

ABSTRAK

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**OPTIMASI FORMULA DAN UJI EFEKTIVITAS ANTIBAKTERI SEDIAAN
CLEANSING BALM EKSTRAK ETANOL DAUN KETAPANG (*Terminalia
catappa L.*) TERHADAP BAKTERI *Propionibacterium acnes***
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(XVIII + 143 halaman; 8 tabel; 13 gambar; 36 lampiran)

Pembersihan wajah baik dilakukan dengan teknik *double-cleansing* dan sediaan kosmetik yang dapat digunakan pada teknik ini yaitu *cleansing balm*. Komponen penyusun *cleansing balm* yang berperan penting adalah agen pengemulsi yang membantu pengangkatan kotoran di wajah. Daun ketapang telah diketahui memiliki aktivitas antibakteri terhadap *P. acne* karena kandungan flavonoid dan tanin. Tujuan dari penelitian ini menentukan nilai MIC ekstrak daun ketapang, mengoptimasi penggunaan agen pengemulsi gliseril stearate dan setil alkohol menggunakan metode *Simplex Lattice Design*, serta uji aktivitas antibakteri formula optimal dengan metode difusi sumuran. Proses ekstraksi menggunakan metode maserasi dengan pelarut etanol 70%. Formula *cleansing balm* sebanyak 5 formula dengan variasi proporsi gliseril stearate : setil alkohol F1(0,35:0,35%), F2(0,5:0,2%), F3(0,425:0,275%), F4(0,2:0,5%) dan F5(0,275:0,425%). Penentuan formula optimal berdasarkan respon daya lekat, daya sebar, pH, dan titik leleh. Hasil MIC ekstrak yaitu 12.500 µg/mL. Formula optimal yang dihasilkan gliseril stearate dengan proporsi 4,5% dan setil alkohol dengan proporsi 2,5%. Hasil evaluasi fisik formula optimal yaitu daya sebar $5,16 \pm 0,05$ cm ; pH sediaan $5,6 \pm 0,04$; dan titik leleh $37,3^{\circ} C \pm 0,57$. Uji aktivitas antibakteri formula optimal terhadap bakteri *Propionibacterium acnes* dapat memberikan daya hambat sebesar $22,99 \pm 1,21$ mm (sangat kuat).

Kata Kunci : Ketapang, *Cleansing Balm*, Antibakteri, *Propionibacterium acnes*

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ABSTRACT

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OPTIMIZATION OF FORMULA AND TEST OF ANTIBACTERIAL EFFECTIVENESS OF A PREPARATION OF CLEANSING BALM ETHANOL EXTRACT OF KETAPANG LEAVES (*Terminalia catappa* L.) AGAINST THE BACTERIA *Propionibacterium acnes*

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*Facial cleansing is best done using the double-cleansing technique and the cosmetic preparation that can be used in this technique is cleansing balm. The component that makes up cleansing balm which plays an important role is the emulsifying agent which helps remove dirt on the face. Ketapang leaves are known to have antibacterial activity against *P. acne* due to their flavonoid and tannin content. The aim of this research is to determine the MIC value of ketapang leaf extract, optimize the use of the emulsifying agent glyceryl stearate and cetyl alcohol using the Simplex Lattice Design method, and test the antibacterial activity of the optimal formula using the well diffusion method. The extraction process uses the maceration method with 70% ethanol solvent. The cleansing balm formula consists of 5 formulas with varying proportions of glyceryl stearate: cetyl alcohol F1(0.35:0.35%), F2(0.5:0.2%), F3(0.425:0.275%), F4(0, 2:0.5%) and F5(0.275:0.425%). Determining the optimal formula is based on the response of stickiness, spreadability, pH and melting point. The MIC result of the extract was 12,500 µg/mL. The optimal formula produces glyceryl stearate with a proportion of 4.5% and cetyl alcohol with a proportion of 2.5%. The results of the physical evaluation of the optimal formula are spreadability 5.16 ± 0.05 cm; pH of the preparation 5.6 ± 0.04 ; and melting point 37.30 C ± 0.57 . Testing the antibacterial activity of the optimal formula against *Propionibacterium acnes* bacteria can provide an inhibitory power of 22.99 ± 1.21 mm (very strong).*

Keywords: Ketapang, Cleansing Balm, Antibacterial, Propionibacterium. acnes

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