

Almond ingestion at mealtime reduces postprandial glycemia and chronic ingestion reduces hemoglobin A_{1c} in individuals with well-controlled type 2 diabetes mellitus.

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Abstract:

Cohort studies are equivocal regarding a relationship between regular nut consumption and reduced risk of type 2 diabetes mellitus. Although acute trials show reductions in postprandial glycemia in healthy individuals ingesting 60 to 90 g almonds, trials have not been conducted using a single serving of almonds (28 g) in individuals with type 2 diabetes mellitus. This randomized crossover trial examined the impact of one serving of almonds at mealtime on postprandial glycemia, insulinemia, and plasma glucagon-like peptide–1 in healthy individuals and individuals with type 2 diabetes mellitus. On 2 occasions separated by at least 1 week, 19 adults (including 7 adults with type 2 diabetes mellitus) consumed a standardized evening meal and fasted overnight before ingesting the test meal (bagel, juice, and butter) with or without almonds. A small pilot study (6–7 subjects per group) was also conducted to observe whether chronic almond ingestion (1 serving 5 d/wk for 12 weeks) lowered hemoglobin A_{1c} in individuals with type 2 diabetes mellitus. A standard serving of almonds reduced postprandial glycemia significantly in participants with diabetes (–30%, P = .043) but did not influence glycemia in participants without diabetes (–7%, P = .638). Insulinemia and glucagon-like peptide–1 at 30 minutes postmeal were not impacted by almond ingestion for either group. In the pilot study, regular almond ingestion for 12 weeks reduced hemoglobin A_{1c} by 4% (P = .045 for interaction) but did not influence fasting glucose concentrations. These data show that modest almond consumption favorably improves both short-term and long-term markers of glucose control in individuals with uncomplicated type 2 diabetes mellitus.