

INTISARI

Plak gigi merupakan penyebab utama terjadinya karies gigi dan penyakit periodontal. Penyakit tersebut dapat dicegah dengan cara kontrol plak secara mekanis dan kimiawi. Daun beluntas (*Pluchea indica* L.) merupakan tumbuhan yang memiliki senyawa aktif berupa flavonoid, tanin dan alkaloid yang memiliki aktivitas antibakteri. Tujuan dari penelitian ini adalah untuk mengetahui efek infusa daun beluntas terhadap pertumbuhan koloni bakteri plak gigi *in vitro*.

Penelitian dilakukan dengan mencampurkan 1 ml biakan bakteri plak, 3 ml kaldu BHI, dan 1 ml infusa daun beluntas 10%, 20%, 40%, akuades atau klorheksidin 0,12%. Larutan diinkubasi selama 24 jam pada suhu 37°C dan selanjutnya dilakukan pengenceran sebanyak 5 kali. Sepuluh μ l dari setiap pengenceran dengan total 25 sampel ditanam pada agar BHI dan diinkubasi selama 24 jam pada suhu 37°C. Jumlah koloni bakteri yang tumbuh dihitung dan dianalisis secara statistika menggunakan uji *one way* ANOVA.

Hasil uji ANOVA menunjukkan bahwa infusa daun beluntas secara signifikan menurunkan jumlah koloni bakteri plak gigi ($p \leq 0,05$). Hasil uji *Tukey* menunjukkan bahwa hampir semua kelompok perlakuan dan kontrol berbeda bermakna. Disimpulkan bahwa 1) infusa daun beluntas konsentrasi 10%, 20% dan 40% secara bermakna menghambat jumlah koloni bakteri plak; 2) infusa daun beluntas 10% dan 20% mempunyai kemampuan penghambatan lebih rendah dibandingkan klorheksidin 0,12%; 3) daya hambat infusa daun beluntas 40% setara dengan klorheksidin 0,12%.

Kata kunci: infusa daun beluntas; bakteri plak; pertumbuhan koloni bakteri

ABSTRACT

Dental plaque is the main cause of dental caries and periodontal disease. It can be prevented by doing mechanical or chemical plaque control. *Pluchea indica* L. is a plant that possesses active compounds such as flavonoid, tanin, and alkaloid which act as an antibacterial agents. The aim of this study was to determine the effect of *P. indica* leaf infusion against the growth of dental plaque colony bacteria in vitro.

One ml of plaque bacteria suspension mixed with 3 ml of BHI broth, and 1 ml of 10%, 20%, 40% of *P. indica* leaf infusion solutions, aquadest or 0,12% chlorhexidine. The solutions was incubated for 24 hours at 37°C and diluted five times. Ten µl of each dilutions with totally 25 sample was cultured in the BHI agar and incubated for 24 hours at 37°C. The bacteria colonies was calculated and then analyzed with statistical analysis used one way ANOVA.

ANOVA test showed that *P. indica* leaf infusion had significant difference to reduce the amount of dental plaque bacteria colonies ($p \leq 0.05$). Tukey's test showed that almost all treatment and control groups had significant difference. It conclusion, 1) *P. indica* leaf infusion concentrations of 10%, 20% and 40% had significant difference to reduce the number of dental plaque bacterial colonies; 2) *P. indica* leaf infusion 10% and 20% had a lower inhibitory ability than chlorhexidine 0.12%; and 3) *P. indica* leaf infusion 40% had an inhibitory effect equivalent to chlorhexidine 0.12%.

Keywords: *Pluchea indica* L.; bacteria plaque, bacterial colony growth