sleep quality. Soybeans are one of the primary sources of isoflavones, which are believed to play a role in lipid metabolism and have the potential to contribute to total cholesterol regulation. This study aimed to determine the association between soy isoflavone intake and sleep quality with total cholesterol levels among patients with hypercholesterolemia in Jember Regency. This study employed an observational analytic design with a cross-sectional approach. A total of 108 subjects were selected using a multi-stage sampling method, combining probability sampling to determine the proportion of samples from each Public Health Center and non-probability sampling to determine the study locations and recruit subjects who met the inclusion and exclusion criteria. Data were collected using a respondent characteristic form, a Semi-Quantitative Food Frequency Questionnaire (SQ-FFQ), and the Pittsburgh Sleep Quality Index (PSQI). Bivariate analysis was performed using the Spearman rank correlation test. The results showed no significant correlation between soy isoflavone intake and total cholesterol levels ($p\text{-value} = 0.077$; $r = 0.171$). In contrast, a strong significant correlation was found between sleep quality and total cholesterol levels ($p\text{-value} = 0.000$; $r = 0.660$). In conclusion, soy isoflavone intake was not significantly correlation with total cholesterol levels, although a positive correlation was observed. Meanwhile, sleep quality showed a strong positive correlation with total cholesterol levels among patients with hypercholesterolemia in Jember Regency.

Keywords: *Hypercholesterolemia, Total Cholesterol, Soy Isoflavone Intake, Sleep Quality*