

PENGARUH KONSENTRASI EKSTRAK DAUN KERSEN (*Muntingia calabura* L.) TERHADAP SIFAT FISIK KRIM DAN AKTIVITAS ANTIBAKTERI TERHADAP *Staphylococcus aureus* ATCC 25923

Annisa Bella Nurul Zanah¹, Endah Kurniawati², Nur'aini Purnamaningsih³

INTISARI

Latar Belakang: Jerawat (*Acne vulgaris*) merupakan suatu kondisi dimana pori-pori tersumbat sehingga menimbulkan abses atau kantong nanah yang meradang dan infeksi pada kulit. Salah satu bakteri penyebab peradangan adalah *Staphylococcus aureus*. Daun kersen memiliki aktivitas antibakteri karena mengandung flavonoid, alkaloid, terpenoid, steroid, dan saponin. Dipilihnya sediaan krim yang digunakan sebagai antijerawat karena mudah pengaplikasiannya, tidak lengket dan mudah dicuci dengan air.

Tujuan Penelitian: Mengetahui pengaruh konsentrasi ekstrak daun kersen (*Muntingia calabura* L.) terhadap sifat fisik krim dan aktivitas antibakteri terhadap *Staphylococcus aureus*.

Metode Penelitian: Dalam penelitian ini digunakan metode maserasi dan dilarutkan dengan etanol 70%. Varisi konsentrasi ekstrak 1%, 1,25%, dan 1,5% digunakan sebagai zat aktif dalam sediaan krim. Evaluasi sifat fisik sediaan krim ekstrak daun kersen diamati terhadap respon pemeriksaan organoleptik, uji homogenitas, uji pH, uji viskositas, uji daya lekat, uji daya sebar, uji stabilitas krim, dan uji determinasi tipe krim. Aktivitas antibakteri ekstrak daun kersen dan krim ekstrak daun kersen diuji menggunakan metode difusi cakram.

Hasil Penelitian: Hasil homogenitas, pH, viskositas, daya lekat, daya sebar, stabilitas krim, dan determinasi tipe krim pada semua formula dapat memenuhi syarat uji sifat fisik. Diameter zona hambat antibakteri ekstrak daun kersen konsentrasi 1%, 1,25%, dan 1,5% yaitu 6,48 mm; 7,48 mm; 8,00 mm. Hasil uji aktivitas antibakteri sediaan krim ekstrak daun kersen F1, F2, F3 yaitu 6,60 mm; 6,85 mm; 7,63 mm.

Kesimpulan: Kenaikan konsentrasi ekstrak daun kersen dapat menyebabkan waktu lekat sediaan krim semakin lama, namun tidak mempengaruhi viskositas, daya sebar dan pH. Kenaikan konsentrasi ekstrak daun kersen dan sediaan krim ekstrak daun kersen dapat meningkatkan aktivitas antibakteri terhadap *Staphylococcus aureus*.

Kata Kunci: Antibakteri, Daun Kersen, Krim

¹Mahasiswa Farmasi Universitas Jenderal Achmad Yani Yogyakarta

²Dosen Farmasi Universitas Jenderal Achmad Yani Yogyakarta

³Dosen TBD Universitas Jenderal Achmad Yani Yogyakarta

EFFECT OF KERSEN LEAVES EXTRACT (*Muntingia calabura* L.) CONCENTRATION ON ITS PHYSICAL PROPERTIES AND THE ANTIBACTERIAL ACTIVITY TOWARDS *Staphylococcus aureus* ATCC 25923

Annisa Bella Nurul Zanah¹, Endah Kurniawati², Nur'aini Purnamaningsih³

ABSTRACT

Background: Acne (*Acne vulgaris*) is a condition where the pores are clogged causing abscesses or bags of pus that are inflamed and infections on the skin. One of the bacteria that causes inflammation is *Staphylococcus aureus*. Kersen leaves have antibacterial activity because they contain flavonoids, alkaloids, terpenoids, steroids, and saponins. Anti acne cream is chosen because it is easy to apply, non sticky and easily washed with water.

Objective: Knowing the effect of the concentration of cherry leaf extract (*Muntingia calabura* L.) on the physical properties of the cream and antibacterial activity against *Staphylococcus aureus*.

Method: In this study, maceration method was used and dissolved with 70% ethanol. Extract concentration variations of 1%, 1.25%, and 1.5% are used as active substances in cream preparations. Evaluation of the physical properties of kersen leaves extract cream preparations was observed against the response of organoleptic examination, homogeneity test, pH test, viscosity test, adhesion test, dispersion test, cream stability test, and cream type determination test. The antibacterial activity of cherry leaf extract and kersen leaves extract cream was tested using disc diffusion method.

Result: The results of homogeneity, pH, viscosity, adhesion, dispersion, cream stability, and cream type determination in all formulas can meet the requirements of physical properties tests. The inhibitory diameter of kersen leaves extract concentration (1%; 1.25%; 1.5%) is 6.48 mm; 7.48 mm; 8.00 mm respectively. Test results of antibacterial activity of cream preparations of kersen leaves extract F1, F2, F3, namely 6.60 mm; 6.85 mm; 7.63 mm.

Conclusion: An increase in the concentration of cherry leaf extract can cause longer sticking time of the cream, but does not affect viscosity, spreadability and pH. Increased concentration of cherry leaf extract and cream preparations of cherry leaf extract can increase antibacterial activity against *Staphylococcus aureus*.

Keywords: Antibacterial, Kersen leaves (*Muntingia calabura* L.), creams.

¹Mahasiswa Farmasi Universitas Jenderal Achmad Yani Yogyakarta

²Dosen Farmasi Universitas Jenderal Achmad Yani Yogyakarta

³Dosen TBD Universitas Jenderal Achmad Yani Yogyakarta