

Estudios científicos

Ketogenic Diet Studies

A Low-Carbohydrate, Ketogenic Diet versus a Low-Fat Diet To Treat Obesity and Hyperlipidemia A Randomized, Controlled Trial.

Low-carbohydrate diets remain popular despite a paucity of scientific evidence on their effectiveness. To compare the effects of a low-carbohydrate, ketogenic diet program with those of a low-fat, low-cholesterol, reduced calorie diet. Randomized, controlled trial.

Outpatient research clinic. 120 overweight, hyperlipidemic volunteers from the community. Low-carbohydrate diet (initially, <20 g of carbohydrate daily) plus nutritional supplementation, exercise recommendation, and group meetings, or low-fat diet (<30% energy from fat, <300 mg of cholesterol daily, and deficit of 500 to 1000 kcal/d) plus exercise recommendation and group meetings. Body weight, body composition, fasting serum lipid levels, and tolerability. A greater proportion of the low-carbohydrate diet group (mean change, -12.9% vs. -7.7%; $P < 0.001$). Patients in the both groups lost substantially more fat mass (change, -9.4 kg vs. -2.4 kg, respectively). Compared with recipients of the low-fat diet, recipients of the low-carbohydrate diet had greater decreases in serum triglyceride levels (change, -0.84 mmol/L vs. -0.31 mmol/L [-74 mg/dL vs. -27.9 mg/dL]; $P = 0.004$) and greater increases in high-density lipoprotein cholesterol levels (0.14 mmol/L vs. -0.04 mmol/L [5.5 mg/dL vs -1.6 mg/dL]; $P < 0.001$). Changes in low-density lipoprotein cholesterol level did not differ statistically (0.04 mmol/L [1.6 mg/dL] with the low-carbohydrate diet and -0.19 mmol/L [-7.4 mg/dL] with the low-fat diet; $P = 0.2$). Minor adverse effects were more frequent in the low-carbohydrate diet group. We could not definitively distinguish effects of the low-carbohydrate diet program had better participant retention and greater weight loss. During active weight loss, serum triglyceride levels decreased more and high-density lipoprotein cholesterol level increased more with the low-carbohydrate diet than with the low-fat diet.

Yancy, William & Olsen, Maren & Guyton, John & Bakst, Ronna & Westman, eRIC. (2004). A Low-Carbohydrate, Ketogenic Diet versus a Low- Fat Diet to Treat Obesity and Hyperlipidemia A Randomized, Controlled Trial. *Annals of internal medicine*. 140. 769 – 77

https://www.researchgate.net/publication/8558219_A_Low-Carbohydrate_Ketogenic_Diet_versus_a_Low-Fat_Diet_To_Treat_Obesity_and_Hyperlipidemia_A_Randomized_Controlled_Trial

Estudios científicos

Efficacy and Safety of Very Low Calorie Ketogenic Diet (VLCKD) in Patients With Overweight and Obesity: A Systematic Review and Meta-Analysis.

Very low calorie ketogenic diet (VLCKD) has been proposed as a promising option to achieve a significant weight loss in a short time period. We conducted a systematic review and meta-analysis to evaluate its efficacy and safety in patients with overweight and obesity. Four databases were searched on May 2019. Studies reporting data on body weight, body mass index (BMI), waist circumference, body composition, blood pressure, HbA1c, lipids, and markers of liver and kidney function were selected. Discontinuation was also assessed. Twelve studies were included. VLCKD was associated with weight losses of -10.0 kg (I = 6%) and -15.6 kg (I = 37%) in studies with ketogenic phases up to and of at least four weeks, respectively. The weight lost during the ketogenic phases was stable in the subsequent follow-up up to two years ($p = 0.12$). Also, VLCKD was associated with reductions of BMI (-5.3 kg/m), waist circumference (-12.6 cm), HbA1c (-0.7%), total cholesterol (-28 mg/dl), triglycerides (-30 mg/dl), AST (-7 U/l), ALT (-8 U/l), GGT (-8 U/l), systolic and diastolic blood pressure (-8 and -7 mmHg, respectively). No changes in LDL cholesterol, HDL cholesterol, serum creatinine, serum uric acid and serum potassium were found. Serum sodium increased during VLCKD (+1.6 mEq/l). The overall prevalence of patients discontinuing VLCKD was 7.5% and this was similar to patients undergoing a low calorie diet ($p = 0.83$). The present review supports the use of VLCKD as an effective strategy for the management of overweight and obesity. Future guidelines should include a specific recommendation for this intervention.

Castellana M, Conte E, Cignarelli A, et al. Efficacy and safety of very low calorie ketogenic diet (VLCKD) in patients with overweight and obesity: A systematic review and meta-analysis. *Rev Endocr Metab Disord*. 2020;21(1):5-16. Doi: 10.1007/s11154-019-09514-y

<https://pubmed.ncbi.nlm.nih.gov/31705259/>