PENGARUH TEPUNG DAUN KACAPIRING (*gardenia jasminoides* J. Ellis) TERHADAP PENURUNAN KADAR LDL DAN KOLESTEROL TOTAL PADA TIKUS WISTAR (*rattus norvegicus*) SINDROM METABOLIK

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ABSTRAK

Latar Belakang : Sindrom metabolik merupakan kumpulan kelainan metabolik yang ditandai oleh resistensi insulin, obesitas, dan dislipidemia, yang secara signifikan meningkatkan risiko penyakit kardiovaskular. Salah satu komponen utama sindrom metabolik adalah dislipidemia, yang ditandai dengan peningkatan kadar *low-density lipoprotein* (LDL) dan kolesterol total. Upaya pengendalian dislipidemia dapat dilakukan melalui pemanfaatan bahan pangan fungsional berbasis sumber alami. Daun kacapiring (*Gardenia jasminoides* J. Ellis) diketahui mengandung senyawa bioaktif seperti flavonoid dan antioksidan yang memiliki potensi hipokolesterolemik melalui mekanisme penghambatan oksidasi LDL dan metabolisme lipid.
Tujuan : Mengetahui pengaruh pemberian tepung daun kacapiring terhadap penurunan kadar LDL dan kolesterol total pada tikus Wistar (*rattus norvegicus*) sindrom metabolik..
Metode : Penelitian ini merupakan penelitian true experimental dengan desain *pretest–posttest with control group design*. Penelitian dilaksanakan pada bulan Januari 2026. Subjek penelitian adalah tikus Wistar (*rattus norvegicus*) jantan yang diinduksi sindrom metabolik melalui pemberian diet tinggi lemak dan injeksi *streptozotocin–nicotinamide* (STZ-NA). Jumlah sampel sebanyak 24 ekor yang dibagi ke dalam empat kelompok, yaitu kelompok kontrol negatif, kontrol positif, kelompok perlakuan 1 (Acarbose dosis 27 mg/kg BB), dan kelompok perlakuan 2 (Tepung daun kacapiring dosis 25mg/kg BB). Kadar LDL dan kolesterol total diukur sebelum dan sesudah perlakuan. Data dianalisis menggunakan uji *One Way ANOVA* dengan *Post Hoc Tukey HSD*. Apabila data tidak berdistribusi normal dan tidak homogen, digunakan uji statistik nonparametrik.
Hasil : Pemberian tepung daun kacapiring efektif menurunkan kadar LDL sebesar 57,26% dan kolesterol total sebesar 53,44% pada tikus Wistar sindrom metabolik. Tepung daun kacapiring menunjukkan efektivitas yang sebanding dengan acarbose dalam menurunkan kadar LDL serta memberikan penurunan kolesterol total yang lebih besar dibandingkan acarbose.
Kata Kunci : Sindrom metabolik; *Gardenia jasminoides*; LDL; Kolesterol total; Tikus percobaan

THE EFFECT OF CAPE JASMINE (GARDENIA JASMINOIDES J. ELLIS) LEAF FLOUR PRODUCED BY POWDERING METHOD ON THE REDUCTION OF LDL AND TOTAL CHOLESTEROL LEVELS IN SINDROME METABOLIC WHITE RATS (RATTUS NORVEGICUS) OF THE WISTAR STRAIN

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ABSTRACT

Backgrounds *: Metabolic syndrome is a cluster of metabolic abnormalities characterized by insulin resistance, obesity, and dyslipidemia, which significantly increase the risk of cardiovascular diseases. One of the main components of metabolic syndrome is dyslipidemia, marked by elevated levels of low-density lipoprotein (LDL) and total cholesterol. Efforts to control dyslipidemia can be carried out through functional food–based interventions using natural resources. Kacapiring leaves (Gardenia jasminoides J. Ellis) are known to contain bioactive compounds such as flavonoids and antioxidants, which exhibit hypocholesterolemic properties through the inhibition of LDL oxidation and modulation of lipid metabolism.*
Objective *: To determine the effect of kacapiring leaf powder on the reduction of LDL and total cholesterol levels in metabolic syndrome–induced Wistar rats (Rattus norvegicus).*
Methods *: This study employed a true experimental design with a pretest–posttest with control group design. The research was conducted in January 2026. The subjects were male Wistar rats (Rattus norvegicus) induced to develop metabolic syndrome through a high-fat diet and streptozotocin–nicotinamide (STZ-NA) injection. A total of 24 rats were randomly assigned into four groups: negative control, positive control, treatment group A (Acarbose at a dose of 27 mg/kg BB), and treatment group B (Kacapiring leaf powder at dose of 25mg/kg BB). LDL and total cholesterol levels were measured before and after the intervention. Data were analyzed using One-Way ANOVA followed by Tukey HSD's Post Hoc test. When data were not normally distributed or homogeneous, non-parametric statistical tests were applied.*
Results : *Gardenia jasminoides leaf flour effectively reduced LDL levels by 57.26% and total cholesterol levels by 53.44% in Wistar rats with metabolic syndrome. The LDL-lowering effect of Gardenia jasminoides leaf flour was comparable to that of acarbose, while it produced a greater reduction in total cholesterol levels compared to acarbose.*
Keywords *: Metabolic syndrome, Gardenia jasminoides, LDL, Total cholesterol, Experimental rats*