

ABSTRACT

Comparative Inhibition of *Lactobacillus acidophilus* Probiotic, Clindamycin, and Erythromycin on *Cutibacterium acnes* Growth, the Causative Agent of Acne Vulgaris: An *In Vitro* Study

By

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Background: Acne vulgaris is one of the most common skin diseases affecting adolescents and young adults. One of the etiopathogenesis of acne vulgaris is the colonization of the *Cutibacterium acnes*. This study aims to compare the inhibitory zones resulting from the administration of each variable.

Methods: The design of this study was an experimental study that compared the inhibitory zones of clindamycin, erythromycin, and the probiotic *Lactobacillus acidophilus* against *Cutibacterium acnes* bacteria by the Kirby-bauer diffusion method.

Results: The results of this study showed that the largest inhibitory zone was produced by clindamycin administration, while the smallest inhibitory zone was produced by *Lactobacillus acidophilus* probiotics. Clindamycin and erythromycin has a very strong category, while the probiotic *Lactobacillus acidophilus* is included in the strong category as an antibacterial agent.

Conclusion: The inhibitory zone produced in clindamycin is the largest compared to the inhibitory zone of erythromycin and the probiotic *Lactobacillus acidophilus* in inhibiting the growth of *Cutibacterium acnes*.

Keywords: acne vulgaris, inhibitory zone, *Lactobacillus acidophilus*, probiotic

ABSTRAK

Perbandingan Zona Hambat Probiotik *Lactobacillus acidophilus*, Klindamisin, dan Eritromisin Terhadap Pertumbuhan Bakteri *Cutibacterium acnes* Penyebab *Acne Vulgaris*: Studi *In Vitro*

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Latar Belakang: *Acne vulgaris* merupakan salah satu penyakit kulit yang paling sering menyerang remaja dan dewasa muda. Salah satu etiopatogenesis *acne vulgaris* adalah kolonisasi bakteri *Cutibacterium acnes*. Penelitian ini bertujuan membandingkan zona hambat yang dihasilkan dari pemberian masing-masing variabel.

Metode: Desain penelitian ini adalah penelitian eksperimental yang membandingkan zona hambat klindamisin, eritromisin, dan probiotik *Lactobacillus acidophilus* terhadap bakteri *Cutibacterium acnes* dengan metode difusi Kirby-bauer.

Hasil: Hasil penelitian ini menunjukkan bahwa zona hambat terbesar dihasilkan oleh pemberian klindamisin, sedangkan zona hambat terkecil dihasilkan oleh pemberian probiotik *Lactobacillus acidophilus*. Klindamisin dan eritromisin masuk dalam kategori sangat kuat, sedangkan probiotik *Lactobacillus acidophilus* masuk dalam kategori kuat sebagai agen antibakteri.

Simpulan: Zona hambat yang dihasilkan pada klindamisin adalah yang terbesar dibandingkan dengan zona hambat eritromisin dan probiotik *Lactobacillus acidophilus* dalam menghambat pertumbuhan *Cutibacterium acnes*.

Kata kunci: *acne vulgaris*, *Lactobacillus acidophilus*, probiotik, zona hambat