

INTISARI

Streptococcus mutans merupakan salah satu bakteri patogen penyebab karies gigi. Bunga telang mengandung flavonoid, antosianin, ternatin, saponin, tanin, *teraxerol* dan *taraxerone* yang berpotensi menjadi agen antibakteri. Penelitian ini bertujuan untuk menentukan konsentrasi hambat minimum (KHM) dan konsentrasi bunuh minimum (KBM) ekstrak bunga telang (*Clitoria ternatea* L.) terhadap pertumbuhan bakteri *S.mutans* ATCC 25175.

Bunga telang diekstraksi dengan metode maserasi menggunakan etanol 70%. Pengujian KHM menggunakan metode dilusi. Konsentrasi larutan KHM yang digunakan adalah 5%, 10%, 20%, 40%, 48%, 52%, 56%, 60%, 64%, 72%, dan 80%. Penentuan KBM dilakukan dengan metode *spread plate*, 100µl larutan KHM ditanam pada cawan petri yang berisi BHI agar. Selanjutnya dilakukan uji penentuan daya hambat dengan metode difusi sumuran menggunakan konsentrasi 6,25%, 12,5%, 25%, 50%, 60%, 65%, 70%, 75%, 80%, 90%, dan 100%. *Chlorhexidine* 0,2% digunakan sebagai kontrol positif. Inkubasi dilakukan selama 24 jam pada suhu 37°C. Selanjutnya data dianalisis dengan statistik pada $p < 0,05$.

Hasil penelitian KHM tidak dapat ditentukan karena warna larutan uji terlalu pekat. Uji KBM menunjukkan mulai konsentrasi 64% tidak ditemukan pertumbuhan *S.mutans* ATCC 25175 pada cawan petri, sehingga konsentrasi bunuh minimum pada penelitian ini adalah 64%. Hasil uji dengan metode sumuran menunjukkan terbentuknya zona hambat pada konsentrasi 80%, 90%, dan 100%. Hasil uji ANOVA menunjukkan ekstrak bunga telang konsentrasi 80%, 90%, dan 100% berpengaruh signifikan terhadap pertumbuhan *S.mutans* ATCC 25175. Uji LSD menunjukkan ekstrak bunga telang konsentrasi 80%, 90%, dan 100% bermakna sama menghambat pertumbuhan *S.mutans* ATCC 25175. Disimpulkan bahwa ekstrak bunga telang berbagai konsentrasi dapat menghambat pertumbuhan bakteri *S.mutans* ATCC 25175, meskipun potensinya masih lebih rendah dibandingkan *chlorhexidine* 0,2%.

Kata kunci: Ekstrak, Bunga telang, Antibakteri, *Streptococcus mutans*

ABSTRACT

Streptococcus mutans are one of the pathogenic bacteria that cause dental caries. Telang flowers contain flavonoids, anthocyanins, ternatin, saponins, tannins, teraxerol and taraxerone which have the potential to be antibacterial agents. The aim of this study was to determine the minimum inhibitory concentration (MIC) and minimum bactericidal concentration (MBC) of telang flower extract (*Clitoria ternatea* L.) against the growth of *S. mutans* ATCC 25175.

Telang flowers was extracted by maceration method using ethanol 70%. MIC was tested by dilution method. The concentrations of MIC solution were 5%, 10%, 20%, 40%, 48%, 52%, 56%, 60%, 64%, 72%, and 80%. MBC test was conducted by spread plate method, 100µl MIC solution was planted in petri dish containing BHI-agar. Then, a test of inhibition was done by agar well diffusion method using concentrations of 6.25%, 12.5%, 25%, 50%, 60%, 65%, 70%, 75%, 80%, 90%, and 100%. Chlorhexidine 0.2% was used as a positive control. Incubation was carried out for 24 hours at a temperature of 37°C. Then the data was analyzed with statistics at $p < 0.05$.

The results of the MIC could not be determined because the color of the test solution was too dark. The MBC test showed that starting concentration of 64% no growth of *S. mutans* ATCC 25175 was found in the petri dish, so the minimum bactericidal concentration in this research was 64%. Test results by agar well method showed the formation of bland zones at concentrations of 80%, 90%, and 100%. ANOVA test result showed that 80%, 90%, and 100% concentrations of telang flowers had a significant effect on the growth of *S. mutans* ATCC 25175. LSD tests showed no significant difference between concentrations 80%, 90%, and 100% of telang flowers in inhibiting the growth of *S. mutans* ATCC 25175. It was concluded that the extract of telang flowers in various concentrations can inhibit the growth of *S. mutans* ATCC 25175, although the potential is still lower than chlorhexidine 0.2%.

Keywords : Extract, Telang flower, Antibacterial, *Streptococcus mutans*