

## OP 09-04: Investigation of antimicrobial activities of methanol extract from *Nyctanthes arbor-tristis* L. flowers

*N Dhanushika, D Peiris*

*Faculty of Applied Sciences, University of Sri Jayewardenepura, Sri Lanka*

*Nyctanthes arbor-tristis* L. (Family Oleaceae) is commonly known as Night Jasmine is one of highly utilized traditional medicinal plant in Sri Lanka. *N. arbor-tristis* flowers is known for its anti-diabetic

and antioxidant activities. But its antimicrobial potential is not known. The present study was undertaken to investigate the antimicrobial activity in lieu of developing antimicrobial drug against increasing drug resistant pathogens. Dried flowers were grounded and extracted with methanol. Antimicrobial activity against pathogenic fungi (*Candida albicans* and *Candida dubliniensis*), Gram-positive (*Staphylococcus aureus* and Methicillin-Resistant *Staphylococcus aureus*) and Gram-negative (*Pseudomonas aeruginosa*, *Escherichia coli* and *Klebsiella pneumoniae*) were assessed using agar well diffusion method. Four concentrations ( $n=3$ ) of the extract (3, 2.5, 2, 1.5 and 1mg/ml), dimethyl sulfoxide (negative control), Vancomycin (for Gram-positive bacteria) and Gentamycin (for Gram-negative bacteria) were used. The zone of inhibition was measured and Relative Magnitude of Inhibition (RMI) were determined. The extract showed the highest activity against pathogenic bacteria *P. aeruginosa* and *S. aureus* (RMI= 1.563 and 1.564 respectively at 3mg/ml which was comparable to the standard antibiotics (RMI= 1.790). At 3mg/ml, 1.411 and 1.196 RMI values were shown against Methicillin-Resistant *S. aureus* and *E. coli* respectively. Among two pathogenic fungi the strongest activity was shown against the *C. dubliniensis* (RMI= 0.766). The lowest antifungal activity was shown against *C. albicans* (RMI= 0.660) and was comparable to *K. pneumoniae* (RMI= 0.610). Our findings suggest that, *N. arbor-tristis* could potentially useful for the development of therapeutic agent against antimicrobial several important human pathogens.

*Keywords:* *Nyctanthes arbor-tristis*, methanolic extract, antimicrobial activity, agar well diffusion