

**POLTEKKES KEMENKES TANJUNGPINANG  
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**Pengaruh Variasi Konsentrasi Minyak Atsiri Daun Pala (*Myristica fragrans*)  
Terhadap Aktivitas Dan Efektivitas Antijamur *Candida albicans***

xv + 48 halaman, 7 tabel, 7 gambar dan 15 lampiran

**ABSTRAK**

Infeksi jamur *Candida albicans* merupakan salah satu masalah kesehatan yang umum terjadi, baik di fasilitas pelayanan kesehatan maupun di masyarakat luas. Upaya pencarian agen antijamur berbasis bahan alam terus berkembang, salah satunya dengan memanfaatkan minyak atsiri daun pala (*Myristica fragrans*). Penelitian ini bertujuan untuk mengetahui pengaruh variasi konsentrasi minyak atsiri daun pala terhadap aktivitas dan efektivitas antijamur terhadap *Candida albicans*. Penelitian dilakukan secara eksperimental laboratorium menggunakan rancangan *post-test only control group design*. Subjek penelitian berupa suspensi *Candida albicans* diinokulasikan ke dalam media SDA, kemudian diberi perlakuan minyak atsiri daun pala dengan konsentrasi 10%, 20%, 30%, 40%, dan 50%, dengan dua jenis pelarut digunakan, yaitu etanol 90% dan minyak kelapa. Kontrol positif menggunakan ketokonazol 2%, sedangkan kontrol negatif menggunakan pelarut saja. Efektivitas diukur melalui diameter zona hambat di sekitar sumuran. Hasil penelitian menunjukkan bahwa minyak atsiri daun pala dengan pelarut etanol 90% membentuk zona hambat pada semua konsentrasi, dengan diameter yang meningkat seiring kenaikan konsentrasi. Konsentrasi 50% menghasilkan zona hambat terbesar (22,49 mm) dan tergolong sangat kuat. Sebaliknya, pelarut minyak kelapa tidak membentuk zona hambat. Uji statistik *One Way ANOVA* dan *Games-Howell* menunjukkan perbedaan signifikan antar kelompok ( $p < 0,05$ ). Namun, efektivitas minyak atsiri daun pala dengan pelarut etanol 90% belum dapat menyamai kontrol positif. Meskipun demikian minyak atsiri tersebut tetap menunjukkan potensi besar sebagai agen antijamur berbasis bahan alam terhadap *Candida albicans*.

**Kata kunci** : minyak atsiri daun pala, *Myristica fragrans*, *Candida albicans*, antijamur, zona hambat

**Daftar Pustaka** : 61 (1999-2024)

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**The Effect of Concentrations Variety of Nutmeg Leaf Essential Oil (*Myristica  
fragrans*) on the Antifungal Activity and Effectiveness Against *Candida  
albicans***

xv + 48 pages, 7 tables, 7 figures, and 15 appendices

**ABSTRACT**

*Candida albicans* fungal infection is a common health problem encountered both in healthcare facilities and the general community. The search for natural-based antifungal agents continues to develop, one of which involves the use of essential oil extracted from the leaves of nutmeg (*Myristica fragrans*). This study aims to investigate the effect of concentrations variety of nutmeg leaf essential oil on the antifungal activity and effectiveness against *Candida albicans*.

The study was conducted experimentally in a laboratory using a post-test only control group design. The research subjects consisted of *Candida albicans* suspensions inoculated onto Sabouraud Dextrose Agar (SDA) media, followed by treatment with nutmeg leaf essential oil at concentrations of 10%, 20%, 30%, 40%, and 50%. Two types of solvents were used: 90% ethanol and coconut oil. Ketoconazole 2% served as the positive control, while the solvents alone were used as negative controls. The effectiveness was measured by observing the diameter of the inhibition zones around the wells.

Results showed that nutmeg leaf essential oil dissolved in 90% ethanol produced inhibition zones at all tested concentrations, with zone diameters increasing proportionally to the concentration. The 50% concentration yielded the largest inhibition zone (22.49 mm), classified as very strong antifungal activity. Conversely, the coconut oil solvent did not produce any inhibition zones. Statistical analysis using One Way ANOVA and Games-Howell tests revealed significant differences between groups ( $p < 0.05$ ). However, the antifungal effectiveness of nutmeg leaf essential oil in 90% ethanol did not match that of the positive control. Nevertheless, the essential oil demonstrated considerable potential as a natural antifungal agent against *Candida albicans*.

Keywords : nutmeg leaf essential oil, *Myristica fragrans*, *Candida albicans*,  
antifungal, inhibition zone

References : 61 (1999–2024)