

**EFEK PEMBERIAN KEFIR SUSU KAMBING BERBAGAI DOSIS
TERHADAP KADAR KOLESTEROL TOTAL TIKUS PUTIH
(*Rattus norvegicus*) MODEL DIABETES MELITUS TIPE 2**

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ABSTRAK

Pendahuluan: Diabetes melitus tipe 2 merupakan penyakit metabolik yang banyak dialami oleh penduduk dunia. DM tipe 2 dapat memicu berbagai komplikasi, salah satunya dislipidemia. Tujuan penelitian ini untuk mengetahui pengaruh pemberian kefir susu kambing berbagai dosis terhadap kadar kolesterol total pada tikus putih (*Rattus norvegicus*) model DM Tipe 2.

Metode: Penelitian ini menggunakan metode *true experimental* dengan rancangan *posttest only with control group design*. Sebanyak 30 ekor tikus dibagi menjadi lima kelompok secara acak. Kelompok A sebagai kontrol sehat, kelompok B sebagai kontrol sakit dengan induksi HFD-STZ, kelompok perlakuan C, D, E dengan induksi HFD-STZ yang diberi kefir susu kambing selama 28 hari dengan dosis 1, 2,1, dan 4,2 mL/200gBB/hari.

Hasil: Rerata kadar kolesterol total (mg/dL) pada setiap kelompok tikus, yaitu kelompok A = $50,3 \pm 12,2$; kelompok B = $91,0 \pm 37,7$; kelompok C = $167,3 \pm 61,6$; kelompok D = $46,7 \pm 5,5$; kelompok E = $58,3 \pm 5,9$. Hasil uji non parametrik *Kruskal-Wallis* didapatkan nilai $p = 0,001$ yang bermakna bahwa terdapat perbedaan rerata kadar kolesterol total yang signifikan antar kelompok. Uji Post Hoc *Mann-Whitney* juga menunjukkan perbedaan yang signifikan pada hampir semua kelompok, kecuali kelompok A dengan D dan kelompok A dengan E.

Kesimpulan: Kefir susu kambing berbagai dosis berpengaruh signifikan terhadap kadar kolesterol total tikus putih (*Rattus norvegicus*) model DMT2.

Kata Kunci: DM Tipe 2, Kolesterol Total, Kefir Susu Kambing.

EFFECT OF GIVING GOAT MILK KEFIR AT VARIOUS DOSES ON TOTAL CHOLESTEROL LEVELS IN WHITE RATS (*Rattus norvegicus*) WITH TYPE 2 DIABETES MELLITUS MODEL

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ABSTRACT

Introduction: Type 2 diabetes mellitus is a metabolic disease that is experienced by many people in the world. Type 2 DM can trigger various complications, one of which is dyslipidemia. The aim of this research was to determine the effect of administering goat milk kefir at various doses on total cholesterol levels in white rats (*Rattus norvegicus*) of Wistar strain serving as a type 2 DM model.

Method: This research uses a true experimental with a posttest-only control group design. Thirty rats are divided into five groups randomly. Group A serves as the healthy control, group B as the disease control induced by HFD-STZ, and groups C, D, E as treatment groups induced by HFD-STZ and given goat milk kefir for 28 days at consecutive doses of 1, 2.1, and 4.2 mL/200gBW/day.

Results: The mean total cholesterol levels (mg/dL) in each group are as follows: group A = $50,3 \pm 12,2$, group B = $91,0 \pm 37,7$, group C = $167,3 \pm 61,6$, group D = $46,7 \pm 5,5$, group E = $58,3 \pm 5,9$. The non-parametric Kruskal-Wallis test shows p -value = 0.001, indicating a significant difference in mean total cholesterol levels among the groups. The Post Hoc Mann-Whitney test shows significant differences in almost all groups, except groups A and D and groups A and E.

Conclusion: Goat milk kefir at various doses significantly affects total cholesterol levels of white rats (*Rattus norvegicus*) with type 2 DM model.

Keywords: Goat Milk Kefir, Total Cholesterol, Type 2 DM