

Improvements in long term weight-loss and clinical parameters with the use of nutrigenetics in a 2-years prospective study

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Objectives: Genetic variation is known may influence dietary requirements, giving rise to the new field of nutritional genomics and raising the possibility of individualizing nutritional intake for optimal health, disease prevention and better weight management on the basis of an individual's genome This study investigated whether the inclusion of genetic information to personalize a patient's diet (nutrigenetics) could improve long term weight management.

Methods: Two groups of patients attending a weight management clinic were prospectively studied. The ketogenic group consisted of 53 patients followed for

24 weeks a ketogenic diet plan with 1600 kcal. The nutrigenetics group consisted of 61 patients were offered a nutrigenetic test screening 26 variants in 24 genes involved in metabolism. This group followed a personalized diet with 1600 kcal too and all recommendations based on their DNA. Weight, BMI, total cholesterol, HDL cholesterol and fasting blood sugar levels were monitored.

Results: Both diets group performed well over the 24 weeks but after 2 years the nutrigenetic group fared better on the clinical values of plasma glucose, total cholesterol and HDL. Furthermore after 2 years 75% of the nutrigenetic patients had maintained weight loss compared to 21% in the non-genetic group.

Conclusions: Addition of nutrigenetically tailored diets in the weight loss phase and the general healthy eating for life phase resulted in better longer-term BMI reduction and improvements in blood glucose and cholesterol levels

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