

ABSTRAK

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Program Studi : Kedokteran Gigi
Judul : Potensi Daya Inhibisi Ekstrak Etanol Daun Tin (*Ficus carica Linn.*) terhadap Pertumbuhan *Candida albicans*

Penyebab *oral thrush* yang utama berasal dari mikroorganisme *Candida albicans*, yakni spesies jamur bersifat patogen. Penggunaan bahan alami dengan karakteristik antifungal dapat dimanfaatkan sebagai pilihan terapi dalam perawatan *oral thrush*. Penelitian ini bertujuan menganalisis potensi daya inhibisi pada pertumbuhan *Candida albicans* menggunakan ekstrak etanol daun tin dalam beberapa konsentrasi yakni 20%, 40%, 60% dan 80%. Desain eksperimen laboratories dilaksanakan melalui metode *in vitro* dengan *post-test only control group*. Adapun populasi penelitian memanfaatkan hasil biakan *Candida albicans*. Enam macam perlakuan diterapkan dalam penelitian, meliputi pemberian ekstrak etanol daun tin (konsentrasi 20%, 40%, 60%, 80%), nistatin, serta DMSO yang diulang sebanyak empat kali. Metode difusi cakram dipilih untuk menguji efek antifungal. Hasil pengamatan diolah menggunakan uji *oneway* ANOVA dilanjutkan *post hoc*. Hasil pengukuran diameter zona hambat dari ekstrak etanol daun tin terhadap pertumbuhan *Candida albicans* membuktikan besaran rerata±simpangan baku pada tingkat konsentrasi 20%, 40%, 60%, dan 80% secara berurutan yaitu 7,22±0,189; 8,30±0,432; 10,25±0,988; 12,65±1,22. Pengamatan diameter zona hambat pada nistatin selaku kontrol positif mencapai 29,25±0,772, sedangkan kontrol negatif menampilkan ketiadaan hambatan. Pemeriksaan *oneway* ANOVA mengindikasikan munculnya perbedaan signifikan untuk diameter zona hambat di antara ekstrak etanol daun tin (*Ficus carica Linn.*) pada beragam konsentrasi (20%, 40%, 60%, 80%) serta kontrol positif nistatin dalam pembatasan pertumbuhan *Candida albicans* ($p=0,000$; $p\leq 0,05$). Hasil uji *post hoc* LSD mengungkapkan tidak ada perbedaan signifikan untuk kelompok konsentrasi 20% dan 40% ($p>0,05$), tetapi perbedaan signifikan tampak pada perbandingan antar kelompok yang lain ($p\leq 0,05$). Tingkat konsentrasi 80% menunjukkan hasil paling optimal dalam menciptakan potensi daya inhibisi ekstrak etanol daun tin untuk pertumbuhan *Candida albicans*.

Kata kunci:

Candida albicans, nistatin, daun tin, antifungal

ABSTRACT

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Study Programme : Dentistry
Title : Potential Inhibitory Power of Tin Leaf Ethanol Extract (*Ficus carica* Linn.) against the Growth of *Candida albicans*

The primary cause of oral thrush stems from the microorganism *Candida albicans*, a pathogenic fungal species. Natural substances with antifungal properties can be utilized as therapeutic options in treating oral thrush. This study aims to analyze the inhibitory potential against *Candida albicans* growth using fig leaf ethanol extract at various concentrations: 20%, 40%, 60%, and 80%. A laboratory experimental design was conducted through an *in vitro* method with a post-test only control group. The research population utilized *Candida albicans* cultures. Six types of treatments were applied in the study, including fig leaf ethanol extract (concentrations of 20%, 40%, 60%, 80%), nystatin, and DMSO, each repeated four times. The disk diffusion method was chosen to test the antifungal effect. The observational results were processed using one-way ANOVA followed by post hoc analysis. The measurement results of inhibition zone diameters from fig leaf ethanol extract against *Candida albicans* growth demonstrated mean±standard deviation values at concentration levels of 20%, 40%, 60%, and 80% sequentially as 7.22±0.189; 8.30±0.432; 10.25±0.988; 12.65±1.22. The inhibition zone diameter observation for nystatin as positive control reached 29.25±0.772, while the negative control showed no inhibition. One-way ANOVA examination indicated significant differences in inhibition zone diameters among fig leaf (*Ficus carica* Linn.) ethanol extract at various concentrations (20%, 40%, 60%, 80%) and positive control nystatin in limiting *Candida albicans* growth ($p=0.000$; $p\leq 0.05$). The LSD post hoc test results revealed no significant difference between the 20% and 40% concentration groups ($p>0.05$), but significant differences were observed in comparisons between other groups ($p\leq 0.05$). The 80% concentration level showed the most optimal results in creating inhibitory potential of fig leaf ethanol extract against *Candida albicans* growth.

Keywords:

Candida albicans, nistatin, tin leaf, antifungal