

ABSTRAK

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Program Studi : Kedokteran Gigi
Judul : Uji Efektivitas Ekstrak Bawang Merah (*Allium cepa* Var. *Aggregatum*) terhadap Zona Hambat Pertumbuhan Bakteri *Enterococcus faecalis*

Kegagalan perawatan saluran akar sering berkaitan dengan infeksi persisten *Enterococcus faecalis* yang resisten terhadap berbagai agen antimikroba. Bawang merah (*Allium cepa* var. *aggregatum*) mengandung senyawa bioaktif yang berpotensi sebagai agen antibakteri alami, sehingga penelitian ini bertujuan mengevaluasi efektivitas ekstrak terhadap pertumbuhan *E. faecalis* melalui pengukuran zona hambat. Penelitian eksperimental ini menggunakan desain *post test control group* dengan empat kelompok sampel, yaitu kontrol positif (NaOCl 2,5%), kontrol negatif (DMSO), serta ekstrak bawang merah konsentrasi 60% dan 80%, masing-masing dengan tujuh pengulangan. Uji antibakteri dilakukan dengan metode difusi cakram pada media MHA, dan data dianalisis menggunakan uji Shapiro–Wilk, Levene, Kruskal–Wallis, serta Mann–Whitney. Hasil penelitian menunjukkan zona hambat rata-rata kontrol positif (NaOCl 2,5%) sebesar 15,20±3,034 mm, kontrol negatif (DMSO) sebesar 0±0 mm, ekstrak bawang merah 80% sebesar 12,44±1,869 mm, dan ekstrak bawang merah 60% sebesar 8,78±0,919 mm. Uji Kruskal-Wallis memperlihatkan perbedaan yang signifikan pada seluruh kelompok perlakuan ($p < 0,05$). Uji Mann–Whitney menunjukkan perbedaan signifikan diameter zona hambat antara ekstrak bawang merah konsentrasi 80% dan 60% dibandingkan kontrol negatif (DMSO). Ekstrak bawang merah konsentrasi 80% memiliki efektivitas antibakteri yang tidak berbeda signifikan dengan kontrol positif, sedangkan konsentrasi 60% dan DMSO berbeda signifikan dengan kontrol positif. Selain itu, terdapat perbedaan signifikan antara konsentrasi ekstrak bawang merah 80% dan 60%, dengan daya hambat lebih besar pada konsentrasi 80% terhadap *E. faecalis*.

Kata kunci: *Allium cepa* Var. *aggregatum*, *Enterococcus faecalis*, antibakteri, zona hambat

ABSTRACT

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Title : *Effectiveness Test Of Shallot (Allium Cepa Var. Aggregatum) Extract On The Growth Inhibition Zone Of Enterococcus Faecalis Bacteria*

Root canal treatment failure is often associated with persistent infection by Enterococcus faecalis, a bacterium known for its resistance to various antimicrobial agents. Shallot (Allium cepa var. aggregatum) contains bioactive compounds with potential as a natural antibacterial agent, therefore, this study aimed to evaluate the effectiveness of shallot extract on the growth of E. faecalis by measuring the inhibition zone. This experimental study employed a post-test control group design with four sample groups: positive control (2,5% NaOCl), negative control (DMSO), and shallot extract at concentrations of 60% and 80%, each with seven repetitions. Antibacterial activity was assessed using the disc diffusion method on Mueller Hinton Agar (MHA), and data were analyzed using the Shapiro–Wilk test, Levene test, Kruskal–Wallis test, and Mann–Whitney test. The results showed mean inhibition zones of 15.20 ± 3.034 mm for the positive control, 0 ± 0 mm for the negative control, 12.44 ± 1.869 mm for the 80% extract, and 8.78 ± 0.919 mm for the 60% extract. The Kruskal–Wallis test showed a statistically significant difference among all treatment groups ($p < 0.05$). The Mann–Whitney test demonstrated significant differences between the 80% and 60% extracts compared with the negative control. The 80% extract showed antibacterial effectiveness not significantly different from the positive control, whereas the 60% extract and DMSO differed significantly from the positive control. In addition, a significant difference was observed between the 80% and 60% extract concentrations, with the 80% extract exhibiting greater inhibitory activity against Enterococcus faecalis.

Keywords: *Allium cepa Var. aggregatum, Enterococcus faecalis, antibacterial, inhibition zone*