

## INTISARI

Penumpukan bakteri plak merupakan penyebab utama terjadinya gingivitis. Salah satu bakteri yang berperan dalam gingivitis adalah *Aggregatibacter actinomycetemcomitans*, yang pertumbuhannya dapat dihambat menggunakan produk antibakteri alamiah yaitu ekstrak etanolik biji pepaya. Tujuan penelitian ini adalah mengetahui pengaruh ekstrak etanolik biji pepaya (*Carica papaya L.*) terhadap pertumbuhan bakteri *Aggregatibacter actinomycetemcomitans*.

Penelitian ini menggunakan 28 sampel yang terbagi dalam 7 kelompok, yaitu 5 kelompok perlakuan (ekstrak biji pepaya konsentrasi 2,5%, 5%, 10%, 20%, dan 40%), 1 kelompok kontrol positif (*Chlorhexidine* 0,2%), dan 1 kelompok kontrol negatif (akuades steril). Larutan-larutan tersebut ditetaskan sebanyak 100 $\mu$ L ke dalam lubang sumuran pada media *Mueller Hinton Agar* yang telah diusapkan suspensi bakteri *Aggregatibacter actinomycetemcomitans*. Bakteri selanjutnya diinkubasi pada suhu 37°C selama 24 jam. Zona hambat yang terbentuk kemudian diukur menggunakan jangka sorong dengan ketelitian 0,001mm.

Hasil penelitian menunjukkan adanya zona hambat pada ekstrak etanolik biji pepaya konsentrasi 20% dan 40%, serta *Chlorhexidine* 0,2%. Pada ekstrak etanolik biji pepaya konsentrasi 2,5%, 5%, dan 10%, serta akuades steril tidak menunjukkan adanya zona hambat pertumbuhan bakteri. Hasil uji *one-way ANOVA* menunjukkan adanya pengaruh ekstrak etanolik biji pepaya terhadap pertumbuhan bakteri *Aggregatibacter actinomycetemcomitans*. Hasil uji *Post Hoc Scheffe* menunjukkan adanya perbedaan yang bermakna antar kelompok perlakuan. Kesimpulan dari penelitian ini adalah terdapat pengaruh ekstrak etanolik biji pepaya terhadap pertumbuhan bakteri *Aggregatibacter actinomycetemcomitans*.

**Kata kunci** : antibakteri, ekstrak etanolik biji pepaya, *Aggregatibacter actinomycetemcomitans*

## ABSTRACT

Accumulation bacteria plaque is the main etiology of gingivitis. One of the bacteria that cause gingivitis is *Aggregatibacter actinomycetemcomitans*, that the growth can be inhibited by the natural antibacterial called papaya seed ethanolic extract. The aim of this research was to determine the effect of papaya seed (*Carica papaya L.*) ethanolic extract against the growth of bacteria *Aggregatibacter actinomycetemcomitans*.

This research was using 28 samples that divided into 7 groups, consisted of 5 treatment groups (papaya seed ethanolic extract concentration of 2,5%, 5%, 10%, 20%, and 40%), 1 positive control (Chlorhexidine 0,2%), and 1 negative control (aquadest sterile). Those solution were drop 100 $\mu$ L into each wells in Mueller Hinton Agar that was swabbed by the suspensions of *Aggregatibacter actinomycetemcomitans*. The bacteria were incubated at 37°C for 24 hours. The inhibition zone were measured using a sliding caliper with 0,001mm accuracy.

The result of this research showed that the inhibition zone were appear around the wells of 20% and 40% concentrated papaya seed ethanolic extract, and Chlorhexidine 0,2%. On papaya seed ethanolic extract concentration of 2,5%, 5%, 10%, and aquadest sterile didn't seen the inhibition zone. The result of one-way ANOVA showed that there was an effect of papaya seed ethanolic extract against the growth of bacteria *Aggregatibacter actinomycetemcomitans*. The result of Post Hoc Scheffe showed significant difference between groups. The conclusion of this research was that papaya seed ethanolic extract gave effect to the growth of bacteria *Aggregatibacter actinomycetemcomitans*.

**Keyword** : antibacterial, papaya seed ethanolic extract, *Aggregatibacter actinomycetemcomitans*