

Almond Consumption during Energy Restriction Lowers Truncal Fat and Blood Pressure in Compliant Overweight or Obese Adults.

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Abstract:

Background: Inclusion of almonds in an energy-restricted diet has been reported both to enhance or to have no effect on weight loss. Their effects specifically on visceral body fat stores during energy restriction have not been widely examined. In addition, almond consumption has been associated with reduced blood pressure (BP), but whether this is linked to or independent of changes in body composition has to our knowledge not been examined. Objective: We evaluated the effects of consuming almonds as part of an energy-restricted diet on body composition, specifically visceral adipose tissue (VAT) and BP, compared to a nut-free energy-restricted diet. Methods: A randomized controlled 12-wk clinical trial of 86 healthy adults [body mass index (in kg/m²): 25–40] was conducted. Participants were randomly assigned to 1 of 2 energy-restricted (500-kcal deficit/d) diets: an almond-enriched diet (AED) (15% energy from almonds) or a nut-free diet (NFD). A linear mixed-model analysis on primary outcomes such as body weight, body fat, VAT, and BP was performed on all participants [intention-to-treat (ITT) analysis] and compliant participants (complier analysis). Results: Body weight, truncal and total fat percentage, VAT, and systolic BP decreased after 12 wk of energy restriction in both the ITT and complier analyses ($P < 0.05$). The complier analysis (but not the ITT analysis) indicated a greater mean \pm SEM reduction in truncal fat (AED: 21.21% \pm 0.26%; NFD: 20.48% \pm 0.24%; $P = 0.025$), total fat (AED: 21.79% \pm 0.36%; NFD: 20.74% \pm 0.33%; $P = 0.035$), and diastolic BP (AED: 22.71 \pm 1.2 mmHg; NFD: 20.81 \pm 1.1 mmHg; $P = 0.029$), and a greater tendency for VAT loss (AED: 28.196 \pm 1.8 cm²; NFD: 23.996 \pm 1.7 cm²; $P = 0.09$) over time in the AED group than the NFD group. Conclusions: Moderate almond consumption by compliant overweight and obese individuals during energy restriction results in greater proportional reductions of truncal and total body fat as well as diastolic BP and hence may help to reduce metabolic disease risk in obesity.