HH.AHS.2

ANTI-CANDIDAL ACTIVITY OF *Acronychia pedunculata* (L.) MIQ, AND *Pogostemon heyneanus* Benth, EVALUATION OF MINIMUM INHIBITORY CONCENTRATION (MIC) OF *A. pedunculata* (L.) MIQ AND ITS EFFECT ON RELATIVE CELL SURFACE HYDROPHOBICITY (CSH)

R. M. T. P. K. Rathnayake[1], G. J. Panagoda[2]

[1]Department of Pharmacy,
Faculty of Allied Health Sciences, University of Peradeniya
[2]Division of Microbiology, Department of Oral Medicine and Periodontology,
Faculty of Dental Sciences, University of Peradeniya

The medicinal plants, namely *Acronychia pedunculata* and *Pogostemon heyneanus* were screened for potential anti-*Candida* activity against five medically important standard *Candida* species, namely *Candida albicans*, *Candida parapsilosis*, *Candida krusii*, *Candida tropicalis* and *Candida glabrata*. The anti-*Candida* activity of *A. pedunculata* was determined using ethanolic bark extract after an agar well diffusion method. Subsequently anti-*Candida* activity of both water and ehanolic leaf extract of *P. heyneanus* were determined against the *Candida* isolates mentioned above, using the same method.

Ethanolic extract of *A. pedunculata* showed significant activity against *C. albicans, C. krusii* and *C. parapsilosis*. Minimum Inhibitory Concentration (MIC) for *C. kruseii* was found to be 6400 mg/L. However, MIC for other *Candida* species could not be determined due to coagulation of the product as the concentration increased. Hence, further studies are needed to ascertain the MIC values of these isolates with possible modifications. Water extracts of *P. heyneanus* leaves showed no activity against any tested *Candida* species. The ethanolic extract showed significant activity against *C. glabrata.*

Relative Cell Surface Hydrophobicity (CSH) influences the virulence of *Candida* isolates. In the present study, CSH was evaluated after exposing to ethanolic bark extract of *A. pedunculata*. An increase in hydrophobicity of *C. kruseii* was observed (21.63%). However, the hydrophobicity of the rest of the isolates decreased after exposure to the same compound.

These results prove that *A. pedunculata* bark extract and *P. heyneanus* leaf extract have anti-*Candida* activity against a few of the selected *Candida* species and these can be used as a natural source of anti-*Candida* compounds. Further studies are needed involving clinical isolates of *Candida* species.