

Leaves and fruit pericarp of *Garcinia zeylanica* Roxb. as a potential anti-diabetic agent

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Type-2-diabetes (Diabetes mellitus) is a common endocrine metabolic disorder diagnosed by hyper blood glucose levels or progressive deterioration of glucose tolerance. Most predominant among therapeutic approaches is the reduction of carbohydrate absorption after food consumption via inhibition of most responsible gastro intestinal enzymes related with carbohydrate metabolism. As the synthetic drugs with this action are incorporated with many adverse effects, search for alternative is a major concern in medicinal chemistry. Utilization of *Garcinia* in Ayurvedic medicine led to the focus of current study on *G. zeylanica*. The leaves and the pericarp of ripe fruits of *G. zeylanica* were tested for total polyphenols, flavonoids, *in vitro* antioxidant and inhibitory potential against α -glucosidase and α -amylase after soxhlet extraction with 70% methanol and 90% ethanol separately. Total polyphenolic (11.28 ± 1.04 mg/GAE g) and total flavonoid contents (9.84 ± 1.71 mg/ QE g) were higher for 70% methanolic extracts of leaves than fruit pericarp along with the highest antioxidant potential (80.01 ± 0.89 %). According to IC_{50} values high inhibitory potential against alpha amylase (1.88 μ g/ml) and alpha glucosidase (5.40 μ g/ml) was also observed for *G. zeylanica* leaves indicating the substantial bioactivity against Type-2-diabetes. Therefore the results of this study suggest that the selected species could play a major role as an antidiabetic agent thus has the potency to employ in developing antidiabetic regimen.

Keywords: Alpha amylase, Alpha glucosidase, *Garcinia.zeylanica*, antidiabetic

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