

## INTISARI

Sitronelal, geraniol, sitronelol merupakan kandungan utama dalam minyak serai wangi Jawa yang berpotensi sebagai antibakteri. Minyak serai wangi Jawa dapat diformulasikan menjadi emulgel untuk meningkatkan penerimaan dan kenyamanan pengguna. Penelitian ini bertujuan untuk mengetahui adanya daya antibakteri minyak serai wangi Jawa dan emulgel *antiacne* minyak serai wangi Jawa terhadap pertumbuhan *Staphylococcus epidermidis* (salah satu penyebab jerawat) serta mengetahui kualitas sediaan emulgel minyak serai wangi Jawa berdasarkan sifat fisiknya.

Penelitian ini merupakan penelitian eksperimental murni dengan rancangan penelitian acak lengkap pola searah. Tahapan penelitian meliputi pengujian antibakteri minyak serai wangi Jawa dengan metode difusi sumuran (variasi konsentrasi 100%; 50%; 20%; 10% dan 5%); penentuan nilai KHM dan KBM minyak serai wangi Jawa terhadap *Staphylococcus epidermidis* dengan metode dilusi padat. Penelitian dilanjutkan dengan memformulasikan minyak serai wangi Jawa dalam emulgel dengan variasi konsentrasi 15%; 17,5%; dan 20%. Selanjutnya, dilakukan pengujian sifat fisik berupa viskositas dan daya sebar serta pengujian daya antibakteri emulgel *antiacne* minyak serai wangi Jawa dengan metode difusi sumuran. Daya antibakteri diukur berdasarkan diameter zona hambat yang dihasilkan dan dianalisis secara statistik dengan uji *Kruskal-wallis* dilanjutkan uji *Wilcoxon*. Data dianalisis menggunakan *software* R 2.14.1.

Hasil penelitian menunjukkan nilai KHM dan KBM minyak serai wangi Jawa terhadap *Staphylococcus epidermidis* berturut-turut 12,5% dan 15%. Emulgel *antiacne* minyak serai wangi Jawa memiliki sifat fisik 48 jam setelah formulasi serta memiliki daya antibakteri pada konsentrasi 15%. Hasil analisis statistik menggunakan uji *Kruskal-wallis* dilanjutkan uji *Wilcoxon* menunjukkan tidak adanya perbedaan yang bermakna antara daya antibakteri emulgel *antiacne* minyak serai wangi Jawa terhadap *Staphylococcus epidermidis* pada variasi konsentrasi 15%; 17,5%; dan 20%.

**Kata kunci:** daya antibakteri, minyak serai wangi Jawa, emulgel, *Staphylococcus epidermidis*

**ABSTRACT**

Citronellal, geraniol, and citronellol are the major chemical compounds of Java citronella oil that have potential as an antibacterial. Java citronella oil can be formulated into emulgel to enhance acceptance and convenience of users. This study aimed to determine the antibacterial potency of Java citronella oil and Java citronella oil antiacne emulgel against *Staphylococcus epidermidis* (one cause of acne) and to determine the quality of emulgel based on its physical properties.

This study is a purely experimental study with randomized study design complete unidirectional pattern. Stages of research were involving the evaluation of antibacterial potency of Java citronella oil against *Staphylococcus epidermidis* which was done by using diffusion method (variations concentration are 100%; 50%; 20%; 10% and 5%); determine MIC and MBC value of Java citronella oil against *Staphylococcus epidermidis* which was done by using dillution method. Java citronella oil then formulated into emulgel with variations concentration to 15%; 17,5%, and 20%. Furthermore, the quality of emulgel based on its physical properties and the antibacterial potency of emulgel are determined. The data of measurement result of inhibition zones statistically analyzed with the Kruskal-Wallis test followed the Wilcoxon test. Data were analyzed using the R 2.14.1 software.

The results showed the value of MIC and MBC Java citronella oil against *Staphylococcus epidermidis* respectively 12.5% and 15%. Java citronella oil antiacne emulgel had good physical properties in 48-hours-storage and showed antibacterial activity at a concentration of 15%. Statistical analysis using the Kruskal-Wallis test followed Wilcoxon test showed no significant difference between the antibacterial potency of Java citronella oil antiacne emulgel against *Staphylococcus epidermidis* at various concentration of 15%, 17.5% and 20%.

**Keyword:** antibacterial potency, Java citronella oil, emulgel, *Staphylococcus epidermidis*