

INTISARI

Aggregatibacter actinomycetemcomitans merupakan salah satu bakteri penyebab periodontitis. Pengendalian bakteri tersebut dapat menggunakan *adjuvant* berupa antibakteri bahan irigasi pada perawatan *scaling* dan *root planning*. Kunyit (*Curcuma longa* Linn.) mengandung kurkumin yang memiliki sifat antibakteri. Kurkumin dapat diperkaya dengan *cell-free supernatants* (CFS) *Lactobacillus brevis* untuk meningkatkan antibakteri. Tujuan penelitian ini untuk mengetahui pengaruh penambahan probiotik *Lactobacillus brevis* pada larutan irigasi kurkumin dalam meningkatkan daya hambat pertumbuhan *Aggregatibacter actinomycetemcomitans*.

Kelompok uji pada penelitian yaitu kontrol positif (obat kumur ekstrak sirih), kontrol negatif (akuades), CFS, kurkumin 1%, kurkumin 0,1%, kurkumin 1%, kurkumin yang diperkaya CFS 1%, 0,1% dan 0,01%. Uji daya hambat terhadap *Aggregatibacter actinomycetemcomitans* menggunakan metode difusi sumuran. Setiap cawan petri dibuat tiga sumuran. Sumuran dioleskan bakteri *Aggregatibacter actinomycetemcomitans* dan diberi perlakuan kelompok uji, kemudian diinkubasi selama 24 jam. Pengukuran diameter zona hambat menggunakan *sliding caliper* satuan milimeter. Data hasil penelitian selanjutnya dilakukan uji *one-way ANOVA* dan *LSD*.

Hasil penelitian yang telah dilakukan uji *LSD* menunjukkan perbedaan signifikan ($p < 0,05$) pada zona hambat kelompok kurkumin jika dibandingkan dengan kelompok kurkumin yang diperkaya CFS. Urutan zona hambat dari paling tinggi adalah kontrol positif, kurkumin 1% yang diperkaya CFS, CFS, kurkumin 0,1% yang diperkaya CFS, kurkumin 0,01% yang diperkaya CFS, kurkumin 1%, kurkumin 0,1%, dan kurkumin 0,01%. Tidak ada zona hambat pada kontrol negatif. Kesimpulan penelitian ini adalah penambahan probiotik *Lactobacillus brevis* pada larutan irigasi kurkumin berpengaruh dalam meningkatkan daya hambat pertumbuhan *Aggregatibacter actinomycetemcomitans*.

Kata kunci: *Aggregatibacter actinomycetemcomitans*, CFS, kurkumin, *Lactobacillus brevis*

ABSTRACT

Periodontitis is caused by the bacteria *Aggregatibacter actinomycetemcomitans*. Scaling and root planning by antibacterial irrigation fluid adjuvant could be used to control these bacteria. Turmeric (*Curcuma longa* Linn.) contains curcumin which has antibacterial properties. Curcumin can be enriched with cell-free supernatants (CFS) *Lactobacillus brevis* to enhance antibacterial properties. This study aims to determine the effect of adding the probiotic *Lactobacillus brevis* to curcumin irrigation solution in increasing the growth inhibition of *Aggregatibacter actinomycetemcomitans*.

The independent variables of this study were positive control (betel extract mouthwash), negative control (aquadest), CFS, 1% curcumin, 0,1% curcumin, 1% curcumin, 1% CFS enriched curcumin, 0,1% and 0,01%. Inhibition test against *Aggregatibacter actinomycetemcomitans* using well diffusion method. Three wells were made for each petri dish. The wells were smeared with *Aggregatibacter actinomycetemcomitans* bacteria, treated with the test group, and then incubated for 24 hours. The diameter of the inhibition zone was measured using a millimeter sliding caliper. The data from the next study were carried out with one-way ANOVA and LSD tests.

After the LSD test, the result showed a significant difference ($p < 0.05$) in the curcumin group inhibitor compared to the curcumin group enriched with CFS. The sequence from most potent inhibitors to the lowest followed control positive, curcumin 1% enriched with CFS, curcumin 0.01% enriched with CFS, curcumin 1%, curcumin 0.1%, and curcumin 0.01%. No inhibitor was observed in the negative control. This research concluded that the *Lactobacillus brevis* added into curcumin irrigation solution inhibited the growth of *Aggregatibacter actinomycetemcomitans*.

Keywords: *Aggregatibacter actinomycetemcomitans*, CFS, curcumin, *Lactobacillus brevis*