ABSTRAK

Jerawat merupakan salah satu masalah kulit yang umum terjadi dan sering disebabkan oleh bakteri *Propionibacterium acnes*. Penggunaan antibiotik topikal dalam jangka panjang dapat menimbulkan efek samping dan resistensi bakteri, sehingga diperlukan alternatif berbasis bahan alam. Daun gagatan harimau (*Paraboea lauserensis* B.L. Burt) diketahui mengandung senyawa bioaktif yang berpotensi memiliki aktivitas antibakteri dan antiinflamasi. Penelitian ini bertujuan untuk mengetahui kandungan bioaktif dalam ekstrak daun *Paraboea lauserensis* B.L. Burt, menilai efektivitas antibakteri krim ekstrak konsentrasi 2,5%, 5%, dan 10% terhadap *Propionibacterium acnes*, membandingkan daya hambat antibakteri dengan kontrol positif dan kontrol negatif, serta mengevaluasi potensi efek samping atau iritasi kulit. Penelitian ini merupakan penelitian *true experimental post test only control group design*. Data dianalisis secara statistik menggunakan uji normalitas dan uji homogenitas sebagai uji prasyarat, dilanjutkan dengan uji One Way ANOVA dan uji lanjut HSD (Honestly Significant Difference) untuk mengetahui perbedaan efektivitas antibakteri antar kelompok perlakuan. Hasil skrining fitokimia menunjukkan bahwa ekstrak daun *Paraboea lauserensis* B.L. Burt mengandung flavonoid, saponin, tanin, glikosida, serta steroid/triterpenoid. Krim ekstrak pada konsentrasi 2,5%, 5%, dan 10% memenuhi persyaratan mutu fisik sediaan topikal. Uji antibakteri menunjukkan bahwa krim ekstrak memiliki aktivitas antibakteri terhadap *Propionibacterium acnes* dengan daya hambat yang meningkat seiring bertambahnya konsentrasi. Konsentrasi 10% memberikan daya hambat terbesar dibandingkan konsentrasi lainnya. Hasil uji ANOVA menunjukkan perbedaan yang bermakna antar kelompok ($p < 0,05$). Uji toksisitas akut menunjukkan bahwa krim ekstrak relatif aman dan tidak menimbulkan efek toksik atau iritasi yang signifikan. Krim ekstrak daun *Paraboea lauserensis* B.L. Burt memiliki aktivitas antibakteri terhadap *Propionibacterium acnes*, dengan konsentrasi 10% sebagai formula paling efektif, serta memiliki profil keamanan yang baik sehingga berpotensi dikembangkan sebagai sediaan topikal antibakteri berbasis bahan alam. Disarankan agar krim ekstrak *Paraboea lauserensis* B.L. Burt dikembangkan lebih lanjut melalui uji in vivo dan uji klinis, serta dilakukan optimasi formula dan evaluasi keamanan jangka panjang sebelum diaplikasikan secara luas.

Kata Kunci: *Paraboea lauserensis* B.L. Burt, Krim antibakteri, *Propionibacterium acnes*, *Deep Euthetic Solvent*

ABSTRACT

Acne is a common skin problem and is often caused by the bacterium Propionibacterium acnes*. Long-term use of topical antibiotics may lead to side effects and bacterial resistance; therefore, alternative treatments based on natural ingredients are needed. Tiger gagatan leaves (*Paraboea lauserensis *B.L. Burt) are known to contain bioactive compounds with potential antibacterial and anti-inflammatory activities. This study aimed to determine the bioactive compounds present in* Paraboea lauserensis *B.L. Burt leaf extract, evaluate the antibacterial effectiveness of cream formulations containing 2.5%, 5%, and 10% extract against* Propionibacterium acnes*, compare the antibacterial inhibitory activity with positive and negative controls, and assess the potential side effects or skin irritation. This study employed a true experimental design with a post-test only control group design. Data were statistically analyzed using normality and homogeneity tests as prerequisite analyses, followed by One Way ANOVA and post hoc HSD (Honestly Significant Difference) tests to determine differences in antibacterial effectiveness among treatment groups. Phytochemical screening results showed that* Paraboea lauserensis *B.L. Burt leaf extract contained flavonoids, saponins, tannins, glycosides, and steroids/triterpenoids. Cream formulations with extract concentrations of 2.5%, 5%, and 10% met the physical quality requirements for topical preparations. Antibacterial testing demonstrated that the extract creams exhibited antibacterial activity against* Propionibacterium acnes*, with inhibitory effects increasing as extract concentration increased. The 10% concentration produced the greatest inhibitory effect compared to the other concentrations. ANOVA results indicated significant differences among treatment groups ($p < 0.05$). Acute toxicity testing showed that the extract cream was relatively safe and did not cause significant toxic effects or skin irritation. The cream containing* Paraboea lauserensis *B.L. Burt leaf extract demonstrated antibacterial activity against* Propionibacterium acnes*, with the 10% concentration identified as the most effective formulation and showing a good safety profile, indicating its potential for development as a natural-based topical antibacterial preparation. Further studies are recommended, including in vivo and clinical trials, as well as formulation optimization and long-term safety evaluation before widespread application.*

Keywords: *Paraboea lauserensis* B.L. Burt, antibacterial cream, *Propionibacterium* acnes*, Deep Eutectic Solvent.*