

Efektivitas Propolis Fluoride dalam Menginhibisi Pembentukan Biofilm Streptococcus mutans dan Streptococcus sanguinis pada Uji Kristal Violet = Efficacy of Propolis Fluoride in Inhibiting The Formation Of Streptococcus mutans and Streptococcus sanguinis Biofilm on Crystal Violet Test

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Abstrak

Latar Belakang: Silver Diamine Fluoride SDF merupakan agen antikaries yang sudah terbukti efektif. Namun Silver Diamine Fluoride dapat menyebabkan noda hitam pada permukaan gigi dan menghasilkan rasa metal. Propolis Fluoride merupakan agen antibakteri yang dapat mencegah karies tanpa menyebabkan noda hitam dan rasa metal.

Tujuan: tujuan dari penelitian ini untuk mengetahui keefektifan dari Propolis Fluoride dalam menghambat pembentukan biofilm S.mutans dan S.sanguinis dan dibandingkan dengan Silver Diamine Fluoride.

Metode: suspensi bakteri dikultur pada Brain Heart Infusion Broth dan agar diteteskan kedalam 96-well plates dan dipaparkan dengan Propolis fluoride lalu diinkubasi pada waktu 4 jam, 12 jam, 24 jam, dan 48 jam. Selanjutnya dipaparkan Kristal violet 0,5 pada masing-masing well plate dan dilakukan evaluasi dengan menggunakan microplate reader untuk mengetahui nilai Optical Density dengan panjang gelombang 570nm.

Hasil: Propolis Fluoride efektif dalam menghambat pembentukan biofilm S.mutans dan S.sanguinis. hasil uji ANOVA dari Potensi hambat pembentukan biofilm S.mutans dan S.sanguinis pada Propolis Fluoride setara dengan Silver Diamine Fluoride 38.

Kesimpulan: Propolis Fluoride memiliki daya hambat dan keefektifan yang sama dengan Silver Diamine Fluoride. Kata Kunci: Propolis Fluoride, S. mutans, S.sanguinis, Kristal violet, Silver Diamine Fluoride.

.....Silver Diamine Fluoride SDF is an anti caries agent that has been proven effective. But Silver Diamine Fluoride can caused black stain on the surface of the teeth and has a metallic taste. Propolis Fluoride is an antibacterial agent that can prevent caries without causing black stain on the surface of the teeth and metallic taste.

Objective: the aim of this study is to know the effectiveness of Propolis Fluoride to inhibit the biofilm formation of S.mutans and S.sanguinis in comparison to Silver Diamine Fluoride.

Methods: The suspension of the bacteria were cultured in Brain Heart Infusion Broth and agar were shed on 96 well plates and combined with Propolis fluoride then incubated for 4 hours, 12 hours, 24 hours, and 48 hours. After that, Cristal Violet 0,5 were shed on each well plate and evaluated using microplate reader to know the amount of Optical Density in 570nm wavelength.

Result: Propolis Fluoride is effective for inhibiting biofilm formation of S.mutans and S.sanguinis. The ANOVA result of potential to inhibit biofilm formation of S.mutans and S.sanguinis for Propolis Fluoride is equal to Silver Diamine Fluoride 38.

Conclusion The effectiveness and inhibition potential of biofilm formation using Propolis Fluoride is equal to Silver Diamine Fluoride.