

## ABSTRAK

**AGNES NUR MILENIAWATI, 2022, FORMULASI EMULGEL EKSTRAK ETANOL DAUN SIRSAK (*Annona muricata* Linn.) DAN UJI AKTIVITAS ANTIBAKTERI TERHADAP *Staphylococcus aureus*, SKRIPSI, PROGRAM STUDI S1 FARMASI, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI, SURAKARTA. Dibimbing oleh Dr. apt. Titik Sunarni, M.Si. dan apt. Anita Nilawati, M.Farm.**

Daun sirsak (*Annona muricata* Linn) mempunyai aktivitas antibakteri terhadap *Staphylococcus aureus* karena mengandung senyawa alkaloid, flavonoid, terpenoid, saponin, dan tanin sehingga berpotensi sebagai antibakteri. Penambahan *gelling agent* yaitu carbopol 940 pada emulgel dapat memberikan pengaruh terhadap mutu fisik dan stabilitas sediaan. Penelitian ini bertujuan untuk mengetahui sediaan emulgel ekstrak etanol daun sirsak dengan variasi konsentrasi *gelling agent* carbopol 940 dapat menghasilkan mutu fisik yang memenuhi syarat dan stabil serta dapat menghasilkan aktivitas antibakteri terhadap *Staphylococcus aureus*.

Penelitian ini dilakukan ekstraksi daun sirsak dengan metode maserasi menggunakan etanol 96%, kemudian dibuat tiga formula emulgel yaitu FI, FII, dan FIII yang masing-masing mengandung carbopol 940 berturut-turut 0,75; 1; dan 1,25%. Seluruh formula di uji mutu fisik dan stabilitasnya meliputi organoleptis, homogenitas, pH, daya sebar, daya lekat, viskositas, dan tipe emulsi emulgel. Uji aktivitas antibakteri sediaan emulgel dilakukan dengan metode difusi sumuran. Semua data hasil yang diperoleh dianalisis menggunakan metode *One-way ANOVA*, *Post Hoc*, dan *Paired-Samples T Test*.

Hasil penelitian menunjukkan bahwa FI, FII, dan FIII emulgel ekstrak etanol daun sirsak dengan variasi konsentrasi *gelling agent* carbopol 0,75; 1; dan 1,25% menghasilkan mutu fisik yang memenuhi syarat dan stabil pada parameter organoleptik, pH, viskositas, daya sebar, dan daya lekat. Hasil penelitian juga menunjukkan bahwa variasi konsentrasi carbopol 940 mempunyai aktivitas antibakteri terhadap *Staphylococcus aureus* dengan hasil berturut-turut yaitu 14,08; 13,08; dan 12,50 mm. Formula I emulgel memiliki mutu fisik, stabilitas, dan aktivitas antibakteri yang paling baik.

Kata kunci : *Annona muricata* Linn, daun sirsak, antibakteri, *Staphylococcus aureus*, emulgel.

## ABSTRACT

**AGNES NUR MILENIAWATI, 2022, FORMULATION OF EMULGEL EXTRACT ETHANOL LEAVES SOURSOP (*Annona muricata* Linn.) AND TEST ANTIBACTERIAL ACTIVITY AGAINST *Staphylococcus aureus*, THESIS, BACHELOR OF PHARMACY, FACULTY OF PHARMACY, SETIA BUDI SURAKARTA UNIVERSITY. Supervised by Dr. apt. Titik Sunarni, M.Si. and apt. Anita Nilawati, M.Farm.**

Soursop leaves (*Annona muricata* Linn.) has antibacterial activity against *Staphylococcus aureus* because it contains alkaloids, flavonoids, terpenoids, saponins, and tannins so that potential as antibacterial. The addition of a gelling agent, namely carbopol 940, to the emulgel can have an effect on the physical quality and stability of the preparation. The research aims to determine emulgel preparations of ethanol extract of soursop leaves with various concentrations of the gelling agent carbopol 940 can produce physical quality that meets the requirements and is stable and can produce antibacterial activity against *Staphylococcus aureus*.

This research was conducted by extracting soursop leaves by maceration method using 96% ethanol, then three emulgel formulas were made, namely FI, FII, and FIII, each containing gelling agent carbopol 940, successively 0,75; 1; and 1,25%. All formulas were tested for physical quality and stability including organoleptic, homogeneity, pH, spreadability, adhesion, viscosity, and type of emulsion emulgel. Test the antibacterial activity of the preparation emulgel is conducted by diffusion method of wells. All the data obtained were analyzed using the One-way ANOVA, Post Hoc, and Paired-Samples T Test method.

The result showed that FI, FII, and FIII emulgel ethanol extract of soursop leaves with variations in the concentration of gelling agent carbopol 940 0,75; 1; and 1,25% affects produces physical quality that meets the requirements and is stable on organoleptic parameters, pH, viscosity, spreadability, and adhesion. The results also showed that variations in the concentration of carbopol 940 had antibacterial activity against *Staphylococcus aureus* with successive results of 14,08; 13,08; and 12,50 mm. Emulgel Formula I has the best physical quality, stability, and antibacterial activity.

Key words : *Annona muricata* Linn., soursop leaves, antibacterial, *Staphylococcus aureus*, emulgel.