



Web Exclusive

Milk Fat Does a Body Good

By Karen Giles-Smith, MS, RD

Research indicates fats in dairy foods don't increase the risk of cardiovascular disease and may in fact benefit health.

When asked about dairy recommendations for people aged 2 and older, most dietitians will advise clients to choose low-fat or fat-free milk, yogurt, and cheese in accordance with MyPlate recommendations for dairy food selections. In light of recent research, however, nutrition professionals may not need to strictly adhere to these guidelines.

Over the past 50 years, evidence linking the intake of certain saturated and trans fats to an increased risk of cardiovascular disease (CVD) has led to the broad generalization that these fats are detrimental to one's health. For example, the 2010 Dietary Guidelines for Americans recommend consuming fewer than 10% of calories from saturated fat and keeping trans fat intake as low as possible by limiting foods that contain synthetic sources of trans fats (eg, partially hydrogenated oils) and other solid fats.

Not All Fats Are Created Equal

In contrast, emerging research indicates that dairy fat isn't harmful to heart health as once thought. In fact, it may be beneficial. "The evidence is fairly strong," says Greg Miller, president of the Dairy Research Institute and executive vice president of the National Dairy Council. According to the Dietary Guidelines Advisory Committee, Miller says consumption of milk and milk products—regardless of fat level—is associated with a lower blood pressure and a reduced risk of CVD and type 2 diabetes.

"The fats in whole dairy foods are highly complex and may contain beneficial ingredients," says Adam Lock, PhD, an assistant professor in the department of animal science at Michigan State University. More than 400 different fatty acids have been identified in milk fat. The fatty acids in whole milk are approximately 62% saturated, 30% monounsaturated, 4% polyunsaturated, and 4% other types such as naturally occurring trans fatty acids, which include conjugated linoleic acid (CLA).

What's more, these fats have distinct physiological effects. The nutrition committee of the American Heart Association recognizes the diversity of the biological effects of individual fatty acids and the need to evaluate specific fatty acids related to the risk of coronary heart disease (CHD).¹

What's crucial is that milk fat isn't consumed in isolation; dairy foods also contain protein, calcium, and other components that may modulate the effect of fat on health. "It's important to recognize that individuals consuming dairy fats don't consume just saturated fat," Lock says.

Saturated Fat

Based on these findings, saturated fat intake isn't synonymous with heart disease. A recent research review showed that "there is no significant evidence for concluding that dietary saturated fat is associated with an increased risk of CHD or CVD."²

Most saturated fat in milk has no effect on circulating cholesterol and no negative implications for human health, Lock says. The saturated fat in milk may increase total and LDL cholesterol but also may raise HDL, thereby having a neutral effect.³ In addition, some research suggests dairy fat raises only the large and less atherogenic subgroups of LDL particles.⁴

New research even indicates saturated fat in dairy may be beneficial. In a recent study, researchers concluded that a higher intake of dairy saturated fat was associated with lower CVD risk.⁵

Trans fats

In the food supply, there are two major types of trans fatty acids (TFAs): industrial trans fatty acids (iTFAs), formed by partial hydrogenation of vegetable oils, and naturally occurring trans fatty acids (rTFAs) in milk and meat that are

created by biohydrogenation in ruminant animals. Ruminant TFAs include vaccenic acid, the main TFA in dairy, and rumenic acid, the biologically active form of CLA. Humans convert vaccenic acid into rumenic acid.

It's important to note that when fat is removed from dairy products, fatty acids such as rumenic acid also are removed.

The molecular makeup of iTFAs and rTFAs is different, which may lead to significant differences in their effects on human health. Lock explains that the profiles of these two types of TFAs are different in terms of proportion and concentration: rTFA is composed of mainly vaccenic acid and rumenic acid, whereas iTFA contains virtually no rumenic acid and usually a much lower proportion of vaccenic acid.

iTFAs have been associated with an increased risk of CVD, whereas rTFAs show a negative association or no association with CVD.⁶

In addition, preliminary evidence suggests that rumenic acid may have health benefits. "Research indicates that the CLA in milk may decrease risk of CHD and depress cancer cell growth," Lock says. Studies show that vaccenic acid supplementation may improve dyslipidemia by lowering triglycerides and/or cholesterol, thereby slowing the progression of atherosclerosis.⁶

Lock believes the most compelling evidence showing that dairy foods are beneficial to health includes two research reviews suggesting that those who consume large quantities of milk are at no greater risk of heart disease than those who consume little. In fact, there may be a small but valuable decrease in heart disease risk with increased consumption.^{7,8} "[Consumers who drink lots of milk] probably have an overall survival advantage," Lock says.

"The 'choose low-fat or fat-free dairy foods' message is an easy fix, and it looks good on paper, but in practicality and application, it's probably not that easy," Miller says. "The science says we can be more flexible."

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