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Macronutrient composition in weight loss diets - a meta - analysis

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Background: Despite their poor long term performance, dietary interventions for weight loss remain the first line treatment for obesity. In addition to energy restriction, some diets emphasize manipulation of macronutrient composition to promote weight loss. Such diets may be broadly classified into low fat and low carbohydrate diets.

Objectives: This meta-analysis was designed to compare low fat to low carbohydrate diets in terms of weight loss or maintenance of weight loss.

Methods: Studies were included in the present meta-analysis if they were 1) well-designed randomized clinical trials comparing low fat to low carbohydrate diets; 2) included healthy overweight and obese adults; 3) measured body weight as the primary endpoint; 4) were published in 2009 or later.

Results: Four studies meeting all inclusion criteria were identified. Together, these studies 1878 subjects, 941 of whom were exposed to low carbohydrate diets and 937 to low fat diets. Two of the studies targeted weight loss as the primary endpoint, and two studies maintenance of weight lost using meal replacement products. Overall compliance was poor and attrition was high across studies. In a random effects model, no significant advantage to either diet strategy could be identified – standardized difference in means -0.07, 95% CI -0.3-0.4, p=0.7.

Conclusions: Manipulation of macronutrient composition of weight loss diets does not appear to be associated with significantly different weight loss outcomes. Both types of macronutrient-centered weight loss diets appear to be associated with poor adherence and high attrition rates. Novel weight loss strategies must be investigated.

Biography

Mona Boaz completed her PhD in Epidemiology at the Sackler Faculty of Medicine, Tel Aviv University. She also holds a MSc in Nutrition and is a Registered Dietitian. She is a full professor at Ariel University, School of Health Sciences, Department of Nutrition. Additionally, Prof. Boaz heads the Epidemiology and Research Unit at E. Wolfson Medical Center, Holon.

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