

INTISARI

NAFTALINA, 2022, UJI AKTIVITAS ANTIBAKTERI SEDIAAN SERUM ANTI ACNE EKSTRAK DAUN BELIMBING WULUH (*Averrhoa bilimbi* L.) TERHADAP *Staphylococcus aureus* ATCC 25923. SKRIPSI, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI, SURAKARTA. Dibimbing oleh Apt. Mamik Ponco Rahayu, M.Si. dan Apt. Anita Nilawati, M.Farm.

Infeksi bakteri *S. aureus* bisa menyebabkan peradangan pada kulit yang umumnya disebut jerawat. Pada penelitian sebelumnya ekstrak daun belimbing wuluh konsentrasi 5% mampu menghambat bakteri *S. aureus* dengan zona hambat rata-rata sebesar 27 mm. Tujuan penelitian ini yaitu membuat sediaan serum anti *acne* yang mutu fisik dan stabilitasnya baik, serta mempunyai aktivitas antibakteri.

Serbuk daun belimbing wuluh diekstraksi menggunakan etanol 96% dengan metode maserasi. Ekstrak daun belimbing wuluh konsentrasi 5% diformulasikan menjadi sediaan serum dengan variasi xantan gum 1%, 1,2%, dan 1,4%. Kontrol positif adalah serum merk "A" dan kontrol negatif adalah basis serum. Uji mutu fisik serum berupa organoleptik, homogenitas, pH, viskositas, dan daya sebar, serta *cycling test* untuk uji stabilitas. Aktivitas antibakteri terhadap *S. aureus* ATCC 25923 diuji dengan metode difusi cakram. Hasil uji pH, viskositas, daya sebar, dan aktivitas antibakteri dianalisis menggunakan SPSS.

Hasil penelitian menunjukkan ekstrak daun belimbing wuluh dapat diformulasikan menjadi serum anti *acne* dengan mutu fisik dan stabilitas yang baik. Berdasarkan uji organoleptis, pH, viskositas, dan daya sebar, formula 1 adalah formula paling baik, serta daya hambatnya lebih besar walau tidak berbeda signifikan. Diameter zona hambat formula 1, 2, dan 3 berturut-turut adalah $14,65 \text{ mm} \pm 0,25$, $14,10 \pm 0,29$, dan $14,16 \pm 0,62$.

Kata kunci: ekstrak daun belimbing wuluh, sediaan serum, anti *acne*, *Staphylococcus aureus*.

ABSTRACT

NAFTALINA, 2022, ANTIBACTERIAL ACTIVITY TEST ANTI ACNE SERUM EXTRACT OF STARFRUIT LEAVES (*Averrhoa bilimbi* L.) TO *Staphylococcus aureus* ATCC 25923. SKRIPSI, FACULTY FARMASI, SETIA BUDI UNIVERSITY, SURAKARTA. Supervised by Apt. Mamik Ponco Rahayu, M.Si. and Apt. Anita Nilawati, M.Farm.

S. aureus bacterial infection can cause inflammation of the skin which is commonly known as acne. In a previous study, 5% concentration of starfruit leaf extract was able to inhibit *S. aureus* bacteria with an average inhibition zone of 27 mm. The purpose of this study was to make an anti-acne serum that has good physical quality and stability, and has antibacterial activity.

Starfruit leaf powder was extracted using 96% ethanol by maceration method. Starfruit leaf extract with a concentration of 5% was formulated into serum preparations with variations of xanthan gum 1%, 1.2%, and 1.4%. Positive control is serum brand "A" and negative control is serum base. The physical quality test of the serum was in the form of organoleptic, homogeneity, pH, viscosity, and dispersibility, as well as a cycling test for stability test. Antibacterial activity against *S. aureus* ATCC 25923 was tested by disc diffusion method. The test results of pH, viscosity, dispersion, and antibacterial activity were analyzed using SPSS.

The results showed that starfruit leaf extract could be formulated into an anti-acne serum with good physical quality and stability. Based on the organoleptic test, pH, viscosity, and dispersion, formula 1 is the best formula, and the inhibitory power is greater, although not significantly different. The diameters of the inhibition zones of formulas 1, 2, and 3 were 14.65 ± 0.25 , 14.10 ± 0.29 , and 14.16 ± 0.62 , respectively.

Keywords: starfruit leaf extract, serum preparation, anti-acne, *Staphylococcus aureus*.