

Universitas Ngudi Waluyo
Program Studi S1 Farmasi, Fakultas Kesehatan
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Silfia Duratun Nadifah
051191099

**UJI AKTIVITAS ANTIBAKTERI EKSTRAK TUNGGAL DAN
KOMBINASI DAUN CENGKEH (*Syzygium aromaticum* L) DAN DAUN
PEPAYA (*Carica papaya* L) TERHADAP BAKTERI *Staphylococcus
epidermidis***

ABSTRAK

Latar Belakang: Daun cengkeh dan pepaya mengandung metabolit sekunder yang diduga memiliki aktivitas antibakteri. seperti *Staphylococcus epidermidis* merupakan bakteri penyebab infeksi pada manusia. Tujuan penelitian untuk menganalisis aktivitas antibakteri ekstrak tunggal dan kombinasi ekstrak daun cengkeh dan pepaya terhadap bakteri *Staphylococcus epidermidis*.

Metode: Penelitian ini merupakan penelitian eksperimental dengan ekstraksi maserasi pelarut etanol 96%, ekstrak tunggal daun cengkeh dan pepaya serta kombinasi perbandingan 1:1, 1:2, dan 2:1. Ekstrak dibuat pada konsentrasi 5%, 10%, 15%, dan 20%. Kontrol positif menggunakan *disk* doksisisiklin dan kontrol negatif aquadest steril. Uji aktivitas antibakteri menggunakan metode difusi cakram. Analisis data menggunakan spss versi 24.

Hasil: Metabolit sekunder ekstrak daun cengkeh dan pepaya yaitu flavonoid, saponin, tanin dan alkaloid. Zona hambat rata-rata ekstrak tunggal daun cengkeh dan pepaya serta kombinasi 1:1, 1:2, dan 2:1, terhadap bakteri *Staphylococcus epidermidis* konsentrasi 5% secara berturut-turut 7,35 mm, 1,33 mm, 6,30 mm, 7,40 mm, 8,57 mm. Konsentrasi 10% 8,25 mm, 2,34 mm, 7,32 mm, 8,70 mm, 10,26 mm. Konsentrasi 15% 9,21 mm, 3,54 mm, 9,49 mm, 11,45 mm, 12,53 mm. Konsentrasi 20% 10,28 mm, 4,31 mm, 10,53 mm, 12,49 mm, 13,67 mm. Hasil uji SPSS dengan uji *posh hoc*, ekstrak tunggal dan kombinasi yaitu nilai *p-value* <0,05 artinya terdapat perbedaan signifikan dalam menghambat pertumbuhan bakteri *Staphylococcus epidermidis*.

Kesimpulan: Terdapat perbedaan signifikan aktivitas antibakteri ekstrak tunggal dan kombinasi daun cengkeh dan pepaya. Kombinasi paling baik adalah 2:1. Potensi kombinasi ekstrak daun cengkeh dan pepaya terhadap bakteri *Staphylococcus epidermidis* adalah sedang sampai kuat.

Kata Kunci: *Syzygium aromaticum* L, *Carica papaya* L, antibakteri, *Staphylococcus epidermidis*

Ngudi Waluyo University
Study Program of Pharmacy S1, Faculty of Health
Final Project, August 2023
Silfia Duratun Nadifah
051191099

**ANTIBACTERIAL ACTIVITY TEST OF SINGLE EXTRACT AND
COMBINATION OF CLOVE LEAVES (*Syzygium aromaticum* L) AND
PAPAYA LEAVES (*Carica papaya* L) AGAINST BACTERIA
*Staphylococcus epidermidis***

ABSTRACT

Background: Clove and papaya leaves contain secondary metabolites that are thought to have antibacterial activity. Such as *Staphylococcus epidermidis* is a bacteria that causes infection in humans. The purpose of the study was to analyze the antibacterial activity of single extract and combination of clove and papaya leaf extract against *Staphylococcus epidermidis* bacteria.

Method: This study is an experimental research with maceration extraction of 96% ethanol solvent, single extract of clove leaves and papaya and a combination of 1:1, 1:2, and 2:1. The extracts were made concentrations of 5%, 10%, 15%, and 20%. Positive control using doxycycline disk and negative control sterile aquadest. Test antibacterial activity using disc diffusion method. Data analysis using spss version 24.

Results: Secondary metabolites of clove leaf extract and papaya namely flavonoids, saponins, tannins and alkaloids. The average inhibition zone of single extract of clove and papaya leaves and a combination of 1:1, 1:2, and 2:1, against *Staphylococcus epidermidis* bacteria concentration of 5% respectively 7.35 mm, 1.33 mm, 6.30 mm, 7.40 mm, 8.57 mm. Concentration 10% 8.25 mm, 2.34 mm, 7.32 mm, 8.70 mm, 10.26 mm. Concentration 15% 9.21 mm, 3.54 mm, 9.49 mm, 11.45 mm, 12.53 mm. Concentration 20% 10.28 mm, 4.31 mm, 10.53 mm, 12.49 mm, 13.67 mm. The results of the SPSS test with post hoc tests, single extracts and combinations, namely the p-value of <0.05, mean that there is a significant difference in inhibiting the growth of *Staphylococcus epidermidis* bacteria.

Conclusion: There are significant differences in the antibacterial activity of single extract and the combination of clove leaves and papaya. The best combination is 2:1. The potency of the combination of clove leaf extract and papaya against *Staphylococcus epidermidis* bacteria is moderate to strong.

Keywords: *Syzygium aromaticum* L, *Carica papaya* L, antibacterial, *Staphylococcus epidermidis*