

ENVIRON Study Overview

Drinking flavored or plain milk is positively associated with nutrient intake and is not associated with adverse effects on BMI status in U.S. children and adolescents

Murphy MM, Douglass JS, Johnson RK, Spence LA. Drinking flavored or plain milk is positively associated with nutrient intake and is not associated with adverse effects on weight status in US children and adolescents.
Journal of the American Dietetic Association 2008;108:631-639.

Purpose:

The purpose of this study was to compare nutrient intakes and body measures among children and adolescents drinking flavored milk (with or without plain milk), exclusively plain milk and no milk.

Methods:

- The study population included 7,557 children and adolescents ages 2-18 years.
- Data from National Health and Nutrition Examination Survey (NHANES) 1999-2002 was used, which included food intake reported in 24-hour dietary recalls and height and weight measurements collected during physical examinations.
- The milk drinking status of each individual was identified. Then nutrient intakes and body mass index (BMI) measures were determined by each individual's milk drinking status.
- Comparisons were made among average milk intakes, energy and nutrient intakes, and BMI measures by milk drinking status.
 - All comparisons were adjusted for the amount of calories consumed allowing for differences to be seen based on equal consumption of calories and age distributions.

Results:

- Intakes of vitamin A, calcium, phosphorus, magnesium and potassium (adjusted for energy intake and age) were generally comparable among milk drinking groups, while intakes of these nutrients by non-milk drinkers were significantly lower.
- Among females 12-18 years of age, calcium intakes by flavored milk drinkers and exclusively plain milk drinkers were nearly double the calcium intakes of non-milk drinkers.
- Intake of added sugars did not differ between flavored milk drinkers and non-milk drinkers.
- Children and adolescents who included flavored milk in their diets reported significantly higher total milk intakes than those who exclusively consumed plain milk.
- BMI measures of milk drinkers were comparable to or lower than measures of non-milk drinkers.

Conclusions:

- Children and adolescents who drink flavored and plain milk have higher nutrient intakes (of vitamin A, calcium, phosphorus, magnesium and potassium) than non-milk drinkers.
- Children and adolescents who drink flavored milk have BMIs that are lower than or comparable to the BMIs of non-milk drinkers.
- Consuming low-fat or fat-free flavored milk could help children and adolescents meet recommendations for dairy foods.
- Limiting children and adolescents' access to flavored milk due to its added sugar or higher energy content may have the undesirable effect of further reducing intakes of many essential nutrients provided by milk.
- Additional research is still needed to determine the specific relationship between flavored milk, eating preferences and nutritional outcomes.

*Additional resources are available at www.NationalDairyCouncil.org.
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