

ABSTRACT

THE EFFECT OF RAMBUTAN SEED (*Nephelium lappaceum* L.) FERMENTED INFUSION WITH YOGURT ON LOW DENSITY LIPOPROTEIN LEVELS IN WISTAR RATS (*Rattus norvegicus*)

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Background: Hypercholesterolemia marked by elevated low-density lipoprotein (LDL) levels is a major risk factor for cardiovascular disease. Although pharmacological therapies are effective in lowering LDL, their potential adverse effects encourage the use of natural alternatives. Rambutan seeds (*Nephelium lappaceum* L.) contain flavonoids, tannins, and alkaloids with potential anticholesterolemic activity, and fermentation with yogurt may enhance their bioavailability.

Method: This study employed a true experimental pretest–posttest control group design using 30 male Wistar rats divided into six groups. Hypercholesterolemia was induced using a high-fat diet and propylthiouracil. Treatment groups received yogurt-fermented rambutan seed infusion fermented for 0, 3, 5, or 7 days at a dose of 19.2 mg/kg body weight for 14 days. LDL levels were measured before and after intervention and analyzed using one-way ANOVA followed by Duncan's post hoc test.

Result: Induction significantly increased LDL levels in all groups except the healthy control. Administration of fermented rambutan seed infusion reduced LDL levels in all treatment groups, with the greatest reduction observed in the 7-day fermentation group. Statistical analysis showed significant differences among groups ($p = 0.001$).

Conclusion: Yogurt-fermented rambutan seed infusion effectively reduces LDL levels in hypercholesterolemic Wistar rats, with 7-day fermentation providing the optimal effect, indicating its potential as a functional food or complementary therapy.

Keywords: Fermentation; Low Density Lipoprotein; Rambutan seeds; Wistar Rats; Yogurt

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