Glucoregulatory and Cardiometabolic Profiles of almond vs. cracker snacking for 8 weeks in young adults: a randomized controlled trial.

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Abstract:
The transition to nutritional independence makes new college students vulnerable to alterations in eating patterns, which can increase the risk of cardiometabolic disorders. The aim of the study was to examine the potential benefits of almond vs. cracker snacking in improving glucoregulatory and cardiometabolic profiles in new college students. A randomized controlled, parallel-arm, 8-week intervention of 73 college students (BMI: 18–41 kg/m2) with no cardiometabolic disorders was conducted. Participants were randomized into either an almond snack group (56.7 g/day; 364 kcal; n = 38) or Graham cracker control group (77.5 g/day; 338 kcal/d; n = 35). Chronic, static changes were assessed from fasting serum/plasma samples at baseline, and after 4 and 8 weeks. Acute, dynamic effects were assessed during a 2-h oral glucose tolerance test (OGTT) at 8 weeks. Almond snacking resulted in a smaller decline in HDL cholesterol over 8 weeks (13.5% vs. 24.5%, $p < 0.05$), 13% lower 2-h glucose area under the curve (AUC), 34% lower insulin resistance index (IRI) and 82% higher Matsuda index ($p < 0.05$) during the OGTT, despite similar body mass gains over 8 weeks compared with the cracker group. In general, both almond and cracker snacking reduced fasting glucose, and LDL cholesterol. Conclusions: Incorporating a morning snack in the dietary regimen of predominantly breakfast-skipping, first-year college students had some beneficial effects on glucoregulatory and cardiometabolic health. Almond consumption has the potential to benefit postprandial glucoregulation in this cohort. These responses may be influenced by cardiometabolic risk factor status.