

INTISARI

Plak gigi merupakan penyebab utama karies gigi dan penyakit periodontal, sehingga pertumbuhannya harus dikontrol. Bakteri utama pada plak adalah *Streptococcus alpha*. Ekstrak kulit ari biji coklat (*Theobroma cacao*, L.) memiliki kemampuan antibakteri. Penelitian ini bertujuan untuk mengetahui daya antibakteri ekstrak kulit ari biji coklat konsentrasi 12,5%, 25%, 37,5%, 50% terhadap pertumbuhan *S. alpha* isolasi plak gigi anak.

Penelitian eksperimental laboratoris dilakukan pada biakan *S. alpha* isolasi dari plak gigi seorang anak yang bebas karies pada media agar darah. Daya antibakteri ekstrak kulit ari biji coklat konsentrasi 12,5%, 25%, 37,5%, dan 50%, serta *Chlorhexidine Gluconate* 0,2% (kontrol positif) diuji dengan masing-masing dimasukkan dalam sumuran media agar darah dalam cawan petri biakan *S alpha*, kemudian diinkubasi selama 24 jam pada suhu 37°C. Masing-masing konsentrasi dilakukan 6 kali replikasi. Diameter zona bening di sekitar sumuran atau hambatan pertumbuhan dinilai sebagai daya antibakteri *S. alpha*. Analisis data digunakan uji Anava satu jalur (SPSS for Window).

Hasil penelitian menunjukkan perbedaan bermakna ($p < 0,05$) daya anti bakteri antar konsentrasi ekstrak kulit ari biji coklat, konsentrasi 12,5% menunjukkan daya antibakteri *S. alpha* terendah ($10,12 \pm 0,05$ mm) dan tertinggi konsentrasi 50% ($17,07 \pm 1,01$ mm), tetapi masih lebih rendah dibandingkan *Chorhexidine Gluconate* 0,2% ($24,59 \pm 0,23$ mm). Disimpulkan bahwa konsentrasi kulit ari biji coklat 50% memiliki daya antibakteri *S. alpha* tertinggi dibandingkan konsentrasi 12,5%, 25% dan 37,5%, tetapi lebih rendah dibanding *Chorhexidine Gluconate* 0,2%.

Kata kunci : konsentrasi, ekstrak kulit ari biji colat, daya antibakteri, *Streptococcus alpha*

ABSTRACT

*Dental plaque is the main cause of dental caries and periodontal disease, so its growth must be controlled. Streptococcus alpha is the most common bacteria found in plaque. Extract of cocoa bean husk (*Theobroma cacao*, L.) is known to have antibacterial activity. The aim of this study was to analyze the antibacterial activity of 12,5%, 25%, 37,5%, 50% cocoa bean husk extract on the *S. alpha* isolation from a child's dental plaques.*

*This laboratory experimental research was carried out on culture of blood agar *S.alpha* isolated from dental plaque of a caries-free child. The antibacterial activity of 12.5%, 25%, 37.5%, and 50% cocoa bean husk extract, as well as Chlorhexidine Gluconate 0,2% were tested by placing each of them in the well of blood agar medium in *S. alpha*'s petri dish, then incubated in 37°C for 24 hours. Each concentration was replicated 6 times. The antibacterial activity of *S. alpha* was assessed from the diameter of the clear zone around the well or known as growth inhibition. The data was analyzed using one-way ANOVA (SPSS for Window).*

*The results showed a significant difference ($p < 0,05$) in antibacterial activity between all concentration of cocoa bean husk extract. The smallest antibacterial activity has been shown in 12,5% of cocoa bean husk extract (10.12 ± 0.05 mm) and 50% of cocoa bean husk extract was the greatest one ($17.07 \text{ mm} \pm 1.01$), but still smaller than Chlorhexidine Gluconate 0,2%'s ($24.59 \pm 0,23$ mm). Therefore, this study concluded that the antibacterial activity of 50% cocoa bean husk extract of *S. alpha* was the greatest compared to 12.5%, 25% and 37.5%, but smallest compared to Chlorhexidine Gluconate 0,2%.*

Keywords: concentration of cocoa bean husk extract, antibacterial activity, Streptococcus alpha