

ORIGINAL RESEARCH COMMUNICATION

Effects of a reduced-glycemic-load diet on body weight, body composition, and cardiovascular disease risk markers in overweight and obese adults^{1, 2, 3}

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Background: Lowering the dietary glycemic load and increasing protein intake may be advantageous for weight management.

Objective: This randomized controlled trial was designed to evaluate the effects of an ad libitum reduced-glycemic-load (RGL) diet on body weight, body composition, and cardiovascular disease (CVD) risk markers in overweight and obese adults during an initial weight-loss phase (12 wk) and a weight-loss maintenance phase (weeks 24–36).

Design: Subjects were assigned to RGL ($n = 43$) or low-fat, portion-controlled (control; $n = 43$) diet groups. The RGL group was instructed to eat until satisfied, maintaining a low carbohydrate intake during weeks 0–2 and adding low-glycemic-index carbohydrate thereafter. Control subjects were instructed to reduce fat intake and decrease portion sizes, with a targeted energy deficit of 500 to 800 kcal/d.

Results: The RGL group had lost significantly more weight than did the control group at week 12 (–4.9 and –2.5 kg, respectively; $P = 0.002$), but the 2 groups did not differ significantly at week 36 (–4.5 and –2.6 kg, respectively; $P = 0.085$). Changes in fat mass differed between the groups at week 12 (–1.9 and –0.9 kg, respectively; $P = 0.016$) but not at week 36 (–2.0 and –1.3 kg, respectively; $P = 0.333$). At the end of the study, no differences were found in responses for CVD risk markers except a larger mean change in HDL cholesterol in the RGL group than in the control group (3.8 and 1.9 mg/dL, respectively; $P = 0.037$).

Conclusion: These findings provide evidence that an ad libitum RGL diet is a reasonable alternative to a low-fat, portion-controlled eating plan for weight management.

Key Words: Glycemic load • obesity • weight loss • body composition • cardiovascular disease risk markers • glucose tolerance • randomized controlled trial

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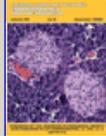
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Am J Physiol Endocrinol Metab, November 1, 2008; 295(5): E1126 - E1131.



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