ABSTRAK

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Program Studi : Kedokteran Gigi
Judul : Uji Efektivitas Antibakteri Ekstrak Daun Teh Hijau *(Camellia sinensis)* Konsentrasi 3,125%, 6,25%, 12,5%, 25%, dan 50% terhadap Bakteri *Streptococcus mutans*

Latar belakang: Karies gigi merupakan penyakit infeksi yang paling banyak dijumpai di rongga mulut. Salah satu penyebab karies gigi adalah mikroorganisme *Streptococcus mutans*. Ada beberapa cara pencegahan karies, diantaranya penggunaan daun teh hijau. **Metode:** Jenis penelitian ini adalah eksperimental laboratorium dengan rancangan *post test only control gro up*. Sampel penelitian ini adalah biakan murni bakteri *Streptococcus* mutans. Pe nelitian ini terdiri dari enam kelompok yaitu ekstrak daun teh hijau konsentarsi 3,125%, 6,25%, 12,5%, 25%, dan 50% masing-masing pada kelompok I, II, III, IV, dan V serta DMSO pada kelompok VI. Setiap kelompok memiliki empat sampel. Pengujian antibakteri dilakukan dengan metode difusi dan hasil diameter zona hambat diukur dengan jangka sorong. Data yang telah diperoleh, kemudian dianalisis dengan menggunakan uji statistik *one way* ANOVA dan *post hoc* LSD. **Hasil:** Berdasarkan hasil penelitian ini, diperoleh rerata dan standar deviasi diameter zona hambat terbesar pada ekstrak daun teh hijau konsentrasi 50% sebesar 14,66 ± 0,709 dan DMSO tidak memiliki diameter zona hambat. Hasil uji *one way* ANOVA menunjukkan bahwa terdapat perbedaan efektivitas antibakteri berbagai konsentrasi ekstrak daun teh hijau dengan DMSO terhadap bakteri *Streptococcus mutans* ($p<0,05$). Hasil uji *post hoc* LSD menunjukkan bahwa perbedaan terbesar efektivitas antibakteri tersebut terletak pada ekstrak daun teh hijau konsentrasi 3,125% dengan konsentrasi 50%. **Kesimpulan:** Ada pengaruh efektivitas antibakteri ekstrak daun teh hijau (*Camellia sinensis*) konsentrasi 3,125%, 6,25%, 12,5%, 25%, dan 50%, terhadap bakteri *Streptococcus mutans*. Pada penelitian ini, ekstrak daun teh hijau konsentrasi 50% terbukti yang paling efektif dalam menghambat pertumbuhan bakteri *Streptococcus mutans*.

Kata kunci:
Antibakteri, daun teh hijau, ekstrak, *Streptococcus mutans*

ABSTRACT

Name : Tara Suryantika
Study Program : Dentistry
Title : Antibactery Effectiveness Test of Green Tea Leaf (*Camellia sinensis*) Extract Concentration 3,125%, 6,25%, 12,5%, 25%, and 50% Against *Streptococcus mutans* bacteria

Background: Dental caries is the most common infectious disease in the oral cavity. One of the dental caries causes is the microorganism of *Streptococcus mutans*. There are several ways to prevent dental caries, including the use of green tea leaves.**Methods:**This type of research is an experimental la boratory with a post test only control group design. The sample of this research is pure culture of Streptococcus mutans bacteria. This study consisted of six groups, namely green tea leaf (*Camellia sinensis*) extract concentrations of 3.125%, 6.25%, 12.5%, 25%, and 50% in groups I, II, III, IV, and V and DMSO in groups VI. Each group has four samples. Antibacterial testing was carried out using the diffusion method, and the diameter of the inhibition zone was measured using a caliper. The data that has been obtained, then analyzed using one way statistical test ANOVA and post hoc LSD. **Results:** Based on the results of this study, the largest diameter of inhibition zone was green tea leaf extract at 50% concentration, namely 14.66±0.709 and DMSO had no inhibition zone diameter. The results of the one way ANOVA test showed that there were differences in the antibacterial effectiveness of various concentrations of green tea leaf extract with DMSO against *Streptococcus mutans* bacteria ($p<0.05$). The results of the post hoc LSD test showed that the biggest difference in antibacterial effectiveness was in the green tea leaf extract with a concentration of 3.125% and a concentration of 50%. **Conclusion:** There is an effect of effectiveness of green tea leaf extract (*Camel lia sinensis*) at concentrations of 3.125%, 6.25%, 12.5%, 25%, and 50%, against *Streptococcus mutans* bacteria. In this study, 50% concentration of green tea leaf extract was proven to be the most effective in inhibiting the growth of *Streptococcus mutans* bacteria.

Keywords:
Antibacterial, green tea leaves, extract, *Streptococcus mutans*