

Efikasi propolis fluoride dalam inhibisi pembentukan biofilm streptococcus mutans = Efficacy of propolis fluoride in inhibiting streptococcus mutans biofilm formation

Marpaung, Levy Jeremy, author

Deskripsi Lengkap: <https://lib.ui.ac.id/detail?id=20444319&lokasi=lokal>

Abstrak

Silver Diamine Fluoride SDF sudah terbukti sebagai cairan yang dijadikan sebagai agen antikaries. Namun Silver Diamine Fluoride dapat meninggalkan noda hitam pada permukaan gigi dimana Silver Diamine Fluoride tersebut diaplikasikan serta menghasilkan rasa metal. Propolis Fluoride adalah salah satu temuan untuk menggantikan Silver Diamine Fluoride sebagai agen antikaries tanpa memiliki efek samping yang sama.

Tujuan: Tujuan dari penelitian ini adalah untuk mengevaluasi aktivitas antimikrobal dari Propolis Fluoride dalam menghambat pembentukan biofilm S.mutans dan dibandingkan dengan Silver Diamine Fluoride. Terdapat 3 variasi konsentrasi dari Propolis Fluoride yang diuji yaitu 3,3 Ekstrak Propolis 2,139 Fluoride , 6,3 Ekstrak Propolis 2,139 Fluoride , dan 10 Ekstrak Propolis 2,139 Fluoride.

Metode: Suspensi S.mutans dikultur di dalam Brain Heart Infusion cair dan dan agar. Lalu suspensi diteteskan ke dalam 96-well plate dan dipaparkan dengan Propolis Fluoride lalu diinkubasi di dalam suasana anaerob selama 20 jam. Dilanjutkan dengan pemaparan kristal violet 0,5 pada 96-well plate dan pembacaan untuk mengukur besarnya Optical Density menggunakan microplate reader dengan gelombang 570 nm.

Hasil: Potensi Propolis Fluoride 10 EP 2,139 Fluoride setara dengan potensi Silver Diamine Fluoride 38 . dalam menghambat pembentukan biofilm S.mutans. Hasil uji ANOVA dari Propolis Fluoride 10 EP 2,139 Fluoride $p = 0,08$.

Kesimpulan: Potensi Propolis Fluoride dalam menghambat pembentukan biofilm S.mutans dapat disetarakan dengan potensi inhibisi Silver Diamine Fluoride 38.

.....Background: Silver Diamine Fluoride is a liquid that has been proven to be an anti caries agent. But it leaves a black stain on the surface of the teeth where it was aplicated and it also have a metallic taste.

Propolis Fluoride is one of the finding to replace Silver Diamine Fluoride as an anti caries agent without having the same side effect.

Objective: The aim of this study is to evaluate the antimicrobial activity of Propolis Fluoride in inhibiting S.mutans biofilm formation in comparison to Silver Diamine Fluoride. There are three different variant of Propolis Fluoride concentration which is 3,3 Propolis Extract 2,139 Fluoride , 6,3 Propolis Extract 2,139 Fluoride , and 10 Propolis Extract 2,139 Fluoride.

Methods: The suspension of S.mutans were cultured in Brain Heart Infusion broth and agar. Then the suspension was shed into 96 well plate and combined with Propolis Fluoride. Later, 96 well plate were incubated in anaerobic enviroment for 20 hour. Crystal violet 0,5 then shed into the 96 well plate. The amount of biofilm inhibition were evaluated using microplate reader in 570nm wavelength to find the amount of the Optical Density OD. Then the concentration were measure in OD then converted into percentage.

Result: Propolis Fluoride 10 EP 2,139 Fluoride have the same potention in inhibiting biofilm formation of S.mutans as Silver Diamine Fluoride 38. The ANOVA result for the Propolis Fluoride 10 EP 2,139 Fluoride

is p 0.08.

Conclusion: The potentiation of Propolis Fluoride in inhibiting biofilm formation of *S.mutans* can be compared with Silver Diamine Fluoride.