

ANTI-HYPERGLYCEMIC ACTION OF *GYNURA PROCUMBENS* IS PARTLY MEDIATED BY INHIBITION OF CARBOHYDRATE DIGESTION AND ABSORPTION IN THE GUT

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Gynura procumbens leaf has been widely used as a traditional therapy for diabetes all over the world. Present study aims to investigate effects of *G. procumbens* in sucrose digestion and absorption in the gut to explore the anti-hyperglycemic activity of this plant. The dried-powder-leaves of *G. procumbens* were extracted with methanol. Sucrose malabsorption in GI Tract was evaluated in 20-hrs-fasted Long Evan rats by determining the amount of sucrose remaining in six different parts of gastrointestinal tract after sucrose load (2.5 g/kg b.wt), with or without 500 mg/kg dose of *G. procumbens* extract. For evaluation of disaccharides activity, the extract was fed to 20-h-fasted rats. After 60 min, the rats were sacrificed, and the small intestines were isolated and homogenized. The homogenate (20 μ l) was incubated for 60 min at 37 °C with 40 mmol sucrose. Disaccharides activity was calculated by glucose converted from sucrose as mol-mg glucose/protein/h. When the extract of *G. procumbens* was administered simultaneously with the sucrose load, the residual sucrose content in the gastrointestinal tract was increased significantly ($p < 0.01$), especially in the upper intestine at 30 min, in the whole intestine as well as cecum at 1 and 2 h. At 4 h, sucrose was not detected in the gut in both groups. When extract was supplemented with the glucose solution, the percentage absorption of glucose was decreased by 13-19% during whole perfusion period ($p < 0.05$). It inhibited disaccharides (sucrose) activity significantly ($p < 0.05$) in rats. The anti-hyperglycemic activities of *G. procumbens* in rats are partly mediated via delaying intestinal carbohydrate digestion and absorption.

BIOGRAPHY

Kazi Ishtiaq Ahmad has recently completed masters of pharmacy, major in clinical pharmacy and molecular pharmacology from East West University, Dhaka, Bangladesh and completed bachelor of pharmacy from BGC Trust University, Bangladesh. He has completed his M Pharm research under the active supervision of JMA Hannan in the field of diabetes.

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