

ABSTRAK

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PERBEDAAN EFEKTIVITAS FLAVONOID DAN TANIN EKSTRAK DAUN SALAM (*Syzygium polyanthum* [Wight] Walp) TERHADAP DAYA HAMBAT BAKTERI *Enterococcus faecalis*

Latar belakang : Penyakit karies gigi dan penyakit periodontal merupakan penyakit gigi dan mulut yang paling sering ditemukan di Indonesia. Keparahan karies dapat disebabkan oleh bakteri di rongga mulut yang dapat menimbulkan inflamasi sehingga mencapai saluran akar. Perawatan saluran akar merupakan prosedur yang dilakukan untuk mempertahankan gigi atau akar gigi agar dapat diterima secara biologis oleh jaringan sekitarnya. Penelitian menyatakan bahwa hampir 90% bakteri yang ditemukan di saluran akar terinfeksi merupakan bakteri anaerob. Salah satu bakteri yang sering ditemukan ialah bakteri *Enterococcus faecalis* yang menimbulkan kegagalan dalam perawatan saluran akar. Daun salam merupakan salah satu tanaman herbal yang secara tradisional digunakan sebagai antibakteri. Efek antibakteri daun salam timbul akibat adanya kandungan alkaloid, saponin, tanin, polifenol, flavonoid, kuinon, steroid, dan triterpenoid.

Metode : Penelitian ini merupakan jenis eksperimen laboratoris dengan bentuk rancangan *post test only control group design* dengan menggunakan metode difusi sumuran. Penelitian menggunakan sampel sebanyak 28 sampel, setiap satu cawan petri dibuat tiga sumuran untuk tanin dengan konsentrasi 50%, 75% dan 100%, kemudian untuk flavonoid satu cawan petri dibuat satu konsentrasi flavonoid 50%, 75%, 100% dan menggunakan kontrol *negative* dengan *aquades*. Semua cawan petri flavonoid dan tanin di inkubasi selama 24 jam. Pengukuran menggunakan *sliding calipers* dan data di analisa dengan menggunakan uji statistik *Anova one Way*.

Hasil : Rerata diameter zona hambat flavonoid dengan konsentrasi 50%, 75% dan 100% sebesar 12,25 mm, 18,75 mm dan 29 mm, sedangkan tanin dengan konsentrasi 50%, 75% dan 100% sebesar 11 mm, 15,75 mm dan 19.5 mm. Hal tersebut menunjukkan bahwa diameter zona hambat flavonoid lebih besar dibandingkan tanin. Uji *Anova One Way* menunjukkan nilai $p=0,000$, sehingga dapat disimpulkan bahwa terdapat perbedaan signifikan antara flavonoid dan tanin ekstrak daun salam dalam menghambat bakteri *Enterococcus faecalis*.

Simpulan : Flavonoid lebih efektif menghambat bakteri *Enterococcus faecalis* dengan konsentrasi 100%.

Kata kunci : Daun salam, tanin, flavonoid, perawatan saluran akar, *Enterococcus faecialis*

ABSTRACT

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THE DIFFERENCE OF FLAVONOID AND TANIN FROM BAY LEAF (*Syzygium polyanthum* [Wight] Walp) EXTRACT TOWARD *Enterococcus faecalis* BACTERIA INHIBITORY

Background: Caries and periodontal disease are the most common oral diseases found in Indonesia. The severity of caries can be caused by bacteria in oral cavity which can cause inflammation to reach the root canal. Root canal treatment is a procedure performed to maintain the teeth or the root canal for it to be biologically accepted by the surrounding tissue. The study stated almost 90% of the bacteria found in infected root canal is *anaerob*. One of the most commonly found bacteria is *Enterococcus faecalis* which cause failure in maintaining the root canal. Bay leaf is one of the herbs traditionally used as antibacterial. Antibacterial effect in bay leaf is resulted from alkaloid, saponin, tannin, polyphenol, flavonoid, quinone, steroid, and triterpenoid.

Method: This was a laboratory experiment research with *post test only control group design* with well diffusion method. The study used 28 sample, each petri dish had three wells for tannin with 50%, 75%, 100% concentration and for flavonoid, one petri dish was for one flavonoid with 75%, and 100% concentration and negative and *aquades* control was used. All flavonoid and tannin petri dish was incubated for 24 hours. The measurement used sliding calipers and the data was analyzed using statistic test *Anova One Way*.

Result : The average diameter of flavonoid inhibition zone with concentrations of 50%, 75% and 100% by 12,25 mm, 18.75 mm and 29 mm, while tannins with concentrations of 50%, 75% and 100% by 11 mm, 15.75 mm and 19.5 mm. This shows that the diameter of the flavonoid inhibition zone is greater than that of tannins. *Anova One Way* test showed p value = 0.000, so it can be concluded that there is significant difference between flavonoid and tannin extract of bay leaf inhibiting *Enterococcus faecalis* bacteria.

Conclusion: Flavonoids more effectively inhibit the bacteria *Enterococcus faecalis* with 100% concentration.

Keywords: Bay leaf, tannin, flavonoid, root canal maintenance, *Enterococcus faecialis*