

ABSTRAK

STUDI FARMAKODINAMIK EKSTRAK ETANOL KULIT JERUK LEMON (*CITRUS LIMON*) TERHADAP KADAR APO-B100 SERUM, LDL DAN KOLESTEROL TOTAL PADA TIKUS PUTIH YANG DIBERI DIET TINGGI LEMAK

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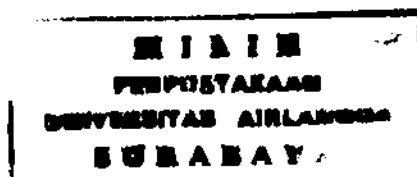
Latar belakang : Kandungan hesperidin dalam jeruk lemon diketahui dapat menghambat aktivitas *HMG-KoA reduktase* dalam sintesis kolesterol, menghambat sekresi Apo B-100 oleh hepar, menstimulasi ekspresi dan transkripsi gen LDL Reseptor. Tujuan penelitian ini untuk membuktikan bahwa pemberian ekstrak etanol kulit jeruk lemon dapat menurunkan kadar Apo-B, LDL-C dan kolesterol total pada tikus putih yang diberi diet tinggi lemak.

Metode : Penelitian ini merupakan penelitian eksperimental murni, dengan menggunakan rancangan *randomized post test only control group design*. Sebanyak 30 tiga tikus putih jantan dibagi kedalam 4 kelompok secara random, yaitu KK (kelompok kontrol) diberikan diet tinggi lemak dan placebo berupa aquadest, KP1 (kelompok perlakuan) diberikan diet tinggi lemak dan ekstrak etanol kulit jeruk lemon sebanyak 2250 mg/kg BB, KP2 diberikan diet tinggi lemak dan ekstrak sebanyak 3000 mg/kg BB hingga KP3 diberikan diet tinggi lemak dan ekstrak sebanyak 3750 mg/kg BB di hari ke 21 hingga hari ke 35. Pemeriksaan profil lipid meliputi kadar Apo B-100, LDL-C dan kolesterol total dilaksanakan pada hari ke-36.

Hasil : Hasil penelitian menunjukkan, pemberian pakan tinggi lemak berhasil meningkatkan berat badan tikus dan berpengaruh pada profil lipid. Sedangkan, Pemberian ekstrak etanol kulit jeruk lemon dapat menurunkan kadar Apo B-100 dan kolesterol total, namun tidak dapat menurunkan kadar LDL-C secara signifikan.

Kesimpulan : Peningkatan berat badan paling tinggi terjadi pada minggu ke-1 saat tikus diberi pakan standar. Penurunan kadar Apo B-100 dan kolesterol total ditemukan pada semua dosis. Sedangkan, penurunan kadar LDL-C hanya ditemukan signifikan pada pemberian dosis ketiga sebesar 3750 mg/kg BB.

Kata kunci : Jeruk lemon (*citrus limon*), Apo B-100, LDL-C dan kolesterol total



ABSTRACT

PHARMACODYNAMIC STUDIES ETHANOL EXTRACT OF LEMON PEEL (*CITRUS LIMON*) TO APO-B100 SERUM LEVELS, LDL AND CHOLESTEROL TOTAL IN WHITE RATS ARE GIVEN HIGH FAT DIET

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Introduction : Hesperidin in citrus lemon is known can inhibit the activity of HMG-CoA reductase in the cholesterol synthesis, inhibits the secretion of Apo B-100 by liver, stimulates the expression of LDL receptors and gene transcription. The purpose of this study to prove that the ethanol extract of lemon peel can reduce levels of Apo-B, LDL-C and total cholesterol in white rats are given high fat diet.

Method : This study is a purely experimental, using a randomized post test only control group design. A total of 30 male rats were divided into 4 groups randomly, namely KK (the control group) was given the high fat diet and placebo in the form of distilled water, KP1 (treatment group) was given the high fat diet and ethanol extract of lemon peel at 2250 mg/kg BB, KP2 given a high-fat diet and extract at 3000 mg/kg BB, KP3 given a high fat diet and extract at 3750 mg/kg BB in day 21 to day 35. Examination of the lipid profile include the levels of Apo B-100, LDL-C and total cholesterol was held on 36th day.

Results : The results showed that high fat diet succeeded in increasing body weight of rats and give effect on lipid profile. Meanwhile, the ethanol extract of lemon peel can reduce levels of Apo B-100 and total cholesterol, but can not be decreased the levels of LDL-C significantly.

Conclusion : Highest weight gain occurred in first week when rats given the standard feed. Decreased levels of Apo B-100 and total cholesterol are found at all doses. Meanwhile, Decreased levels of LDL-C was only found significant on giving of the third dose at 3750 mg/kg.

Keywords : Lemon (*Citrus limon*), Apo B-100, LDL-C and total cholesterol

