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Role of medical nutrition therapy on glycemic control, and cardiovascular risk factors in patients with type 2 diabetes.

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Background: There is evidence that reducing blood glucose concentrations, inducing weight reduction, and improving the lipid profile reduces cardiovascular risk in patients with type 2 diabetes.

Objective: To examine the effect of a medical nutrition therapy on glycemic control, changes in weight and cardiovascular (CVD) risk factors over one year in individuals with type 2 diabetes. Medical outcome measures included fasting plasma glucose (FPG), glycated hemoglobin (HbA1c), and serum lipid levels (HDL cholesterol, LDL cholesterol, and triglycerides). Clinical outcomes included weight, body mass index, waist-to-hip ratio, and changes in medical therapy.

Patients and Methods: Randomized, single-center study with eighty adult patients with type 2 diabetes who were diagnosed for less than 10 years was included and attending complementary medicine clinic, Centre of Excellence, National Research Centre. Participants were randomly assigned to the lifestyle group (n=40) or the standard care group (n=40). Patients with type 2 diabetes, aged 44 to 75 years, they were obese or overweight with BMI > 25 kg/m². Participants have the ongoing intervention and monthly assessments.

RESULTS: Participants assigned to lifestyle intervention (LI) lost an average 9.1% of their initial weight vs. 0.2% in standard care group (P < 0.001). A greater proportion of LI participants had reductions in diabetes, lipid-lowering medicines and hypertension. Mean A1C dropped from 8.2 to 6.7% in LI (P < 0.001) vs. from 8.3 to 7.4% in standard care group. Systolic and diastolic pressure, triglycerides, HDL, and cholesterol improved significantly more in LI than standard care participants (P < 0.01).

CONCLUSIONS: At 1 year Patients with type 2 diabetes diagnosed for less than 10 years, LI resulted in significant weight loss in patients with type 2 diabetes. This was associated with improved diabetes control, reduced medicine use and CVD risk factors in LI group versus standard care group. Follow-up with continued intervention will determine whether these changes are maintained.