

ABSTRAK

Latar belakang: Daun kemangi (*Ocimum sanctum*) telah terbukti meningkatkan kadar testosteron pada pria, sedangkan kadar hormon FSH (*Follicle Stimulating Hormone*) dan LH (*Luteinizing Hormone*) menurun. Selain itu, daun kemangi ini juga menurunkan jumlah spermatozoa. Namun hingga saat ini belum ada bukti penelitian mengenai pengaruh daun kemangi terhadap kadar hormon estrogen, FSH dan LH pada wanita serta bagaimana efeknya pada folikel ovarium. Penelitian bertujuan untuk mengetahui pengaruh bubuk daun kemangi terhadap kadar hormon estrogen, FSH, LH dan luas folikel antral ovarium pada mencit Balb/C betina.

Metode: Penelitian eksperimental laboratorik dengan *post test only control group design*, menggunakan sampel 12 ekor mencit betina galur Balb/c, yang dibagi dalam 2 kelompok secara acak, pada kelompok perlakuan diberi bubuk daun kemangi (*Ocimum sanctum*) 0.08 gram setiap tiga kali sehari selama 30 hari. Satu kelompok merupakan kelompok kontrol tanpa pemberian bubuk daun kemangi. Kadar estrogen, FSH dan LH diukur pada hari ke-30, mencit dimatikan dan diambil organ ovariumnya. Selanjutnya dibuat preparat dan dilakukan pengecatan HE, lalu dinilai luas folikel antral ovarium. Semua data yang diperoleh diolah dengan *SPSS for Windows 16.0*.

Hasil: Rerata kadar estrogen pada kelompok perlakuan (1595.70 ± 12.41), kelompok kontrol (111.54 ± 38.69). Rerata kadar hormon FSH pada kelompok perlakuan (99.15 ± 0.83), kelompok kontrol (22.28 ± 5.87). Rerata Kadar hormon LH kelompok perlakuan (19.82 ± 0.24), untuk kelompok kontrol (2.10 ± 0.25). Rerata luas folikel antral pada kelompok kontrol ($864.642,50 \pm 317.300,17$), pada kelompok perlakuan ($381.208,33 \pm 226.272,07$). Hasil uji *Mann Whitney* menunjukkan perbedaan yang bermakna pada kadar estrogen dan FSH masing-masing kelompok. Hasil uji *Independent T-test* menunjukkan bahwa pada kadar LH dan Luas Ovarium terdapat perbedaan bermakna pada masing-masing kelompok.

Kesimpulan: Pemberian bubuk daun kemangi (*Ocimum sanctum*) dapat meningkatkan kadar hormon estrogen, FSH, LH dan mengakibatkan folikel antral ovarium pada mencit mengalami atresia.

Kata Kunci : *Ocimum sanctum*, estrogen, FSH, LH, luas ovarium

ABSTRACT

Background: *Ocimum sanctum* has been shown to increase *testosterone* levels in men, while FSH (*Follicle Stimulating Hormone*) and LH (*Luteinizing Hormone*) levels decrease. In addition, the basil leaves also lowered the number of spermatozoa. However, until now there has been no research evidence on the effect of basil leaves on levels of estrogen, FSH and LH in women and how the effect on ovarian follicles. The aim of this research was to know the effect of basil powder on estrogen, FSH, LH and the antral follicle follicle in Balb/C female mice.

Method: Laboratory experimental study with *post test only control group design*, using samples of 12 Balb/c female rats, divided into 2 groups randomly, in the treatment group was given 0.08 grams of *Ocimum sanctum* every three times during 30 days. One group was a control group without administration of basil powder. Estrogen, FSH and LH levels were measured on day 30, the mice were switched off and taken up by their ovaries. then made preparations and performed HE painting, then assessed the area of the antral follicle of the ovary. All data obtained is processed with SPSS for Windows 16.0.

Results: The mean estrogen levels in the treatment group (1595.70 ± 12.41), control group (111.54 ± 38.69). Mean FSH levels in the treatment group (99.15 ± 0.83), control group (22.28 ± 5.87). Mean LH hormone level treatment group (19.82 ± 0.24), for the control group (2.10 ± 0.25). The average of antral follicle in the control group ($864,642,50 \pm 317,300,17$), in the treatment group ($381,208.33 \pm 226,272.07$). *Mann Whitney* test results showed significant differences in estrogen and FSH levels for each group. *Independent T-test* results test showed that at LH and Ovary Levels there were significant differences in each group.

Conclusion: Administration of *Ocimum sanctum* can increase estrogen, FSH, LH and cause antral follicle follicle in mice to have atresia.

Keywords: *Ocimum sanctum*, estrogen, FSH, LH, ovary area