**Effect of long term consumption of porridges made with *M. charantia* on glycemic and lipidemic parameters of diabetic Wistar rats and cytotoxicity assay**

E.M.M.S. Ekanayake, M.N. Kaumal, S. Weerasinghe, C. Hettiarachchi*

Department of Chemistry, University of Colombo, Sri Lanka.

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Many diabetics use *M. charantia* and claim that it has a glucose lowering effect. The present study was conducted to evaluate the long-term effect of consumption of *M. charantia* porridges made with different parts of the plant; fruit (FR), leaves (LF), seeds (SS) on diabetic Wistar rats. The glycemic and lipidemic parameters of diabetic rats and the potential cytotoxicity of aqueous and methanolic extracts of *M. charantia* were also studied using brine shrimp assay. Normal control (NC) and diabetic control rats were fed with the standard rat diet while porridges made with FR, LF, SS and coconut milk porridge (CM) were included into diets of diabetic rats. The study was continued for three months. Fasting blood glucose was measured at the end of each month. After three months, HbA1c, fasting blood glucose (FBG), Creative Protein, total cholesterol (TC), and high-density lipoprotein (HDL) levels were monitored. Significantly higher feed and water intake was observed among diabetic groups when compared to NC ($p < 0.05$). All animals in FR (mean = 40 ± 19 g) and NC (mean = 115 ± 9 g) groups gained weight in contrast to the other groups. Between the diabetic groups, FR group had the lowest mean value for fasting blood glucose (FBG) and increment percentage of FBG (44.38%) and HbA1c (5.8 ± 2.1). Increment percentage of FBG and HbA1c of FR group was not significantly different ($p > 0.05$) to the NC (35.16%; 4.7 ± 0.7). Lowest TC level among the diabetic groups (119 ± 20.6 mg/dL) and highest HDL values (33 ± 6.3 mg/dL) were also monitored in FR group. The study proved that FR porridge reduced the loss of weight, elicited hypoglycemic and hypolipidemic properties in diabetes induced Wistar rats. Methanolic extracts had a higher cytotoxic potential ($LD_{50}$ values of water extract was 1000 ppm and 400 ppm where methanolic extract was 80 ppm and 10 ppm respectively after 24 h and 48 h) due to constituents, saponins and phenolics.

**Key words**: glycemic, lipidemic, *M. charantia,* Wistar rats
*chamarih@chem.cmb.ac.lk