

Whole grain and body weight changes in apparently healthy adults: a systematic review and meta-analysis of randomized controlled studies¹²³ - DTU Orbit (09/11/2017)

Whole grain and body weight changes in apparently healthy adults: a systematic review and meta-analysis of randomized controlled studies¹²³

Background: Whole grains have received increased attention for their potential role in weight regulation. A high intake has been associated with smaller weight gain in prospective cohort studies, whereas the evidence from randomized controlled studies has been less consistent. **Objective:** We assessed the effects of whole-grain compared with non-whole-grain foods on changes in body weight, percentage of body fat, and waist circumference by using a meta-analytic approach. **Design:** We conducted a systematic literature search in selected databases. Studies were included in the review if they were randomized controlled studies of whole-grain compared with a non-whole-grain control in adults. A total of 2516 articles were screened for eligibility, and relevant data were extracted from 26 studies. Weighted mean differences were calculated, and a metaregression analysis was performed by using the whole-grain dose (g/d). **Results:** Data from 2060 participants were included. Whole-grain intake did not show any effect on body weight (weighted difference: 0.06 kg; 95% CI: -0.09, 0.20 kg; $P = 0.45$), but a small effect on the percentage of body fat was seen (weighted difference: -0.48%; 95% CI: -0.95%, -0.01%; $P = 0.04$) compared with that for a control. An examination of the impact of daily whole-grain intake could predict differences between groups, but there was no significant association ($\beta = -0.0013 \text{ kg} \times \text{g/d}$; 95% CI: -0.011, 0.009 $\text{kg} \times \text{g/d}$). **Conclusions:** Whole-grain consumption does not decrease body weight compared with control consumption, but a small beneficial effect on body fat may be present. The relatively short duration of intervention studies ($\leq 16 \text{ wk}$) may explain the lack of difference in body weight and fat. Discrepancies between studies may be caused by differences in study design.

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