

SKRIPSI SARJANA FARMASI

EFEK PROTEKTIF *EXTRA VIRGIN OLIVE OIL* DAN *VIRGIN COCONUT OIL* TERHADAP HISTOPATOLOGI GINJAL TIKUS PUTIH MODEL PREEKLAMPSIA



OLEH:

SYAFRADATUL HIKMAH

NIM: 2111011045

Dosen Pembimbing:

- 1. apt. Elsa Badriyya, M.Si.**
- 2. Prof. Dr. apt. Almahdy A, MS.**

FAKULTAS FARMASI UNIVERSITAS ANDALAS

PADANG

2024

ABSTRAK

EFEK PROTEKTIF *EXTRA VIRGIN OLIVE OIL* DAN *VIRGIN COCONUT OIL* TERHADAP HISTOPATOLOGI GINJAL TIKUS PUTIH MODEL PREEKLAMPSIA

Oleh:

SYAFRADATUL HIKMAH

NIM: 2111011045

(Program Studi Sarjana Farmasi)



Preeklampsia terjadi pada 2-8% kehamilan diseluruh dunia dan ditandai adanya gangguan pada beberapa organ termasuk organ ginjal. Endoteliosis glomerulus merupakan ciri utama gangguan histologi ginjal akibat preeklampsia. Pemberian *Extra Virgin Olive Oil* (EVOO) dan *Virgin Coconut Oil* (VCO) yang kaya akan antioksidan dan antinflamasi, berperan dalam mengurangi stres oksidatif dan peradangan sistemik. Penelitian ini bertujuan untuk mengetahui efek protektif pemberian kombinasi EVOO dan VCO terhadap histopatologi ginjal tikus putih model preeklampsia. Parameter yang diamati meliputi rasio organ ginjal, skor kerusakan ginjal (endoteliosis glomerulus) dan diameter glomerulus ginjal dengan mikroskop cahaya. Penelitian ini menggunakan 25 ekor tikus hamil galur Wistar dibagi lima kelompok: kelompok kontrol negatif injeksi PBS 0,2ml; kelompok kontrol positif injeksi L-NAME 75mg/kgBB (tikus model preeklampsia) secara intraperitoneal hari ke-9 hingga ke-18 kehamilan; kelompok perlakuan I (tikus model preeklampsia + EVOO 4,5ml/kgBB tikus); kelompok perlakuan II (tikus model preeklampsia + VCO 4,5ml/KgBB tikus); dan kelompok perlakuan III (tikus model preeklampsia + kombinasi 2,25ml/KgBB EVOO dan 2,25ml/KgBB VCO). EVOO dan VCO diberikan secara oral hari ke-1 hingga ke-18 kehamilan. Data hasil penelitian dianalisis secara statistik dengan *Analysis Of Variance* (ANOVA) satu arah. Berdasarkan hasil statistik pemberian kombinasi EVOO dan VCO memiliki pengaruh yang signifikan terhadap rasio organ ginjal dan diameter glomerulus ginjal tikus putih model preeklampsia ($p < 0,05$). Serta pemberian kombinasi EVOO dan VCO lebih efektif mencegah kerusakan histologi ginjal akibat preeklampsia dengan derajat ringan. Sehingga dapat disimpulkan pemberian kombinasi EVOO dan VCO memberikan pengaruh signifikan terhadap parameter histopatologi ginjal tikus model preeklampsia.

Kata kunci: *Extra Virgin Olive Oil* (EVOO), *Virgin Coconut Oil* (VCO), L-NAME, preeklampsia, histopatologi ginjal

ABSTRACT

THE PROTECTIVE EFFECT OF EXTRA VIRGIN OLIVE OIL AND VIRGIN COCONUT OIL ON RENAL HISTOPATHOLOGY OF WHITE RAT PREECLAMPSIA MODEL

By:
SYAFRADATUL HIKMAH
NIM: 2111011045
(Bachelor of Pharmacy)

Preeclampsia occurs in 2-8% of pregnancies worldwide and is characterised by multiple organ damage including the renal. Glomerular endotheliosis is the main feature of renal histological disorders due to preeclampsia. Administration of Extra Virgin Olive Oil (EVOO) and Virgin Coconut Oil (VCO), which are rich in antioxidants and anti-inflammatories, plays a role in reducing oxidative stress and systemic inflammation. This study aims to determine the protective effect of the combination of EVOO and VCO on the renal histopathology of white rat in a preeclampsia model. Parameters observed included renal organ ratio, renal damage score (glomerular endotheliosis) and renal glomerular diameter by light microscopy. This study used 25 pregnant rats of Wistar strain divided into five groups: negative control group + PBS 0,2ml; positive control group 75mg/kgBB L-NAME injection (preeclampsia model rats) intraperitoneally on the 9th to 18th day of pregnancy; treatment group I (preeclampsia model rats + EVOO 4,5ml/kgBB), treatment group II (preeclampsia model rats + VCO 4,5ml/kgBB), and treatment group III (preeclampsia model rats + combination 2,25ml/kgBB EVOO and 2,25ml/kgBB VCO). EVOO and VCO were administered orally from day 1 to day 18 of pregnancy. The data were statistically analysed with one-way Analysis of Variance (ANOVA). Based on statistical results, the combination of EVOO and VCO has a significant effect on the ratio of renal organs and renal glomerular diameter of white rat preeclampsia model ($p < 0.05$). And the combination of EVOO and VCO is more effective in preventing renal histological damage due to preeclampsia with mild degrees. So it can be concluded that the combination of EVOO and VCO has a significant effect on the histopathological parameters of the renal in the preeclampsia model rats.

Keywords: Extra Virgin Olive Oil (EVOO), Virgin Coconut Oil (VCO), L-NAME, preeclampsia, renal histopathology