

INTISARI

Periodontitis merupakan suatu penyakit inflamasi jaringan periodontal yang dapat disebabkan oleh *Aggregatibacter actinomycetemcomitans* (*Aa*). Terapi adjuvan yang dilakukan setelah perawatan penyakit periodontal dapat meningkatkan efikasi terapi, salah satunya yaitu irigasi subgingiva. *Eco-enzyme* limbah jeruk peras (*Citrus sinensis* L.) dibuat dari proses fermentasi yang menghasilkan senyawa antibakteri. Tujuan penelitian ini untuk mengetahui pengaruh daya antibakteri larutan irigasi *eco-enzyme* limbah jeruk peras (*Citrus sinensis* L.) 10% terhadap pertumbuhan *Aa*.

Penelitian ini menggunakan metode difusi cakram Kirby-Bauer untuk menguji daya antibakteri larutan terhadap *Aa*. Terdapat tiga larutan uji yang digunakan yaitu kelompok perlakuan (larutan irigasi *Eco-enzyme* limbah jeruk peras (*Citrus sinensis* L.) 10%), kontrol positif (klorheksidin 0,2%), dan kontrol negatif (akuades). Setiap kelompok terdiri dari sembilan sampel yang akan dilakukan pengukuran diameter zona hambat dengan *sliding calliper* pada area bening di sekitar kertas cakram. Data rerata hasil pengukuran dianalisis menggunakan *One-Way Anova* dan dilanjutkan dengan metode *post hoc* (LSD).

Hasil penelitian menyatakan terdapat perbedaan signifikan antar larutan uji ($p < 0,05$). Hasil analisis diameter zona hambat antara kelompok *eco-enzyme* dan kontrol positif, kelompok *eco-enzyme* dan kontrol negatif, serta kelompok kontrol positif dan kontrol negatif menunjukkan perbedaan yang signifikan ($p < 0,05$). Kesimpulan penelitian ini yaitu daya antibakteri larutan irigasi *eco-enzyme* limbah jeruk peras (*Citrus sinensis* L.) 10% berpengaruh menghambat pertumbuhan *Aa*.

Kata kunci : *A.actinomycetemcomitans*, *eco-enzyme*, *Citrus sinensis* L., antibakteri

ABSTRACT

Periodontitis is an inflammatory disease of periodontal tissue that can be caused by *Aggregatibacter actinomycetemcomitans* (*Aa*). Adjuvant therapy carried out after treatment of periodontal disease can increase the efficacy of therapy, one of which is subgingival irrigation. Eco-enzyme from squeezed orange waste (*Citrus sinensis* L.) was produced by fermentation process that result antibacterial compound. The objective of this research was to determine the antibacterial effect of 10% eco-enzyme irrigation solution from squeezed orange waste (*Citrus sinensis* L.) on the growth of *Aa*.

This study used the Kirby-Bauer disk diffusion method to test the antibacterial effect of the solution against *Aa* bacteria. There were three test solutions that we used, 10% eco-enzyme irrigation solution from squeezed orange waste (*Citrus sinensis* L.), positive control (0,2% chlorhexidine), and negative control (aquadest). Each group was repeated for nine times and then the diameter of the inhibition zone was measured using a sliding caliper. The mean of measurement data was analyzed using One-Way Anova and continued with the post hoc method (LSD).

The research result showed that there was a significant difference between the test solutions ($p < 0,05$). The result of analysis from diameter of the inhibition zone between the eco-enzyme group and positive control, the eco-enzyme group and negative control, and the positive control and negative control showed significant differences ($p < 0,05$). The conclusion of this research was the antibacterial effect of the 10% eco-enzyme irrigation solution from squeezed orange waste (*Citrus sinensis* L.) has an effect on inhibiting the growth of *Aa*.

Keywords : *A.actinomycetemcomitans*, eco-enzyme, *Citrus sinensis* L., antibacterial