

ABSTRAK

FORMULASI SABUN CAIR MINYAK ATSIRI KAYU MANIS (*Cinnamomum burmannii*) SEBAGAI ANTIBAKTERI TERHADAP *STAPHYLOCOCCUS EPIDERMIDIS*

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Latar Belakang: Penyakit kulit akibat bakteri seperti *Staphylococcus epidermidis* masih sering dijumpai di Indonesia. Salah satu upaya pencegahannya adalah dengan penggunaan sabun antibakteri. Minyak atsiri kayu manis (*Cinnamomum burmannii*) mengandung senyawa aktif sinamaldehyd yang berpotensi sebagai antibakteri alami. Penelitian ini bertujuan untuk memformulasikan sabun cair dengan variasi konsentrasi minyak atsiri kayu manis serta mengevaluasi sifat fisik, stabilitas, dan aktivitas antibakterinya terhadap *S. epidermidis*.

Metodologi: Penelitian dilakukan secara eksperimental dengan tiga variasi konsentrasi minyak atsiri kayu manis, yaitu 0,5%, 1%, dan 2%. Evaluasi dilakukan terhadap parameter organoleptis, homogenitas, pH, viskositas, daya sebar, tinggi busa, serta stabilitas fisik (freeze-thaw). Uji aktivitas antibakteri dilakukan dengan metode difusi sumuran terhadap *Staphylococcus epidermidis*, menggunakan sabun cair Dettol sebagai kontrol positif.

Hasil Penelitian: Peningkatan konsentrasi minyak atsiri kayu manis memengaruhi warna, aroma, kekentalan, dan kestabilan sediaan. Formula F2 dan F3 memenuhi kriteria pH, viskositas, dan kestabilan busa sesuai dengan standar SNI. Hasil uji antibakteri menunjukkan diameter zona hambat sebesar 12,0 mm (kontrol positif), 21,5 mm (F0), 22,0 mm (F1), 25,2 mm (F2), dan 29,5 mm (F3). Formula F2 dan F3 dikategorikan memiliki daya hambat antibakteri sangat kuat.

Kesimpulan: Variasi konsentrasi minyak atsiri kayu manis berpengaruh terhadap sifat fisik dan aktivitas antibakteri sabun cair. Formula F3 dengan konsentrasi 2% menunjukkan hasil terbaik dengan zona hambat terbesar terhadap *Staphylococcus epidermidis*.

Kata Kunci: Sabun cair, minyak atsiri kayu manis, *Cinnamomum burmannii*, antibakteri, *Staphylococcus epidermidis*

ABSTRACT

FORMULATION OF LIQUID SOAP CONTAINING CINNAMON ESSENTIAL OIL (*Cinnamomum burmannii*) AS AN ANTIBACTERIAL AGENT AGAINST *STAPHYLOCOCCUS EPIDERMIDIS*

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Background: Skin infections caused by bacteria such as *Staphylococcus epidermidis* are still common in Indonesia. One preventive approach is using antibacterial soap. Cinnamon essential oil (*Cinnamomum burmannii*) contains cinnamaldehyde, an active compound with natural antibacterial potential. This study aimed to formulate liquid soap with varying concentrations of cinnamon essential oil and to evaluate its physical properties, stability, and antibacterial activity against *S. epidermidis*.

Methodology: This experimental study used three concentrations of cinnamon essential oil: 0.5%, 1%, and 2%. The formulations were evaluated for organoleptic properties, homogeneity, pH, viscosity, spreadability, foam height, and physical stability using the freeze-thaw method. Antibacterial activity was tested by the well diffusion method against *Staphylococcus epidermidis*, using Dettol liquid soap as a positive control.

Results: Increasing concentrations of cinnamon essential oil affected the color, aroma, viscosity, and stability of the formulations. Formulas F2 and F3 met the pH, viscosity, and foam stability requirements according to SNI standards. The antibacterial activity test showed inhibition zones of 12.0 mm (positive control), 21.5 mm (F0), 22.0 mm (F1), 25.2 mm (F2), and 29.5 mm (F3). Formulas F2 and F3 exhibited very strong antibacterial activity.

Conclusion: The variation in cinnamon essential oil concentration influenced the physical properties and antibacterial activity of the liquid soap. Formula F3 (2%) provided the best result with the largest inhibition zone against *Staphylococcus epidermidis*.

Keywords: Liquid soap, cinnamon essential oil, *Cinnamomum burmannii*, antibacterial, *Staphylococcus epidermidis*