

ABSTRAK

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EFEKTIVITAS INFUSA DAUN SIRSAK (*Annona muricata L*) DALAM MENGHAMBAT PERTUMBUHAN JAMUR *Candida albicans* PADA URINE PENDERITA DIABETES MELITUS TIPE 2

xvi + 93 halaman + 14 tabel + 12 lampiran

Diabetes Melitus merupakan salah satu faktor predisposisi pertumbuhan *Candida albicans* karena kondisi hiperglikemia dapat mengubah sifat jamur dari saprofit menjadi patogen. Penggunaan antijamur sintetis dalam jangka panjang berpotensi menimbulkan resistensi dan efek samping sehingga diperlukan alternatif pengobatan berbahan alam, salah satunya daun sirsak (*Annona muricata L*). Penelitian ini bertujuan mengetahui efektivitas infusa daun sirsak dalam menghambat pertumbuhan jamur *Candida albicans* pada urine penderita Diabetes Melitus tipe 2. Penelitian eksperimental laboratorium ini menggunakan metode dilusi cair untuk menentukan Konsentrasi Hambat Minimum (KHM) dan Konsentrasi Bunuh Minimum (KBM). Sebanyak 25 sampel urine penderita Diabetes Melitus tipe 2 diperoleh dari Puskesmas Mojo Surabaya. Identifikasi jamur dilakukan menggunakan media *Sabouraud dextrose agar* (SDA), pewarnaan *Lactophenol Cotton Blue* (LPCB), dan uji *Germ Tube*. Isolat *Candida albicans* diuji menggunakan infusa daun sirsak pada konsentrasi 3%, 4%, dan 5%, serta kontrol positif dan kontrol negatif. Analisis data dilakukan menggunakan uji Shapiro-Wilk dan ANOVA. Hasil penelitian menunjukkan bahwa 2 dari 25 sampel urine teridentifikasi sebagai *Candida albicans*. Uji fitokimia menunjukkan daun sirsak mengandung saponin, flavonoid, tanin, triterpenoid, dan alkaloid. Konsentrasi 5% ditetapkan sebagai KHM karena mampu menurunkan nilai absorbansi setelah inkubasi. Namun, pada pengujian KBM masih ditemukan pertumbuhan koloni jamur sehingga infusa daun sirsak belum mampu membunuh *Candida albicans* secara keseluruhan. Hasil uji ANOVA menunjukkan nilai signifikansi 0,001 ($p < 0,05$), sehingga variasi konsentrasi infusa daun sirsak berpengaruh terhadap pertumbuhan *Candida albicans*.

Kata kunci: infusa daun sirsak, *Candida albicans*, Diabetes Melitus tipe 2, KHM, KBM.

Daftar bacaan: 12 buku dan 17 jurnal (2017 - 2025)

ABSTRACT

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EFFECTIVENESS OF SOURSOP LEAF INFUSION (*Annona muricata* L) IN INHIBITING THE GROWTH OF *Candida albicans* IN THE URINE OF PATIENTS WITH TYPE 2 DIABETES MELLITUS

xvi + 93 pages + 14 tables + 12 attachments

*Diabetes Mellitus is one of the predisposing factors for the growth of *Candida albicans* because hyperglycemic conditions can alter the fungal characteristics from saprophytic to pathogenic. The long-term use of synthetic antifungal agents may cause resistance and side effects; therefore, alternative treatments derived from natural ingredients are needed, one of which is soursop leaf (*Annona muricata* L). This study aimed to determine the effectiveness of soursop leaf infusion in inhibiting the growth of *Candida albicans* in the urine of patients with type 2 Diabetes Mellitus. This laboratory experimental study used the liquid dilution method to determine the Minimum Inhibitory Concentration (MIC) and Minimum Fungicidal Concentration (MFC). A total of 25 urine samples from patients with type 2 Diabetes Mellitus were obtained from Mojo Public Health Center, Surabaya. Fungal identification was carried out using Sabouraud dextrose agar (SDA), Lactophenol Cotton Blue (LPCB) staining, and Germ tube test. *Candida albicans* isolates were tested using soursop leaf infusion at concentrations of 3%, 4%, and 5%, along with positive and negative controls. Data were analyzed using the Shapiro-Wilk test and ANOVA. The results showed that 2 out of 25 urine samples were identified as *Candida albicans*. Phytochemical screening showed that the soursop leaf infusion contained saponins, flavonoids, tannins, triterpenoids, and alkaloids. The 5% concentration was determined as the Minimum Inhibitory Concentration (MIC) because it was able to reduce the absorbance value after incubation. However, fungal colony growth was still observed in the MFC test, indicating that the soursop leaf infusion had not been able to completely kill *Candida albicans*. ANOVA results showed a significance value of 0.001 ($p < 0.05$), indicating that variations in the concentration of soursop leaf infusion affected the growth of *Candida albicans*.*

Keywords: *soursop leaf infusion, *Candida albicans*, type 2 Diabetes Mellitus, MIC, MFC.*

References: *12 books and 17 journals (2017–2025).*