ABSTRAK

Fira Yunita, NIM 4221210002 (2026). Aktivitas Antibakteri Ekstrak Etanol Daun Jelatang dan Kombinasinya dengan Tetrasiklin Terhadap *Cutibacterium acnes* dan *Pseudomonas aeruginosa.*

Penelitian ini bertujuan untuk mengevaluasi aktivitas antibakteri ekstrak etanol daun jelatang (*Urtica dioica*) dan kombinasinya dengan tetrasiklin terhadap *Cutibacterium acnes* dan *Pseudomonas aeruginosa*. Penelitian dilakukan secara eksperimental di laboratorium menggunakan metode difusi cakram. Ekstrak daun jelatang diperoleh melalui proses maserasi dengan etanol 96% dan diuji pada konsentrasi 200 mg/mL, 400 mg/mL, dan 800 mg/mL. Kombinasi ekstrak dan tetrasiklin dibuat dalam rasio 1:3, 1:1, dan 3:1. Data diameter zona hambat digunakan untuk menghitung nilai *increase in fold area* serta dianalisis menggunakan uji Shapiro–Wilk, Levene, One Way ANOVA, dan Tukey HSD. Hasil skrining fitokimia menunjukkan adanya kandungan alkaloid, fenolik, flavonoid, steroid, dan saponin dalam ekstrak etanol daun jelatang. Pengujian aktivitas antibakteri menunjukkan bahwa ekstrak maupun kombinasi ekstrak dengan tetrasiklin mampu menghambat pertumbuhan kedua bakteri uji. Aktivitas tertinggi diperoleh pada kombinasi ekstrak 400 mg/mL dan tetrasiklin 5 mg/mL dengan rasio 3:1 yang menghasilkan diameter zona hambat sebesar 31,23±0,45 mm terhadap *Cutibacterium acnes* dan 28,27±0,40 mm terhadap *Pseudomonas aeruginosa*. Hasil uji Tukey HSD menunjukkan bahwa sebagian besar kombinasi berpotensi menghasilkan efek sinergis, dengan rasio 3:1 sebagai kombinasi yang paling optimal.

Kata kunci: *Urtica dioica*, Aktivitas Antibakteri, Efek Sinergis, *Cutibacterium acnes*, *Pseudomonas aeruginosa*.

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ABSTRACT

Fira Yunita, NIM 4221210002 (2026). Antibacterial Activity of Ethanol Extract of Nettle Leaves and Its Combination with Tetracycline against *Cutibacterium acnes* and *Pseudomonas aeruginosa.*

This study aimed to evaluate the antibacterial activity of the ethanol extract of nettle leaves (*Urtica dioica*) and its combination with tetracycline against *Cutibacterium acnes* and *Pseudomonas aeruginosa*. The study was conducted experimentally in a laboratory using the disc diffusion method. The ethanol extract of nettle leaves was obtained through maceration using 96% ethanol and tested at concentrations of 200 mg/mL, 400 mg/mL, and 800 mg/mL. The extract was combined with tetracycline at ratios of 1:3, 1:1, and 3:1. The inhibition zone diameters were used to calculate the *increase in fold area* (IFA) values and were subsequently analyzed using the Shapiro–Wilk test, Levene's test, one-way ANOVA, and Tukey's HSD test. Phytochemical screening revealed the presence of alkaloids, phenolics, flavonoids, steroids, and saponins in the ethanol extract of nettle leaves. Antibacterial activity testing demonstrated that both the extract and its combinations with tetracycline were able to inhibit the growth of both test bacteria. The highest antibacterial activity was observed in the combination of 400 mg/mL extract and 5 mg/mL tetracycline at a ratio of 3:1, which produced inhibition zone diameters of 31.23 ± 0.45 mm against *Cutibacterium acnes* and 28.27 ± 0.40 mm against *Pseudomonas aeruginosa*. The results of Tukey's HSD test indicated that most combinations had the potential to produce a synergistic effect, with the 3:1 ratio representing the most optimal combination.

Keywords: *Urtica dioica*, Antibacterial Activity, Synergistic Effect, *Cutibacterium acnes*, *Pseudomonas aeruginosa*

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