

**PENGARUH PEMBERIAN EKSTRAK KULIT BUAH NANGKA  
(*ARTOCARPUS HETEROPHYLLUS*) TERHADAP KADAR KOLESTEROL  
TOTAL**

**Studi Eksperimental terhadap Tikus Galur *Wistar Jantan***

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**ABSTRAK**

**Latar belakang :** Ekstrak kulit buah nangka mengandung senyawa kimia berupa pektin dan vitamin C. Berdasarkan penelitian terdahulu senyawa pektin dan vitamin C digunakan dalam penurunan kadar kolesterol darah. Pektin menghambat kerja HMG-CoA reduktase (HMGR) sehingga kadar kolesterol total turun. Vitamin C akan meningkatkan kerja dari *cholesterol 7 alpha-hydroxylating system* sehingga kolesterol akan diubah menjadi asam empedu. Tujuan dari penelitian ini adalah mengetahui pengaruh pemberian ekstrak kulit buah nangka terhadap kadar kolesterol total.

**Metode :** Penelitian eksperimental dengan rancangan post test only control group design menggunakan tikus putih jantan galur wistar, dibagi dalam 4 kelompok random, yaitu K1(Kontrol), K2(Simvastatin), K3(ekstrak kulit buah nangka 500 mg/200 gBB/hari), K4(ekstrak kulit buah nangka 750 mg/200 gBB/hari). Perlakuan diberikan selama 14 hari. Hari ke 15 serum darah tikus dihitung kadar Kolesterol Total dengan spektrofotometri enzim

**Hasil :** Rerata kadar kolesterol total pada K1:  $196,50 \pm 6.51$  mg/dL, K2:  $106,64 \pm 1.31$ , K3:  $146,74 \pm 2.84$  mg/dL, dan K4:  $122,03 \pm 6.03$  mg/dL. Uji normalitas dengan *Shapiro Wilk test* menunjukkan perolehan nilai  $p > 0,05$  menunjukkan semua kelompok berdistribusi normal. Uji *levene test* didapatkan data yang tidak homogen yaitu  $p = 0,009$  ( $p < 0.05$ ). Uji *Mann Whitney* menunjukkan perbedaan bermakna antara keempat kelompok. Uji *Kruskal Wallis* didapatkan nilai  $p = 0,000$  ( $p < 0,05$ ) sehingga  $H_1$  diterima dan  $H_0$  ditolak.

**Kesimpulan :** Ekstrak kulit buah nangka 500 mg/200 gBB/hari dan 750 mg/200 gBB/hari berpengaruh terhadap penurunan kadar kolesterol total pada tikus putih jantan galur wistar yang diinduksi diet Tinggi Lemak.

**Kata Kunci :** ekstrak daging buah nangka, kolesterol total, diet tinggi lemak

***The effect of jackfruit (Artocarpus Heterophyllus) rind extract on a high fat diet induced Hypercholesterolemia in rats.***

**ABSTRACT**

**Background :** Jackfruit (*Artocarpus Heterophyllus*) rind extract containing pectin and vitamin C has been shown to have cholesterol lowering effect. Pectin has been shown to inhibit the action of 3-hydroxy-3- methylglutaryl-CoA reductase (HMGCR) leading to a lower cholesterol level. Vitamin C will increase the work of cholesterol 7 alpha-hydroxylase system so the total of cholesterol will be converted into bile acid form. This study aimed to determine the effect of jackfruit rind extract on a high fat diet induced hypercholesterolemia in rats.

**Method :** in post test control study, 24 male rats were randomly divided into 4 groups. K1 and K2 (simvastatin 0.18 mg/200 g body weight (b.w.)/day) served as negative and positive control groups respectively. K3 and K4 were treated with jackfruit rind extract (500 mg/200 g b.w. and 750 mg/200 g b.w.) for 14 days. On day 15, the blood samples were subjected to enzymatic spectrophotometry.

**Results :** mean number of total cholesterol level for the four groups were  $196.50 \pm 6.51$  mg / dl,  $106.64 \pm 1.31$ ,  $146.74 \pm 2.84$  mg / dl,  $122.03 \pm 6.03$  mg / dl respectively. There was a significant difference among the groups ( $P < 0.05$ ). There was a significant difference between control group (K1) and K2, K3, K4, between K2 and K3, K4, and between K3 and K4.

**Conclusion :** the administration of jackfruit rind extract has an effect on a high fat diet induced hypercholesterolemia in rats.

**Keyword :** jackfruit rind extract, cholesterol total, a high fat diet.