Universitas Ngudi Waluyo
Program Studi S1 Farmasi, Fakultas Kesehatan
Skripsi, Januari 2024
Mariatun
051201046

UJI AKTIVITAS EKSTRAK DAUN JAMBU BIJI (*Psidium guajava* L) DENGAN VARIASI PELARUT TERHADAP BAKTERI *Staphylococcus epidermidis*

ABSTRAK

Latar belakang: Daun jambu biji (*Psidium guajava* L) mengandung metabolit sekunder yang memiliki aktivitas antibakteri. *Staphlococcus epidermidis* adalah bakteri yang menyebabkan infeksi pada manusia. Tujuan penelitian ini untuk mengetahui pengaruh variasi pelarut terhadap aktivitas antibakteri ekstrak daun jambu biji terhadap bakteri *Staphlococcus epidermidis*.
Metode: Jenis penelitian ini adalah eksperimental diawali dengan ekstraksi metode maserasi dengan pelarut etanol 96%, etil asetat dan n-heksan, kemudian dibuat konsentrasi 5%, 10%, 15%, 20% dan 25%. Kontrol positif menggunakan *disk* doksisiklin dan kontrol negatif adalah DMSO. Uji aktivitas antibakteri menggunakan metode difusi cakram.
Hasil: Rata-rata zona hambat konsentrasi 5%, 10%, 15%, 20% dan 25% ekstrak etanol 96% daun jambu biji adalah 4,55 ± 0,1 mm, 5,58 ± 0,41 mm, 6,38 ± 0,15 mm, 7,25 ± 0,1 mm, 9,45 ± 0,26 mm pada etil asetat 1,35 ± 0,1 mm, 2,26 ± 0,12 mm, 3,28 ± 0,11 mm, 7,35 ± 0,2 mm, 8,68 ± 0,58 mm dan ekstrak n-heksan adalah 0,71 ± 0,63 mm, 1,41 ± 0,37 mm, 2,21 ± 0,11 mm, 3,15 ± 0,96 mm dan 4,28 mm.
Kesimpulan: Ekstrak etanol 96% dan etil asetat mengandung flavonoid, tanin, saponin, steroid, fenolik. Ekstrak n-heksan mengandung tanin, saponin, steroid, fenolik. Aktivitas antibakteri paling baik terdapat pada ekstrak etanol 96% dengan rata-rata zona hambat 9,45 mm. Terdapat perbedaan signifikan pada aktivitas antibakteri antara ekstrak etanol dengan n-heksan dan etil asetat. Tidak terdapat perbedaan signifikan pada aktivitas antibakteri ekstrak n-heksan dan etil asetat. Potensi ekstrak daun jambu biji dengan pelarut etanol 96% dalam menghambat bakteri *Staphyloccus epidermidis* adalah sedang.

Kata kunci : *Psidium guajava* L, pelarut, antibakteri, *Staphylococcus epidermidis.*

Ngudi Waluyo University

Studi Program of Pharmacy S1, Faculty of Health
Final Project, January 2024
Mariatun
051201046

TESTING THE ACTIVITY OF GUAWAE LEAF EXTRACT (*Psidium guajava* L) WITH VARIATIONS OF SOLVENTS AGAINST BACTERIA *Staphylococcus epidermidis*

ABSTRACT

Background: Guava leaves (*Psidium guajava* L) contain secondary metabolites which have antibacterial activity. *Staphlococcus epidermidis* is a bacteria that causes infections in humans. The aim of this research was to determine the effect of solvent variations on the antibacterial activity of guava leaf extract against *Staphlococcus epidermidis* bacteria.
Method: The type of research used was experimental which began with extraction using the maceration method with 96% ethanol, ethyl acetate and n-hexane solvents, the extract was then made to concentrations of 5%, 10%, 15%, 20% and 25%. The positive control used a doxycycline disk and the negative control was DMSO. Antibacterial activity test using the disc diffusion method.
Results: The average zone of inhibition of concentrations of 5%, 10%, 15%, 20% and 25% 96% ethanol extract of guava leaves was 4.55 ± 0.1 mm, 5.58 ± 0.41 mm, 6.38 ± 0.15 mm, 7.25 ± 0.1 mm, 9.45 ± 0.26 mm in ethyl acetate 1.35 ± 0.1 mm, 2.26 ± 0.12 mm, 3.28 ± 0.11 mm, 7.35 ± 0.2 mm, 8.68 ± 0.58 mm and n-hexane extract were 0.71 ± 0.63 mm, 1.41 ± 0.37 mm, 2.21 ± 0.11 mm, 3.15 ± 0.96 mm and 4.28 mm.
Conclusion: 96% ethanol extract and ethyl acetate contain flavonoids, tannins, saponins, steroids, phenolics. The positive n-hexane extract contains tannins, saponins, steroids, phenolics. The best antibacterial activity was found in 96% ethanol extract with an average inhibition zone of 9.45 mm. There was a significant difference in antibacterial activity between ethanol extract with n-hexane and ethyl acetate. There was no significant difference in the antibacterial activity of n-hexane and ethyl acetate extracts. The potential of guava leaf extract with 96% ethanol solvent in inhibiting *Staphyloccus epidermidis* bacteria is moderate.

Keywords: *Psidium guajava* L, solvent, antibacterial, *Staphylococcus epidermidis*.