

Overweight and obese type 2 patients show improvements with structured nutrition therapy

June 21 2016

Researchers at Joslin Diabetes Center have announced the results of a study that may change how nutrition therapy is delivered to overweight and obese patients with type 2 diabetes. The "Nutrition Pathway Study" compared three models of nutrition therapy and found that a highly structured nutrition plan provides the most significant impact on A1C, body weight and lipid profiles. The study results were presented at the American Diabetes Association's 76th Scientific Sessions in New Orleans, Louisiana.

Participants in the structured [nutrition therapy](#) arm of the study reduced A1C by an average of 0.67 percent and reduced [body weight](#) by an average of 3.5 Kg over 16 weeks. According to Osama Hamdy, M.D., Ph.D., Medical Director of the Obesity Clinical Program at Joslin Diabetes Center and lead investigator on the study, these results were achieved without increasing exercise, changing medications or undertaking behavioral changes.

"This drop in A1C due to nutrition therapy alone is much better than what we have been able to achieve with many of the current medications for type 2 diabetes ," said Dr. Hamdy. "This is very encouraging since participants in the study have lived with type 2 diabetes for more than 10 years and were not able to control their blood glucose or weight with multiple medications."

The study compared the effect of three different models of nutrition therapy on A1C, body weight, lipid profile and blood pressure in 108 overweight and obese adults who had uncontrolled type 2 diabetes that was treated with multiple oral and injectable medications except insulin. Participants were randomized to three groups of 36 each. The first group followed the traditional model. Patients met with the Registered Dietician (RD) to review their eating habits and preferences. They were then given individualized advice on eating plans to fit those eating habits and preferences.

The second group met with the RD to receive a highly structured meal plan based on macronutrient ratios and caloric levels specified in the Joslin Clinical Nutrition Guideline for Overweight/Obese Adults with Type 2 Diabetes. This included instructions on the specific macronutrient and caloric composition of their meals, menu books, a snack list, and a supply of one to three diabetes-specific calorie replacement foods per day. They were also asked to keep food logs.

The third group followed the highly structured meal plan, and in addition received weekly phone coaching by the RD. Compared to baseline, the A1C did not change in the first group (using the traditional approach of individualized nutrition therapy). But the A1C significantly decreased in the second and the third group, who were following the highly structured plan. The change in A1C was significantly different between groups. Also, there was no significant decrease in body weight in the first group, while body weight in the second and third groups decreased significantly.

"It was surprising to see all these significant changes in A1C and body weight without altering medications or activity level and without aiming for weight reduction," Dr. Hamdy pointed out, "Which tells us that nutrition therapy can be as effective as medications even after a long duration of the disease."

The dietary composition used in the structured nutrition arm of the study was based on Clinical Nutrition Guidelines for Overweight/Obese Adults with Type 2 Diabetes, first published by Joslin in 2005 and updated in 2011. Carbohydrate intake was approximately 40-45 percent of total daily calories with the rest from healthy protein and fat. The plan was high in fiber and lower in saturated fat and sodium.

"We have been using this structured plan for many years in our Why WAIT program for [diabetes](#) weight reduction with excellent success," said Dr. Hamdy. "Patients frequently ask us for structured plan and find it easier to follow."

Provided by Joslin Diabetes Center

Citation: Overweight and obese type 2 patients show improvements with structured nutrition therapy (2016, June 21) retrieved 1 May 2024 from <https://medicalxpress.com/news/2016-06-overweight-obese-patients-nutrition-therapy.html>

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