

**EFEK PEMBERIAN KEFIR SUSU KAMBING BERBAGAI DOSIS
TERHADAP KADAR KOLESTEROL LDL DAN HDL
(Studi pada Tikus Putih (*Rattus norvegicus*) Galur Wistar Model Diabetes Melitus
Tipe 2)**

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Abstrak

Diabetes melitus (DM) tipe 2 merupakan penyakit kronis yang banyak diderita penduduk di dunia. Penyakit ini memicu berbagai komplikasi, salah satu komplikasi tersering yang ditimbulkan yaitu dislipidemia. Penelitian ini bertujuan untuk mengevaluasi efek pemberian berbagai dosis kefir susu kambing terhadap kadar kolesterol LDL dan HDL pada tikus putih (*Rattus norvegicus*) galur Wistar model diabetes melitus tipe 2. Kefir susu kambing memiliki kandungan yang berpotensi memperbaiki kadar glukosa darah dan profil lipid. Penelitian ini menggunakan metode *true* eksperimental dengan rancangan *post-test only with control group*. Sebanyak 30 ekor tikus Wistar dibagi menjadi lima kelompok: kontrol positif, kontrol negatif, serta tiga kelompok perlakuan dengan dosis kefir susu kambing 1,05; 2,1; dan 4,2 mL/200gBB. Parameter yang diukur adalah kadar kolesterol LDL dan HDL setelah perlakuan. Data dianalisis dengan uji *One Way ANOVA*. Hasil penelitian menunjukkan kadar kolesterol HDL pada kelompok C (23.75 ± 8.617) menunjukkan penurunan, serta kelompok perlakuan D (37.00 ± 11.533) dan E (36.75 ± 5.315) mengalami sedikit peningkatan ($p > 0,05$). Sebaliknya, Kadar LDL kelompok perlakuan D (7.2500 ± 4.52079) dan E (16.125 ± 6.83283) menurun signifikan dibanding kontrol sakit (B) ($p < 0,05$). Pada penelitian ini, kefir susu kambing dosis 1,05; 2,1; dan 4,2 mL/200gBB tidak berpengaruh signifikan terhadap kadar kolesterol HDL, tetapi berpengaruh signifikan terhadap kadar kolesterol LDL pada tikus putih model DM tipe 2 dengan induksi HFD-STZ.

Kata Kunci: Diabetes Melitus, HDL, HFD-STZ, Kefir Susu Kambing, LDL

THE EFFECT OF VARIOUS DOSES OF GOAT MILK KEFIR ON LDL AND HDL CHOLESTEROL LEVELS

(A Study in White Rats (*Rattus norvegicus*) of Wistar Strain as a Type 2 Diabetes Mellitus Model)

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Abstract

Type 2 diabetes mellitus (DM) is a chronic disease that affects many people in the world. This disease triggers various complications, one of the most common complications caused is dyslipidemia. This study aims to evaluate the effects of various doses of goat milk kefir on LDL and HDL cholesterol levels in white rats (*Rattus norvegicus*) of the Wistar strain, serving as a type 2 diabetes mellitus model. Goat milk kefir contains nutrients that potentially improve blood glucose levels and lipid profiles. The study employed a true experimental method with a post-test only with control group design. Thirty Wistar rats were divided into five groups: a positive control, a negative control, and three treatment groups receiving goat milk kefir at doses of 1.05, 2.1, and 4.2 mL/200gBW. The parameters measured were LDL and HDL cholesterol levels after treatment. Data were analyzed using a One-Way ANOVA test. The results showed that HDL cholesterol levels in group C (23.75 ± 8.617) decreased, while groups D (37.00 ± 11.533) and E (36.75 ± 5.315) experienced slight increases ($p > 0.05$). Conversely, LDL cholesterol levels in groups D (7.2500 ± 4.52079) and E (16.125 ± 6.83283) significantly decreased compared to the negative control (B) ($p < 0.05$). This study concludes that goat milk kefir at doses of 1.05, 2.1, and 4.2 mL/200gBW did not have a significant effect on HDL cholesterol levels but significantly reduced LDL cholesterol levels in white rats with type 2 diabetes mellitus induced by HFD-STZ.

Keywords: Diabetes Mellitus, Goat Milk Kefir, HDL, HFD-STZ, LDL