ABSTRACT

EVALUATION OF THE ANTIBACTERIAL ACTIVITY OF BINAHONG LEAF EXTRACT (*Anredera cordifolia (Ten.)* Steenis) AGAINST *Cutibacterium acnes* IN ACNE VULGARIS: AN IN VITRO STUDY

By

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Background: *Acne vulgaris is a prevalent skin condition affecting a significant portion of the population. One of its primary causes is the colonization of the bacterium Cutibacterium acnes. The treatment of acne vulgaris commonly involves reducing bacterial colonies using antibiotics. However, prolonged antibiotic use is associated with an increased risk of resistance development. Therefore, it is crucial to develop therapeutic approaches capable of inhibiting the growth of C. acnes. This study aims to assess the inhibitory potential of binahong (Anredera cordifolia) leaf extract on the growth of C. acnes.*

Methods: *This experimental study investigated the antibacterial activity of binahong leaf extract against Cutibacterium acnes using the well diffusion method. Extract concentrations of 25%, 50%, 75%, and 100% were tested, with clindamycin 1.2% as a positive control and distilled water as a negative control. Data were analyzed using a One-Way ANOVA followed by a Post-Hoc analysis.*

Results: *The binahong leaf extract effectively inhibited the growth of Cutibacterium acnes across all tested concentrations. The mean diameters of the inhibition zones were 2.46±0.55 mm at 25%, 3.87±0.48 mm at 50%, 5.61±0.37 mm at 75%, and 8.76±0.69 mm at 100%. In comparison, 1.2% clindamycin produced an inhibition zone with a mean diameter of 12.35±0.57 mm. Significant differences were observed between the various concentrations and the clindamycin control.*

Conclusion: *The study found significant differences between the positive control group and the treatment groups using binahong leaf extract at concentrations of 25%, 50%, 75%, and 100%. The findings suggest that binahong leaf extract has potential as an antibacterial agent against C. acnes.*

Keywords*: Antibacterial Activity, Binahong Leaf, Cutibacterium acnes, Clindamycin*

ABSTRAK

UJI DAYA HAMBAT EKSTRAK DAUN BINAHONG *(Anredera cordifolia (Ten.) Steenis)* TERHADAP PERTUMBUHAN BAKTERI *Cutibacterium acnes* PENYEBAB *ACNE VULGARIS :* STUDI *IN VITRO*

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Latar Belakang: *Acne vulgaris* merupakan penyakit kulit yang banyak terjadi pada masyarakat. Salah satu penyebabnya adalah kolonisasi bakteri *Cutibacterium acnes.* Pengobatan *acne vulgaris* dapat dilakukan dengan menurunkan jumlah koloni *C.acnes* menggunakan antibiotik, namun penggunaannya dalam jangka panjang dapat meningkatkan resiko resistensi. Oleh karena itu, diperlukan pengobatan lain yang berpotensi menghambat pertumbuhan koloni *Cutibacterium acnes.* Tujuan penelitian ini adalah mengetahui daya hambat ekstrak daun binahong terhadap pertumbuhan *C.acnes*.
Metode: Penelitian ini adalah penelitian eksperimental untuk mengetahui aktivitas antibakteri ekstrak daun binahong (*Anredera cordifolia*) terhadap *Cutibacterium acnes* menggunakan metode sumuran dengan konsentrasi 25%, 50%, 75%, dan 100% serta klindamisin 1,2% sebagai kontrol positif dan aquades sebagai kontrol negatif. Data dianalisis dengan uji *One Way ANOVA* dan *Post-Hoc.*
Hasil: Ekstrak daun binahong mampu menghambat pertumbuhan bakteri *Cutibacterium acnes* pada semua konsentrasi dengan rerata diameter zona hambat pada ekstrak konsentrasi 25% sebesar 2,46±0,55 mm, 50% sebesar 3,87±0,48 mm 75% sebesar 5,61±0,37 mm, dan 100% sebesar 8,76±0,69 mm serta klindamisin 1,2% sebesar 12,35 ± 0,57 mm dengan hasil perbedaan yang signifikan pada tiap perlakuan.
Kesimpulan: Terdapat perbedaan yang signifikan antara kelompok kontrol positif dengan kelompok perlakuan ekstrak daun binahong dengan konsentrasi 25%, 50%, 75%, dan 100%.

Kata Kunci: Aktivitas Antibakteri, *Cutibacterium acnes*, Daun Binahong, Klindamisin