

SCIENCE SUMMARY: Beverage Trends



Overview

The 2015 Dietary Guidelines for Americans (DGA) lists low-fat or fat-free-milk, water, and 100% juice among recommended beverages, and in place of sugar-sweetened beverages (SSB) such as soda and fruit drinks. Research on beverage consumption summarized below aligns with the DGA and American Academy of Pediatrics (AAP) recommendations for children to increase consumption of nutrient-rich, low-fat or fat-free milk to help meet dairy food and nutrient intake recommendations. Emphasis on regular milk consumption can be especially important for children who do not meet current dairy recommendations. Encouraging milk consumption from a young age, particularly with meals, can be a key strategy to improve the nutrient density of dietary patterns and develop healthy habits.

Most children do not meet dairy food recommendations

Dairy foods include milk, cheese, and yogurt, with milk being the main source of dairy intake for children (1). The DGA recommends three daily servings of low-fat or fat-free dairy foods for those 9 years and older, 2½ servings for children 4-8 years, and two for children 2-3 years, as part of the Healthy U.S.-Style Eating Pattern (2). Health professional organizations, like the AAP and the American Heart Association, also recommend daily low-fat dairy consumption as one way to meet nutrient needs (3-5). Boys and girls 2-5 years old consume approximately 2.3 cup equivalents of dairy foods per day, on average, and of that, 1.6 cups is milk (1). Dairy food consumption falls below recommended amounts by school-age, on average, a trend that carries forward through the teen years into adulthood (1). As children get older they increasingly turn to less nutritious beverage choices instead of milk (6-8).

The 2015 DGA recommends low-fat and fat-free milk, 100% juice or water as primary beverages to consume and as alternatives to sugar-sweetened beverages (2).

Milk helps children meet nutrient and dairy group recommendations

Beverages make important contributions to children's daily calorie and nutrient intakes (2, 6, 7). The DGA recommends low-fat or fat-free milk, in addition to 100% juice and water, as primary beverages to consume, and recommends drinking milk with meals among strategies to increase dairy consumption (2). Milk contributes the most vitamins and minerals to children's nutrient intakes compared to other beverages (7, 9). It is the leading source of nine essential nutrients in children 2-18 years old, including protein, calcium, phosphorus, potassium, magnesium, vitamins A, B12, D and riboflavin (10). Of all the beverages children drink, milk contributes approximately 60% of their vitamin D, 33% of their calcium, 19% of their potassium, and 13% of their protein, yet only 7% of total calories, 8% of total fat and 13% of saturated fat (10). Most individuals who do not drink milk often do not meet recommended amounts of calcium, vitamin D and potassium, suggesting that they are not meeting nutrient needs from other foods and beverages (11).

Currently, one third of children 2-19 years are drinking at least one SSB per day, and one-third are drinking two or more SSB per day (12). The DGA defines SSB as drinks with added sugars including, but not limited to, soda (regular, not sugar-free), fruitades, sports drinks, energy drinks, sweetened waters, and coffee and tea beverages with added

sugars (2); however, sports and energy drinks make up a relatively small portion of SSB consumption (12). Since 1999, consumption of SSB have declined slightly, but the National Health and Nutrition Examination Survey (NHANES) data from 2007-2008 indicate adolescents and young adults were still drinking enough SSB each day to contribute 178-286 calories to their diet (13). Flavored milk contributes only 4% of added sugars to children's diets on average, in return for a multitude of nutrients, whereas traditional SSB contribute approximately 40% of added sugars with few nutrients in return (14).

One more serving of milk per day would help reduce children's nutrient gaps

Encouraging one more serving of dairy foods per day is a practical way to help close or reduce nutrient gaps. Encouraging milk drinking in children, through offering milk at snack and meal times, is further supported by research indicating that food preferences and behaviors develop during the first 5 years of life (15, 16), and studies showing that beverage choice at 5 years can predict beverage choice, nutrient intakes and body weight during adolescence (17, 18). One study found that if Americans consumed the recommended three servings of dairy foods per day, it would significantly reduce the number of individuals 2 years and older with calcium, magnesium, vitamin A and vitamin D intakes below the estimated average requirement compared to current consumption levels (19). Because the DGA recommends low-fat or fat-free dairy foods as part of healthy eating patterns, and research has linked dairy intake to improved bone health, especially in children and adolescents (2), milk drinking is an important habit to develop in childhood and carry forward. In addition, emerging research indicates dairy food consumption during childhood and adolescence is associated with lower blood pressure. Some studies also indicate a reduced risk for diabetes (as adults) and cardiovascular disease risk, however, more research is needed to confirm these associations (20-24).

Low-fat and fat-free milk are nutrient-dense, and dairy food consumption has been linked with improved bone health, especially in children and adolescents (2).

Current beverage patterns support recommendations to drink more nutrient-rich milk

The type of beverages children consume can have a significant impact on diet quality (25) and nutrient intake (6). There has been a decline in children's milk intake over the past several decades (7, 8). From 2007-2010, one quarter of pre-adolescents 2-12 years old and approximately half of adolescents (≥ 13 years) were not drinking any milk (8,14). Encouraging low-fat and fat-free milk at home and school can help children meet their nutrient needs within calorie and fat recommendations (2, 26). Both unflavored and flavored milk can help support meeting nutrient needs (27). While plain milk is more commonly consumed, American school-aged children who drink flavored milk tend to have higher total milk and nutrient intakes, but not higher body mass indices or added sugar intakes (28, 29) compared to non-consumers. Milk contributes about 8% of children's total fat intake (25), in part because reduced-fat (2%) milk is the most commonly consumed type of milk among children (6). Soy and almond beverages are not commonly consumed, with < 1% of children drinking them, so they contribute very little to population nutrient intakes (6, 30).

While dairy intake is linked to positive health outcomes, there is a strong association between higher intake of SSBs and higher body weight in children and adolescents (2), with new evidence indicating some sub-populations of children may be more susceptible than others (31). Research also indicates SSB consumption may be associated with alterations in blood lipids and increased markers of inflammation in children (32). Certain population groups, such as black and Hispanic children, or children from low-income families, tend to consume more SSBs and less low-fat or fat-free milk (13, 33, 34). Diet-modeling research shows that substituting low-fat milk for SSBs at meals, and switching to water between meals, could save an average of 205 calories/day in addition to providing many nutrients (35). Encouraging this dietary change both in the home and at school could have positive outcomes for health.

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