

Daya antimikroba Infusum kismis terhadap pertumbuhan streptococcus mutans, in vitro

Joshua Calvin, author

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Abstrak

Latar Belakang : Ekstrak kismis telah dikenal sejak dahulu dalam menghambat pertumbuhan bakteri patogen, karena mengandung oleanolic acid yang telah terbukti dapat menghambat pertumbuhan bakteri rongga mulut.

Tujuan: Penelitian ini bertujuan untuk membuktikan efek antimikroba infusum Kismis terhadap Streptococcus mutans.

Metode: Infusum Kismis dibuat dengan proses pemanasan 100oC selama 15 menit pada 50 gr kismis dalam 500ml air (konsentyrasi 10%), kemudian diopanaskan lagi sehingga larutan tersisa 50ml (konsentrasi 100%). Untuk penelitian ini dibuat infusum 80%, 60%, 40%, 30%, dan 15% sesuai dengan prosedur yang benar. Efek antimikroba masing2 infusum kismis diperiksa dengan metode dilusi sehingga diperoleh nilai KHM dan KBM serta metode difusi sehingga diperoleh nilai Zona Hambatan terhadap 6 koloni streptococcus mutans.

Hasil: Efek infusum Kismis terhadap Streptococcus mutans adalah sebagai berikut : Pada koloni 1 : zona hambatan 1,00 mm; KHM 30% /ml ,KBM 60% /ml ; koloni 2 : zona hambatan 1,50 mm; KHM 30% /ml ,KBM 60% /ml; koloni 3 : zona hambatan 1,00 mm; KHM 30% /ml ,KBM 60% /ml; koloni 4 : zona hambatan 0,50 mm; KHM 30% /ml ,KBM 60% /ml; koloni 5 : zona hambatan 1,00 mm; KHM 30% /ml ,KBM 60% /ml; koloni 6 : zona hambatan 1,00 mm; KHM 30% /ml ,KBM 60% /ml;

Kesimpulan: Secara in vitro, infusum kismis dengan konsentrasi 30% bersifat bakteriostatik, sedangkan pada konsentrasi 60% bersifat bakterisid dengan rata-rata Zona hambatan 1,0625 mm.

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Background : Seedless Raisins has been known that it can inhibit the growth of pathogen bactery, because it contains of oleanolic acid that can inhibit the growth of oral pathogen.

Objectives: The aim of the study is to determine the sensitivity of Infusum Raisins on mutans streptococci.

Methods: Infusum is the product of the process of steeping Raisins for extraction of its medicinal principle. The effect of infusum Raisins was examined in vitro on the inhibit the bacterial growth by determining the inhibition zone (agar diffusion method), minimum inhibition concentration (MIC) and minimum bactericidal concentration (MBC). The microorganisms tested were composed 6 colony of Streptococcus mutans wild strain that taken from Oral Biology Laboratory of Faculty of Dentistry University of Indonesia, labeled as Streptococcus mutans1, Streptococcus mutans2, Streptococcus mutans3, Streptococcus

mutans4, Streptococcus mutans5, Streptococcus mutans6. Data obtained was done in a descriptive method.

Results: showed that Raisins's Infusum had effect on all of mutans of Streptococcus mutans 1 (inhibition zone 1.00 mm; MIC 30% /ml ,MBC 60% /ml); Streptococcus mutans 2 (inhibition zone 1.50 mm; MIC 30%/ml ,MBC 60%/ml); Streptococcus mutans 3 (inhibition zone 1.00 mm; MIC 30%/ml ,MBC 60%/ml); Streptococcus mutans 4 (inhibition zone 0.50 mm; MIC 30%/ml ,MBC 60%/ml); Streptococcus mutans 5 (inhibition zone 1.00 mm; MIC 30%/ml ,MBC 60%/ml), Streptococcus mutans6 (inhibition zone 1.00 mm; MIC 30/ml ,MBC 60%/ml).

Conclusion: We concluded that Raisins's Infusum has anti microbial activity against 6 colony of Streptococcus mutans in oral cavity, in vitro. Hence it may have potential anti-cariesproperty.