

Abstrak

FORMULASI SEDIAAN SABUN CAIR EKSTRAK ETANOL DAUN SALAM (*Syzygium polyanthum* (Wight) Walp) DENGAN BASIS HIDROKSIPROPIL METILSELULOSA SEBAGAI ANTIBAKTERI *Staphylococcus aureus*

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Latar Belakang: Penyakit infeksi kulit merupakan salah satu penyakit yang paling sering di jumpai pada negara beriklim tropis, termasuk Indonesia dengan prevalensi berkisar antara 20–80%. *Staphylococcus aureus* (*S. aureus*) merupakan bakteri yang paling umum menyebabkan infeksi pada kulit. Daun salam (*Syzygium polyanthum*) mengandung minyak atsiri 0,05% (sitrал dan eugenol), flavonoid, tannin, dan alkaloid yang memiliki aktivitas antibakteri. Tujuan dari penelitian ini yaitu untuk mengetahui pengaruh variasi konsentrasi hidroksipropil metilselulosa (HPMC) terhadap sifat fisik dan stabilitas fisik sediaan sabun cair dan mengetahui aktivitas antibakteri dari formula terpilih sediaan sabun cair ekstrak etanol daun salam terhadap bakteri *S. aureus*.

Metodologi: Sediaan sabun cair dibuat dengan variasi konsentrasi HPMC yaitu 0,5%, 1%, dan 1,5%. Hasil uji organoleptis, homogenitas, dan *freeze-thaw* dianalisis secara deskriptif. Sedangkan, uji pH, viskositas, tinggi busa, bobot jenis, dan antibakteri dianalisis menggunakan *one way* ANOVA dan dilanjutkan dengan uji *Least Significant Differences* (LSD). Formula terpilih diuji aktivitas antibakteri menggunakan metode difusi cakram Kirby bauer pada hari ke 1 dan hari ke 28 dengan dibandingkan dengan kontrol negatif dan kontrol positif berupa sediaan sabun cair yang ada di pasaran.

Hasil Penelitian: Hasil penelitian menunjukkan bahwa peningkatan variasi konsentrasi HPMC menunjukkan peningkatan nilai viskositas dan bobot jenis, namun menunjukkan penurunan nilai tinggi busa sediaan sabun cair ekstrak etanol daun salam. Formula terpilih adalah sabun cair dengan konsentrasi HPMC 1% yang merupakan formula yang stabil selama penyimpanan dengan memenuhi syarat sifat fisik dan stabilitas fisik sabun cair, serta menghasilkan diameter zona hambat antibakteri terhadap *S. aureus* pada hari ke 1 dan hari ke 28 sebesar 15,33 mm dan 13,33 mm.

Kesimpulan: Formula terpilih pada konsentrasi HPMC 1% memiliki kemampuan antibakteri terhadap bakteri *S. aureus*.

Kata kunci: *Syzygium polyanthum* (Wight) Walp (*S. polyanthum* (Wight) Walp), HPMC, Sabun cair, Antibakteri, *S. aureus*

Abstract

FORMULATION OF LIQUID SOAP ETHANOL EXTRACT OF BAY LEAF (*Syzygium polyanthum* (Wight) Walp) BASED ON HYDROXYPROPYL METHYLCELLULOSE AS AN ANTIBACTERIAL *Staphylococcus aureus*

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Background: Infectious skin disease is one of the most common diseases found in tropical countries, including Indonesia, with a prevalence ranging from 20–80%. *Staphylococcus aureus* (*S. aureus*) is the most common bacteria that causes skin infections. Bay leaves (*Syzygium polyanthum*) contain 0.05% essential oil (citral and eugenol), flavonoids, tannins and alkaloids which have antibacterial activity. This study aims to determine the effect of variations in the concentration of hydroxypropyl methylcellulose (HPMC) on the physical properties and physical stability of liquid soap preparations and to determine the antibacterial activity of the selected formula for bay leaf ethanol extract liquid soap preparation against *S.aureus*.

Methodology: Liquid soap preparations were made with variations in the concentration of HPMC, which is 0.5%, 1%, and 1.5%. The result of organoleptic test, homogeneity test and freeze-thaw were analyzed descriptively. Meanwhile, the pH, viscosity, foam height, specific gravity and antibacterial tests were analyzed using one way ANOVA and continued with the Least Significant Differences (LSD) test. The selected formula was tested for antibacterial activity using the Kirby bauer disc diffusion method on day 1 and day 28 compared to negative controls and positive controls in the form of liquid soap preparations on the market.

Results: The results showed that increasing the variation concentration of HPMC can enhance the value of viscosity and specific gravity, but reduce the high value of the foam for liquid soap form of bay leaf ethanol extract. The selected formula was liquid soap with a concentration of 1% HPMC which is a stable during storage, meets the requirements of completely fulfill the physics character and the physics stability the dosage of liquid soap, and produced 15,33 mm and 13,33 mm diameter of the antibacterial inhibition zone against *S. aureus* on day 1 and day 28.

Conclusion: The selected formula at 1% HPMC concentration has antibacterial ability against *S.aureus*

Keywords: *Syzygium polyanthum* (Wight) Walp (*S. polyanthum* (Wight) Walp), HPMC, Liquid Soap, Antibacterial, *S. aureus*.