SKRIPSI SARJANA FARMASI

STUDI KOMPARATIF EFEKTIFITAS KOMBINASI *VIRGIN COCONUT OIL* DAN *EXTRA VIRGIN OLIVE OIL* TERHADAP FOLIKULOGENESIS MENCIT PUTIH (*MUS MUSCULUS* L.) BETINA

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ABSTRAK

STUDI KOMPARATIF EFEKTIFITAS KOMBINASI *VIRGIN COCONUT OIL* DAN *EXTRA VIRGIN OLIVE OIL* TERHADAP FOLIKULOGENESIS MENCIT PUTIH (*Mus musculus* L.) BETINA

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Radikal bebas yang berlebihan dalam tubuh dapat memicu stres oksidatif, yang menjadi salah satu penyebab utama kerusakan sel dan gangguan fungsi biologis, termasuk pada penurunan fungsi reproduksi dan fertilitas. Antioksidan, seperti yang terkandung dalam *Virgin Coconut Oil* (VCO) dan *Extra Virgin Olive Oil* (EVOO), memiliki senyawa bioaktif dengan aktivitas antioksidan tinggi yang dapat menetralkan radikal bebas. Penelitian ini bertujuan untuk mengetahui pengaruh kombinasi EVOO dan VCO terhadap folikulogenesis pada mencit putih (*Mus musculus* L.) betina yang diinduksi timbal. Sebanyak 25 ekor mencit betina dibagi menjadi lima kelompok: kontrol negatif (akuades), kontrol positif (timbal 10 mg/kgBB), dan tiga kelompok uji (timbal 10 mg/kgBB + EVOO 0,13 ml/20gr; timbal 10 mg/kgBB + VCO 0,13 ml/20gr; dan timbal 10 mg/kgBB + EVOO 0,07 ml/20gr + VCO 0,07 ml/20gr). Perlakuan diberikan secara oral selama 14 hari, kemudian hewan uji dilaparatomi dan ovarium dianalisis pada hari ke-15. Berdasarkan hasil penelitian, jumlah folikel ovarium pada kelompok kombinasi EVOO+VCO yaitu folikel primer (14,4±2,41 dan 14,6±1,14), folikel sekunder (10,6±1,67 dan 10,8±1,30), folikel *de Graaf* (9,8±0,84 dan 9,8±0,84), serta korpus luteum (8,2±1,68 dan 8,6±1,14).Hasil uji *one way* ANOVA menunjukkan perbedaan bermakna ($p<0,05$) pada pemberian EVOO, VCO, dan kombinasinya terhadap folikel dan korpus luteum. Dengan demikian, dapat disimpulkan bahwa pemberian kombinasi EVOO+VCO berpengaruh terhadap folikulogenesis mencit putih (*Mus musculus* L.) betina yang diinduksi timbal.

Kata kunci: folikulogenesis, EVOO (*Extra Virgin Olive Oil*), VCO (*Virgin Coconut Oil*), timbal.

ABSTRACT

A COMPARATIVE STUDY ON THE EFFECTIVENESS OF THE COMBINATION OF VIRGIN COCONUT OIL AND EXTRA VIRGIN OLIVE OIL ON FOLLICULOGENESIS IN FEMALE WHITE MICE (*Mus musculus* L.)

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Excessive free radicals in the body can trigger oxidative stress, which is one of the main causes of cell damage and impaired biological functions, including in the decline of reproductive function and fertility. Antioxidants, such as those contained in Virgin Coconut Oil (VCO) and Extra Virgin Olive Oil (EVOO), have bioactive compounds with high antioxidant activity that can neutralize free radicals. This study aims to determine the effect of the combination of EVOO and VCO on folliculogenesis in lead-induced female white mice (Mus musculus L.). A total of 25 female mice were divided into five groups: negative control (distilled water), positive control (lead 10 mg/kgBB), and three test groups (lead 10 mg/kgBB + EVOO 0.13 ml/20gr; lead 10 mg/kgBB + VCO 0.13 ml/20gr; and lead 10 mg/kgBB + EVOO 0.07 ml/20gr + VCO 0.07 ml/20gr). The treatments were given orally for 14 days, then the test animals were catatomized and the ovaries were analyzed on day 15. Based on the results of the study, the number of ovarian follicles in the EVOO + VCO combination group were primary follicles (14.4 ± 2.41 and 14.6 ± 1.14), secondary follicles (10.6 ± 1.67 and 10.8 ± 1.30), de Graaf follicles (9.8 ± 0.84 and 9.8 ± 0.84), and corpus luteum (8.2 ± 1.68 and 8.6 ± 1.14). The results of the one way ANOVA test showed significant differences ($p<0.05$) in the administration of EVOO, VCO, and their combination on follicles and corpus luteum. Thus, it can be concluded that the combination of EVOO + VCO affects the folliculogenesis of lead-induced female white mice (*Mus musculus* L.).

Keywords: folliculogenesis, EVOO (Extra Virgin Olive Oil), VCO (Virgin Coconut Oil), lead.