In vitro Evaluation of Antioxidant Activity in Methanolic Leaf Extract of *Magnolia figo*

TRL Peiris[1#], PMKT Dharmatilake[2], BLC Samanmali[3], RN Pathirana[4] and WD Ratnasooriya[5]

[1,2,3]Department of Pharmacy, Faculty of Allied Health Sciences,
General Sir John Kotelawala Defence University, Sri Lanka
[4]Department of Basic Sciences, Faculty of Allied Health Sciences,
General Sir John Kotelawala Defence University, Sri Lanka
[5]Department of Zoology, Faculty of Science, University of Colombo, Sri Lanka
[#]rangikapeiris3@gmail.com

*Magnolia figo (*Local name*: "Madana kama")* is a native Chinese plant, which belongs to family Magnoliaceae. Different parts of the plant have been used as treatments for several types of disease conditions, many related to oxidative stress. However, the antioxidant property of the leaf extract of *Magnolia figo* has not been studied so far. The aim of the present study was to evaluate the antioxidant property and also to correlate *in vitro* antioxidant assays of methanolic leaf extract of *Magnolia figo* with its Total Phenolic Content (TPC). Collected leaves were air-dried, powdered and macerated in methanol. The filtrate was evaporated to dryness and subjected to freeze-drying process. The antioxidant property was evaluated by measuring the Total Phenolic Content (TPC), Ferric Reducing Antioxidant Power (FRAP), DPPH radical scavenging activity, $ABTS^+$ radical scavenging activity and Oxygen Radical Absorbance Capacity (ORAC). The TPC was measured as 135.50 ± 2.7920 mg GAE/g DW and FRAP showed 192.57 ± 5.9471 mg Trolox/ g DW. The methanolic extract demonstrated considerably higher $ABTS^+$ radical scavenging activity (371.98 ± 17.4810 mg TE/g DW) than DPPH radical scavenging activity (172.86 ± 3.9432 mg TE/g DW) and the ORAC was recorded as 17.31 ± 1.5874 mg TE/g DW. The strong positive and statistically significant correlation between TPC and FRAP ($r = 0.9976$, $p < 0.05$) revealed that the phenolic content has a direct effect on antioxidant activity. The results concluded that leaf extract of *Magnolia figo* possesses marked antioxidant activity which exhibits its potential use for prevention of oxidative stress related diseases and for development of nutraceuticals and drugs.

Keywords: *Magnolia figo,* Antioxidant activity, Total phenolic content