

ABSTRAK

Haris, Melur Fatima. 2016. **Efek Antibakteri Cuka Kurma Terhadap *Streptococcus mutans* Secara In Vitro**. Skripsi, Fakultas Kedokteran Gigi Universitas Brawijaya. Pembimbing: (1) Prof. Dr. dr. Noorhamdani AS, DMM., Sp.MK(K) (2) drg. Faidah Sp.KG.

Prevalensi karies gigi di Indonesia masih tinggi. Karies gigi dapat terjadi karena bakteri yang menempel pada permukaan gigi. Bakteri yang berperan besar dalam pembentukan karies adalah *Streptococcus mutans* yang merupakan target utama pencegahan karies. Salah satu upaya preventif dalam menghambat pertumbuhan bakteri penyebab karies adalah penggunaan *mouthwash* berbahan chlorhexidine gluconate. Namun bahan tersebut memiliki efek samping seperti pewarnaan ekstrinsik, gangguan perasa pada lidah dan erosi mukosa, sehingga perlu dicari alternatif bahan yang alami. Salah satu bahan alami yang diduga memiliki efek antibakteri adalah cuka kurma yang memiliki kandungan asam asetat, asam benzoat dan asam malat sebagai komponen antibakteri. Tujuan penelitian ini adalah untuk mengetahui efek antibakteri cuka kurma dalam menghambat pertumbuhan bakteri *Streptococcus mutans* secara *in vitro*. Penelitian ini menggunakan metode difusi sumuran. Konsentrasi cuka kurma yang digunakan adalah 100%; 87,5%; 75%; 62,5%; 50%, kontrol positif chlorhexidine gluconate 0,2%, dan kontrol negatif aquades. Selanjutnya diinkubasi selama 24 jam pada suhu 37°C. Analisis data menunjukkan perbedaan bermakna antara berbagai konsentrasi cuka kurma terhadap pertumbuhan *Streptococcus mutans* ($p < 0,05$). Uji korelasi menunjukkan adanya hubungan signifikan antara pemberian cuka kurma terhadap pertumbuhan *Streptococcus mutans*. Uji regresi linier sederhana menunjukkan adanya pengaruh konsentrasi cuka kurma dalam menghambat pertumbuhan *Streptococcus mutans*. Kesimpulan pada penelitian ini yaitu cuka kurma memiliki efek antibakteri dalam menghambat pertumbuhan *Streptococcus mutans* secara *in vitro* dengan diameter zona hambat terbesar 17,40 milimeter pada konsentrasi cuka kurma 100% dan diameter zona hambat terkecil 11,70 milimeter pada konsentrasi cuka kurma 50%.

Kata Kunci: karies, *Streptococcus mutans*, cuka kurma, antibakteri.

ABSTRACT

Haris, Melur Fatima. 2016. ***Antibacterial Effect of Dates Vinegar against Streptococcus mutans in Vitro***. Final Assignment, Faculty of Dentistry, Brawijaya University. Supervisors: (1) Prof. Dr. dr. Noorhamdani AS, DMM., Sp.MK(K) (2) drg. Faidah Sp.KG.

The prevalence of dental caries in Indonesia is still high. Dental caries is occurred by the bacteria on teeth's surface. The main bacteria that causes caries is *Streptococcus mutans*, which is also known as the main target of caries prevention efforts. One of the efforts is the use of chlorhexidine gluconate-based mouthwash. However, it is known to have side effects such as extrinsic staining of the teeth, taste alteration and mucosa erosion. Therefore, a more natural antibacterial agent alternative is need to be found. Dates vinegar is one of the substances that is suggested to have antibacterial effect. It contains acetic acid, benzoic acid and malic acid as antibacterial compounds. The purpose of this experiment is to know the antibacterial effect of dates vinegar in inhibiting the growth of *Streptococcus mutans* in vitro. This experiment was done by using agar well diffusion method. The concentration of dates vinegar used in this experiment are 100%; 87,5%; 75%; 62,5%; 50%, chlorhexidine gluconate 0,2% as positive control, and aquadest as negative control. The plates were incubated for 24 hours on temperature 37°C. The statistic result showed the significant differences among various concentration of dates vinegar in inhibiting the growth of *Streptococcus mutans* ($p < 0,05$). The correlation test showed a significant relation between the giving of dates vinegar with the growth of *Streptococcus mutans*. Simple linear regression test showed the influence of dates vinegar concentration in inhibiting the growth of *Streptococcus mutans*. The conclusion of this experiment is that dates vinegar has an antibacterial effect in inhibiting the growth of *Streptococcus mutans* with the biggest inhibitory zone diameter of 17,40 millimeters on dates vinegar in concentration 100% and 11,70 millimeters as the smallest inhibitory zone diameter on dates vinegar in concentration 12,5%.

Key words: dental caries, *Streptococcus mutans*, dates vinegar, antibacterial effect