UJI AKTIVITAS ANTIBAKTERI EKSTRAK ETANOL DAUN KAYU PUTIH (*Melaleuca leucadendra* L.) TERHADAP PERTUMBUHAN BAKTERI *Streptococcus mutans*

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INTISARI

Latar Belakang: Hasil Riset Kesehatan Dasar (Riskesdas) menyebutkan bahwa sekitar 57,6% masyarakat Indonesia mengalami permasalahan pada gigi. Salah satu permasalahan gigi yang timbul adalah karies gigi dengan prevalensi 54% terjadi pada anak 5-9 tahun. Karies gigi yaitu penyakit yang terjadi pada struktur gigi akibat adanya aktivitas dari bakteri salah satunya *Streptococcus mutans*. Ekstrak daun kayu putih mempunyai aktivitas antibakteri karena adanya kandungan senyawa alkaloid, flavonoid, saponin, tanin, serta terpenoid.
Tujuan Penelitian: Mengetahui aktivitas antibakteri dan Konsentrasi Hambat Minimum dari ekstrak daun kayu putih (*Melaleuca leucadendra* L.) terhadap pertumbuhan bakteri *Streptococcus mutans*.
Metode Penelitian: Ekstrak daun kayu putih (*Melaleuca leucadendra* L.) didapatkan melalui proses maserasi menggunakan pelarut etanol 70%. Dilakukan uji organoleptik dan skrining fitokimia, kemudian dilakukan uji aktivitas antibakteri menggunakan difusi cakram. Digunakan variasi konsentrasi ekstrak 20%; 40%; 60%; 80% dan 100%, kontrol pelarut DMSO dan kontrol positif berupa klorheksidin. Diamati diameter zona hambat yang terbentuk pada sekitar kertas cakram ditentukan Konsentrasi Hambat Minimum.
Hasil: Uji organoleptik didapatkan hasil warna hijau kecoklatan, bau khas kayu putih, rasa pedas pahit, dan tekstur kental. Skrining fitokimia didapatkan ekstrak daun kayu putih positif mengandung alkaloid, flavonoid, saponin, tanin, serta terpenoid. Hasil uji antibakteri menunjukan ekstrak daun kayu putih memiliki aktivitas antibakteri terhadap pertumbuhan bakteri *Streptococcus mutans* dengan Konsentrasi Hambat Minimum pada konsentrasi 20% dengan zona hambat 11,155 mm termasuk kategori kuat. Semakin tinggi konsentrasi, semakin besar zona hambat yang terbentuk.
Kesimpulan: Ekstrak daun kayu putih (*Melaleuca leucadendra* L.) memiliki aktivitas antibakteri terhadap pertumbuhan bakteri *Streptococcus mutans* dengan Konsentrasi Hambat Minimum yaitu 20%.

Kata kunci : Karies gigi, *Streptococcus mutans*, Klorheksidin, Ekstrak Daun Kayu Putih, *Melaleuca leucadendra* L.

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TESTING THE ANTIBACTERIAL ACTIVITY OF ETHANOLIC EXTRACT OF WHITE WOOD LEAVES (Melaleuca leucadendra L.) AGAINST THE GROWTH OF THE BACTERIA Streptococcus mutans

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ABSTRACT

Background: *The results of Riset Kesehatan Dasar (Riskesdas) state that around 57.6% of Indonesian people experience dental problems. One of the dental problems that arises is dental caries with a prevalence of 54% in children aged 5-9 years. Dental caries is a disease that occurs in the tooth structure due to the activity of bacteria, one of which is Streptococcus mutans. The ethanol extract of eucalyptus leaves has antibacterial activity because it contains alkaloids, flavonoids, saponins, tannins and terpenoids.*

Research Objectives: *To determine the antibacterial activity and Minimum Inhibitory Concentration of eucalyptus leaves extract (Melaleuca leucadendra L.) against the growth of Streptococcus mutans bacteria.*

Method: *Extract of eucalyptus leaves (Melaleuca leucadendra L.) was obtained through a maceration process using 70% ethanol solvent. Organoleptic tests and phytochemical screening were carried out, then antibacterial activity tests were carried out using disc diffusion. Varying extract concentrations of 20% were used; 40%; 60%; 80% and 100%, DMSO solvent control and positive control in the form of chlorhexidine. The diameter of the inhibition zone formed around the paper disc is observed to determine the Minimum Inhibition Concentration.*

Result: *The organoleptic test resulted in a brownish green color, a typical eucalyptus odor, a bitter spicy taste and a thick texture. Phytochemical screening showed that eucalyptus leaves extract was positive for containing alkaloids, flavonoids, saponins, tannins and terpenoids. The results of the antibacterial test showed that eucalyptus leaves extract had antibacterial activity against the growth of Streptococcus mutans bacteria with a Minimum Inhibitory Concentrate at a concentration of 20% with an inhibitory zone of 11.155 mm, including the strong category. The higher the concentration, the larger the inhibition zone formed.*

Conclusion: *Eucalyptus leaves extract (Melaleuca leucadendra L.) has antibacterial activity against the growth of Streptococcus mutans bacteria with a minimum inhibitory concentration of 20%.*

Keywords: *Dental caries, Streptococcus mutans, Chlorhexidine, Eucalyptus leaves Extract, Melaleuca leucadendra L.*

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