

**UJI AKTIVITAS ANTIJAMUR EKSTRAK KAYU MANIS (*Cinnamomum burmannii*) TERHADAP ISOLAT *Aspergillus niger* DARI PASIEN OTOMIKOSIS SECARA *IN VITRO***

**ABSTRAK**

**Latar Belakang:** Otomikosis adalah infeksi jamur yang menyerang *canalis auditorius externus* yang umumnya disebabkan oleh *Aspergillus niger*. Resistensi *A. niger* terhadap antifungal semakin meningkat sehingga diperlukan alternatif terapi untuk mengobati infeksi *A. niger*. Kayu manis (*Cinnamomum burmannii*) dilaporkan memiliki senyawa aktif sinamaldehyd, flavonoid, alkaloid, saponin, dan tanin yang bersifat antijamur.

**Tujuan:** Mengetahui aktivitas antijamur ekstrak kayu manis (*C. burmannii*) pada konsentrasi 1,5%, 2%, 4%, dan 8% terhadap pertumbuhan *A. niger* dari pasien otomikosis secara *in vitro*.

**Metode:** Metode penelitian yaitu *true experimental posttest only control group design* dengan *well diffusion* untuk menguji aktivitas antijamur. Ekstrak *C. burmannii* diekstrak menggunakan metode maserasi dengan pelarut etanol 96%. Variabel bebas yaitu ekstrak *C. burmannii* dengan konsentrasi 1,5%, 2%, 4%, dan 8%. Kontrol negatif yaitu aquadest steril, kontrol pelarut yaitu DMSO 10%, dan kontrol positif yaitu itraconazole (8 µg/ml). Hasil pengukuran dianalisis secara deskriptif univariat dan statistik bivariat menggunakan SPSS.

**Hasil:** Hasil penelitian ekstrak *C. burmannii* 1,5%, 2%, 4%, dan 8% tidak menunjukkan zona hambat di sekitar sumuran yang menandakan tidak adanya aktivitas antijamur terhadap *A. niger*. Hasil ini dapat disebabkan konsentrasi senyawa fitokimia *C. burmannii* yang rendah untuk menghambat pertumbuhan *A. niger* dari isolat pasien otomikosis.

**Kesimpulan:** Ekstrak *C. burmannii* 1,5%, 2%, 4%, dan 8% tidak menunjukkan aktivitas antijamur terhadap *A. niger* dari isolat pasien otomikosis.

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**Kata Kunci:** Antijamur *Aspergillus niger*, *Cinnamomum burmannii*, Kayu Manis, Otomikosis

**IN VITRO ANTIFUNGAL ACTIVITY OF CINNAMON (*Cinnamomum burmannii*) EXTRACT AGAINST *Aspergillus niger* ISOLATED FROM OTOMYCOSIS PATIENTS**

**ABSTRACT**

**Background:** *Otomycosis* is a fungal infection affecting the external auditory canal, predominantly caused by *Aspergillus niger*. The increasing resistance of *A. niger* to antifungal agents necessitates alternative therapeutic approaches for treating *A. niger* infections. Cinnamon (*Cinnamomum burmannii*) has been reported to contain active compounds including cinnamaldehyde, flavonoids, alkaloids, saponins, and tannins with antifungal properties

**Objective:** The aim of this study was to evaluate the *in vitro* antifungal activity of *C. burmannii* extract at concentrations of 1.5%, 2%, 4%, and 8% against *A. niger* isolated from otomycosis patients.

**Method:** This study employed a true experimental posttest-only control group design with well diffusion method to assess antifungal activity. *C. burmannii* extract was obtained through maceration using 96% ethanol as solvent. The independent variable consisted of *C. burmannii* extract at concentrations of 1.5%, 2%, 4%, and 8%. Sterile distilled water was used as negative control, 10% DMSO as solvent control, and itraconazole (8 µg/ml) as positive control. The measurement results were analyzed using univariate descriptive analysis and bivariate statistical analysis using SPSS.

**Results:** *C. burmannii* extract at concentrations of 1.5%, 2%, 4%, and 8% shows no inhibition zones around the wells, indicating absence of antifungal activity against *A. niger*. This outcome may be attributed to insufficient concentrations of *C. burmannii* phytochemical compounds required to inhibit the growth of *A. niger* isolated from otomycosis patients. **Conclusion:** *C. burmannii* extract at concentrations of 1.5%, 2%, 4%, and 8% demonstrates no antifungal activity against *A. niger* isolated from otomycosis patients.

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**Keywords:** Antifungal, *Aspergillus niger*, Cinnamon, *Cinnamomum burmannii*, Otomycosis