

INTISARI

Infeksi odontogenik merupakan infeksi yang menyerang struktur gigi serta jaringan sekitarnya, dan sering ditemukan dalam rongga mulut. Salah satu bakteri dalam rongga mulut yang sering dihubungkan sebagai penyebab infeksi odontogenik adalah *Streptococcus viridans*, yang merupakan flora normal dalam rongga mulut. Daun kelor (*Moringa oleifera*) memiliki senyawa antibakteri yang dapat menghambat pertumbuhan bakteri. Penelitian ini bertujuan untuk mengetahui pengaruh ekstrak etanol daun kelor konsentrasi 40% dan 80% terhadap daya hambat bakteri *Streptococcus viridans* serta mengetahui perbedaan kedua konsentrasi tersebut terhadap pertumbuhan bakteri *Streptococcus viridans*.

Subjek penelitian berupa *Streptococcus viridans* yang diambil dari sputum pasien penderita endokarditis, diperoleh dari Laboratorium Mikrobiologi Fakultas Kedokteran Universitas Diponegoro di Laboratorium Sentral Rumah Sakit Nasional Diponegoro. Total sampel adalah 24 buah, dibagi menjadi 4 kelompok perlakuan, yaitu kelompok ekstrak etanol daun kelor konsentrasi 40%, 80%, kontrol positif (klindamisin), dan kontrol negatif (akuades). Koloni *Streptococcus viridans* hasil suspensi dalam kaldu BHI, dilarutkan dengan NaCl 0,9% sampai standar McFarland 0,5. Bakteri diinokulasi pada agar MHA. Perlakuan diberikan ke dalam sumuran dan diinkubasi pada suhu 37°C selama 24 jam. Daya hambat pertumbuhan bakteri diamati dan diukur dari diameter zona hambat yang terbentuk di sekeliling sumuran menggunakan jangka sorong. Analisis hasil penelitian menggunakan uji *one way ANOVA* dan uji *post hoc* (LSD).

Hasil analisis data menunjukkan adanya perbedaan diameter zona hambat bakteri *Streptococcus viridans* yang bermakna ($p < 0,05$) antar kelompok perlakuan. Kesimpulan: ekstrak etanol daun kelor mampu menghambat pertumbuhan bakteri *Streptococcus viridans*, dengan konsentrasi 80% memiliki daya hambat lebih tinggi daripada konsentrasi 40%.

Kata kunci: infeksi odontogenik, ekstrak etanol daun kelor, *Streptococcus viridans* pertumbuhan bakteri

ABSTRACT

Odontogenic infection is an infection which affects tooth structure and the surrounding tissues and often found in oral cavity. One of the oral bacteria that frequently associated as the cause of odontogenic infection is *Streptococcus viridans*, a normal flora in oral cavity. Moringa leaves contain antibacterial compounds which can inhibit bacterial growth. This research aims to observe the effect of ethanolic extract of Moringa leaves in concentration of 40% and 80% in inhibiting the growth of *Streptococcus viridans* and to evaluate the difference between those two concentrations in inhibiting the growth of *Streptococcus viridans*.

Streptococcus viridans collected from the sputum of patient with endocarditis, obtained from Microbiology Laboratory of Faculty of Medicine, University of Diponegoro as the subject in this research with a total sample of 24, were divided into 4 groups: ethanolic extract of Moringa leaves in concentration of 40% and 80% as treatment, positive control (clindamycin), and negative control (aquadest). Colony of *Streptococcus viridans* results in suspension of BHI broth were dissolved with saline following the McFarland 0.5 standard. Bacteria were inoculated on MHA agar. Treatments were applied into the wells and incubated at 37°C for 24 hours. Inhibition of bacterial growth was measured by the diameter of inhibition zone which formed around the well, using sliding caliper. Data were analyzed using one-way ANOVA and post hoc (LSD).

The results showed a significant difference in diameter of inhibition zone between the treatment groups ($p < 0.05$). The conclusion is ethanolic extract of Moringa leaves can inhibit the growth of *Streptococcus viridans*, with the concentration of 80% is more effective in inhibiting bacterial growth compared with the concentration of 40%.

Keywords: odontogenic infection, ethanolic extract of Moringa leaves, *Streptococcus viridans*, bacterial growth