

INTISARI

Infeksi odontogenik merupakan suatu infeksi yang berasal dari gigi atau jaringan disekitarnya, dan berpotensi menyebabkan komplikasi. Salah satu bakteri penyebab infeksi odontogenik adalah *Streptococcus mitis*, yang memiliki kadar resistensi antibiotik yang tinggi. Daun kelor memiliki senyawa fitokimia yang dapat berfungsi sebagai antimikroba, diharapkan dapat efektif dalam mengeliminasi bakteri penyebab infeksi odontogenik. Penelitian ini bertujuan untuk mengetahui pengaruh ekstrak etanol daun kelor konsentrasi 40% dan 80% terhadap pertumbuhan bakteri *Streptococcus mitis*, serta mengetahui perbedaan pengaruh ekstrak etanol daun kelor konsentrasi 40% dan 80% terhadap pertumbuhan bakteri *Streptococcus mitis*.

Koloni *Streptococcus mitis* hasil suspensi dalam kaldu *Brain Heart Infusion*, diencerkan dengan NaCl fisiologis, sesuai standar *McFarland* 0.5. Bakteri diinokulasi pada media agar *Mueller-Hinton*. Ekstrak etanol daun kelor konsentrasi 40%, 80%, akuades steril sebagai kontrol negative, larutan *levofloxacin* 500µg/ml sebagai kontrol positif diaplikasikan ke dalam sumuran, kemudian diinkubasi pada suhu 37°C selama 24 jam. Daya hambat pertumbuhan bakteri ditunjukkan dengan terbentuknya zona hambat disekeliling sumuran. Diameter zona hambat dihitung menggunakan jangka sorong.

Analisis hasil penelitian menggunakan uji *One Way ANOVA*, dan dilanjutkan uji *Post Hoc* dengan uji LSD, menunjukkan bahwa terdapat perbedaan zona hambat yang bermakna ($p < 0,05$) antara ekstrak etanol daun kelor 40%, 80%, dan *levofloxacin*; terhadap daya hambat pertumbuhan bakteri *Streptococcus mitis*. Kesimpulan penelitian ini adalah ekstrak etanol daun kelor dapat menghambat pertumbuhan bakteri, serta ekstrak etanol daun kelor konsentrasi 80% memiliki daya hambat yang lebih tinggi dibandingkan dengan konsentrasi 40%.

Kata kunci: Infeksi odontogenik, Ekstrak etanol daun kelor, *Streptococcus mitis*, Pertumbuhan bakteri

ABSTRACT

Odontogenic infection is an infection originating from the teeth or surrounding tissues, and has the potential to cause complications. *Streptococcus mitis* is one of the bacteria that cause odontogenic infection, that has high levels of antibiotic resistance. Moringa leaves have phytochemical compounds which have antimicrobial activities, which are expected to be effective in eliminating bacteria of odontogenic infection. This study aims are to evaluate the effect of ethanolic extract of Moringa leaves 40% and 80% against the growth of *Streptococcus mitis*, and to evaluate the difference between ethanolic extract of Moringa leaves 40% and 80% against the growth of *Streptococcus mitis*.

Streptococcus mitis colony as suspension in Brain Heart Infusion broth, being diluted with saline, following the McFarland 0,5 standard. Bacteria were inoculated on Mueller-Hinton Agar. Ethanolic extract of Moringa leaves 40%, 80%, distilled water as negative control, levofloxacin solution 500µg/ml as positive control were added into the wells, then were incubated for 24 hours at 37°C. The inhibition of bacterial growth was indicated by the formation of inhibition zone around the well, and were measured by sliding caliper.

The result was analyzed using one way ANOVA and Post Hoc test with LSD. The result showed that there were significant difference ($p < 0,05$) of inhibition zone between ethanolic extract of Moringa leaves 40%, 80%, and levofloxacin; against the inhibition of bacterial growth of *Streptococcus mitis*. This study concluded that ethanolic extract of Moringa leaves could inhibit bacterial growth, and ethanolic extract of Moringa leaves 80% has greater effect in inhibiting bacterial growth than ethanolic extract of Moringa leaves 40%.

Keywords: *Odontogenic infection, Ethanolic extract of Moringa oleifera, Streptococcus mitis, Bacterial growth*