

SKRIPSI

**UJI AKTIVITAS ANTIBAKTERI EKSTRAK SERAI (*CYMBOPOGON
CITRATUS*) TERHADAP VIABILITAS *STREPTOCOCCUS MUTANS***



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Diajukan ke Fakultas Kedokteran Gigi Universitas Andalas
sebagai pemenuhan syarat untuk mendapatkan gelar
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UJI AKTIVITAS ANTIBAKTERI EKSTRAK SERAI (*CYMBOPOGON CITRATUS*) TERHADAP VIABILITAS *STREPTOCOCCUS MUTANS*

Oleh: Fauzia Khairunnisa

ABSTRAK

Latar Belakang: Masalah kesehatan yang paling banyak dijumpai adalah masalah kesehatan gigi dan mulut. Secara global, diperkirakan 2.3 miliar orang mengalami karies gigi permanen dan lebih dari 530 juta anak mengalami karies gigi sulung. Karies merupakan suatu penyakit infeksi akibat aktivitas demineralisasi pada struktur email dan dentin gigi akibat konsumsi makanan kariogenik. Salah satu tindakan untuk mencegah terjadinya siklus karies adalah dengan cara kontrol plak menggunakan obat kumur yang mengandung *chlorhexidine*. Obat kumur *chlorhexidine* memiliki efek samping sehingga tidak untuk penggunaan dalam jangka panjang. Alternatif bahan yang dapat digunakan adalah tanaman obat tradisional. Salah satunya serai.

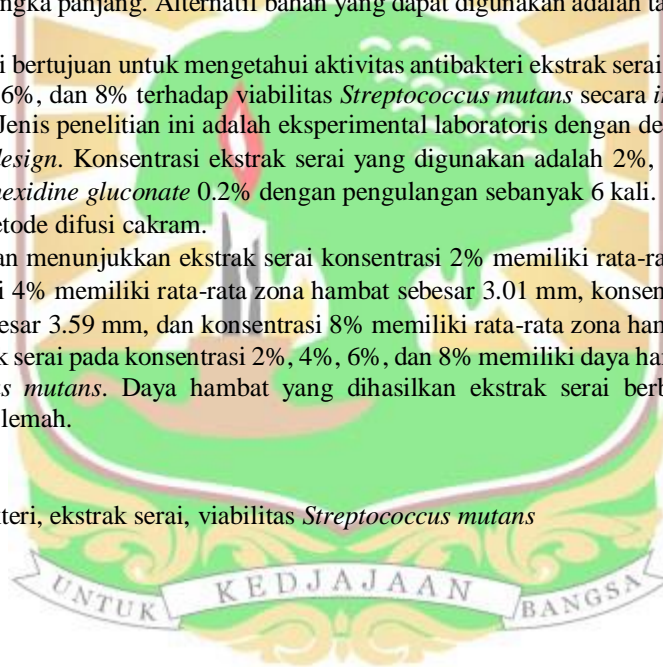
Tujuan: Penelitian ini bertujuan untuk mengetahui aktivitas antibakteri ekstrak serai (*Cymbopogon citratus*) konsentrasi 2%, 4%, 6%, dan 8% terhadap viabilitas *Streptococcus mutans* secara *in vitro*.

Metode Penelitian: Jenis penelitian ini adalah eksperimental laboratoris dengan desain penelitian *post-test only control group design*. Konsentrasi ekstrak serai yang digunakan adalah 2%, 4%, 6%, dan 8%, serta kontrol positif *chlorhexidine gluconate* 0.2% dengan pengulangan sebanyak 6 kali. Uji aktivitas antibakteri dilakukan dengan metode difusi cakram.

Hasil: Hasil penelitian menunjukkan ekstrak serai konsentrasi 2% memiliki rata-rata zona hambat sebesar 2.36 mm, konsentrasi 4% memiliki rata-rata zona hambat sebesar 3.01 mm, konsentrasi 6% memiliki rata-rata zona hambat sebesar 3.59 mm, dan konsentrasi 8% memiliki rata-rata zona hambat sebesar 4.62 mm.

Kesimpulan: Ekstrak serai pada konsentrasi 2%, 4%, 6%, dan 8% memiliki daya hambat terhadap viabilitas bakteri *Streptococcus mutans*. Daya hambat yang dihasilkan ekstrak serai berbagai konsentrasi yang digunakan tergolong lemah.

Kata Kunci: antibakteri, ekstrak serai, viabilitas *Streptococcus mutans*



ANTIBACTERIAL ACTIVITY TESTING OF LEMONGRASS EXTRACT (CYMBOPOGON CITRATUS) AGAINST VIABILITY OF STREPTOCOCCUS MUTANS

By: Fauzia Khairunnisa

ABSTRACT

Introduction: The most common health problems are dental and oral health problems. Globally, estimated 2.3 billion people experience caries in their permanent teeth and more than 530 million children experience caries in their primary teeth. Caries is an infectious disease due to progressive demineralization activity in the structure of tooth enamel and dentin associated with the consumption cariogenic foods. One of the measures to prevent the caries cycle is plaque control using mouthwash. The gold standard for mouthwash is chlorhexidine. Chlorhexidine mouthwash has side effects so it is not for long-term use. Alternative materials that can be used as antibacterial agents are traditional medicinal plants. One of the potential plants is lemongrass.

Objective: The objective of this study was to determine antibacterial activity of lemongrass extract (*Cymbopogon citratus*) at concentrations of 2%, 4%, 6%, and 8% against the viability of *Streptococcus mutans* in vitro.

Method: This study was an experimental laboratory with a post-test only control group design. The concentrations of lemongrass extract used were 2%, 4%, 6%, and 8%, as well as a positive control of 0.2% chlorhexidine gluconate with 6 repetitions. Antibacterial activity test was conducted by disc diffusion method.

Result: The results showed lemongrass extract with a concentration of 2% had an average inhibition zone of 2.36 mm, a concentration of 4% had an average inhibition zone of 3.01 mm, a concentration of 6% had an average inhibition zone of 3.59 mm, and a concentration of 8% had an average inhibition zone of 4.62 mm.

Conclusion: Lemongrass extract at concentrations of 2%, 4%, 6%, and 8% had an inhibitory effect on the viability of *Streptococcus mutans* bacteria. The inhibitory power produced by the various concentrations of lemongrass extract used is relatively weak.

Keywords: antibacterial, lemongrass extract, streptococcus mutans viability

