

ABSTRAK

KRISMONA RIZKY NUR FITRIA, 2022, FORMULASI DAN UJI AKTIVITAS ANTIBAKTERI EMULGEL EKSTRAK DAUN KENIKIR (*Cosmos caudatus* Kunth.) TERHADAP BAKTERI *Staphylococcus aureus* ATCC 25923, SKRIPSI, PROGRAM STUDI S1 FARMASI, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI, SURAKARTA. Dibimbing oleh Suhartinah, M.Sc., Apt., Dra. dan Desi Purwaningsih, S.Pd., M.Si.

Jerawat adalah penyakit kulit yang umumnya disebabkan oleh berbagai faktor antara lain makanan, genetik, hormon, dan infeksi bakteri. Penyebab jerawat paling serius yang menyertai nanah adalah *Staphylococcus aureus*. Daun kenikir mengandung senyawa aktif yaitu flavonoid, saponin, terpenoid, alkaloid, tanin yang berpotensi sebagai antibakteri.

Ekstraksi daun kenikir mrnggunakan metode maserasi dengan pelarut etanol 96%, kemudian diformulasi dengan konsentrasi ekstrak daun kenikir sebesar 15% dan variasi HPMC 3%; 3,5%; 4%. Evaluasi sediaan emulgel meliputi organoleptis, homogenitas, daya sebar, daya lekat, viskositas, pH, stabilitas, menentukan tipe emulsi, *cycling test* dan aktivitas antibakteri *Staphylococcus aureus* ATCC 25923. Data uji mutu fisik dan aktivitas antibakteri dianalisis secara statistik menggunakan *Shapiro wilk* dilanjutkan dengan *one way ANOVA* dan *Paired t-test*.

Hasil penelitian menyatakan bahwa sediaan emulgel ekstrak daun pacar air dengan variasi konsentrasi HPMC mempunyai mutu fisik dan stabilitas yang baik serta memiliki aktivitas antibakteri. Hasil uji aktivitas antibakteri yang dihasilkan terhadap *Staphylococcus aureus* ATCC 25923 pada konsentrasi HPMC 3% sebesar 14,23 mm, konsentrasi HPMC 3,5% sebesar 13,7 mm, dan pada konsentrasi HPMC 4% sebesar 12,97 mm.

Kata Kunci : Emulgel, daun kenikir, jerawat, *Staphylococcus aureus*

ABSTRACT

KRISMONA RIZKY NUR FITRIA, 2022, FORMULATION AND EVALUATION OF ANTIBACTERIAL ACTIVITY OF EMULGEL LEAF EXTRACT OF KENIKIR (*Cosmos caudatus* Kunth.) AGAINST *Staphylococcus aureus* ATCC 25923, Undergraduate Thesis, PHARMACEUTICAL SCIENCE, FACULTY OF PHARMACY. Supervised by Suhartinah, M.Sc., Apt., Dra. and Desi Purwaningsih, S.Pd., M.Si.

Acne is a skin disease generally caused by various factors, including food, genetics, hormones, and bacterial infection. The most severe cause of acne that accompanies pus is *Staphylococcus aureus*. Kenikir leaf contains active compounds, namely flavonoids, saponins, terpenoids, alkaloids, and tannins which have the potential as antibacterial. This study used HPMC as a gelling agent at various concentrations in the emulgel preparation of kenikir leaf extract to know the physical quality and antibacterial activity of *Staphylococcus aureus* ATCC 25923.

Kenikir leaf extraction used maceration method with 96% ethanol solvent, then formulated with 15% kenikir leaf extract concentration and 3% HPMC variation; 3.5%; 4%. Evaluation of emulgel preparations includes organoleptic, homogeneity, spreadability, adhesion, viscosity, pH, stability, determining the emulsion type, cycling test, and antibacterial activity of *Staphylococcus aureus* ATCC 25923. Data on physical quality tests and antibacterial activity were statistically analyzed using Shapiro Wilk, followed by one-way ANOVA and Pairet t-test.

The study's results stated that the emulgel preparation of kenikir leaf extract with variations in HPMC concentrations had good physical quality, stability, and antibacterial activity. The results of the antibacterial activity test against *Staphylococcus aureus* ATCC 25923 at 3% HPMC concentration of 14.23 mm, 3.5% HPMC concentration of 13.7 mm, and 4% HPMC concentration of 12.97 mm.

Keywords: Emulgel, kenikir leaf, acne, *Staphylococcus aureus*