ABSTRAK

SABUN TRANSPARAN DENGAN PENAMBAHAN MINYAK ATSIRI DAUN CENGKEH (*Syzygium aromaticum* L.) DAN UJI AKTIVITAS ANTIBAKTERI TERHADAP *Staphylococcus epidermidis*

Bau badan merupakan suatu permasalahan yang dapat mengganggu aktivitas dan pemicunya adalah bakteri yang terdapat pada kulit, salah satunya *Staphylococcus epidermidis*. Permasalahan dari bau badan ini dapat diatasi dengan menggunakan sabun mandi yang mengandung zat antibakteri alami seperti *eugenol* yang ada pada daun cengkeh. Penelitian ini bertujuan untuk membandingkan kualitas mutu sabun transparan dengan penambahan atsiri daun cengkeh dengan SNI 3532:2021, menentukan pengaruh penambahan minyak atsiri daun cengkeh terhadap daya hambat bakteri *S.epidermidis*, dan mengidentifikasi karakteristik organoleptik sabun transparan berdasarkan tingkat kesukaan panelis. Minyak atsiri daun cengkeh diekstrasi dengan metode destilasi air, kemudian minyak atsiri diuji dengan GC-MS dan teridentifikasi mengandung komponen senyawa terbesar *eugenol*, *caryophyllene*, dan *caryophyllene oxide*. Formula sabun transparan yang dibuat ditambahkan minyak atsiri daun cengkeh dengan variasi konsentrasi 2, 3, 4, 5, dan 6%. Pengujian kualitas mutu sabun transparan menunjukkan variasi sabun 3, 4, 5, dan 6% sudah memenuhi standar baku mutu SNI 3532:2021 dengan nilai pH 8,86–8,755; kadar air 22,554–21,064%; bahan tak larut etanol 2,782–3,006%; dan alkali bebas 0,096–0,064%. Sedangkan variasi 2% memenuhi standar baku mutu SNI 3532:2021 yaitu dengan pH 8,915 dan bahan tak larut etanol 2,760%, sedangkan kadar air dan alkali bebas tidak memenuhi standar baku mutu SNI. Begitupun pada parameter total lemak, seluruh variasi sabun tidak ada yang memenuhi standar baku mutu SNI 3532:2021 yaitu dengan nilai 40,660–41,761%. Hasil pengujian antibakteri dengan metode *disc diffusion* menunjukkan bahwa semakin tinggi konsentrasi penambahan minyak atsiri daun cengkeh, maka semakin besar zona hambat terhadap bakteri *S. epidermidis* yaitu 15,320–19,905 mm. Karakteristik organoleptik sabun transparan berdasarkan kesukaan panelis menunjukkan nilai tertinggi parameter warna, tekstur, dan aroma yaitu sabun variasi minyak atsiri 3%.

Kata-kata kunci: antibakteri; daun cengkeh; minyak atsiri; sabun transparan; *Staphylococcus epidermidis*.

ABSTRACT

TRANSPARENT SOAP WITH THE ADDITION OF CLOVE LEAF ESSENTIAL OIL (Syzygium aromaticum L.) AND ANTIBACTERIAL ACTIVITY TEST ON Staphylococcus epidermidis

Body odor is a problem that can interfere with activities and the trigger is bacteria found on the skin, one of which is Staphylococcus epidermidis. The problem of body odor can be overcome by using bath soap which contains natural antibacterial substances such as eugenol which is present in clove leaves. This study aims to compare the quality of transparent soap with the addition of clove leaf essential oil with SNI 3532:2021, determine the effect of adding clove leaf essential oil on the inhibition of S.epidermidis bacteria, and identify the organoleptic characteristics of transparent soap based on the panelist's level of preference. Clove leaf essential oil was extracted by water distillation method, then the essential oil was tested by GC-MS and identified as containing the largest compounds eugenol, caryophyllene, and caryophyllene oxide. The transparent soap formula that was made was added with clove leaf essential oil with various concentrations of 2, 3, 4, 5, and 6%. Testing the quality of transparent soap showed a variation of 3, 4, 5, and 6% have met the quality standards of SNI 3532:2021 with a pH value of 8.86–8.755; water content 22.554–21.064%; ethanol insoluble material 2.782–3.006%; and free alkali 0.096–0.064%. Meanwhile the 2% variation meets the SNI 3532:2021 quality standard, namely with a pH of 8.915 and 2.760% ethanol insoluble material, while the water content and free alkali do not meet the SNI quality standards. Likewise for the total fat parameter, none of the soap variations met the SNI 3532:2021 quality standards, namely with a value of 40.660–41.761%. The results of antibacterial testing using the disc diffusion method showed that the higher the concentration of the addition of clove leaf essential oil, the greater the inhibition zone against S.epidermidis bacteria, namely 15.320–19.905 mm. The organoleptic characteristics of transparent soap based on panelist preferences showed the highest value for the color, texture, and aroma parameter is 3% essential oil variation soap.

Keywords: *antibacterial; clove leaves; essential oil; transparent soap; Staphylococcus epidermidis.*