

**UJI EFEKTIVITAS EKSTRAK ETANOL DAUN BELIMBING WULUH
(*Averrhoa bilimbi L.*) DALAM MENGHAMBAT PERTUMBUHAN JAMUR
Malassezia furfur SECARA *IN VITRO***

Muthiah Nahda S Kembaren

ABSTRAK

Malassezia furfur merupakan jamur penyebab infeksi kulit yang disebut pityriasis versicolor. Di Indonesia angka kejadiannya mencapai 53,2 % dan tertinggi di antara infeksi jamur kulit lainnya. Terapi menggunakan antijamur memiliki keterbatasan seperti efek samping, kekambuhan, dan resistensi jamur. Maka dari itu perlu dicari alternatif pengobatan dengan menggunakan tanaman herbal. Daun belimbing wuluh (*Averrhoa bilimbi L.*) mengandung metabolit berupa alkaloid, flavonoid, saponin, dan tanin yang dapat menghambat pertumbuhan jamur. Tujuan dari penelitian ini adalah mengetahui efektivitas ekstrak daun belimbing wuluh dalam menghambat pertumbuhan *Malassezia furfur* secara *in vitro*. Konsentrasi ekstrak yang digunakan adalah 20%; 40%; 60%; dan 80%. Metode uji memakai difusi sumuran pada media *Sabouraud Dextrose Agar*. Daerah hambat diamati setelah 24 dan 48 jam. Hasil pengukuran diolah menggunakan uji *Kruskal-Wallis* diteruskan dengan uji *Post Hoc Mann-Whitney*. Setelah 24 jam diperoleh rerata daerah hambat pada konsentrasi 20%; 40%; 60%; dan 80% secara berurutan adalah 8,17 mm; 9,32 mm; 10,98 mm; dan 13,84 mm sedangkan pada 48 jam sudah tidak terbentuk daerah hambat. Hasil *Kruskal-Wallis* diperoleh nilai $p=0,000$ diteruskan dengan *Post Hoc Mann-Whitney* dan diperoleh hampir seluruh kelompok perlakuan memiliki perbedaan signifikan kecuali konsentrasi 60% dibandingkan dengan konsentrasi 80%. Ekstrak daun belimbing wuluh (*Averrhoa bilimbi L.*) efektif menghambat jamur *Malassezia furfur* secara *in vitro* dan konsentrasi paling efektif yakni 60% dengan daya hambat antijamur tergolong kuat. Saponin merupakan metabolit sekunder yang sangat berperan dengan menembus membran jamur sehingga membran jamur ruptur.

Kata kunci: antijamur; daun belimbing wuluh; *Malassezia furfur*; pityriasis versicolor

THE EFFECTIVENESS OF BELIMBING WULUH (*Averrhoa bilimbi* L.) LEAF ETHANOL EXTRACT IN INHIBITING THE GROWTH OF *Malassezia furfur* FUNGUS *In Vitro*.

Muthiah Nahda S Kembaren

ABSTRACT

A fungus called Malassezia furfur causes the skin infection called pityriasis versicolor. The incidence rate in Indonesia is 53.2% which is the highest among other fungal skin infections. Antifungal therapy has limitations such as side effects, relapse, and fungal resistance. Therefore, there is a requirement to look for alternative therapies using traditional plants. Belimbing wuluh leaves (Averrhoa bilimbi L.) contain alkaloids, flavonoids, saponins, and tannins which can inhibit the growth of fungi. This research seeks to ascertain whether belimbing wuluh leaf extract may effectively inhibiting the growth of Malassezia furfur in vitro. Concentrations of the extract were 20%; 40%; 60%; and 80%. The test method used well-plate technique on Sabouraud Dextrose Agar media. The inhibition zone was observed after 24 and 48 hours. The Kruskal-Wallis test then Mann-Whitney Post Hoc test were used to examine the measurement results. After 24 hours, the average inhibition area was obtained at a concentration of 20%; 40%; 60%; and 80% respectively are 8.17 mm; 9.32 mm; 10.98 mm; and 13.84 mm while at 48 hours no inhibition area had formed. The Kruskal-Wallis results obtained $p = 0.000$ followed by the Mann-Whitney Post Hoc and it was found that almost all treatment groups had significant differences except for a concentration of 60% compared to a concentration of 80%. This research concludes that the leaf extract of belimbing wuluh (Averrhoa bilimbi L.) is effective in inhibiting the growth of Malassezia furfur fungus in vitro and the most effective concentration is 60% with strong antifungal inhibition. Saponins are secondary metabolites that play a very important role by penetrating the fungal membrane so it can be ruptured.

Keywords: *antifungal; belimbing wuluh leaves; Malassezia furfur; pityriasis versicolor*