

UJI EFEKTIVITAS ANTIFUNGI EKSTRAK ETANOL BATANG BROTOWALI (*Tinospora crispa*) TERHADAP PERTUMBUHAN *Trichophyton rubrum* SECARA *IN VITRO*

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Abstrak

Trichophyton rubrum adalah jamur dermatofita infeksius yang paling sering menjadi penyebab dari dermatofitosis. Resistensi jamur serta efek samping terapi merupakan permasalahan dari agen antifungi. Uji fitokimia ekstrak batang brotowali (*Tinospora crispa*) mengandung flavonoid, fenol dan triterpenoid yang memiliki efek antifungi. Tujuan penelitian adalah untuk menguji efektivitas antifungi ekstrak batang brotowali (*Tinospora crispa*) terhadap pertumbuhan jamur *Trichophyton rubrum* secara *in vitro* dengan metode difusi sumuran. Penelitian menggunakan rancangan studi eksperimen (*true eksperimen*), rancangan *post-test-only control group* menggunakan ekstrak batang brotowali konsentrasi 10%, 12,5%, 25%, 30%, 40%, 50%, 60%, 75%, 100%, kontrol positif (*Ketoconazole*) dan kontrol negatif akuades. Konsentrasi 10%, 12,5%, 25%, 30%, 40%, 50%, 60%, 75% dan 100% menghasilkan diameter hambat rata-rata 2,167 mm, 6,367 mm, 7,0 mm, 10,67 mm, 11,9 mm, 13,07 mm, 15,8 mm, 17,96 mm dan 17,13 mm serta *Ketoconazole* sebesar 35,7 mm. Terdapat perbedaan bermakna pada seluruh kelompok perlakuan, $p = 0,001$ ($P < 0,05$). Ekstrak batang brotowali (*Tinospora crispa*) memiliki efektivitas antifungi kategori lemah pada konsentrasi 10%, 12,5%, 25%, kategori sedang pada konsentrasi 30% dan kategori kuat pada konsentrasi 40%, 50%, 60%, 75% dan 100% dalam menghambat pertumbuhan *Trichophyton rubrum* secara *in vitro* dengan metode difusi sumuran.

Kata kunci: antifungi, difusi sumuran, batang brotowali (*Tinospora crispa*), *Trichophyton rubrum*

ANTIFUNGAL EFFECTIVENESS EXAMINATION OF BROTOWALI STEM EXTRACT (*Tinospora crispa*) TOWARDS THE GROWTH OF *Trichophyton rubrum* IN VITRO

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Abstract

Trichophyton rubrum is infectious dermatophyte fungus which is the most common cause of dermatophytosis. Fungal resistance and the side effects of therapy are problems of antifungal agents. Phytochemical test of brotowali stem extract (*Tinospora crispa*) consist of flavonoids, phenols and triterpenoids which have antifungal effects. The purpose of this study was to examine the effectiveness of brotowali stem extract (*Tinospora crispa*) as antifungal agent towards the growth of *Trichophyton rubrum* in vitro by agar well difussion method. The experimental method was used in this research with post test only control group design using brotowali stem extract concentration of 10%, 12,5%, 25%, 30%, 40%, 50%, 60%, 75%, 100%, ketoconazole as positive control and aquades as negative control. Brotowali stem extract concentration of 10%, 12,5%, 25%, 30%, 40%, 50%, 60%, 75% and 100% produced an average diameter of 2,167 mm, 6,367 mm, 7,0 mm, 10,67 mm, 11,9 mm, 13,07 mm, 15,8 mm, 17,96 mm and 17,13 mm respectively, followed by *Ketoconazole* 35,7 mm. There are significant differences between each treatment group, $p = 0,001$ ($p < 0,05$). Brotowali stem extract (*Tinospora crispa*) has weak antifungal effectiveness at concentration 10%, 12,5%, 25%, intermediate antifungal effectiveness at concentration 30% and strong antifungal effectiveness at concentration 40%, 50%, 60%, 75% and 100% in inhibiting the growth of *Trichophyton rubrum* in vitro by well difussion method.

Keyword: antifungi, agar well difussion method, brotowali stem extract (*Tinospora crispa*), *Trichophyton rubrum*