

Effects of almond consumption on the post-lunch dip and long-term cognitive function in energy-restricted overweight and obese adults.

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Abstract:

The post-lunch dip in cognition is a well-established phenomenon of decreased alertness, memory and vigilance after lunch consumption. Lunch composition reportedly influences the post-lunch dip. Moreover, dieting is associated with cognitive function impairments. The negative effects of dieting have been reversed with nut-supplemented diets. The aims of this study were to (1) evaluate the acute effect of an almond-enriched high-fat lunch or high-carbohydrate lunch on the post-lunch decline in cognitive function, and (2) evaluate the effects of chronic almond consumption as part of an energy-restricted diet on the memory and attention domains of cognitive function. In total, eightysix overweight and obese adults were randomised to consume either an almond-enriched diet (AED) or a nut-free control diet (NFD) over a 12-week weight loss intervention. Participants were also randomised to receive either an almond-enriched high-fat lunch (A-HFL) (>55% energy from fat, almonds contributing 70–75% energy) or a high-carbohydrate lunch (HCL) (>85% energy from carbohydrates) at the beginning and end of the weight loss intervention. Memory and attention performance indices decreased after lunch consumption ($P < 0.001$). The A-HFL group ameliorated the decline in memory scores by 57.7% compared with the HCL group ($P = 0.004$). Both lunch groups had similar declines in attention. Moreover, memory and attention performance indices increased after the 12-week intervention period ($P < 0.05$) with no difference between the AED and NFD groups. In conclusion, almond consumption at a midday meal can reduce the post-lunch dip in memory. However, long-term almond consumption may not further improve cognitive function outcomes in a weight loss intervention.

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