

ABSTRAK

PERBANDINGAN ANTARA PENGARUH OMEGA-3 DENGAN *AEROBIC EXERCISE* TERHADAP KADAR KOLESTEROL-LDL TIKUS JANTAN GALUR *Wistar* MODEL DISLIPIDEMIA

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Dislipidemia dikenal sebagai faktor risiko utama penyakit kardiovaskuler. Panduan terapi dislipidemia saat ini ditujukan untuk menurunkan kadar Kolesterol-LDL dengan statin, tetapi dapat menimbulkan banyak efek samping. Suplementasi omega-3 dan *aerobic exercise* secara teratur telah dilaporkan dapat menurunkan kadar trigliserida dan Kolesterol-LDL, serta meningkatkan kadar Kolesterol-HDL. Penelitian ini bertujuan ingin mengetahui manfaat suplementasi omega-3 dan *aerobic exercise* secara teratur terhadap kadar Kolesterol-LDL tikus jantan galur *Wistar*.

Penelitian eksperimental laboratorium sungguhan dengan Rancangan Acak Lengkap (RAL) terhadap 28 ekor tikus jantan galur *Wistar* model dislipidemia yang dikelompokkan menjadi 4 kelompok ($n=7$) yaitu: kontrol negatif (diet tinggi lemak + akuades), kontrol positif (Simvastatin), omega-3, dan *aerobic exercise* secara teratur. Analisis data dengan ANAVA satu arah untuk mengetahui rerata prosentase penurunan kadar Kolesterol-LDL, dilanjutkan dengan uji Tukey HSD, $\alpha = 0.05$.

Prosentase penurunan kadar Kolesterol-LDL antar kelompok kontrol positif, omega-3, dan *aerobic exercise* secara teratur tidak menunjukkan perbedaan bermakna, tetapi sangat bermakna dibandingkan dengan kelompok kontrol negatif ($p=0,000$).

Omega-3 dan *aerobic exercise* secara teratur dapat menurunkan kadar Kolesterol-LDL tikus jantan galur *Wistar* model dislipidemia. Manfaat suplementasi omega-3 sebanding dengan *aerobic exercise* secara teratur.

Kata kunci: dislipidemia, Kolesterol-LDL, omega-3, *aerobic exercise* secara teratur

ABSTRACT

THE COMPARISON OF THE EFFECT OF OMEGA-3 AND AEROBIC EXERCISE TO LDL-CHOLESTEROL LEVELS OF MALE Wistar RATS MODEL OF DYSLIPIDEMIA

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Dyslipidemia is recognized as a prominent risk factor for cardiovascular disease. Current guidelines focus on lowering LDLc levels with statin, but lead to some side effects. Therefore, omega-3 supplementation and routine aerobic exercise have been reported can decreased triglycerides and LDLc levels, increased HDLc levels. The aim of this study is to know the benefit effects of routine omega-3 supplementation and aerobic exercise to LDLc's level of male Wistar rats model of dyslipidemia.

The true laboratory experimental research with Complete Randomized Design (CRD) used 28 male Wistar rats divide into 4 groups ($n=7$): the negative control (fatty diet control + aquadest), positive control (Simvastatin), Omega-3, and routine aerobic exercise. The data of the mean percentage reduction of LDLc levels were analyzed using one way ANOVA, followed by Tukey HSD test with $\alpha = 0.05$.

There were no significant differences of percentage mean of LDLc's decreased level between positive control group, omega-3, and exercise, but very significant compared to the negative control group ($p=0.000$).

Omega-3 and routine aerobic exercise can reduced LDLc levels of male Wistar rats model of dyslipidemia. The reducing LDLc levels effect of Omega-3 is similar as routine aerobic exercise.

Keywords: dyslipidemia, LDLc, omega-3, routine aerobic exercise

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