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EFEKTIVITAS EKSTRAK DAUN PEPAYA (*Carica papaya*) DALAM MENGHAMBAT BAKTERI *Streptococcus mutans* PENYEBAB KARIES SECARA *Invitro*

vii, 39 halaman, 5 gambar, 4 tabel, 5 lampiran

ABSTRAK

Latar belakang: Pepaya (*Carica papaya*) merupakan tumbuhan neutraceutical yang memiliki berbagai aktivitas farmakologis. Ekstrak daun pepaya mengandung antibakteri yang dapat menghambat pertumbuhan bakteri *Streptococcus mutans*. Bakteri *Streptococcus mutans* adalah bakteri yang bersifat kariogenik.

Tujuan: Untuk mengetahui efektivitas ekstrak daun pepaya (*Carica papaya*) dalam menghambat pertumbuhan bakteri *Streptococcus mutans* penyebab karies.

Metode: Jenis penelitian ini adalah penelitian eksperimental laboratorium. Metode yang digunakan adalah difusi agar. Sampel penelitian adalah daun pepaya yang kemudian dibuat menjadi ekstrak. Cakram kosong sebanyak 30 direndam dalam ekstrak daun pepaya konsentrasi 90%, 50%, 25%, 12,5%, 6,25%, dan aquades sebagai kontrol. Cakram tersebut kemudian diletakkan ke dalam 6 cawan petri. Rata-rata zona hambat diukur dengan kaliper. Data dianalisis dengan uji normalitas Kolmogorov-Smirnov lalu dilanjutkan dengan uji Kruskal-Wallis dengan *post hoc* Mann-Whitney.

Hasil: Hasil penelitian menunjukkan rata-rata zona hambat ekstrak dengan konsentrasi 90% sebesar 5,81 mm, konsentrasi 50% sebesar 6,49 mm, konsentrasi 25% sebesar 7,60 mm, konsentrasi 12,5% sebesar 11,86 mm, dan konsentrasi 6,25% sebesar 12,26 mm. Sedangkan pada kelompok kontrol tidak ditemukan zona hambat. Uji Kruskal-Wallis menghasilkan $p=0,000$ yang berarti terdapat perbedaan diameter zona hambat antara dua kelompok atau lebih.

Simpulan: Ekstrak daun pepaya konsentrasi 90%, 50%, 25%, 12,5%, dan 6,25% mempunyai kemampuan menghambat pertumbuhan bakteri *Streptococcus mutans*.

Kata kunci: ekstrak daun pepaya, antibakteri, *Streptococcus mutans*

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EFFECTIVITY OF PAPAYA (*Carica papaya*) LEAVES EXTRACT IN IN VITRO SUPPRESSION IN VITRO DENTAL CARIES BACTERIA *Streptococcus mutans*

vii, 39 pages, 3 pictures, 4 tables, 5 attachments

ABSTRACT

Background: Papaya (*Carica papaya*) is a neutraceutical plant with several pharmacological activities. Papaya leaves extract contains antibacterial substances that may suppress the growth rate of *Streptococcus mutans*. *Streptococcus mutans* is known as a cariogenic bacteria.

Goals: This study is aimed to determine the effectivity of papaya leaves extract (*Carica papaya*) in suppressing the growth rate of caries-causing bacteria *Streptococcus mutans*.

Method: This study is a laboratorium experimental study. The method used in this study are agar diffusions. Samples used are extract of papaya leaves. A total of 30 empty discs were soaked in 90%, 50%, 25%, 12,5%, and 6,25% concentrated papaya leaves extract and aquadest were used as control. These discs were then placed in 6 petri dishes. The mean zone of inhibition were measured using calipers. Data were analyzed Kolmogorov-Smirnov normality test followed by Kruskal-Wallis test with Mann-Whitney *post hoc*.

Results: Our results revealed the mean zone of inhibition of 90%, 50%, 25%, 12,5%, and 6,25% concentrated papaya leaves extract as 5,81 mm, 6,49 mm, 7,60 mm, 11,86 mm, and 12,26 mm respectively. Control group show no zone of inhibition. Kruskal-Wallis test results were $p=0,000$ indicating a statistical difference of zone of inhibition diamteres between two or more groups. **Conclusion :** 90%, 50%, 25%, 12,5%, and 6,25% concentrated papaya leaves extract have the ability to suppress the growth rate of *Streptococcus mutans*.

Key words: papaya leaves extract, antibacteria, *Streptococcus mutans*

