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**PENGARUH KONSENTRASI EKSTRAK KULIT BUAH SEMANGKA
(*Citrullus lanatus*) TERHADAP MUTU FISIK DAN AKTIVITAS
ANTIBAKTERI SABUN MANDI PADAT**

ABSTRAK

Latar Belakang: Sabun adalah zat pembersih yang sering produk pembersih digunakan sebagai alat pembersih dalam aktivitas harian. Sabun mandi padat adalah jenis sabun batangan yang dihasilkan melalui proses saponifikasi antara NaOH dan minyak nabati atau lemak. Produk sabun mandi padat ini banyak tersedia di pasaran, Sebagian besar sabun yang beredar mengandung bahan aktif sintesis seperti sodium lauryl sulfate (SLS) dan triclosan. Penelitian ini bertujuan untuk mengevaluasi mutu fisik, stabilitas, dan aktivitas antibakteri sabun mandi padat yang mengandung ekstrak kulit buah semangka (*Citrullus lanatus*) terhadap bakteri *Staphylococcus aureus*.

Metode: Metode maserasi menggunakan pelarut etanol 96%. Sabun padat dibuat dengan penambahan ekstrak dalam konsentrasi 3, 6, 9% dan diuji secara organoleptik, pengukuran pH, tinggi busa, serta uji stabilitas fisik. Aktivitas antibakteri diuji menggunakan metode difusi cakram terhadap *Staphylococcus aureus*. Data dianalisis menggunakan SPSS dengan ANOVA satu arah di lanjut uji LSD

Hasil: Evaluasi menunjukkan bahwa sabun dengan penambahan ekstrak memiliki karakteristik fisik yang stabil, nilai pH berada dalam rentang aman untuk kulit (7–9), dan menghasilkan busa yang cukup tinggi pada rentang (4-10cm) serta stabil pada rentang (71-84cm). Uji antibakteri menunjukkan adanya zona hambat di sekitar cakram yang direndam ekstrak, dengan zona hambat terbesar ditunjukkan pada sabun dengan konsentrasi ekstrak tertinggi. Analisis statistik dilakukan menggunakan ANOVA satu arah dan uji lanjut LSD, menunjukkan adanya perbedaan signifikan antar konsentrasi ekstrak terhadap daya hambat bakteri ($p < 0,05$).

Kesimpulan: konsentrasi ekstrak kulit buah semangka berpengaruh terhadap mutu fisik sabun mandi padat serta aktivitas antibakteri terhadap *Staphylococcus aureus*. Parameter yang dianalisis dalam penelitian ini meliputi nilai pH, kadar air, kadar abu, stabilitas busa serta zona hambat pertumbuhan bakteri sebagai indikator aktivitas antibakteri

Kata Kunci: Sabun Mandi Padat, Ekstrak Kulit Semangka (*Citrullus lanatus*), Anti Bakteri, *Staphylococcus aureus*

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**THE EFFECT OF WATERMELON RIND EXTRACT (*Citrullus lanatus*)
CONCENTRATION ON THE PHYSICAL QUALITY AND ANTIBACTERIAL
ACTIVITY OF SOLID BATH SOAP**

ABSTRACT

Background: Soap is a cleaning agent often used as a cleaning product in daily activities. Solid bath soap is a type of bar soap produced through the saponification process between NaOH and vegetable oil or fat. These solid bath soap products are widely available on the market. Most of these soaps contain synthetic active ingredients such as sodium lauryl sulfate (SLS) and triclosan. This study aims to evaluate the physical quality, stability, and antibacterial activity of solid bath soap containing watermelon (*Citrullus lanatus*) rind extract against *Staphylococcus aureus* bacteria.

Method: The maceration method used 96% ethanol as a solvent. Solid soap was made by adding the extract at concentrations of 3, 6, and 9% and was tested organoleptically, using pH measurements, foam height, and physical stability. Antibacterial activity was tested using the disc diffusion method against *Staphylococcus aureus*. Data were analyzed using SPSS with one-way ANOVA followed by the LSD test.

Results: The evaluation showed that the soap with the added extract had stable physical characteristics, a pH value within the skin-safe range (7–9), and produced a foam that was high enough in the range (4–10 cm) and stable in the range (71–84 cm). The antibacterial test revealed a zone of inhibition around the disc soaked in the extract, with the largest zone of inhibition being observed in the soap with the highest extract concentration. Statistical analysis using one-way ANOVA and a further LSD test revealed a significant difference between extract concentrations in bacterial inhibition ($p < 0.05$).

Conclusion: The concentration of watermelon rind extract affected the physical quality of the solid soap and its antibacterial activity against *Staphylococcus aureus*. The parameters analyzed in this study included pH, water content, ash content, foam stability, and bacterial growth inhibition zone as indicators of antibacterial activity.

Keywords: Solid Bath Soap, Watermelon Rind Extract (*Citrullus lanatus*), Antibacterial, *Staphylococcus aureus*