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PP 35 - Anticandidal Activity of Ten Selected Medicinal Plants in Sri Lanka

Nandapala J.H.Y.P.[a], Napagoda M.T.[b#], Weerasinghe N.P.[c]

[a]*Department of Medical Laboratory Science, Faculty of Allied Health Science, University of Ruhuna, Galle, Sri Lanka*
[b]*Department of Biochemistry, Faculty of Medicine, University of Ruhuna, Galle, Sri Lanka*
[c]*Department of Microbiology, Faculty of Medicine, University of Ruhuna, Galle, Sri Lanka*

[#]***Corresponding author:*** *mayurinapagoda@yahoo.com*

Background: *Candida* is commensal yeast that lives harmlessly in the gastrointestinal tract and the oral and vaginal mucosa, and is the most common cause of fungal infections worldwide. These yeasts often cause superficial infections such as vaginitis and mouth sores. However, Antifungals used in the treatment are toxic and have become ineffective due to emerging resistance. Therefore, people are using plant materials which have antimicrobial effect for healing wounds and mouth sores in Ayurveda and traditional medicine.

Objectives: The aim of this study was to determine the anticandidal activity of ten selected medicinal plants i.e. *Senna alata* (eth-tora), *Citrus aurantiifolia* (lime), *Curcuma longa* (turmeric), *Cymbopogon citratus* (lemon grass), *Sesbania grandiflora* (kathurumurunga), *Phyllanthus emblica* (indian gooseberry), *Ricinus communis* (castor), *Psidium guajava* (guvava), *Tamarindus indica* (tamarind) and *Cinnamomum verum* (cinnamon) against *Candida albicans* and *Candida glabrata*.

Methodology: Methanol extractions prepared from each plant were subjected to antifungal susceptibility testing against both Candida species, suspensions of 1-2 × 108 organisms/ml was prepared using sterile normal saline for each isolate by comparing with 0.5 McFarland turbidity standards. Sabouraud dextrose agar plates will be inoculated separately with both species. Fluconazole and dichloromethane were used as the positive and negative controls respectively. The minimum fungicidal concentration (MFC) was determined for each plant extract by broth microdilution method.

Results and conclusions: The initial concentration of 0.2 g/mL of plant extract showed no clear zone of inhibition, however there was a suppression of growth around the discs of *C. aurantiifolia*, *C. verum*, *P. emblica* and *P. guajava* against *C. Glabrata* and in *C. Verum* against *C. albicans*. Hence MFC was determined with different concentrations of plant extracts (minumum concentration = 31.25 mg/mL). It revealed an inhibition of growth of *C. albicans* by *C. verum*, *C. Longa* and *P. guajava* at all the concentrations tested. An inhibition of the growth of C. glabrata was observed in *S. Grandiflora*, *C. verum*, *P. emblica* and *P. guajava* at all the concentrations tested. The results of this study indicated the anticandidal activity in several selected plant extracts against both *Candida* species.

Keywords: Anticandida, disc diffusion technique, plant extracts