The effect of almonds on plasma lipids in persons with prediabetes

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ABSTRACT

Background: Persons with prediabetes are at increased risk of developing cardiovascular disease, yet there is scant research on effective meal planning approaches in this population.

Aim and Methods: To evaluate the effect of daily almond consumption on blood lipids of adults with prediabetes, we performed a 16-week trial in 66 free-living adults (48 women and 18 men; mean±SE age 53±10 years; BMI 30±5 kg/m^2) instructed to consume a background meal pattern yielding 35% fat, 50% CHO and 15% protein. Participants were randomized to consume 20% of energy from almonds (almond-enriched) or a meal pattern without nuts (nut-free). Fasting total cholesterol (TC), LDL-cholesterol (LDL-C), HDL-cholesterol (HDL-C) and triglycerides (TG) were measured at baseline and weeks 8 and 16. Mixed model analysis was performed adjusting for baseline values with all time points included in the model.

Results: Daily supplementation with almonds was associated with a greater reduction in LDL-C [–9% vs. –1% (P=0.03)] and LDL-C:HDL-C [–13% vs. –1% (P=0.04) over the 16-week trial. Almond participants had a significant reduction in LDL-C [–10% (P = 0.01)] and a significant increase in HDL-C [+5% (P=0.04)] at week 16 compared to baseline levels, resulting in a significant reduction in LDL-C:HDL-C (P=0.001).

Conclusion: Daily almond consumption within a defined meal pattern is effective in improving blood lipids in adults with prediabetes.