

ABSTRAK

Biofilm diawali dengan terbentuknya pelikel dan kolonisasi bakteri pada permukaan gigi. Salah satu bakteri awal yang menempel yaitu *Streptococcus mutans*. Penelitian ini menggunakan ekstrak daun beluntas 25% sebagai salah satu alternatif dalam mengontrol pertumbuhan biofilm *S.mutans*. Tujuan penelitian ini mengetahui pengaruh ekstrak daun beluntas 25% terhadap biofilm *Streptococcus mutans* secara *in vitro*.

Jenis penelitian ini yaitu eksperimental laboratorium dengan *post test only control design*, terdiri dari empat kelompok perlakuan yaitu ekstrak daun beluntas 25% dan *chlorhexidine* 0,12% yang diinkubasi 24jam dan 48jam. Pembentukan biofilm diukur dengan menghitung *Optical Density* menggunakan spektrofotometer. Analisis data dilakukan menggunakan uji *One Way Anova* dilanjutkan uji *Post Hoc* LSD.

Hasil penelitian menunjukkan bahwa ekstrak daun beluntas dapat mempengaruhi pembentukan biofilm *S.mutans* namun efek dalam menghambat pembentukan biofilm masih belum sebaik *chlorhexidine*. Hal ini diketahui dari hasil *One Way Anova* ekstrak daun beluntas 25% dan *chlorhexidine* 0,12% yang diinkubasi selama 24jam dan 48 jam menunjukkan terdapat perbedaan signifikan ($p < 0,05$). Uji *Post Hoc* LSD ekstrak daun beluntas 25% inkubasi antara 24jam dan 48jam serta *chlorhexidine* 0,12% inkubasi antara 24jam dan 48jam tidak terdapat perbedaan signifikan sedangkan antara ekstrak daun beluntas 25% inkubasi 24jam dan *chlorhexidine* 0,12% inkubasi 24jam menyimpulkan terdapat perbedaan signifikan ($p < 0,05$). Hasil uji antara ekstrak daun beluntas 25% inkubasi 48jam dan *chlorhexidine* 0,12% inkubasi 48jam menunjukkan bahwa terdapat perbedaan signifikan ($p < 0,05$).

Kesimpulan penelitian ini terdapat pengaruh ekstrak daun beluntas (*Pluchea indica* (L.) Less) 25% terhadap biofilm *Streptococcus mutans*.

Kata kunci : Biofilm *Streptococcus mutans*, ekstrak daun beluntas 25%.

ABSTRACT

Biofilm begins with formation of pelicle and within a minutes the colonization of bacteria attached to surface of the teeth. One of early bacteria attached was Streptococcus mutans. This study used 25% beluntas leaf extract in influencing the growth of Streptococcus mutans biofilm. The purpose of study was to investigated effect of 25% beluntas leaf extract on Streptococcus mutans biofilm.

This research was experimental laboratory with post test only control design, consist of four treatment groups, 25% beluntas leaf extract and 0.12% chlorhexidine incubated 24 hours and 48 hours. Biofilm formation was measured by calculating Optical Density using a spectrophotometer. Data analysis was performed using One Way Anova test followed by Post Hoc LSD test.

The results showed that beluntas leaf extract could influence the formation of S.mutans biofilm but the effect in inhibiting biofilm formation is still not as good as chlorhexidine. It is known from the results of One Way Anova 25% beluntas leaf extract and 0.12% chlorhexidine incubated for 24 hours and 48 hours showed significant difference ($p < 0.05$). Post hoc LSD extract of 25% incubation leaf beluntas between 24 hours and 48 hours and chlorhexidine 0.12% incubation between 24 hours and 48 hours there was no significant difference whereas between 25% incubation leaf beluntas 24 hours and chlorhexidine 0.12% 24 hours incubation concluded there was significant difference ($p < 0.05$). The results of the test between the leaves of beluntas leaves 25% incubation 48 hours and chlorhexidine 0.12% 48 hours incubation showed that there was significant difference ($p < 0,05$)

The conclusion of this research is the effect of beluntas leaf extract (Pluchea indica (L.) Less) 25% to Streptococcus mutans biofilm in vitro.

Keywords : Biofilm Streptococcus mutans, beluntas leaf extract 25%.