The effects of daily intake timing of almond on the body composition and blood lipid profile of healthy adults.

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Abstract:
BACKGROUND/OBJECTIVES: Timing of almond intake during a day may result differently in the perspectives of body composition and changes of lipid profile. The current study was conducted to compare the effects of daily almond intake as a preload versus as a snack on body composition, blood lipid profile, and oxidative and inflammation indicators among young Korean adults aged 20-39 years old.

SUBJECTS/METHODS: Participants were randomly assigned to one of three groups: a pre-meal almond group (PM), a snack almond group (SN) in which participants were instructed to consume 56 g of almonds either as a preload before meals or as a snack between meals, respectively, and a control group (CL) in which participants were provided high-carbohydrate iso-caloric control food. Measurements were performed at baseline, weeks 8 and 16.

RESULTS: A total of 169 (M 77 / F 92) out of the 227 participants completed the study between June 2014 and June 2015 (n = 58 for PM; 55 for SN; and 56 for CL). A significant decrease in body fat mass was observed in the PM group at both weeks 8 and 16 compared with the CL. There were significant intervention effects on changes of body fat mass ($P = 0.025$), body fat percentages ($P = 0.019$), and visceral fat levels ($P < 0.001$). Consuming almonds as a daily snack reduced the levels of total cholesterol ($P = 0.043$) and low-density lipoprotein (LDL) cholesterol ($P = 0.011$) without changing high-density lipoprotein (HDL) cholesterol compared with the CL.

CONCLUSION: Almond consumption as a preload modified body fat percentages, whereas snacking on almonds between meals improved blood lipid profiles. This trial was registered at ClinicalTrials.gov as NCT03014531.