

ABSTRACT

zygomycetes are saprophytic filamentous fungi that are abundant in soil and decaying matter. They cause severe infections in immunocompromised persons with very high mortality rates of 75-95%. The antifungal drugs in clinical use are associated with severe adverse effects and are not affordable due to their high prices. This calls for a search of antifungal drugs that are affordable, easily accessible and effective against Zygomycetes. *Callistemon citrinus* which is a cosmopolitan plant has been reported to have antimicrobial properties and might be able to offer a solution. Antifungal activity of hexane, chloroform, methanol and aqueous extracts of the leaves of *C. citrinus* was assayed against *Rhizopus*, *Rhizomucor*, *Mucor*, *Absidia*, *Apophysomyces*, and *Cunninghamella*. The plant was identified by a botanist, fresh leaves collected early in the morning for processing and the extracts obtained using standard methods. The fungal isolates were obtained from soil samples collected around Bushenyi-Ishaka Municipality and identified using the slide culture technique. The antifungal activity was carried out using punch-hole method and quantitative spectrophotometry method and Fluconazole was used as a positive control. At concentrations of 125mg/ml, 250mg/ml and 500mg/ml; chloroform, methanol and aqueous extracts showed no antifungal activity against all the isolates. However, hexane showed moderate antifungal activity at a concentration of 500mg/ml with the lowest zone of inhibition being 8.3 ± 0.6 from *Cunninghamella* and a percentage growth inhibition of 15.6 ± 0.4 . The largest zone of inhibition was 14.7 ± 0.6 from *Mucor* and with a percentage growth inhibition of 45.4 ± 1.2 . Using a T-test these findings were significant ($p < 0.05$) compared to fluconazole which had a minimum zone of inhibition of 12.3 ± 0.6 and a minimum percentage growth inhibition of 53.2 ± 1.1 at a concentration of 100mg/ml. This study concludes that *C. citrinus* has an antifungal activity against saprophytic Zygomycetes. It is therefore recommended that minimum inhibitory concentration (MIC) of hexane extract be carried out. Additionally, clinical isolates of Zygomycetes can be used to assay for antifungal activity using hexane extract to establish if a similar activity will be seen.