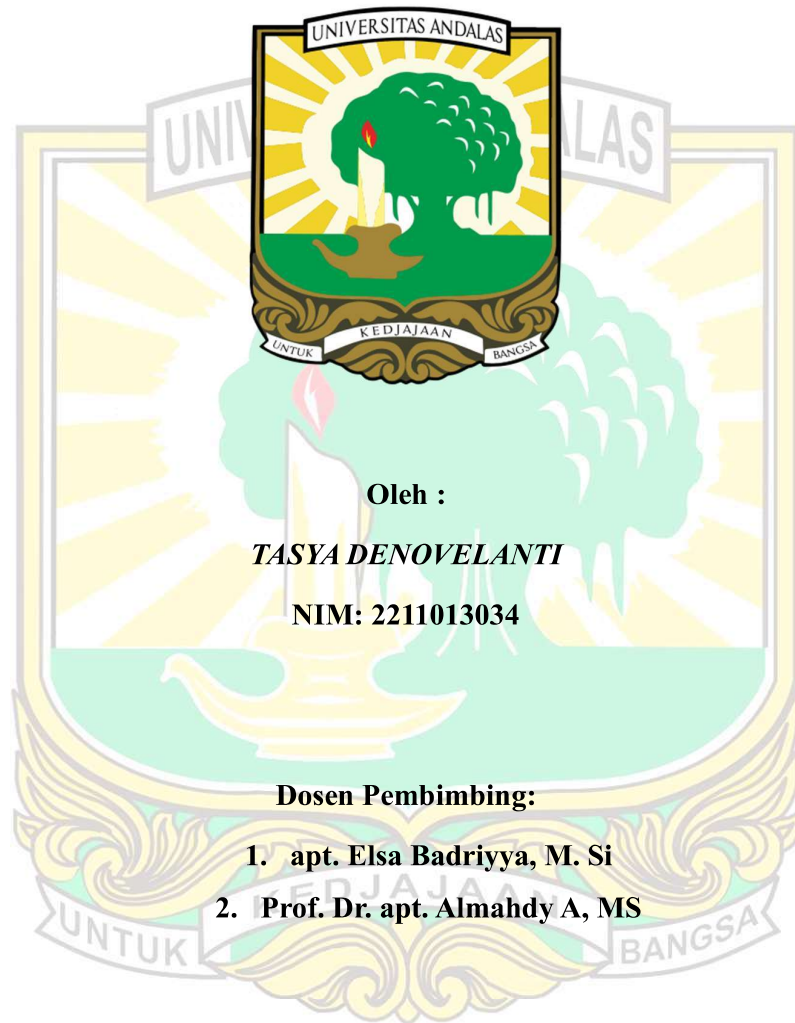


SKRIPSI

**PENGARUH PEMBERIAN KOMBINASI *EXTRA VIRGIN OLIVE OIL*
DAN *VIRGIN COCONUT OIL* TERHADAP KADAR KOLESTEROL
TOTAL DAN INDEKS ATEROGENIK PADA TIKUS PUTIH YANG
DIINDUKSI L-NAME**



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ABSTRAK

PENGARUH PEMBERIAN KOMBINASI *EXTRA VIRGIN OLIVE OIL* DAN *VIRGIN COCONUT OIL* TERHADAP KADAR KOLESTEROL TOTAL DAN INDEKS ATEROGENIK PADA TIKUS PUTIH YANG DIINDUKSI L-NAME

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Penghambatan sintesis *nitric oxide* (NO) dapat menyebabkan disfungsi endotel yang juga berkontribusi terhadap gangguan metabolisme lipid. *Extra Virgin Olive Oil* (EVOO) dan *Virgin Coconut Oil* (VCO) dilaporkan memiliki potensi dalam memperbaiki profil lipid melalui mekanisme antioksidan dan modulasi metabolisme lemak. Namun, penelitian mengenai variasi dosis efek kombinasi EVOO dan VCO terhadap parameter lipid masih terbatas. Penelitian ini bertujuan untuk mengevaluasi pengaruh kombinasi dosis EVOO dan VCO terhadap kadar kolesterol total dan indeks aterogenik pada tikus putih yang diinduksi L-NAME. Penelitian ini menggunakan 30 ekor tikus putih yang dibagi ke dalam enam kelompok, yaitu kontrol Normal (PBS), kontrol Negatif (L-NAME 50 mg/kgBB), kontrol Positif (L-NAME + captopril 20 mg/kgBB), serta tiga kelompok perlakuan kombinasi EVOO dan VCO dengan rasio 1:1 (2,25:2,25 mL/kgBB), 1:2 (1,5:3 mL/kgBB), dan 2:1 (3:1,5 mL/kgBB) yang diberikan selama 21 hari. Kadar kolesterol total dianalisis menggunakan metode kolorimetri enzimatik, sedangkan indeks aterogenik dihitung berdasarkan parameter lipid yang diperoleh. Data dianalisis menggunakan uji ANOVA. Hasil rata-rata kadar kolesterol total pada kelompok Normal, Negatif, Positif, Perlakuan 1, 2, dan 3 berturut-turut adalah 46,08 mg/dl; 84,76 mg/dl; 69,96 mg/dl; 76,68 mg/dl; 67,05 mg/dl; dan 64,64 mg/dl, dan untuk rata-rata indeks aterogenik secara berurutan 0,25; 2,43; 1,47; 1,75; 0,93; dan 0,81. Hasil penelitian menunjukkan bahwa kombinasi EVOO dan VCO dengan rasio 2:1 memberikan perbaikan kadar kolesterol total dan indeks aterogenik yang signifikan dibandingkan kelompok kontrol negatif ($p < 0,05$). Berdasarkan hasil tersebut, kombinasi EVOO dan VCO dengan rasio 2:1 berpotensi memberikan efek protektif terhadap profil lipid.

Kata kunci: L-NAME, *Extra Virgin Olive Oil*, *Virgin Coconut Oil*, kolesterol total, indeks aterogenik.

ABSTRACT

EFFECT OF COMBINATION OF EXTRA VIRGIN OLIVE OIL AND VIRGIN COCONUT OIL ON TOTAL CHOLESTEROL LEVELS AND ATHEROGENIC INDEX IN L-NAME INDUCED WHITE RATS

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Inhibition of nitric oxide (NO) synthesis can lead to endothelial dysfunction, contributing to disturbances in lipid metabolism. Extra Virgin Olive Oil (EVOO) and Virgin Coconut Oil (VCO) have been reported to improve lipid profiles through antioxidant activity and modulation of fat metabolism. However, studies on the dose-dependent effects of EVOO and VCO combinations on lipid parameters are limited. This study aimed to evaluate the effects of different EVOO and VCO combination doses on total cholesterol levels and the atherogenic index in L-NAME-induced white rats. Thirty rats were divided into six groups: Normal control (PBS), Negative control (L-NAME 50 mg/kg BW), Positive control (L-NAME + captopril 20 mg/kg BW), and three treatment groups receiving EVOO and VCO combinations at ratios of 1:1 (2.25:2.25 mL/kg BW), 1:2 (1.5:3 mL/kg BW), and 2:1 (3:1.5 mL/kg BW) for 21 days. Total cholesterol was analyzed using an enzymatic colorimetric method, and the atherogenic index was calculated from the lipid parameters. Data were analyzed using ANOVA. Mean total cholesterol levels in the Normal, Negative, Positive, Treatment 1, 2, and 3 groups were 46.08, 84.76, 69.96, 76.68, 67.05, and 64.64 mg/dL, respectively; mean atherogenic indices were 0.25, 2.43, 1.47, 1.75, 0.93, and 0.81, respectively. The results indicated that the EVOO and VCO combination at a 2:1 ratio significantly improved total cholesterol levels and the atherogenic index compared to the negative control ($p < 0.05$). These findings suggest that the 2:1 EVOO and VCO combination has potential protective effects on lipid profiles.

Keywords: L-NAME, Extra Virgin Olive Oil, Virgin Coconut Oil, total cholesterol, atherogenic index.