

## ABSTRAK

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Program Studi : Kedokteran Gigi  
Judul : Efektifitas Antibakteri Ekstrak Daun Serai (*Cymbopogon citratus*) Konsentrasi 20%, 30%, 40%, dan 50% terhadap *Streptococcus mutans*

**Latar belakang:** Karies gigi merupakan penyakit gigi dan mulut yang umum terjadi pada masyarakat. Penyakit ini dapat disebabkan oleh *Streptococcus mutans*. Salah satu upaya pencegahan karies gigi adalah dengan menggunakan bahan herbal yaitu daun serai. **Tujuan:** Untuk mengetahui efektivitas antibakteri ekstrak daun serai (*Cymbopogon citratus*) konsentrasi 20%, 30%, 40%, dan 50% terhadap *Streptococcus mutans*. **Metode:** Jenis penelitian ini adalah eksperimental laboratoris dengan *post-test only control group design*. Sampel dibagi menjadi lima kelompok ekstrak daun serai konsentrasi 20%, 30%, 40%, 50%, dan kontrol negatif. Uji efektivitas antibakteri dilakukan secara difusi dengan metode *cakram disk*. Diameter hambat yang terbentuk di sekitar kertas cakram, diukur dengan kaliper geser dan hasilnya dianalisis menggunakan uji statistik *oneway ANOVA* dan *posthoc LSD*. **Hasil:** Rata-rata diameter hambat ekstrak daun serai konsentrasi 20%, 30%, 40% dan 50% terhadap bakteri *Streptococcus mutans* adalah sebesar  $4,61 \pm 0,44$  mm;  $5,64 \pm 0,53$  mm;  $6,65 \pm 0,35$  mm; dan  $9,10 \pm 0,56$  mm, sedangkan DMSO (Kontrol negatif) tidak ditemukan adanya diameter hambat. Hasil uji *oneway ANOVA* dan *posthoc LSD* menunjukkan ada perbedaan yang signifikan efektivitas antibakteri ekstrak daun serai konsentrasi 20%, 30%, 40%, 50% terhadap *Streptococcus mutans* ( $p < 0,05$ ). **Kesimpulan:** Berdasarkan hasil penelitian dapat disimpulkan bahwa ekstrak daun serai konsentrasi 20%, 30%, 40%, dan 50% memiliki efektivitas antibakteri terhadap *Streptococcus mutans*.

**Kata kunci:** Daun serai, *Streptococcus mutans*, Antibakteri, Difusi

## **ABSTRACT**

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Title : Antibacterial Effectiveness of Lemongrass Leaf Extract (Cymbopogon citratus) Concentrations of 20%, 30%, 40%, and 50% against Streptococcus mutans*

*Background: Dental caries is a common dental and oral disease that occurs in the community. This disease can be caused by Streptococcus mutans. One of the efforts to prevent dental caries is to use herbal ingredients, namely lemongrass leaves. Objective: To determine the antibacterial effectiveness of citronella leaf extract (Cymbopogon citratus) at concentrations of 20%, 30%, 40%, and 50% against Streptococcus mutans. Methods: This type of research is an experimental laboratory with a post-test only control group design. The samples were divided into five groups of lemongrass leaf extract with concentrations of 20%, 30%, 40%, 50%, and negative control. The antibacterial effectiveness test was carried out by diffusion using the disc method. The diameter of the resistance formed around the paper disc was measured by sliding calipers and the results were analyzed using one-way ANOVA and posthoc LSD statistical tests. Results: The average inhibition diameter of lemongrass leaf extract at concentrations of 20%, 30%, 40% and 50% against Streptococcus mutans was  $4.61 \pm 0.44$  mm;  $5.64 \pm 0.53$  mm;  $6.65 \pm 0.35$  mm; and  $9.10 \pm 0.56$  mm, while DMSO (negative control) did not find any diameter resistance. The results of one-way ANOVA and posthoc LSD tests showed that there was a significant difference in the antibacterial effectiveness of lemongrass leaf extract at concentrations of 20%, 30%, 40%, 50% against Streptococcus mutans ( $p < 0.05$ ). Conclusion: Based on the results of the study, it can be concluded that lemongrass leaf extract at concentrations of 20%, 30%, 40%, and 50% has antibacterial effectiveness against Streptococcus mutans.*

**Keywords:** *Lemongrass leaves, Streptococcus mutans, Antibacterial, Diffusion*