

Efektivitas Antibakteri Fraksi Etil Asetat Dan Metanol-Heksana Daun Kemangi (*Ocimum Basilicum*) Sebagai Medikamen Saluran Akar Terhadap *Enterococcus faecalis* ATCC 29212. Yulinatarina-160421160011

ABSTRAK

Medikamen saluran akar adalah suatu prosedur perawatan saluran akar yang bertujuan mengurangi jumlah atau membunuh bakteri, mencegah infeksi sekunder saluran akar, mengurangi peradangan jaringan periapikal dan mengurangi rasa sakit antar kunjungan. *Enterococcus faecalis* merupakan salah satu bakteri Gram positif penyebab infeksi saluran akar gigi sulung. Daun kemangi *Ocimum basilicum* telah terbukti mempunyai daya antibakteri terhadap bakteri Gram positif dan negatif. Penelitian bertujuan untuk mengetahui efektivitas daya antibakteri fraksi etil asetat dan fraksi metanol-heksana daun kemangi *Ocimum basilicum* terhadap *Enterococcus faecalis* ATCC 29212 secara *in vitro*.

Penelitian menggunakan metode eksperimental laboratoris dengan uji penentuan zona hambat, Konsentrasi Hambat Minimal, Konsentrasi Bunuh Minimal dan *Total Plate Count* bakteri dari fraksi etil asetat serta metanol-heksana. Analisis statistik menggunakan uji t-berpasangan dengan *p value* <0,05.

Hasil penelitian menunjukkan rata-rata nilai zona hambat fraksi etil asetat pada konsentrasi 5% dan 4% masing-masing 10,25 mm dan 9,55 mm. Zona hambat rata-rata fraksi metanol-heksana pada konsentrasi 20% dan 10% masing-masing 7,3 mm dan 7,25 mm. Nilai Konsentrasi Hambat Minimum fraksi etil asetat pada konsentrasi 1,25% sedangkan Konsentrasi Bunuh Minimum pada konsentrasi 2,5%. Nilai Konsentrasi Hambat Minimum fraksi metanol-heksana pada konsentrasi 2,5% dan Konsentrasi Bunuh Minimum fraksi metanol-heksana pada konsentrasi 5%. Secara statistik terdapat perbedaan yang sangat signifikan ($p < 0,01$) antara efektivitas daya antibakteri fraksi etil asetat dan fraksi metanol-heksana daun kemangi *Ocimum basilicum* terhadap bakteri *Enterococcus faecalis* ATCC 29212 secara *in vitro*.

Simpulan penelitian adalah terdapat perbedaan efektivitas daya antibakteri fraksi etil asetat dan fraksi metanol-heksana *Ocimum basilicum* terhadap *Enterococcus faecalis* ATCC 29212. Fraksi etil asetat memiliki efektivitas daya antibakteri lebih baik dibandingkan fraksi metanol-heksana terhadap bakteri *Enterococcus faecalis* ATCC 29212 secara *in vitro*.

Kata kunci: fraksi etil asetat, fraksi metanol-heksana, *Ocimum basilicum*, *Enterococcus faecalis*.

Antibacterial Effectiveness of Ethyl Acetate and Methanol-Hexane Fraction of Sweet Basil (Ocimum Basilicum) as Root Canal Medicament Against Enterococcus faecalis ATCC 29212. Yulinatarina-160421160011

ABSTRACT

Root canal medicament is a root canal treatment procedure to reduce or kill the amount of bacteria, prevent secondary infection of the root canal, reduce inflammation of periapical tissue and pain. Enterococcus faecalis is one of the Gram positive bacteria causing primary teeth root canal infections. Basil leaves Ocimum basilicum has been shown to have antibacterial ability against Gram positive and negative bacteria. The study aimed to determine the antibacterial effectiveness of ethyl acetate fraction and methanol-hexane fraction of Ocimum basilicum basil leaves to Enterococcus faecalis ATCC 29212 in vitro.

The study used a laboratory experimental method by testing the inhibition zone, Minimal Inhibition Concentration, Minimal Bactericidal Concentration and Total Plate Count from ethyl acetate and methanol-hexane fraction. Statistical analysis using an independent t-paired test with p value <0.05. The results showed the average inhibitory zone values of ethyl acetate fraction at concentrations of 5% and 4% 10.25 mm and 9.55 mm respectively. The inhibition zone averages methanol-hexane fractions at concentrations of 20% and 10%, 7.3 mm and 7.25 mm respectively. The Minimal Inhibition Concentration value of ethyl acetate fraction at 1.25% concentration while Minimal Bactericidal Concentration at 2.5% concentration. The Minimal Inhibition Concentration value of methanol-hexane fraction at 2.5% concentration and Minimal Bactericidal Concentration of methanol-hexane fraction at 5% concentration. There was a significant difference (p <0.01) statistically between the effectiveness of the antibacterial power of ethyl acetate fraction and methanol-hexane fraction of Ocimum basilicum basil leaves against Enterococcus faecalis ATCC 29212 in vitro.

The conclusions of the study were there are differences of the antibacterial effectiveness ability of ethyl acetate and methanol-hexane fraction Ocimum basilicum against Enterococcus faecalis ATCC 29212. Ethyl acetate fraction had better antibacterial effectiveness than methanol-hexane fraction against Enterococcus faecalis ATCC 29212 in vitro.

Key words: *ethyl acetate fraction, methanol-hexane fraction, Ocimum basilicum, Enterococcus faecalis*