The relationship of tree nuts and peanuts with adiposity parameters: A systematic review and network meta-analysis

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Abstract
The network meta-analysis and systematic review conducted aim to comparatively assess the effects of tree nuts and peanuts on body weight (BW), body mass index (BMI), waist circumference (WC), and body fat percentage (BF%). A systematic search up to 31 December 2020 was performed. A random-effects network meta-analysis was conducted following the PRISMA-NMA statement. A total of 105 randomized controlled trials (RCTs) with measures of BW (n = 6768 participants), BMI (n = 2918), WC (n = 5045), and BF% (n = 1226) were included. The transitivity assumption was met based on baseline characteristics. In the comparisons of nut consumption versus a control diet, there was no significant increase observed in any of the adiposity-related measures examined except for hazelnut-enriched diets, which raised WC. Moreover, almond-enriched diets significantly reduced WC compared to the control diet and to the pistachio-, mixed nuts-, and hazelnut-enriched diets. In subgroup analyses with only RCTs, designed to assess whether nut consumption affected weight loss, almonds were associated with reduced BMI and walnuts with reduced %BF. The evidence supports that: (1) tree nut and peanut consumption do not influence adiposity, and (2) compared to a control diet, the consumption of almond-enriched diets was associated with a reduced waist circumference.

Author keywords
Body composition; Dietary; Obesity; Overweight