INTISARI

Streptococcus sanguinis merupakan bakteri komensal rongga mulut, apabila pada soket *pasca* pencabutan gigi dibiarkan tumbuh berlebih, bakteri ini dapat memicu terjadinya *dry socket* serta memperlambat penyembuhan pada soket. Ekstrak bunga cengkeh (*Eugenia aromatica*) 80% mengandung flavonoid, eugenol, tanin, dan alkaloid yang mampu menekan pertumbuhan *Streptococcus sanguinis*. Alveogyl® merupakan *dressing* intraalveolar yang kerap digunakan untuk menangani *dry socket* karena mengandung senyawa aktif eugenol (≥98%) sebanyak 10-25% sebagai analgesik. Penelitian ini bertujuan untuk membandingkan efek antibakteri ekstrak bunga cengkeh 80% dengan Alveogyl® terhadap bakteri *Streptococcus sanguinis.*

Koloni *Streptococcus sanguinis* disimpan dalam suspensi kaldu *Brain Heart Infusion* kemudian diencerkan dengan NaCl fisiologis hingga konsentrasi 1,5 x 10^8 CFU/ml, sesuai standar *McFarland* 0.5. Bakteri diinokulasi pada media agar *Mueller-Hinton.* Ekstrak bunga cengkeh dibuat dengan metode maserasi kemudian diencerkan hingga konsentrasi 80%. Ekstrak bunga cengkeh 80% dan Alveogyl® sebagai kontrol positif diaplikasikan kedalam lubang sumuran dalam agar yang sudah ditumbuhi bakteri *Streptococcus sanguinis*, kemudian diinkubasi pada suhu 37°C selama 24 jam. Hambatan pertumbuhan bakteri ditunjukkan dengan terbentuknya zona hambat disekeliling lubang sumuran. Diameter zona hambat dihitung menggunakan jangka sorong.

Analisis data hasil penelitian menggunakan uji *independent t-test* menunjukkan bahwa rerata daya hambat ekstrak bunga cengkeh 80% lebih besar secara signifikan ($p < 0,05$) dibandingkan Alveogyl®. Kesimpulan penelitian ini adalah ekstrak bunga cengkeh 80% memiliki kemampuan menghambat bakteri yang lebih baik dibandingkan Alveogyl®.

Kata kunci: *dry socket*, *Streptococcus sanguinis*, ekstrak bunga cengkeh

ABSTRACT

Streptococcus sanguinis is a commensal bacteria of the oral cavity, but when in the post-extraction socket left overgrown, it can trigger the occurrence of dry socket and slow the healing process of the socket. 80% of clove flower extract (*Eugenia aromatica*) contains flavonoid, eugenol, tannin, and alkaloid that can suppress the growth of *Streptococcus sanguinis*. Alveogyl® is an intra-alveolar dressing that is often used to treat dry socket because it contains active compound eugenol (≥98%) as much as 10-25% as an analgesic. This study aimed to compare the antibacterial effect between 80% of clove flower extract with Alveogyl® against *Streptococcus sanguinis.*

Colonies of *Streptococcus sanguinis* were stored in a suspension of Brain Heart Infusion (BHI) broth which was then diluted with NaCl to a concentration of 1.5 x 108 CFU/ml, according to the McFarland 0.5 standard. *Streptococcus sanguinis* bacteria were inoculated on Mueller-Hinton agar. Clove flower extract was made with maceration method and diluted until 80% concentration was reached. 80% clove flower extract and Alveogyl®, as a positive control, were applied to deep wells in the agar that had been grown with *Streptococcus sanguinis* bacteria, then incubated at 37°C for 24 hours. The inhibition of bacterial growth was indicated by the formation of an inhibition zone around the well. The diameter of the inhibition zone was measured with a caliper.

Analysis of research data using an independent t-test showed that the inhibition diameter means of 80% clove flower extract was significantly greater ($p < 0.05$) than Alveogyl®. This research concludes that 80% of clove flower extract has better bacteria inhibition ability than Alveogyl®.

Keywords*: dry socket, Streptococcus sanguinis,* clove flower extract