

Nutty approach to diabetes and obesity

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Although walnuts have been recommended for people trying to control obesity or diabetes because they have healthy fats and induce satiety, new research suggests the benefits go much further.

Imaging studies suggest that eating walnuts activates an area of the brain, the right insula, which regulates hunger and cravings.

Boston researchers used functional MRI to see what happens in the brain when people with a BMI over 30 consumed a breakfast smoothie containing 48g walnuts every day for five days.

The experiment was conducted at a live-in research centre so all aspects of the diet could be controlled.

The walnut eaters' brains were compared with those of a control group consuming a nutritionally similar smoothie with no walnuts, and then they swapped smoothies.

The study participants were shown images of "highly desirable" foods, such as high-fat foods including hamburgers and desserts, as well as less desirable foods, such as vegetables.

Imaging showed increased activity in the right insula when participants saw the desirable foods after their week on the walnut-rich diet.

The researchers say this indicates the participants were exercising more cognitive control and discretion in choosing healthier options after the walnut meals.

Further research is needed to see if these findings apply to other nuts.



ORIGINAL ARTICLE

Walnut consumption increases activation of the insula to highly desirable food cues: A randomized, double-blind, placebo-controlled, cross-over fMRI study

Corresponding author

- o E-mail address: ofarr@bidmc.harvard.edu

- o ORCID:orcid.org/0000-0003-3755-8158
- 1. Division of Endocrinology, Beth Israel Deaconess Medical Center, Boston, Massachusetts

- o **Correspondence**

Olivia M. Farr, PhD, Division of Endocrinology, Department of Medicine, Beth Israel Deaconess Medical Center, Harvard Medical School, 330 Brookline Avenue, ST820, Boston, MA 02215. Email: ofarr@bidmc.harvard.edu

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Abstract

Aims

The use of walnuts is recommended for obesity and type 2 diabetes, although the mechanisms through which walnuts may improve appetite control and/or glycaemic control remain largely unknown.

Materials and Methods

To determine whether short-term walnut consumption could alter the neural control of appetite using functional magnetic resonance imaging, we performed a randomized, placebo-controlled, double-blind, cross-over trial of 10 patients who received, while living in the controlled environment of a clinical research center, either walnuts or placebo (using a validated smoothie delivery system) for 5 days each, separated by a wash-out period of 1 month.

Results

Walnut consumption decreased feelings of hunger and appetite, assessed using visual analog scales, and increased activation of the right insula to highly desirable food cues.

Conclusions

These findings suggest that walnut consumption may increase salience and cognitive control processing of highly desirable food cues, leading to the beneficial metabolic effects observed.