

ABSTRACT

EFFICACY TEST OF THE INHIBITORY POWER OF PAPAYA LEAF EXTRACT (*Carica papaya* L.) AGAINST THE GROWTH OF *Cutibacterium acnes* , THE CAUSATIVE AGENT OF ACNE VULGARIS: IN VITRO STUDI

By

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Background: Acne vulgaris is an inflammation of the pilosebaceous unit associated with increased *Cutibacterium acnes* colonies. Rising antibiotic use has led to resistance, prompting the search for safe, affordable alternatives such as papaya leaf extract. This study evaluates its inhibitory effect on *Cutibacterium acnes* growth.

Methods: This research method is a laboratory experiment with a quantitative approach. The research design used is a post-test only control group. The method used is the well diffusion method.

Result: The average diameter of the inhibition zone formed by administering papaya leaf extract (*Carica papaya* L.) on the growth of *Cutibacterium acnes* bacteria at a concentration of 10% was 4.48 ± 0.59 , a concentration of 20% was 6.58 ± 0.91 , a concentration of 30% was 9.0 ± 0.98 , and a concentration of 40% was 13.3 ± 1.31 . In the positive control (Clindamycin phosphate 1.2% solution) it was 26.8 ± 2.51 mm and in the negative control (aquadest) no inhibition zone was formed.

Conclusion: Papaya leaf extract (*Carica papaya* L.) has an antibacterial effect that can inhibit the growth of *Cutibacterium acnes*.

Keywords: Acne vulgaris, Antibiotics, Papaya leaves (*Carica papaya* L.), Well diffusion method

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ABSTRAK

UJI EFEKTIVITAS DAYA HAMBAT EKSTRAK DAUN PEPAYA (*Carica papaya* L.) TERHADAP PERTUMBUHAN BAKTERI *Cutibacterium acnes* PEYEBAB ACNE VULGARIS: STUDI IN VITRO

Oleh

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Latar Belakang: *Acne vulgaris* merupakan peradangan pada unit pilosebacea akibat peningkatan koloni *Cutibacterium acnes*. Peningkatan kasus *acne vulgaris* seiring dengan peningkatan penggunaan antibiotik berkontribusi pada peningkatan kasus resistensi, sehingga diperlukan pengobatan yang aman dan terjangkau, salah satunya daun pepaya. Penelitian ini bertujuan mengetahui efektivitas daya hambat ekstrak daun pepaya terhadap pertumbuhan bakteri *Cutibacterium acnes*.

Metode: Metode penelitian ini eksperimental laboratorik dengan pendekatan kuantitatif. Desain penelitian yang digunakan adalah *post-test only control group*. Metode yang digunakan adalah metode difusi sumuran (*well diffusion*).

Hasil: Rerata diameter zona hambat yang terbentuk dari pemberian ekstrak daun pepaya (*Carica papaya* L.) terhadap pertumbuhan bakteri *Cutibacterium acnes* pada konsentrasi 10% sebesar $4,48 \pm 0,59$, konsentrasi 20% sebesar $6,58 \pm 0,91$, konsentrasi 30% sebesar $9,0 \pm 0,98$, konsentrasi 40% sebesar $13,3 \pm 1,31$. Pada kontrol positif (Klindamisin fosfat 1,2% solutio) sebesar $26,8 \pm 2,51$ mm dan pada kontrol negatif (aquadest) tidak terbentuk zona hambat.

Kesimpulan: Ekstrak daun pepaya (*Carica papaya* L.) memiliki efek antibakteri yang mampu menghambat pertumbuhan *Cutibacterium acnes*.

Kata Kunci: *Acne vulgaris*, Antibiotik, Daun pepaya (*Carica papaya* L.), Metode difusi sumuran.