

New study finds longer-term nut consumption improves brain insulin sensitivity

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Results from a recent INC-funded intervention study were published in the American Journal of Clinical Nutrition. The study showed that, for older adults with overweight or obesity, longer-term consumption of mixed nuts significantly improved brain insulin sensitivity. This may be important for the prevention of age-related metabolic and cognitive diseases.

The trial consisted of 28 healthy men and women aged between 60 and 70 years. The researchers conducted a randomised, single-blinded, crossover study involving a 16-week intervention and control period (no nuts), separated by an 8-week washout period. The intervention consisted of 60 g per day of mixed nuts (15 g each of walnuts, pistachios, cashews, and hazelnuts). Participants were instructed to adhere to the Dutch dietary guidelines.

Cerebral blood flow (CBF) was quantified using magnetic resonance imaging (MRI), while brain insulin sensitivity was assessed by measuring regional CBF responses to intranasal insulin. Furthermore, effects on peripheral insulin sensitivity (oral glucose tolerance test), intrahepatic lipid content and cardiometabolic risk markers were also assessed.

The study found that nut consumption significantly improved insulin action in (occipital and frontal) brain regions involved in the modulation of metabolic and cognitive processes. The research also showed that peripheral insulin sensitivity was not affected. However, intrahepatic lipid content, serum LDL (bad) cholesterol and systolic blood pressure were lower following nut consumption compared to the control period. Participants did not gain weight during the study.

"Based on these results we have concluded that regional brain insulin resistance observed in older adults with overweight or obesity can be beneficially affected by a longer-term mixed nut intervention, which may be important for the prevention of age-related diseases," states Dr Peter Joris, principal investigator from Maastricht University, The Netherlands.

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