

## The effect of herbal porridge made with *Scoparia dulcis* on lipid profile of type 2 diabetics

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Porridge made of *Scoparia dulcis* (Walkoththamalli) leaves elicited a high anti-hyperglycaemic effect and also caused an elevation in HDL-C concentration in diabetes induced Wistar rats. Thus the present study was carried out to investigate the lipid lowering effect of the *Scoparia dulcis* porridge in diabetic patients after consuming it for three months. Porridge was produced by incorporating *Scoparia dulcis* fresh leaves: rice: scraped coconut kernel in 13-15:25-30:10-13 (w/w/w) ratio using a commercial production method. Study was a randomized crossover study with 35 patients with type- 2 diabetes. The test group (mean initial fasting blood glucose (FBG)=176±53) was advised to consume the *S. dulcis* porridge (40g porridge/ 350 mL hot water) once a day for 3 days/week for three months, and control group (mean initial FBG=174±55) was advised to consume a normal breakfast except a green leafy porridge. At the onset and end of each month, serum total cholesterol (TC), HDL-C and triglyceride concentrations were estimated by enzymatic kit methods and LDL-C, TC:HDL-C and LDL-C:HDL-C were calculated by the standard equations using the above parameters. A significant difference was not observed between the test and the control groups ( $p>0.05$ ) for the lipid parameters except for an increment percentage of HDL-C. TC and LDL-C were above the upper limit of normal reference range for diabetics (TC>200mg/dL; LDL-C>100mg/dL) and TG was at the upper limit of normal reference range (165mg/dL) at 0 and 3 months for both control and test groups (at 0 month: TC= test 226±57.7, control 225±54.4; LDL-C= test 154.7±49.9, control 149.7±52.2; TG= test 152±59.6, control 161±74.0 and at 3<sup>rd</sup> month: TC= test 232±49.0, control 229±41.4; LDL-C= test 160±43.5, control 151.2±34.5; TG= test 153±75.4, control 183±81.6). Percentage reductions of the TC, LDL-C and TG values from 0-3 months between test and control groups were not significant ( $p>0.05$ ). However, the increment percentage of HDL-C was significantly higher ( $p<0.05$ ) in the test group (3.3±18.3) compared to the control group (-5±11.6). No significant difference ( $p>0.05$ ) was observed in the cholesterol ratios (TC:LDL-C, TC:HDL-C and LDL-C:HDL-C) between the test and control groups as well as before and after three months treatment. However, when considering the LDL-C:HDL-C ratio of patients in the test group, the percentage of patients with low CVD risk increased with a corresponding decline in the percentage of patients in high risk category which was not observed in the control group. It can be concluded that consumption of *Scoparia dulcis* porridge at the dose given could contribute to elevate HDL-C concentration in diabetic patients.

Key words: BMI, Cholesterol, diabetes, green leafy porridges, *Scoparia dulcis*, waist to hip ratio

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