

ABSTRAK

PENGARUH PEMBERIAN EKSTRAK ETANOL DAUN SIRIH (*Piper betle L.*) TERHADAP JUMLAH DAN DIAMETER FOLIKEL PRIMER DAN SEKUNDER PADA OVARIUM MENCIT BETINA (*Mus musculus L.*)

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Indonesia merupakan salah satu negara dengan jumlah penduduk terbesar di dunia sehingga diperlukan upaya pengendalian pertumbuhan penduduk termasuk pemanfaatan bahan alam. Daun sirih (*Piper betle L.*) diketahui mengandung senyawa bioaktif yang berpotensi memengaruhi sistem reproduksi. Penelitian ini bertujuan untuk mengetahui pengaruh pemberian ekstrak etanol daun sirih terhadap pertumbuhan dan perkembangan folikel pada ovarium mencit betina. Penelitian menggunakan 20 mencit betina (*Mus musculus L.*) berusia 2-3 bulan dan berat badan 25 - 30gram, yang dibagi kedalam empat kelompok, yaitu kontrol, P1, P2, dan P3 yang diinduksi dengan dosis ekstrak masing - masing sebanyak 9 mg/ 30grBB, 12 mg/ 30grBB, dan 15 mg/ 30grBB selama 14 hari. Parameter yang diamati meliputi jumlah dan diameter folikel primer dan sekunder berdasarkan preparat histologi. Data dianalisis menggunakan uji statistik ANOVA. Hasil penelitian menunjukkan bahwa diameter rata-rata folikel sekunder lebih tinggi dibandingkan folikel primer, yang menggambarkan perbedaan tingkat perkembangan folikel antar ovarium. Selain itu, terdapat perbedaan distribusi jumlah folikel antar kelompok perlakuan, yang menunjukkan bahwa pemberian ekstrak etanol daun sirih pada dosis yang berbeda memberikan respons biologis yang bervariasi terhadap dinamika pertumbuhan folikel ovarium mencit betina.

Kata Kunci: *Piper betle L.*, folikel ovarium, mencit betina.

ABSTRACT

THE EFFECT OF ETANOL EXTRACT BETEL LEAF (*Piper betle L.*) ON THE NUMBER AND DIAMETER OF OVARIAN PRIMARY AND SECONDARY IN FEMALE MICE (*Mus musculus L.*)

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Indonesia is one of the countries with the largest population in the world, so efforts are needed to control population growth, including the use of natural resources, are needed. Betel leaf (*Piper betle L.*) is known to contain bioactive compounds that have the potential to affect the reproductive system. This study aims to determine the effect of betel leaf ethanol extracts administration on follicle growth and development in female follicles in the ovaries of female mice. The study used 20 female mice (*Mus musculus L.*) aged 2-3 months and weighing 25-30 grams, which were divided into four groups, namely control, P1, P2, and P3, which were induced with doses of extract of 9 mg/30 g BW, 12 mg/30 g BW, and 15 mg/30 g BW for 14 days. The parameters observed included the number and diameter primary and secondary of follicles based on histological preparations. The data were analyzed using ANOVA statistical test. The result showed that the average diameter of secondary follicles was higher than that of primary follicles, illustrating differences in follicle development levels between ovaries. Additionally, there were differences in the distribution of follicle numbers between treatment groups, indicating that administration of betel leaf ethanol extract at different doses produced varying biological responses to the growth dynamics of female mice ovaries follicles.

Keywords: *Piper betle L.*, ovarian follicles, female mice.