SKRIPSI SARJANA FARMASI

PENGARUH VARIASI DOSIS KOMBINASI *EXTRA VIRGIN OLIVE OIL* DAN *VIRGIN COCONUT OIL* TERHADAP KADAR KREATININ DAN UREUM SERUM PADA TIKUS PUTIH YANG DIINDUKSI L-NAME

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ABSTRAK

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N-omega-nitro-L-arginine methyl ester (L-NAME) dapat menghambat sintesis *nitric oxide* sehingga menyebabkan disfungsi endotel dan peningkatan tekanan darah. Kondisi tersebut dapat memengaruhi perfusi dan fungsi ginjal, yang ditandai dengan peningkatan kadar kreatinin dan ureum serum. *Extra Virgin Olive Oil* (EVOO) dan *Virgin Coconut Oil* (VCO) memiliki aktivitas antioksidan dan efek protektif terhadap sistem kardiovaskular serta ginjal. Penelitian ini bertujuan untuk mengetahui pengaruh variasi dosis kombinasi EVOO dan VCO terhadap tekanan darah, kadar kreatinin dan ureum serum pada tikus putih yang diinduksi L-NAME. Penelitian ini menggunakan 30 ekor tikus yang dibagi menjadi enam kelompok: kontrol normal, kontrol negatif (L-NAME), kontrol positif (L-NAME+captopril), serta kelompok perlakuan induksi L-NAME+kombinasi EVOO:VCO 1:1, 1:2, dan 2:1 selama 21 hari. Parameter uji meliputi pengukuran tekanan darah menggunakan metode *tail-cuff*, pemeriksaan kadar kreatinin serum dengan metode *Jaffe*, dan kadar ureum serum dengan metode enzimatik. Data tekanan darah dianalisis menggunakan ANOVA dua arah sedangkan kadar kreatinin dan ureum serum dengan ANOVA satu arah. Pemberian kombinasi EVOO dan VCO secara umum menunjukkan pengaruh yang berbeda signifikan terhadap tekanan darah, kadar kreatinin, dan ureum serum. Kombinasi EVOO:VCO 2:1 memberikan efek paling optimal dibandingkan kelompok kombinasi lainnya, ditandai dengan nilai tekanan darah, kadar kreatinin, dan ureum serum yang mendekati kelompok kontrol normal. Hasil ini menunjukkan bahwa kombinasi EVOO dan VCO 2:1 menunjukkan potensi efek protektif terhadap fungsi kardiovaskular dan ginjal.

Kata kunci: *Extra Virgin Olive Oil* (EVOO), *Virgin Coconut Oil* (VCO), L-NAME, kreatinin, ureum, tekanan darah

ABSTRACT

THE EFFECT OF VARIATIONS IN THE DOSE COMBINATION OF EXTRA VIRGIN OLIVE OIL AND VIRGIN COCONUT OIL ON SERUM CREATININE AND UREA LEVELS IN WHITE MICE INDUCED BY L-NAME

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N-omega-nitro-L-arginine methyl ester (L-NAME) inhibits nitric oxide synthesis, leading to endothelial dysfunction and increased blood pressure. This condition may impair renal perfusion and function, as indicated by elevated serum creatinine and urea levels. Extra Virgin Olive Oil (EVOO) and Virgin Coconut Oil (VCO) possess antioxidant activity and exert protective effects on the cardiovascular system and kidneys. This study aimed to investigate the effects of varying dose combinations of EVOO and VCO on blood pressure, serum creatinine, and urea levels in L-NAME–induced rats. A total of 30 rats were divided into six groups: normal control, negative control (L-NAME), positive control (L-NAME + captopril), and treatment groups receiving L-NAME in combination with EVOO:VCO at ratios of 1:1, 1:2, and 2:1 for 21 days. The study parameters included blood pressure measurement using the tail-cuff method, serum creatinine assessment using the Jaffe method, and serum urea determination using an enzymatic method. Blood pressure data were analyzed using two-way ANOVA, while serum creatinine and urea levels were analyzed using one-way ANOVA. Overall, the administration of EVOO and VCO combinations showed significantly different effects on blood pressure, serum creatinine, and urea levels. The EVOO:VCO 2:1 combination produced the most optimal effects compared with other combination groups, as indicated by blood pressure, serum creatinine, and urea levels approaching those of the normal control group. These findings suggest that the combination of EVOO and VCO, in a 2:1 ratio, has potential protective effects on cardiovascular and renal function.

Keywords: Extra Virgin Olive Oil (EVOO), Virgin Coconut Oil (VCO), L-NAME, creatinine, urea, blood pressure