

OP 07

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Nutritional evaluation and influence on carbohydrate and lipid metabolism of porridge made with green leafy vegetables**Senadheera SPAS¹, Ekanayake S¹ and Wanigatunga CA²****Objectives**

Present study aimed to evaluate the nutrient composition, glycaemic indices (GI), antioxidant potential, hypoglycaemic and hypolipidaemic effects of herbal porridges.

Method

Green leafy porridges were made with twelve leaf varieties (rice: leaves: scraped coconut 20- 30g: 5-20g: 10-15g/w/w/w). Digestible carbohydrate, fat, insoluble and soluble dietary fibre, crude protein, ash, moisture, GI, antioxidant potential and total phenol contents of the porridges were estimated. Streptozotocine induced diabetic Wistar rats were fed porridges with lowest GI [*A. racemosus*, *H. indicus* and *S. dulcis*] for 3 months. *S. dulcis* porridge (SDC), which elicited significant hypoglycaemic effect was used in a clinical trial with type 2 diabetic patients (n=35) for 3 months.

Results

Moisture (89% - 93%) and digestible carbohydrate contents were not significantly different ($p \geq 0.05$) in porridges. Total dietary fibre, crude protein and fat varied between 5%-10%, 4.1%–9.5% and 2.5%-27% (DW) respectively. All porridges except *C. auriculata* elicited low GI (31-50), had 5 – 73 TEAC (μg)/ 100g antioxidant potential and high phenol(1.9 – 34.2 GAE g/ 100g) content.

SDC fed diabetic rats had lower blood glucose, highest weight gain (39 ± 19) and lowest HbA1c compared to other groups. FBG (reduction% 6.0 ± 22.2) and HbA1c (reduction value 0.7 ± 1.3) of diabetics declined significantly ($p < 0.05$) from 0-3 months. Liver enzymes, creatinine, urea and CRP were normal. No effect was observed on lipid parameters.

Conclusion

All porridges elicit low GI, have considerable antioxidant potential and are suitable for diabetics as a meal. *S. dulcis* porridge elicited positive anti-diabetic properties with no toxicity.