

Effect of a herbal capsule of *Coccinia grandis* (L.) Voigt (Cucurbitaceae) on lipid profile in patients with newly diagnosed type 2 diabetes mellitus

K. G. P. Wasana^{1*}, A. P. Attanayake¹, T. P. Weeraratna², K. A. P. W. Jayatilaka¹

¹Department of Biochemistry, Faculty of Medicine, University of Ruhuna, Galle, Sri Lanka

²Department of Medicine, Faculty of Medicine, University of Ruhuna, Galle, Sri Lanka

Herbal antidiabetic agents have been popular among general population due to their historical usage along with the exceptional therapeutic efficacy. The present study was aimed to determine the effect of a newly developed herbal capsule of *C. grandis*, which consists of freeze dried powder of the hot water extract of *C. grandis* leaves, on lipid profile in patients with newly diagnosed type 2 diabetes mellitus (T2DM). Three months long, placebo controlled, double blind, randomized clinical trial was conducted involving 147 individuals with newly diagnosed T2DM. Patients with known renal, liver, cardiac, respiratory, thyroid, psychiatric and any other chronic or acute diseases, and pregnant women were excluded. Individuals are using antilipidaemic drugs were also excluded. Selected individuals were randomly allocated into two groups of test and control. The test group received newly developed herbal capsule of *C. grandis* (500 mg) and the control group received placebo capsule (500 mg) once daily for three months. Serum lipid profile consisting of total cholesterol (TC), high density lipoprotein cholesterol (HDL-C), low density lipoprotein cholesterol (LDL-C), triglyceride (TG) and very low density lipoprotein cholesterol (VLDL-C) was estimated at the base line (week=0) and at the end of intervention (week=12). Independent sample t-test was used to compare the two groups. A percentage reductions of TC, LDL-C, TG and VLDL-C were 2.12%, 3.51%, 27.36% and 27.36% respectively and increment of HDL-C (1.92%) was observed in herbal capsule treated group. The results of the t- test revealed that TG ($p=0.003$) and VLDL-C ($p=0.003$) are significantly decreased in the herbal capsule treated group. There were no statistically significant changes ($p>0.05$) in TC, HDL-C and LDL-C between two groups. In conclusion, 500 mg of herbal capsule of *C. grandis* is beneficial in reducing elevated TG and VLDL-C in lipid profile of patients with newly diagnosed T2DM.

Keywords: Antilipidaemic, *C. grandis*, *Diabetes mellitus*, Herbal capsule

*Corresponding author. Department of Biochemistry, Faculty of Medicine, University of Ruhuna, Galle, Sri Lanka.
Email address: piyumi089@gmail.com