

## Abstrak

### UJI AKTIVITAS ANTIBAKTERI SEDIAAN SALEP ANTI JERAWAT MINYAK SERAI WANGI (*Cymbopogon nardus* (L.)) TERHADAP *Propionibacterium acnes*

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**Latar Belakang:** Serai wangi (*Cymbopogon nardus* L.) merupakan tanaman yang mengandung sitronelal dan geraniol yang diketahui mempunyai aktivitas antibakteri. Tujuan penelitian ini untuk mengetahui pengaruh variasi konsentrasi minyak serai wangi sediaan salep antijerawat dengan basis PEG 4000 dan PEG 400 terhadap sifat fisik dan stabilitas fisik sediaan, serta mengetahui aktivitas antibakteri salep formula terpilih terhadap *Propionibacterium acnes*.

**Metodologi:** Penelitian dilakukan dengan tahapan pertama membuat sediaan menggunakan formula variasi konsentrasi minyak serai wangi (0,125%, 0,25%, 0,5%, dan 1%). Salep dievaluasi sifat dan stabilitas fisik sediaannya yang meliputi organoleptis, homogenitas, pH, viskositas, daya lekat, dan daya sebar selama 28 hari. Hasil uji organoleptis, homogenitas, dan pH dianalisis secara deskriptif sedangkan hasil uji viskositas, daya lekat, dan daya sebar dianalisis menggunakan ANOVA dengan 95% *Confident Interval*. Uji aktivitas antibakteri dilakukan terhadap formula salep terpilih menggunakan metode sumuran. Hasil yang diperoleh dalam persentase daya hambat dibandingkan dengan kontrol negatif (Basis salep berupa campuran 80gram PEG 400 dan 20 gram PEG 4000) dan kontrol positif Klindamycin 1%

**Hasil Penelitian:** Variasi konsentrasi minyak serai wangi memberikan pengaruh signifikan terhadap hasil evaluasi sifat fisik dan stabilitas sediaan salep minyak serai wangi. Formula IV menjadi formula terpilih karena memenuhi syarat uji sifat fisik, stabilitas fisik, dan memiliki nilai slope perubahan viskositas paling mendekati nol (-2657) selama penyimpanan 28 hari. Formula terpilih yaitu Formula IV memiliki aktivitas sebagai antibakteri terhadap bakteri *P.acnes* dengan potensi zona hambat antibakteri kategori kuat dengan zona hambat sebesar 14.67 mm.

**Kata kunci:** Minyak serai wangi, Salep, Antibakteri, *P. acnes*

## Abstract

### BACTERIAL ACTIVITY TEST OF ANTI-ACNE OINTMENT FROM CITRONELLA OIL (*Cymbopogon nardus* (L.)) AGAINST *propionibacterium acnes*

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**Background:** Lemongrass (*Cymbopogon nardus* L.) is a plant containing citronelal and geraniol which known has antibacterial activity. The purpose of this study is to determine the effect of variations in the concentration of citronella anti-acne ointment with PEG 4000 and PEG 400 basis with physical characteristic and physical stability of the ointment, also to find out the antibacterial activity of selected ointments formula against *Propionibacterium acnes*.

**Methodology:** The initial step of this study is create a ointment formula with different variation of lemongrass oil concentration (0.125%, 0.25%, 0.5%, and 1%). The evaluation of Ointment is in the about physical characteristic and physical stability include organoleptic, homogeneity, pH, viscosity, spread power, and adhesion for 28 days. The results of organoleptic, homogeneity, and pH are analys using descriptive while the viscosity, spread power, and adhesion are analys using one-way ANOVA with 95% confidence interval. Antibacterial activity test was performed on selected ointment formula using the well diffusion method. The results obtained in the percentage of inhibitory power comparing with negative controls (ointment base in the form of 80 gram PEG 400 and 20 gram PEG 4000 mixture) and positive controls of klindamycin 1%

**Results:** variation of citronella oil concentration had a significant effect on physical characteristic and physical stability of ointment formula. Formula IV is the selected formula because it qualified the physical characteristic and physical stability test and has the closest viscosity change slope value to zero (-2657) during 28 days. The selected formula which is Formula IV has antibacterial activity against *P.acnes* bacteria with the strong category of antibacterial inhibitory zones of 14.67 mm.

**Keyword:** Citronella oil, Ointment, Antibacterial, *P. acnes*