Science Summary
Dairy Innovation

Overview

Dairy foods such as milk, cheese and yogurt are foundational foods in healthy dietary patterns. Consuming dairy foods helps Americans meet recommendations for important shortfall nutrients, including calcium, vitamin D and potassium, and contributes several other essential nutrients, too. An emerging body of research indicates that eating dairy foods may also be linked with reduced risk of chronic diseases like type 2 diabetes (T2D) and cardiovascular disease (CVD). However, most Americans do not meet the recommendations for dairy foods from the Dietary Guidelines for Americans (DGA). Lactose intolerance (LI) as well as concerns about added sugars and saturated fats may lead some individuals to avoid or reduce dairy food consumption, which can result in missing out on the essential nutrients in dairy foods and the health benefits linked with adequate dairy consumption. Recent evidence indicates that dairy foods with little- or no- lactose and/or added sugars are now widely available in the U.S. Evidence also indicates that whole- and reduced-fat dairy foods can be included in healthy dietary patterns. A variety of nutrient-dense milk, cheese and yogurt options are widely available so Americans can select dairy foods to meet their nutrient needs and taste preferences and move closer to meeting recommendations for healthy dietary patterns from the 2020-2025 DGA.

Lactose-free dairy foods are widely available and an increasingly popular option for Americans

In addition to thirteen essential nutrients including protein, calcium, phosphorus, zinc, selenium, iodine and vitamins A, D, B12, riboflavin (B2), niacin (B3) and pantothenic acid (B5), milk contains a sugar called lactose, which individuals with LI are not able to digest. LI is medically defined as a group of symptoms, such as bloating, gas and diarrhea, that occur in some people after they consume certain dairy foods.[1,2] While some individuals with LI avoid dairy foods, LI does not have to be a barrier to adequate dairy intake. Consuming smaller amounts of dairy foods throughout the day and with other foods can help individuals with LI tolerate as much as 12 grams of lactose at a time, which is about the amount of lactose in one cup of milk.[3,4] The 2020-2025 DGA also notes that individuals with LI can select lactose-free or reduced-lactose dairy foods to meet dairy recommendations.[5] Lactose-free milk is another option for individuals with LI and is currently available in about 96 percent of U.S. retail food outlets.[6–8] About 18 percent of American households keep lactose-free milk in the refrigerator.[6–8]

Yogurt with live and active cultures is another option for individuals with LI.[4,9,10] The culturing process used to make yogurt helps break down lactose, which may make it easier for people with LI to digest. Natural cheeses such as Cheddar, Colby, mozzarella, and Monterey Jack are virtually lactose-free, because 90 percent of the lactose in the milk used to make these cheeses is removed along with the water and whey during the renneting process of cheesemaking. The remaining lactose is fermented into lactic acid.[11] While individuals with LI may choose to substitute milk with plant-based alternatives such as almond, rice and coconut beverages, these beverages vary in their nutrient composition, fortification levels and amounts of added sugars, as they are not subject to uniform standards.[12]

One serving of whole- or reduced-fat dairy foods can fit into recommended healthy dietary patterns

Dairy foods are available in different varieties. Milk is available in whole, reduced-fat (2% milk fat), low-fat (1% milk fat), fat-free and flavored options. Yogurts and cheeses of different fat levels are also available. The 2020-2025 DGA recommends 3 daily servings of low-fat or fat-free dairy foods for those 9 years and older, 2½ for children 4-8 years and 2 for children 2-3 years in the Healthy U.S.-Style Dietary Pattern.[5] The DGA also recommends balancing calorie intake and limiting intake of saturated fats to less than 10 percent of calories per day as part of healthy dietary patterns. Yet Americans primarily choose whole- or reduced-fat dairy foods.[13] Whole- and reduced-fat dairy foods (milk, cheese and yogurt) contain more saturated fats and can contain more calories than low-fat and fat-free versions. However, results of a recent modeling study indicate that one of the three recommended servings of dairy foods for those 9 years and older can be a whole- or reduced-fat dairy food, while staying within saturated fat and calorie limits and meeting nutrient needs.[14] There is a growing body of evidence of a neutral or even beneficial role of whole- and reduced-fat dairy foods on cardiometabolic disease risk.[15–21] Dairy fat is the most complex naturally-occurring fats with over 400 types of fatty acids.[22] The complexity of dairy fat may help explain why consuming whole- and reduced-fat dairy foods is not linked to higher risk of CVD, T2D and overweight and obesity.

Many dairy options have reduced sugar or "no added sugar" and more Americans are choosing unflavored and unsweetened yogurt

Eating yogurt has been associated with a range of health benefits, including a reduced risk for CVD and T2D, and emerging evidence also indicates that eating yogurt, including sweetened yogurt, may reduce markers of inflammation.[23–26] However, the 2020-2025 DGA recommends limiting intake of added sugars to no more than 10 percent of total calories for all Americans over the age of 2.[5] This recommendation is consistent with the Food and Drug Administration's (FDA) daily value of not more than 50 grams per day of added sugars for children and adults aged 4 and above.[27] Yogurts without added sugars are available on the market to help Americans stay within added sugar limits while still having the option to choose yogurt to meet dairy recommendations. Between 2015 and 2019, yogurts with a "no added sugar" claim increased by over 32 percent and the number of yogurts with "less sugar" noted on the label increased by 33 percent.[28] Plain yogurt, which is both unsweetened and unflavored, has also become a popular choice for Americans. In 2019, plain yogurts comprised 13 percent of U.S. yogurt sales.[29]

Conclusions

Nutrient-rich dairy foods are an important part of healthy dietary patterns.[5] Many options for dairy foods are widely available, including reduced-lactose and lactose-free products, whole-fat, reduced-fat, low-fat and fat-free products and products with reduced sugar or no added sugars. The wide range of milk, cheese and yogurt options helps to ensure that Americans of all ages can find dairy foods to meet their taste preferences and align with recommendations in the 2020-2025 DGA for healthy dietary patterns.

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