

Science Summary

Milk as a Recommended Beverage



Overview



Drinking milk helps children, adolescents and adults in the U.S. meet their nutrient needs, including for nutrients of public health concern. Leading health organizations recommend drinking milk as a critical component of healthy diets for young children, and the 2020 Dietary Guidelines for Americans (DGA) recommends choosing low-fat or fat-free milk as a beverage as part of healthy dietary patterns for Americans 2 years and older. Research indicates that consuming

dairy foods, including milk, is not related to an increased risk of obesity in children, adolescents or adults and may help reduce risk. Encouraging adults and children to add 1 more daily serving of dairy foods like milk to their dietary pattern is a practical way to help Americans meet dairy recommendations.

Drinking milk is an affordable way for Americans to meet their nutrient needs

The 2020 DGA recommends 3 daily servings of low-fat or fat-free dairy foods, including milk, for those 9 years and older, 2 1/2 for children 4-8 years and 2 for children 2-3 years as part of the Healthy U.S.-Style Dietary Pattern.¹ It also recommends 1 2/3 to 2 servings of whole- and reduced-fat dairy foods for toddlers 12-23 months. While children under 12 months of age should not drink cow's milk, the DGA recommends providing small amounts of yogurt and cheese to infants 6-12 months, depending on developmental readiness.¹ Adults and children 2 years of age and older who meet dairy recommendations are less likely to be below recommendations for a number of essential nutrients including calcium, magnesium, phosphorus, protein, riboflavin, vitamin A, vitamin B12, vitamin D, selenium, potassium and choline.² Milk is also the leading food source of three nutrients of public health concern (calcium, vitamin D, potassium) for children 2-18 years and is the leading food source of calcium and vitamin D for all Americans over the age of two.³ Milk provides, on average, over 35% of the daily vitamin D, 19% of the daily calcium and 9% of the daily potassium intake of Americans 2 years and older.³

Yet fewer than 1 in 3 children 2-18 years and roughly 1 in 7 adults 19 years and older meet recommendations for dairy intake.² On average, young children come the closest to meeting dairy recommendations, and dairy consumption tends to fall below recommended amounts by the time children go to school, a trend that continues through adolescence and into adulthood.⁴ Toddlers 12-23 months years consume 2 1/2 servings of dairy foods per

day, on average, most of which is milk.¹ American adults 19 years and older typically consume only 1½ servings of dairy foods daily, about half of which is milk.³ Because a serving of low-fat milk costs about 20 cents,^{5*} drinking milk is also a practical and affordable way to help close or reduce nutrient gaps and meet dairy recommendations. Dairy foods including milk are the lowest cost sources of dietary calcium and vitamin D in the U.S. diet and are among the lowest cost sources of potassium, magnesium, vitamin A, riboflavin (B2) and vitamin B12.^{6,7}

Drinking milk helps achieve nutrient adequacy within recommended limits for energy and added sugars

The 2020 DGA recommends choosing water and unsweetened beverages like 100% fruit or vegetable juice or low-fat or fat-free milk or fortified soy beverages within healthy dietary patterns in place of sugar-sweetened beverages (SSBs) like soda, fruit drinks, sports and energy drinks.¹ SSBs are not a component of USDA Dietary Patterns and are not necessary in the child or adolescent diet.¹ Nonetheless, as children age, they tend to choose less nutritious beverages, like SSBs, instead of milk, a trend that carries through to adulthood.⁴ Consumption of milk drops significantly with age, with milk accounting for almost one-third (32.1%) of beverage intake for 2-5 years of age but dropping to less than 15% of beverage intake among adolescents and teenagers 12-19 years.⁸ Children 4-19 years who consume most of their beverage calories from sources other than milk and 100% fruit juice had lower diet quality scores and consumed more calories and added sugars than children who consumed most of their beverage calories from milk or 100% fruit juice.⁹ The 2020 DGA notes, “increasing intakes of sugar-sweetened beverages and decreasing intakes of dairy are dietary components with notable and concerning shifts in consumption throughout youth.”¹¹

Plain milk provides no added sugars and flavored milk provides, on average, 5-6% of added sugars¹⁰ to the diets of children 2-11 years and about 2% of added sugars to the diets of adolescents.¹¹ The American Academy of Pediatrics (AAP) Policy Statement on snacks, sweetened beverages, added sugars and schools supports the addition of small amounts of sugars to nutrient-dense foods like milk to increase consumption by children.¹² The AAP uses flavored milk as an example of the balance needed to limit added sugars while still promoting nutrient-rich foods.

Leading health organizations recommend young children drink milk as part of a healthy dietary pattern

Four leading health organizations, the Academy of Nutrition and Dietetics, the American Academy of Pediatric Dentistry, the AAP and the American Heart Association published Healthy Beverage Recommendations for children 0-5 years of age.¹³ The statement recognizes milk as a “critical component of a healthy diet” and recommends 2-3 cups per day of whole milk for children 12-24 months, 2 cups of low-fat or fat-free milk for children 2-3 years and 2½ cups of low-fat or fat-free milk for children 4-5 years. The DGA and Healthy Beverage Recommendations statement align in their recommendations that children should not consume plant-based milk alternative beverages, except for fortified soy beverage. As the Healthy Beverage Recommendations statement asserts, non-soy plant-based beverages are inconsistently formulated, meaning they vary in nutrient and added sugar content, and are “not an equal substitute for cow’s milk.”¹³

*Milk cost (approximately 20 cents per serving) based on U.S. average price of unflavored, branded and private label milk per gallon.

Research indicates beneficial or neutral links between consuming dairy foods and obesity

Obesity is a critical public health concern in the U.S. and puts children and adults at risk for poor health in the immediate and long term.¹⁴ The 2020 DGA states that healthy dietary patterns are associated with a lower risk of obesity. Research conducted since 2015 indicates that consuming dairy foods including milk in recommended amounts is linked with beneficial impacts on children’s body mass index (BMI) and that children and adolescents consuming dairy foods as part of calorie-balanced dietary patterns are more likely to achieve a lean body type. Results of two meta-analyses,^{15,16} one systematic review,¹⁷ and seven prospective cohort and cross-sectional studies¹⁸⁻²⁴ indicate that consuming dairy foods, including milk, in recommended amounts is not related to measures of childhood obesity.

Drinking milk is also not related to an increased risk of being overweight in adults and may reduce the risk of becoming overweight or developing obesity. A systematic review including 16 studies on milk intake found that drinking milk reduced obesity risk in adults by 23%.¹⁶ A meta-analysis of six studies found no evidence that consuming dairy foods, including milk, was linked with an increased risk of overweight and obesity in adults.²⁵ A second meta-analysis found that, in the context of an energy-restricted diet, higher intake of dairy foods like milk resulted in lower fat mass and body weight.²⁶

Emerging evidence from randomized controlled trials and prospective observational studies also indicates a potential beneficial effect of consuming dairy foods, including milk, on adiposity measures in adult women.²⁷⁻³⁰ More research is needed to fully describe the associations between consuming dairy foods as part of a calorie-balance healthy dietary pattern and healthy weight maintenance.

References

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