

ABSTRAK

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UJI AKTIVITAS ANTIBAKTERI SEDIAAN DEODORAN *SPRAY* DARI KOMBINASI PERASAN JERUK LEMON (*Citrus x limon* (L.) Osbeck) DAN MINYAK ATSIRI DAUN KEMANGI (*Ocimum sanctum* L.) PADA BAKTERI *Staphylococcus epidermidis*

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(XIX + 128 halaman; 18 tabel; 11 gambar; 64 lampiran)

Sekresi keringat memicu timbulnya aroma tidak sedap pada tubuh. Bakteri *Staphylococcus epidermidis* dapat menimbulkan bau badan. Sediaan deodoran dapat mengatasi masalah bau badan. Perasan jeruk lemon dan minyak atsiri daun kemangi memiliki aktivitas antibakteri. Penelitian ini bertujuan untuk memformulasikan perasan jeruk lemon dan minyak atsiri daun kemangi dalam bentuk sediaan deodoran *spray*.

Pengujian aktivitas antibakteri menggunakan metode sumuran. Uji aktivitas antibakteri dilakukan pada perasan jeruk lemon (25%, 45%, 60% dan 80%), minyak atsiri daun kemangi (2%, 2,5%, 3% dan 4%) dan kombinasinya (45% : 2%, 45% : 2,5%, 45% : 3%, 45% : 4%). Hasil kombinasi sampel diformulasi menjadi 4 formula. Formula diuji aktivitas antibakteri dan sifat fisik meliputi organoleptis, homogenitas, pH, viskositas, pola penyemprotan, daya lekat dan tipe emulsi. Analisis data dilakukan uji *Mannwhitney* untuk melihat stabilitas pH dan viskositas pada hari ke-0 dan ke-7.

Hasil pengujian aktivitas antibakteri perasan jeruk lemon secara berurutan 9,6±1,26; 13,63±0,38; 14,76±0,55 ; 17,86±0,90 mm. Hasil aktivitas antibakteri minyak atsiri daun kemangi secara berturut-turut 13,88±1,12; 13,21±0,52; 15,75±0,1,20; 16,35±0,85 mm. Hasil aktivitas antibakteri kombinasi secara berturut-turut 14,3±0,25; 14,27±0,63; 14,57±0,65; 15,05±0,77 mm. Hasil aktivitas antibakteri 4 formula secara berturut-turut 11,3±0,16; 10,9±0,49; 12,35±0,66; 14,63±0,0,32 mm. Hasil pengujian sifat fisik ke-4 formula pada hari ke-0 diperoleh warna putih susu kekuningan, aroma perasan jeruk lemon dan minyak atsiri daun kemangi dengan tekstur cair. Sediaan homogen nilai pH pada rentang 4,51 – 4,53 ; viskositas 18,33 – 63 cP; pola penyemprotan 2 – 11,96 cm; daya lekat 3,96 – 7,2 detik dan tipe emulsi M/A. Hasil uji stabilitas sediaan terdapat perbedaan yang signifikan dari hari ke-0 dan ke-7.

Kata Kunci: Deodoran, Jeruk Lemon, Kemangi, *Staphylococcus epidermidis*

Referensi: 98 (1987-2022)

ABSTRACT

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ANTIBACTERIAL ACTIVITY TEST OF DEODORANT SPRAY FROM THE COMBINATION OF ORANGE LIMON (*Citrus x limon* (L.) Osbeck) AND BASIC LEAF OIL (*Ocimum Sanctum* L.) ON *Staphylococcus epidermidis* BACTERIA)

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*Sweat secretion triggers the emergence of an unpleasant odor on the body. *Staphylococcus epidermidis* bacteria can cause body odor. Deodorant preparations can overcome the problem of body odor. Lemon juice and basil essential oil have antibacterial activity. This study aims to formulate lemon juice and basil leaf essential oil in the form of a deodorant spray.*

Testing the antibacterial activity using the well method. Antibacterial activity test was carried out on lemon juice (25%, 45%, 60% and 80%), basil essential oil (2%, 2.5%, 3% and 4%) and their combination (45% : 2%, 45% : 2.5%, 45% : 3%, 45% : 4%). The combined sample results were formulated into 4 formulas. Formulas tested for antibacterial activity and physical properties included organoleptic, homogeneity, pH, viscosity, spray pattern, adhesion and emulsion type. Data analysis was carried out by the Mannwhitney test to see the stability of pH and viscosity on the 0th and 7th day.

The results of testing the antibacterial activity of lemon juice sequentially 9.6 ± 1.26 ; 13.63 ± 0.38 ; 14.76 ± 0.55 ; 17.86 ± 0.90 mm. The results of the antibacterial activity of basil essential oil were 13.88 ± 1.12 ; 13.21 ± 0.52 ; $15.75 \pm 0.1.20$; 16.35 ± 0.85 mm. The results of the combined antibacterial activity were 14.3 ± 0.25 ; 14.27 ± 0.63 ; $14.57 \pm 0.0.65$; 15.05 ± 0.77 mm. The results of the antibacterial activity of the 4 successive formulas were 11.3 ± 0.16 ; 10.9 ± 0.49 ; 12.35 ± 0.66 ; $14.63 \pm 0.0.32$ mm. The results of testing the physical properties of the 4 formulas on day 0 obtained a yellowish white color, the aroma of lemon juice and essential oil of basil leaves with a liquid texture. Homogeneous preparations with a pH value in the range of 4.51 – 4.53; viscosity 18.33 – 63 cP; spray pattern 2 – 11.96 cm ; adhesion 3.96 – 7.2 seconds and M/A emulsion type. The results of the preparation stability test showed a significant difference from the 0th and 7th days

*Keywords: Deodorant, Lemon Orange, Basil, *Staphylococcus epidermidis**

References: 98 (1987-2022)