

INTISARI

Streptococcus mutans merupakan penyebab utama terbentuknya karies. Terbentuknya karies dapat dicegah dengan melakukan kontrol plak secara mekanis dan kimiawi. Tanaman jengger ayam (*Celosia argentea* L.) memiliki kandungan antibakteri, seperti flavonoid, tanin, saponin, dan alkaloid. Tujuan penelitian ini adalah mengetahui efek air rebusan daun dibandingkan dengan bunga jengger ayam (*Celosia argentea* L.) terhadap pertumbuhan bakteri *S. mutans* ATCC 25175.

Penelitian terdiri dari kelompok air rebusan daun maupun bunga jengger ayam dengan masing-masing kelompok memiliki konsentrasi 3,125%, 6,25%, 12,5%, 25%, 50%. Selain itu, terdapat kelompok kontrol positif (klorheksidin) dan negatif (akuades). Setiap perlakuan ditambahkan 0,5 ml suspensi bakteri *S. mutans* dan 1,5 ml BHI. Selanjutnya larutan diinkubasi selama 24 jam pada suhu 37°C lalu dilakukan pengenceran sebanyak 5 kali. Seratus µl dari pengenceran keempat dan kelima ditanam pada agar BHI. Masing-masing perlakuan ditanam sejumlah 3 sampel lalu diinkubasi selama 24 jam pada suhu 37°C. Jumlah koloni dihitung dan dilakukan analisis statistika menggunakan uji ANOVA ($p < 0,05$).

Hasil uji ANOVA menunjukkan bahwa air rebusan daun maupun bunga jengger ayam signifikan terhadap kontrol negatif. Hasil uji *Dunnett T3* menunjukkan bahwa air rebusan daun maupun bunga konsentrasi 12,5%, 25%, dan 50% signifikan terhadap kontrol negatif. Air rebusan daun konsentrasi 25% dan 50% serta air rebusan bunga konsentrasi 12,5%, 25%, dan 50% bermakna sama terhadap kontrol positif. Kesimpulan penelitian ini adalah konsentrasi 12,5% air rebusan bunga jengger ayam lebih efektif dibandingkan air rebusan daun dalam menghambat pertumbuhan *S. mutans* ATCC 25175.

Kata Kunci: Rebusan, Daun Jengger Ayam, Bunga Jengger Ayam, *Streptococcus mutans* ATCC 25175

ABSTRACT

Streptococcus mutans is the main causative agent of dental caries. The formation of caries can be prevented by doing mechanically and chemically plaque control. Cocks's comb (*Celosia argentea* L.) contains antibacterial compounds, such as flavonoids, tannins, saponins, and alkaloids. The aim of this study was to determine the effect of leaf decoction and cock's comb flower (*Celosia argentea* L.) on the growth of *S. mutans* ATCC 25175.

The study consisted of groups of leaf decoction and flower cock's comb decoction with each group having concentrations of 3.125%, 6.25%, 1.25%, 25%, 50%. In addition, there was a positive control group (chlorhexidine) and a negative control group (aquadest). Each treatment was added by 0.5 ml of *S. mutans* suspension and 1.5 ml of BHI. After that, the solutions were incubated for 24 hours at 37°C and continued with five times dilution. One hundred µl of the fourth and fifth dilutions were cultured in the BHI agar and incubated for 24 hours at 37°C. The bacterial colonies were calculated and then analyzed with ANOVA ($p < 0,05$).

ANOVA test showed that leaf decoction and the flower of the cock's comb were significant to the negative control. Dunnet T3 test showed that the decoction of the leaf and flower at concentrations of 12.5%, 25%, and 50% were significant to the negative control. Leaf decoction 25% and 50% and flower decoction 12,5%, 25%, and 50% had the same significance for the positive control. In conclusion, the concentration of 12,5% flower decoction was more effective than leaf decoction in inhibiting the growth of *S. mutans* ATCC 25175.

Keywords: Decoction, Cock's Comb Leaves, Cock's Comb Flowers, *Streptococcus mutans* ATCC 25175