Skim milk compared with a fruit drink acutely reduces appetite and energy intake in overweight men and women.

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Abstract

BACKGROUND: Several studies show that proteins, including whey and casein, are more satiating than carbohydrates. It follows that skim milk would be more satiating than sugar-rich beverages. However, this has yet to be shown.

OBJECTIVE: The objective was to investigate the effects of drinking skim milk in comparison with a fruit drink at breakfast on self-reported postmeal satiety and energy intake at lunch.

DESIGN: In a randomized crossover trial, 34 overweight women (n = 21) and men (n = 13) attended 2 sessions 1 wk apart. At each session, participants consumed a fixed-energy breakfast together with either 600 mL skim milk (25 g protein, 36 g lactose, <1 g fat; 1062 kJ) or 600 mL fruit drink (<1 g protein, 63 g sugar, <1 g fat; approximately 1062 kJ). Participants provided satiety ratings throughout the morning. Four hours after breakfast they consumed an ad libitum lunch, and energy intake was assessed.

RESULTS: Participants consumed significantly less energy at lunch after consuming skim milk (mean: 2432 kJ; 95% CI: 2160, 2704 kJ) than after consuming the fruit drink (mean: 2658 kJ; 95% CI: 2386, 2930 kJ), with a mean difference of approximately 8.5% (P < 0.05). In addition, self-reports of satiety were higher throughout the morning after consumption of skim milk than after consumption of the fruit drink (P < 0.05) with the differences becoming larger over the 4 h (P < 0.05).

CONCLUSION: Consumption of skim milk, in comparison with a fruit drink, leads to increased perceptions of satiety and to decreased energy intake at a subsequent meal. This trial was registered with the Australian New Zealand Clinical Trials Registry at (www.anzctr.org.au) as ACTRN12608000510347.

Milk intake is inversely related to obesity in men and in young women: data from the Portuguese Health Interview Survey 1998-1999.

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Abstract

OBJECTIVE: To assess the relationships between milk intake and body mass index (BMI) in a representative sample of the mainland Portuguese population.

DESIGN: Cross-sectional study.

SETTING: National Health Interview Survey 1998-1999. Average daily milk intake was calculated by a frequency questionnaire that also assessed the average volume of one serving. BMI was derived from the subject's reported height and weight.

SUBJECTS: A total of 17,771 men and 19,742 women aged > or =18 y.

RESULTS: In men, milk intake was inversely related to BMI (r = -0.10, P < 0.001), whereas the relationship in women was weaker (r = -0.06, P < 0.001). In men, prevalence of milk consumers was lower in obese (62%) and in overweight (68%) than in normal weight subjects (71%, P < 0.001). After adjusting for age, region, physical activity, smoking, number of meals and educational level, milk intake decreased with increasing BMI (adjusted mean +/- s.e.: 280 +/- 5, 266 +/- 5 and 246 +/- 7 ml/day for normal, overweight and obese subjects, respectively, P < 0.001), even after excluding subjects who did not consume milk (368 +/- 5, 353 +/- 6 and 346 +/- 8 ml/day, P < 0.02). In women, prevalence of milk consumers was lower in obese (71%) and in overweight (72%) than in normal weight subjects (76%, P < 0.001). In women younger than 55 y, milk intake decreased with increased BMI categories (291 +/- 9, 271 +/- 10 and 269 +/- 11 ml/day for normal, overweight and obese subjects, respectively, P < 0.001), whereas no relationship was found in the older group.

CONCLUSIONS: Increased calcium intake is slightly but significantly negatively related with BMI in men and premenopausal women. The lack of relationship in older women might be due to the hormonal status, but awaits further investigation.

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Calcium and dairy intakes in relation to long-term weight gain in US men.

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Abstract

BACKGROUND: The role of calcium in the maintenance of body weight remains controversial.

OBJECTIVE: We investigated the association between calcium and dairy intakes and 12-y weight change in US men.

DESIGN: This study was conducted with the use of data from the Health Professionals Follow-up Study, a prospective cohort of men aged 40-75 y in 1986. Data on lifestyle factors and diet were updated biennially with self-administered questionnaires. The participants reported their body weight in 1986 and in 1998. The outcome in our study was 12-y weight change. We used multivariate linear regression to examine how baseline calcium intake (n = 23,504) and change in calcium intake (n = 19,615) were associated with weight change. Because dairy foods are the predominant source of calcium in the diet, we also evaluated a similar association with dairy intake.

RESULTS: In a multivariate analysis with adjustment for potential confounders, baseline or change in intake of total calcium was not significantly associated with weight change. In addition, we did not find any association with dietary, dairy, or supplemental calcium intake when evaluated separately. The men with the largest increase in total dairy intake gained slightly more weight than did the men who decreased intake the most (3.14 compared with 2.57 kg; P for trend = 0.001). This association was primarily due to an increase in high-fat dairy intake. Low-fat dairy intake was not significantly associated with weight change.

CONCLUSION: Our data do not support the hypothesis that an increase in calcium intake or dairy consumption is associated with lower long-term weight gain in men.