

ABSTRACT

INHIBITORY TEST OF *Aloe vera* (L) *Burm.f* EXTRACT ON THE GROWTH OF CUTIBACTERIUM ACNES BACTERIA CAUSING ACNE VULGARIS: IN VITRO STUDY

By

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Background: Acne vulgaris is a skin complaint that can be caused by four etiopathogenesis but the most common cause of *acne vulgaris* is *Cutibacterium acnes* bacteria. The study aims to compare the inhibition zone of *Cutibacterium acnes* bacteria when given *Aloe vera* extract at concentration of 25%, 50%, 75%, 100% and clindamycin 1,2%.

Method: The design of this study is an experimental study comparing the inhibition zones of *Aloe vera* extract concentrations of 25%, 50%, 75%, 100% and clindamycin 1,2% against *Cutibacterium acnes* bacteria using the well method.

Results: The results of this study indicate the presence of inhibition zones produced by the administration of aloe vera extract to *Cutibacterium acnes* bacteria. at concentrations of 25% and 50% are included in the moderate category and concentrations of 75% and 100% are included in the strong category, the same as the positive control of clindamycin with an average inhibition zone of 6.05 ± 0.14 mm, 7.58 ± 0.40 mm, 10.41 ± 0.91 mm, 14.04 ± 0.67 mm and a P value <0.001 .

Conclusion: Aloe vera extract concentrations of 25%, 50%, 75% and 100% were proven to inhibit the growth of *cutibacterium acnes* bacteria with inhibition zones of 6.05 ± 0.14 mm, 7.58 ± 0.40 mm, 10.41 ± 0.91 mm, and 14.04 ± 0.67 mm. but the inhibition zone of aloe vera extract was still lower than the inhibition zone of clindamycin as the first line of *acne vulgaris*, which was 18.81 ± 0.57 mm.

Keywords: *acne vulgaris*, *Aloe vera*, *Cutibacterium acnes*, Clindamycin

ABSTRAK**UJI HAMBATAN EKSTRAK LIDAH BUAYA (*Aloe ver (L) Burm.f*) TERHADAP
PERTUMBUHAN BAKTERI CUTIBACTERIUM ACNES PENYEBAB ACNE
VULGARIS: STUDI IN VITRO****Oleh****Centya Cheirini**

Latar Belakang: Acne vulgaris merupakan suatu keluhan kulit yang dapat disebabkan oleh empat etiopatogenesis namun penyebab tersering dari acne vulgaris adalah bakteri *Cutibacterium acnes*. Penelitian ini bertujuan untuk membandingkan zona hambat bakteri *Cutibacterium acnes* saat diberikan ekstrak aloe vera pada konsentrasi 25%, 50%, 75%, 100% dan clindamycin 1,2%.

Metode: Desain penelitian ini adalah penelitian eksperimental yang membandingkan zona hambat ekstrak aloe vera konsentrasi 25%, 50%, 75%, 100% dan clindamycin 1,2% terhadap bakteri *Cutibacterium acnes* dengan menggunakan metode sumuran.

Hasil: Hasil penelitian ini menunjukkan adanya zona hambat yang dihasilkan oleh pemberian ekstrak aloe vera terhadap bakteri *Cutibacterium acnes*. pada konsentrasi 25% dan 50% termasuk dalam kategori sedang dan konsentrasi 75% dan 100% termasuk dalam kategori kuat, sama dengan kontrol positif klindamisin dengan rerata zona hambatnya adalah sebesar $6,05 \pm 0,14$ mm, $7,58 \pm 0,40$ mm, $10,41 \pm 0,91$ mm, $14,04 \pm 0,67$ mm dan nilai $P < 0,001$.

Kesimpulan: Ekstrak aloe vera konsentrasi 25%, 50%, 75% dan 100% terbukti menghambat pertumbuhan bakteri *cutibacterium acnes* dengan zona hambat $6,05 \pm 0,14$ mm, $7,58 \pm 0,40$ mm, $10,41 \pm 0,91$ mm, dan $14,04 \pm 0,67$ mm. tetapi zona hambat ekstrak lidah buaya masih kalah dengan zona hambat klindamisin sebagai first line acne vulgaris yaitu $18,81 \pm 0,57$ mm.

Kata kunci: *acne vulgaris*, *aloe vera*, *Cutibacterium acnes*, klindamisin

