

Study Summary

The Relationship of Breakfast and Cereal Consumption to Nutrient Intake and Body Mass Index: The National Heart, Lung and Blood Institute Growth and Health Study

Significance of Study

- First U.S. study to examine cereal consumption in adolescent girls and the development of obesity
- 10-year longitudinal study following 2,367 adolescent girls from age 9-19 (black and white cohorts)
- Cereal and breakfast consumption drops during adolescence
- Girls who continue to eat cereal regularly are less likely to become overweight during adolescence.
- Subjects consumed all types of cereals—ready-to-eat, cooked, plain and presweetened cereals.
 - Forty-one percent of the cereals eaten by girls in this study were presweetened cereals.

Study Details

Objective of Study

To describe changes in breakfast and cereal consumption of girls between ages 9 and 19, and to examine the association of breakfast and cereal intake with body mass index (BMI) and consumption of nutrients. Data is from the National Heart, Lung, and Blood Institute Growth Health Study (NGHS), a longitudinal biracial observational cohort study with annual 3-day food records.

Subjects/Setting

NGHS recruited 2,379 girls (1,166 white and 1,213 black), age 9-10 at baseline, from locations in Berkeley, CA; Cincinnati, OH; and the Washington, DC, areas.

Main outcome measures

Frequency of consumption of breakfast and cereal, BMI, and intake of key nutrients.

Statistical Analyses

Generalized estimating equations methodology was used to examine differences in the frequency of breakfast and cereal eating by age. Generalized estimating equations and mixed models were used to examine whether breakfast and cereal consumption were predictive of BMI and nutrient intakes, adjusting for potentially confounding variables.

Results

- Frequency of breakfast and cereal consumption declined with age.
- Days eating cereal was predictive of lower BMI.
 - As girls matured through adolescence, BMI increased, but cereal eaters were leaner than girls who did not eat cereal, regardless of age
- Days eating cereal were associated with higher nutrient intakes.
 - After adjusting for caloric intake, cereal consumption was related to increased intake of fiber, calcium, iron, folic acid, vitamin C, and zinc, and decreased intake of fat and cholesterol.
- Subjects consumed all types of cereals—ready-to-eat, cooked, plain and presweetened cereals.
 - Forty-one percent of the cereals eaten by girls in this study were presweetened cereals.

Application

- Teen girls who frequently eat cereal maintain a healthier body weight through adolescence.
- Cereal eaters are less likely to become overweight as young adults than non-cereal eaters.
- Cereal eating helps with long-term weight maintenance.

Citation

B.A. Barton, A.L. Eldridge, D. Thompson, S.G. Affenito, R.H. Striegel-Moore, D.L. Franko, A.M. Albertson, and S.J. Crockett. The Relationship of Breakfast and Cereal Consumption to Nutrient Intake and Body Mass Index: The National Heart, Lung and Blood Institute Growth and Health Study, *Journal of the American Dietetic Association*, 2005, 105(9):1383-1389.