

Consuming Almonds or Biscuits for 1-Year: Effects on Body Weight, Satiety, and Diet Quality

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Objectives: Given almonds are rich in unsaturated fat, vitamins, minerals, and phytonutrients, they may provide health benefits over other common snack foods. Many studies report health benefits with regular almond consumption, with no evidence for adverse effects on body weight. However, most interventions have been relatively short and longer studies are needed to support recommendations. Our 12-month trial compared the effects of consuming almonds versus biscuits on body weight and composition, satiety, and diet quality.

Methods: We randomly assigned 136 community-living adults (74% female, mean age 36 years, BMI < 30 kg/m²) who reported that they regularly snacked on discretionary foods to receive almonds or biscuits daily for one year. These isocaloric snacks provided either 10% of participants' total energy requirements or 1030 kJ (equivalent to 42.5 g almonds), whichever provided greater energy. Body composition, assessed by dual-energy x-ray absorptiometry, and anthropometry were measured at baseline and 12 months. Diet quality was measured by

3-day weighed diet records at baseline, 3, 6, and 12 months, along with subjective appetite ratings before and after consuming their study snack using visual analogue scales.

Results: In intention to treat analyses, there was no evidence that body weight changed differently from baseline to 12 months (geometric means 67.1 kg and 69.5 kg in the almond group and 66.3 kg and 66.3 kg in the biscuit group, $p = 0.275$). There was also no evidence of differences for changes in waist circumference, lean body mass, % body fat, or visceral fat between the groups (all $p \geq 0.180$). Subjective appetite ratings did not differ between groups (all $p \geq 0.112$). Absolute intakes of protein, fibre, vitamin E, calcium, copper, magnesium, phosphorous, zinc, and the % energy from total fat, monounsaturated fat, polyunsaturated fat significantly increased in the almond compared to the biscuit group (all $p \leq 0.033$). Conversely, the percentage of energy from carbohydrate ($p = 0.004$) and sugar ($p = 0.014$) significantly decreased for the almond compared to the biscuit group.

Conclusions: Providing almonds as snacks amongst regular consumers of discretionary snack foods for 12 months did not adversely affect body weight and composition, but improved diet quality compared to providing biscuits.

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