

**PENGARUH PEMBERIAN *EXTRA VIRGIN OLIVE OIL* TERHADAP KADAR  
*MALONDIALDEHYDE* DAN *VASCULAR ENDOTHELIAL  
GROWTH FACTOR* PADA TIKUS BUNTING HIPERTENSI**

**TESIS**

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## ABSTRAK

### PENGARUH PEMBERIAN *EXTRA VIRGIN OLIVE OIL* TERHADAP KADAR *MALONDIALDEHYDE* DAN *VASCULAR ENDOTHELIAL GROWTH FACTOR* PADA TIKUS BUNTING HIPERTENSI

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Hipertensi dan kehamilan menyebabkan iskemia plasenta yang akan menghasilkan radikal bebas yang bersifat toksik penyebab stress oksidatif, dan meningkatkan kadar *Malondialdehyde* (MDA). Stress oksidatif juga menyebabkan penurunan kadar *Vascular Endothelial Growth Factor* (VEGF). *Extra Virgin Olive Oil* (EVOO) mengandung antioksidan yang dapat memutus reaksi berantai radikal bebas. Penelitian ini bertujuan mengetahui pengaruh pemberian EVOO terhadap kadar MDA dan VEGF pada tikus bunting hipertensi.

Penelitian *post test only control group design* dilakukan pada 30 ekor tikus bunting terdiri atas kelompok kontrol negatif (K-), kontrol positif (K+) dan 3 kelompok perlakuan sebagai model hipertensi (P1, P2, P3), Model hipertensi diinduksi NaCl 6% pada hari ke-6 sampai hari ke-12 kebuntingan. Seluruh kelompok perlakuan diberi EVOO kecuali K+, dari hari ke-13 sampai hari ke-19. Hari ke-20, seluruh tikus dieksekusi. Pemeriksaan MDA menggunakan spektrofotometer dan VEGF menggunakan ELISA. Data diuji menggunakan uji *One Way Anova* bermakna secara statistik jika  $p < 0,05$ .

Hasil penelitian ini menunjukkan terdapat penurunan rerata kadar MDA secara signifikan setelah pemberian EVOO, khususnya pada kelompok P3 yaitu 1,532 mmol/L ( $p = 0,000$ ) dan peningkatan rerata kadar VEGF secara signifikan setelah pemberian EVOO, khususnya pada kelompok P3 yaitu 68,892 ng/L ( $p = 0,000$ ) yang berarti ada pengaruh pemberian EVOO terhadap kadar MDA dan VEGF tikus bunting hipertensi.

Kesimpulan penelitian ini adalah pemberian EVOO dapat menurunkan kadar MDA dan meningkatkan kadar VEGF pada tikus bunting hipertensi.

Kata kunci : EVOO, MDA, VEGF, Hipertensi

## ABSTRACT

### EFFECT OF ADMINISTRATION OF EXTRA VIRGIN OLIVE OIL ON MALONDIALDEHYDE AND VASCULAR ENDOTHELIAL GROWTH FACTOR LEVELS IN HYPERTENSION PREGNANT RATS

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Hypertension and pregnancy cause placental ischemia which will produce free radicals that are toxic to cause oxidative stress, and increase levels of malondialdehyde (MDA). Oxidative stress also causes a decrease in Vascular Endothelial Growth Factor (VEGF) levels. Extra Virgin Olive Oil (EVOO) contains antioxidants that can break free radical chain reactions. This study aims to determine the effect of EVOO administration on MDA and VEGF levels in hypertensive pregnant rats.

The post test only control group design study was conducted on 30 pregnant rats consisting of a negative control group (K-), a positive control group (K+) and 3 treatment groups as a hypertension model (P1, P2, P3). 6th to 12th day of pregnancy. All treatment groups were given EVOO except K+, from day 13 to day 19. On day 20, all the rats were executed. MDA examination using a spectrophotometer and VEGF using ELISA. The data was tested using the one way ANOVA test, which was statistically significant if  $p < 0.05$ .

The results of this study indicate that there is a significant decrease in the mean MDA level after EVOO administration, especially in the P3 group, which is 1.532 mmol/L ( $p = 0.000$ ) and a significant increase in the mean VEGF level after EVOO administration, especially in the P3 group, which is 68,892 ng/L ( $p = 0.000$ ) which means there is an effect of giving EVOO on MDA and VEGF levels of hypertensive pregnant rats.

The conclusion of this study is that giving EVOO can reduce MDA levels and increase VEGF levels in hypertensive pregnant rats.

Keywords: EVOO, MDA, VEGF, Hypertension