

Topic Area: Other

Abstract Title

Nut consumption and measures of adiposity in type 2 diabetes: a systematic review and meta-analysis of randomized controlled trials

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Abstract

Introduction: Nuts have been shown to improve glycemic control in diabetes, yet diabetes guidelines caution against the overconsumption of nuts at the same time that they recommend them for CVD prevention suggesting nuts may contribute to weight gain due to their high energy density.

Objective: To conduct a systematic review and meta-analysis of the effect of nut (tree nut and peanut) consumption in diabetes on markers of adiposity in randomized controlled trials.

Methods: We searched MEDLINE, EMBASE, and Cochrane databases (through August 8, 2017). Randomized controlled trials \geq 3-weeks assessing the effect of nut intake on measures of adiposity in diabetes were included. Three independent reviewers extracted relevant data and assessed risk of bias of included trials. Data were pooled using the generic inverse variance method and expressed as mean differences (MDs) with 95% confidence intervals (CIs). Heterogeneity was assessed (Cochran Q statistic) and quantified (I² statistic). The overall quality of the evidence was assessed using the GRADE approach.

Results: 13 randomized controlled trials (including 741 people) met eligibility criteria. Nut consumption had no effect on global adiposity (BMI: MD -0.52 [95% CI: -1.35, 0.30]; body weight: MD 0.00 [95% CI: -0.28, 0.28], % body fat: MD 0.34 [95% CI: -1.19, 1.87]) or abdominal adiposity (waist circumference: MD 0.06 [95% CI: -0.73, 0.86]). The overall quality of the evidence was graded as "high" for body weight, % body fat, and waist circumference but "low" for BMI owing to imprecision, and publication bias.

Conclusions: Pooled analyses show nut consumption does not have an adverse effect on measures of adiposity in diabetes. The concern that nut intake may result in weight gain appears unwarranted.

Significance: These results provide diabetes guidelines and dietitians with evidence to inform advice given to individuals with diabetes in regards to nut intake without fear of weight gain.