

Efektivitas paparan propolis flouride terhadap viabilitas biofilm streptococcus mutans dalam berbagai fase = Effectiveness of presented propolis fluoride to the viability of streptococcus mutans in various phases

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Abstrak

Latar Belakang: Propolis fluoride salah satu sediaan yang dapat menghambat perkembangan bakteri penyebab karies.

Tujuan: Menganalisis pengaruh propolis fluoride terhadap viabilitas biofilm *S. mutans* dalam berbagai fase.

Metode: Model biofilm *S. mutans* di inkubasi selama 4 jam fase adesi, 12 jam fase akumulasi aktif, dan 24 jam fase maturasi, kemudian dipaparkan dengan propolis fluoride 3,3 ; 6,6, 10 kelompok perlakuan, dan SDF 38 kelompok kontrol. Analisis Viabilitas biofilm *S. mutans* dilakukan dengan uji MTT untuk dibaca pada microplate reader.

Hasil: Pada pemaparan Propolis 3,3, persentase viabilitas biofilm *S. mutans* pada fase adesi 14,89 3,19; fase akumulasi aktif 24,37 7,43; dan fase maturasi 21,35 3,06. Pada pemaparan Propolis 6,6, persentase viabilitas biofilm *S. mutans* pada fase adesi 10,10 2,43; fase akumulasi aktif 20,88 13,17; dan fase maturasi 18,82 4,51. Pada pemaparan Propolis 10, persentase viabilitas biofilm *S. mutans* pada fase adesi 8,04 1,59; fase akumulasi aktif 11,17 8,90; dan fase maturasi 16,75 1,83.

Kesimpulan: Propolis fluoride 10 dapat menurunkan viabilitas biofilm *S. mutans* pada fase adesi.

.....Background: Propolis fluoride in one of dosage could inhibit the growth of bacteria that cause caries.

Objective: To analyze the effect of propolis fluoride on the viability of *S. mutans* biofilm in various phases.

Method: *S. mutans* biofilm models were incubated for 4 hours adhesion phase, 12 hours active accumulation phase, and 24 hours maturation phase, then presented with propolis fluoride 3.3 6.6, 10 treatment group, and SDF 38 control group. Analysis of *S. mutans* biofilm viability is tested by MTT in the microplate reader.

Results: Exposure of Propolis Flouride 3.3, the percentage of *S. mutans* biofilm viability in the adhesion phase is 14.89 3.19 active accumulation phase is 24.37 7.43 and the maturation phase is 21.35 3.06. On exposure of Propolis Flouride 6.6, the percentage of *S. mutans* biofilm viability in adhesion phase is 10,10 2,43 active accumulation phase is 20.88 13.17 and the maturation phase is 18.82 4.51. On exposure of Propolis Fluoride 10, the percentage of *S. mutans* biofilm viability in the phase of adhesion is 8.04 1.59 active accumulation phase is 11.17 8.90 and the phase of maturation is 16.75 1.83.

Conclusion: Propolis fluoride 10 could reduced the viability of *S. mutans* biofilm in adhesion phase.