

## ABSTRAK

Karies gigi adalah proses dekalsifikasi lapisan enamel gigi sehingga apabila dibiarkan akan terbentuk kavitas hingga mencapai dentin dan pulpa. Karies gigi disebabkan oleh bakteri yang memfermentasikan karbohidrat dan sisa makanan di permukaan gigi sehingga menghasilkan asam yang menyebabkan demineralisasi. Bakteri yang lebih dominan dan menonjol dalam menyebabkan karies adalah *Streptococcus mutans*. Tujuan penelitian ini adalah untuk membandingkan daya hambat pertumbuhan bakteri *Streptococcus mutans* setelah pemberian gel ekstrak cangkang telur bebek (*Anas platyrhynchos var.domestica*) konsentrasi 31,26% dengan gel sodium fluoride 5%.

Penelitian ini berjenis *post-test control group design* dibagi dalam 2 kelompok yaitu perlakuan dengan gel ekstrak cangkang telur bebek (*Anas platyrhynchos var. domestica*) dan kontrol yaitu gel sodium fluoride 5% dengan menggunakan metode difusi sumuran. Hasil penelitian dianalisis dengan SPSS uji *independent t-test*.

Hasil penelitian disimpulkan bahwa pada kelompok gel ekstrak cangkang telur bebek memiliki rerata daya hambat  $\pm 15,32$  mm (kategori kuat < 20 mm), dan rerata daya hambat sodium fluoride  $\pm 11,38$  mm, dan terdapat perbedaan yang signifikan aktivitas antibakteri antara gel ekstrak cangkang telur bebek dan sodium fluoride dengan nilai  $p < 0,05$

Kesimpulan dari penelitian ini adalah daya hambat pertumbuhan bakteri *Streptococcus mutans* pada gel cangkang telur bebek lebih besar dibanding sodium fluoride. Saran untuk penelitian selanjutnya yaitu pengujian pada jenis bakteri lain dan dalam bentuk sediaan dan konsentrasi yang berbeda.

**Kata Kunci** : gel ekstrak cangkang telur bebek, daya hambat, *Streptococcus mutans*

## **ABSTRACT**

*Dental caries is the decalcification process of the tooth enamel layers so that if it is left, the cavity will be formed until it reaches the dentin and pulp. Dental caries is caused by bacteria that ferment carbohydrates and food scraps on the tooth surface to produce acids that cause demineralization. The most dominant and prominent bacteria in causing caries is Streptococcus mutans. The purpose of this study was to compare the inhibitory power growth of Streptococcus mutans after the giving of duck eggshell extract (Anas platyrhynchos var.domestica) in the concentration of 31.26% with 5% sodium fluoride gel.*

*This research was a post-test control group design which was divided into 2 groups; they were duck eggshell extract gel (Anas platyrhynchos var. domestica) treatment and the control one which was 5% sodium fluoride gel by using the diffusion wells method. The results of the study were analyzed by the SPSS independent t-test.*

*The results of the study concluded that the duck eggshell extract gel group had the inhibitory power average of  $\pm 15,32$  mm (strong category  $< 20$  mm), and the sodium fluoride inhibitory power average of  $\pm 11,38$  mm, and there were significant differences on the antibacterial activity between duck eggshell extract gel and sodium fluoride with p value of  $< 0.05$*

*The conclusion of this study is the inhibitory power growth of Streptococcus mutans bacteria on duck eggshell gel is bigger than sodium fluoride. The suggestions for further researches are doing a test on other types of bacteria and in a different dosage forms and concentrations.*

**Keywords:** *duck eggshell extract gel, inhibitory power, Streptococcus mutans*