



DETERMINATION OF ANTIFUNGAL ACTIVITY OF AQUEOUS EXTRACT OF *Terminalia arjuna* BARK AGAINST *Candida albicans*

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Abstract

Terminalia arjuna commonly known as Kumbuk, is a plant used in ayurvedic medicine for the treatment of many diseases. Its therapeutic potential concerning the treatment of fungal infections is not yet investigated scientifically. The present study aims to determine the antifungal activity of aqueous extracts of *T. arjuna* bark against *Candida albicans* (ATCC 10231). Antifungal activity against *C.albicans* was screened using the agar well diffusion method and broth microdilution method using nystatin as the positive control. The Minimum Fungicidal Concentration (MFC) was determined by the broth microdilution method. The results were observed after 48-hour incubation at 37 °C. The potency was determined against nystatin (nystatin equivalent antifungal activity). The extract showed significant ($p=0.667$) mean zones of inhibition in the agar well diffusion assay at a concentration of 200 mg mL⁻¹. The MFC of the extract was observed at 50 mg mL⁻¹. The phytochemical analysis revealed the presence of triterpenoids, cardiac glycosides, tannins, carbohydrates, reducing sugars, and saponins in the extract. The study showed the aqueous extract of *T.arjuna* bark can be used in the treatment of *C.albicans* infections. Therefore, *T.arjuna* may be a potential candidate for further investigation on the development of new antifungal agents against candidiasis and candidemia.

Keywords: Terminalia arjuna, Antifungal, Candida albicans