

SCREENING OF ANTIFUNGAL ACTIVITY OF SELECTED SPICES AGAINST *CANDIDA* SPECIES.

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The fungus *Candida* is an opportunistic pathogen which causes superficial and systemic candidiasis, and associated with significant mortality and morbidity in health care settings. Development of resistance towards antifungal drugs which are currently used to treat *Candida* infections and associated high risk of side effects of some drugs have been reported. It is imperative to explore suitable alternative treatments for *Candida* infections. The objective of this study was to evaluate antifungal activity of selected spices against *Candida* species. Aqueous and methanol extracts of five different medicinal plants: Garlic (*Allium sativum* L), onion (*Allium cepa*), ginger (*Zingiber officinale*), lime (*Citrus aurantifolia*) and nutmeg (*Myristica fragrans*) which are consumed as spices were screened for antifungal activity against four *Candida* species; *C. albicans*, *C. tropicalis*, *C. glabrata* and *C. parapsilosis*. Well diffusion method and bioassay method on percentage inhibition of mycelial growth were carried out to determine the inhibitory activity of the extracts. Ketoconazole was used as positive control while water and methanol were used as negative controls.

Aqueous and methanol extracts of garlic, methanol extracts of onion and nutmeg exhibited antifungal activity against tested *Candida* species giving remarkable inhibition zones. Methanol extract of garlic showed higher antifungal activity (inhibition zone range from 38.00 to 45.66 mm) than that of positive control (inhibition zone range from 20.33 to 32.33 mm) against all *Candida* species tested. All the tested *Candida* species exhibited 100% growth inhibition for methanol extracts of nutmeg and garlic. Relatively low antifungal effect was observed for methanol extract of onion showing low percentage of mycelial growth inhibition for *C. glabrata* (24.66%) and *C. tropicalis* (28.00%). Aqueous extracts of ginger and lime did not show antifungal activity. This study reveals that aqueous and methanol extracts of garlic and methanol extracts of nutmeg and onion exhibit antifungal activity against tested *Candida* species. Fungicidal properties of the extracts indicate the potential of selected spices as a source of alternative drug for *Candida* infections. Further studies are needed to identify active compounds responsible for the antifungal activity of these spices.