

ABSTRAK

UJI AKTIVITAS ANTIFUNGI MINYAK ATSIRI POHON TEH (*Melaleuca alternifolia*) TERHADAP *Trichophyton mentagrophytes*

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Dermatofitosis merupakan penyakit superfisial kulit pada hewan yang mempengaruhi folikel rambut, kuku, dan jaringan keratin. Salah satu genus dermatofit yang bersifat zoofilik adalah *Trichophyton mentagrophytes*. Pemberian terapi menggunakan obat komersil memiliki potensi resistensi, toksisitas sistemik, dan efek tetragonik, sehingga harus diwaspadai. Minyak atsiri pohon teh (*Melaleuca alternifolia*) merupakan alternatif penghambat pertumbuhan dermatofitosis dikarenakan memiliki komponen utama antifungi berupa terpinen. Penelitian ini bertujuan untuk mengetahui aktivitas antifungi minyak atsiri pohon teh terhadap dermatofitosis yang disebabkan oleh *T. mentagrophytes* melalui uji inhibisi zona hambat.

Penentuan diameter zona hambat minyak atsiri pohon teh terdiri dari berbagai konsentrasi 5, 10, 20, 40, 60, 80, dan 100% dengan metode difusi sumuran menggunakan *Sabouraud Dextrose Agar* (SDA). Diameter zona hambat diukur setiap 24, 48, dan 72 jam menggunakan jangka sorong. Hasil pengukuran tersebut dihitung secara statistik.

Hasil analisis data secara statistik menunjukkan adanya perbedaan antar konsentrasi terhadap zona hambat dengan tingkat signifikansi $< 0,05$. Perbesaran zona hambat berbanding lurus dengan peningkatan kadar konsentrasi minyak atsiri pohon teh. Hasil rerata zona hambat pada waktu inkubasi 72 jam menunjukkan penurunan diameter zona hambat dibandingkan hasil inkubasi 48 dan 24 jam. Kesimpulan dari penelitian ini adalah minyak atsiri pohon teh memiliki potensi antifungi secara *in vitro* terhadap *T. mentagrophytes*.

Kata kunci: Dermatofitosis, *Trichophyton mentagrophytes*, Aktivitas Antifungi, Minyak Atsiri Pohon Teh

ABSTRACT

ANTIFUNGAL ACTIVITY OF TEA TREE ESSENTIAL OIL (*Melaleuca alternifolia*) AGAINST *Trichophyton mentagrophytes*

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Dermatophytosis is a superficial skin disease in animals that affects hair follicles, nails, and keratin tissues caused by dermatophyte. *Trichophyton mentagrophytes* is one of the zoophilic dermatophyte genus. The conducting of commercial drug therapy has the potential to cause resistance, systemic toxicity, and teratogenic effects that needs to be looked out for. Tea tree essential oil (*Melaleuca alternifolia*) is an alternative in preventing the growth of dermatophytes due to the presence of a main antifungal component, which is terpinene. This research aims to understand the antifungal activities of tea tree essential oil against dermatophytosis caused by *T. mentagrophytes* through a zone of inhibition test.

Determination of the diameter of the inhibition zone of tea tree essential oil consisted a variety of concentrations 5, 10, 20, 40, 60, 80, and 100% by well diffusion method which utilizes Sabouraud Dextrose Agar (SDA). The diameter of zone of inhibition is measured every 24, 48, and 72 hours using a vernier scale. The measurement results were calculated statistically.

The statistical data analysis result shows a difference in the zone of inhibition between concentrations with a significancy level of $< 0,05$. The expansion in the diameter of the zone of inhibition is directly proportional to the increase in tea tree essential oil concentration. The results of the average zone of inhibition at incubation time of 72 hours exhibits a decrease in the diameter of zone of inhibition when compared to the results of 48-hour and 24-hour incubations. These results present that tea tree essential oil has in vitro antifungal potential against *T. mentagrophytes*.

Keywords: Dermatophytosis, *Trichophyton mentagrophytes*, Antifungal Activity, Tea Tree Essential Oil