

ABSTRAK

YUNVELLA SUFAH, 2021, FORMULASI EMULGEL EKSTRAK ETANOL DAUN BIDARA ARAB (*Ziziphus spina-christi* L.) SEBAGAI ANTIBAKTERI TERHADAP *Propionibacterium acnes*, SKRIPSI, PROGRAM STUDI S1 FARMASI, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI, SURAKARTA. Dibimbing oleh Dr. apt. Titik Sunarni, S.Si., M.Si dan apt. Anita Nilawati, M.Farm.

Daun bidara arab (*Ziziphus spina-christi* L.) mengandung senyawa yang dapat memiliki aktivitas antibakteri terhadap *Propionibacterium acnes* yang merupakan bakteri penyebab jerawat. Emulgel merupakan sediaan yang praktis. Salah satu komponen yang dapat mempengaruhi sifat fisik dan stabilitas emulgel adalah *gelling agent*. *Gelling agent* yang banyak digunakan adalah carbopol 940. Penelitian ini bertujuan untuk mengetahui aktivitas antibakteri emulgel ekstrak etanol daun bidara arab terhadap *Propionibacterium acnes* dan pengaruh variasi konsentrasi *gelling agent* carbopol 940 terhadap mutu fisik dan stabilitas emulgel.

Ekstrak etanol daun bidara arab dibuat dengan metode maserasi menggunakan etanol 96%. Emulgel dibuat menggunakan *gelling agent* carbopol 940 dengan variasi konsentrasi 1; 1,25; dan 1,5%. Emulgel dilakukan evaluasi mutu fisik diantaranya organoleptik, homogenitas, pH, daya lekat, daya sebar, viskositas, dan tipe emulgel. Aktivitas antibakteri sediaan emulgel dilakukan pengujian dengan metode difusi sumuran. Hasil semua data yang diperoleh dilakukan analisis menggunakan metode *One-way ANOVA*, *Post Hoc*, dan *Paired-Samples T Test*.

Hasil penelitian menunjukkan bahwa emulgel ekstrak etanol daun bidara arab dengan variasi konsentrasi *gelling agent* carbopol 940 1; 1,25; dan 1,5% menghasilkan mutu fisik yang baik dan stabil serta memiliki aktivitas antibakteri terhadap *Propionibacterium acnes* dengan hasil berturut-turut yaitu 16,08; 15,08; dan 13,58 mm. Formula I dengan konsentrasi carbopol 1% memiliki mutu fisik, stabilitas, dan aktivitas antibakteri yang paling baik.

Kata kunci : Daun bidara arab, *Ziziphus spina-christi* L., antibakteri, *Propionibacterium acnes*, emulgel.

ABSTRACT

YUNVELLA SUFAH, 2021, FORMULATION OF EMULGEL EXTRACT ETHANOL OF ARABIC BIDARA LEAVES (*Ziziphus spina-christi* L.) AS ANTIBACTERIAL AGAINST *Propionibacterium acnes*, THESIS, BACHELOR OF PHARMACY, FACULTY OF PHARMACY, SETIA BUDI SURAKARTA UNIVERSITY. Supervised by Dr. apt. Titik Sunarni, S.Si., M.Si and apt. Anita Nilawati, M.Farm.

Arabic bidara leaves (*Ziziphus spina-christi* L.) contain compounds that can have antibacterial activity against *Propionibacterium acnes* which is the bacteria that causes acne. Emulgel is a practical preparation. One component that can influence the physical properties and stability of emulgel is gelling agent. The gelling agent that is widely used is carbopol 940. This study aims to determine the antibacterial activity of the emulgel from the ethanol extract of bidara arab leaves against *Propionibacterium acnes* and the effect of variations in the concentration of the gelling agent carbopol 940 on the physical quality and stability of the emulgel.

The ethanol extract of arabic bidara leaves is made by the maceration method using 96% ethanol. Emulgel was made using the gelling agent carbopol 940 with varying concentrations of 1; 1.25; and 1.5%. Emulgel was evaluated for physical quality including organoleptic, homogeneity, pH, adhesive power, spreadability, viscosity, and type of emulgel. The antibacterial activity of the emulgel preparation was tested using the well diffusion method. The results of all data obtained were analyzed using the One-way ANOVA, Post Hoc, and Paired-Samples T Test methods.

The results of the research showed that the emulgel of ethanol extract of Arabic bidara leaves with varying concentrations of the gelling agent carbopol 940 1; 1.25; and 1.5% produces good and stable physical quality and has antibacterial activity against *Propionibacterium acnes* with results respectively, namely 16.08; 15.08; and 13.58 mm. Formula I with a carbopol concentration of 1% has the best physical quality, stability and antibacterial activity.

Keywords : Arabic bidara leaves, *Ziziphus spina-christi* L., antibacterial, *Propionibacterium acnes*, emulgel.