

INTISARI

Karies gigi adalah proses pengikisan lapisan email pada gigi akibat demineralisasi dan proses fermentasi karbohidrat oleh mikroorganisme. Mikroorganisme penyebab karies adalah *Streptococcus Mutans*. Penggunaan bahan alami seperti apel dapat dilakukan sebagai pencegahan karies gigi. Penelitian ini bertujuan mengetahui efektifitas antibakteri ekstrak apel jenis *Red delicious* konsentrasi 12,5%, 25%, 50%, 100% terhadap *Streptococcus Mutans*.

Jenis penelitian ini adalah penelitian eksperimental laboratoris. Pembuatan ekstrak apel menggunakan maserasi. Koloni bakteri *Streptococcus Mutans* ditanam pada media MHA diinkubasi selama 24 jam pada suhu 37°C. Pengujian daya antibakteri dengan metode difusi disk menggunakan 6 replikasi cawan petri, selanjutnya diinkubasi 24 jam pada suhu 37°C.

Berdasarkan uji *Kruskall-Wallis* didapatkan nilai signifikansi 0,000 ($p < 0,05$) sehingga disimpulkan bahwa terdapat perbedaan secara bermakna antar variabel. Uji *Mann Whitney* menunjukkan nilai signifikansi ($p < 0,05$) didapatkan nilai $p < 0,05$ antara ekstrak apel konsentrasi 100%, 50%, 25%, 12,5% sehingga dapat diinterpretasikan bahwa ada perbedaan signifikan antara kelompok tersebut

Kesimpulan dari penelitian ini terdapat perbedaan efektifitas ekstrak apel jenis *Red delicious* konsentrasi 12,5%, 25%, 50%, 100% terhadap *Streptococcus Mutans*. dimana diameter zona hambat tertinggi adalah ekstrak apel konsentrasi 100% dan diameter zona hambat terkecil adalah apel konsentrasi 12,5%.

Kata Kunci : Ekstrak apel, S.Mutans, antibakteri.

ABSTRACT

Dental caries is process of teeth enamel erosion due to demineralization and carbohydrate fermentation by Streptococcus mutans. The use natural ingredients such as apples can be done as prevention treatment. This study aims to determine the effectiveness of antibacterial

Red apple extracts in concentration of 12.5%, 25%, 50%, 100% against Streptococcus mutans.

This research was an experimental laboratory. Making apple extract using maceration method. Streptococcus mutans bacterial growth on MHA media were incubated for 24hours 37°C. Testing of antibacterial effect disk diffusion method using 6 replicate petri dish then incubated 24hours 37°C.

Based on Kruskal-Wallis found significant value 0.017 ($p < 0.05$) concluded that there were significant differences between variables. Mann-Whitney showed a significance value ($p < 0.05$) apple extract concentration of 100%, 50%, 25%, 12.5% so that it can be interpreted that there was significant difference between groups.

The conclusion of the study, there were differences between the antibacterial effect of apple Red extract concentration of 12.5%, 25%, 50%, 100% against Streptococcus mutans. where the highest inhibition zone diameter was concentration 100 % apple extract and inhibition zone diameter was the smallest concentration of 12.5% apple.

Keywords : apple extract , S. mutans , antibacterial.