

Effect of Giving Steamed Bolu as a Substitute for Okra Flour (*Abelmoschus Esculentus*) on Total Cholesterol Levels in White Rats (*Rattus Norvegicus*) Hypercholesterolemia

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ABSTRACT

Hypercholesterolemia is an increase in cholesterol in the blood beyond normal values, characterized by cholesterol levels increasing beyond normal limits. Functional foods that contain fiber and flavonoids such as Okra Flour Substitution Steamed Cakes can reduce total cholesterol levels. The mechanism of fiber and flavonoids in reducing total cholesterol starts from the role of fiber in binding bile salts and removing them from the body with feces so that cholesterol in the blood can decrease. Flavonoids themselves play a role in lowering cholesterol levels by increasing the activity of HMG-CoA reductase, and the activity of the acyl-CoA enzyme cholesterol acyltransferase (ACAT), as well as reducing cholesterol absorption in the digestive tract. The aim of this study was to determine the effect of giving steamed sponge cake substituted with okra flour on total cholesterol levels in hypercholesterolemic white mice. This research is of the True Experimental type. A total of 24 male Wistar rats aged 2-3 months with a body weight of 120-300, were grouped into 3 groups, namely group K- which were given standard biotic feed of 20 grams/head/day, group K+ was given high fat feed, and group P was given a high-fat diet and intervention in the form of steamed cakes substituted with okra flour as much as 8.4 grams/200g BW of mice. Cholesterol levels were measured using the CHOD-PAP method. Total cholesterol levels were analyzed using the Shapiro Wilk normality test, then tested for differences using One Way Anova, Kruskal Wallis, Paired T-test, Mann Whitney, and Post Hoc. The results of the Paired T-test data show that there is a significant difference of 0.040 ($p < 0.05$) in the treatment group (P), so it can be concluded that giving steamed sponge cake as a substitute for okra flour has an effect. on reducing total cholesterol levels in white mice.

Keywords : *Steamed Bolu Substituted with Okra Flour, Total Cholesterol Level, Hypercholesterolemia*