

**UJI AKTIVITAS ANTIBAKTERI EKSTRAK ETANOL DAUN
KELENGKENG (*Dimocarpus longan* L.) TERHADAP
PERTUMBUHAN BAKTERI *Streptococcus mutans* ATCC 25175**

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INTISARI

Latar Belakang: Kesehatan gigi dan mulut merupakan bagian penting dari kesehatan tubuh secara keseluruhan, namun masih banyak ditemui kasus karies gigi yang disebabkan oleh infeksi *Streptococcus mutans*. Bakteri ini berperan dalam pembentukan plak dan demineralisasi enamel. Penggunaan antibakteri sintesis seperti klorheksidin cukup efektif, namun memiliki efek samping jika digunakan jangka panjang, sehingga dibutuhkan alternatif alami yang lebih aman. Daun kelengkeng (*Dimocarpus longan* L.) diketahui mengandung senyawa bioaktif seperti flavonoid, tanin, dan fenol yang berpotensi sebagai antibakteri.

Tujuan Penelitian: Mengetahui aktivitas antibakteri dari ekstrak etanol daun kelengkeng terhadap pertumbuhan bakteri *Streptococcus mutans*.

Metode Penelitian: Pada penelitian ini menggunakan metode ekstraksi maserasi dengan pelarut etanol 70% untuk memperoleh ekstrak etanol daun kelengkeng. Ekstrak kemudian diuji kandungan metabolit sekundernya melalui skrining fitokimia, dan dibuat dalam tiga konsentrasi (20%, 30%, dan 40%) untuk diuji aktivitas antibakterinya terhadap bakteri *Streptococcus mutans* menggunakan metode difusi sumuran. Pengamatan dilakukan dengan mengukur diameter zona hambat, dan data dianalisis untuk mengevaluasi potensi antibakteri ekstrak tersebut.

Hasil Penelitian: Hasil uji skrining fitokimia menunjukkan bahwa ekstrak etanol daun kelengkeng positif mengandung flavonoid, alkaloid, saponin, tanin, dan steroid. Hasil rata-rata diameter zona hambat terhadap bakteri *Streptococcus mutans* pada konsentrasi 20%, 30%, dan 40% masing-masing sebesar 21,1 mm, 22,3 mm, dan 23,9 mm dengan kategori daya hambat sangat kuat dan kontrol positif pada konsentrasi 0,2% sebesar 20,9 mm dengan kategori daya hambat kuat.

Kesimpulan: Ekstrak etanol daun kelengkeng memiliki aktivitas antibakteri terhadap *Streptococcus mutans* pada konsentrasi 20%, 30%, dan 40% dengan daya hambat yang meningkat seiring dengan peningkatan konsentrasi. Konsentrasi 40% menunjukkan zona hambat terbesar dibandingkan 20%, 30%, namun belum melebihi kontrol positif berupa klorheksidin 0,2%.

Kata Kunci: Antibakteri, Daun Kelengkeng, *Streptococcus mutans*

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**ANTIBACTERIAL ACTIVITY TEST OF LONGAN LEAF ETHANOL
EXTRACT (*Dimocarpus longan* L.) ON THE GROWTH
OF *Streptococcus mutans* BACTERIA ATCC 25175**

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ABSTRACT

Background: Oral health is a vital aspect of overall well being, however, there are dental caries remains a widespread issue often caused by *Streptococcus mutans* infection. This bacteria plays a role in plaque formation and enamel demineralization. The use of synthetic antibacterials such as chlorhexidine is quite effective, but has side effects if used long term, so safer natural alternatives are needed. Longan leaves (*Dimocarpus longan* L.) are known to contain bioactive compounds such as flavonoids, tannins, and phenols which have the potential to be antibacterial.

Objective: To determine the antibacterial activity of ethanol extract of longan leaves against the growth of *Streptococcus mutans* bacteria.

Method: This study used the maceration extraction method with 70% ethanol solvent to obtain ethanol extract of longan leaves. The extract was then tested for its secondary metabolite content through phytochemical screening, and was made in three concentrations (20%, 30%, and 40%) to test its antibacterial activity against *Streptococcus mutans* bacteria using the well diffusion method. Observations were made by measuring the diameter of the inhibition zone, and the data were analyzed to evaluate the antibacterial potential of the extract.

Research Results: The results of the phytochemical screening test showed that the ethanol extract of longan leaves positively contained flavonoids, alkaloids, saponins, tannins, and steroids. The average diameter of the inhibition zone against *Streptococcus mutans* bacteria at concentrations of 20%, 30%, and 40% was 21.1 mm, 22.3 mm, and 23.9 mm, respectively, with a very strong inhibition category and a positive control at a concentration of 0.2% of 20.9 mm with a strong inhibition category.

Conclusion: Ethanol extract of longan leaves has antibacterial activity against *Streptococcus mutans* at concentrations of 20%, 30%, and 40% with increasing inhibition as the concentration increases. The 40% concentration showed the largest inhibition zone compared to 20% and 30%, but did not exceed the positive control of 0.2% chlorehexidine.

Keywords: Antibacterial, Longan Leaves, *Streptococcus mutans*

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