Abstract

Introduction: Low carbohydrate diets (LCD) have shown beneficial effects on short-term weight reduction programs for obese individuals without diabetes, but the long-term evidence of efficacy on individuals with type 2 diabetes is not conclusive. Objective: To evaluate, the effectiveness of 12 or more weeks of LCD compared to Low Fat Diet (LFD), Usual Care Diet (UCD) or Low Glycemic Index Diet (LGID) on weight reduction and AIC on type 2 diabetes individuals. Methods: A systematic review was conducted on randomized trials registered in PubMed, Cochrane and EBSCOhost from January 1st 2000 to January 1st 2010 including those with an intervention program with LCD in type 2 diabetes subjects and a follow-up 12 weeks. Available data on study design; carbohydrate composition of diet; duration of diet; and the outcomes of weight, lipid levels (total, low density lipoprotein and high-density lipoprotein cholesterol, and triglycerides), hemoglobin A1C percent and/or fasting glucose were extracted. Results: Five studies showed greater weight reduction with LCD, of which four demonstrated no significant difference. The longest trial intervention studies did not show a difference in weight change. Only two studies showed greater reduction of A1C with LCD, including the longest intervention trial with a low carbohydrate Mediterranean diet. Conclusions: This review shows that there are no consistent differences in weight and A1C changes over the long-term treatment with LCD and LFD, UCD or LGID.

Keywords

Low carbohydrate diets, Low fat diets, Type 2 diabetes, Weight, A1C, Lipids.