Are Full-Fat Dairy Products Anti-Diabetes and Anti-Metabolic Diseases?

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Abstract

The objective of this perspective article was to discuss if consuming full-fat dairy products may help prevent diabetes and metabolic complexities. Diabetes and related metabolic issues are dependent on lifestyle, especially dietary regimens. Conventionally, consuming low-fat or fat-free dairy products has been encouraged in an effort to decrease diabetes and metabolic issues risks. This indication stems mainly from the fact that full-fat dairy products are rich in saturated fatty acids that may lead to cardiometabolic issues. Nevertheless, recent evidence indicates that full-fat dairy products have neutral or likely advantageous effects on cardiometabolic health and diabetes preclusion. Dairy products such as yogurt and cheese are considered bio-functional foods that contain a variety of nutrients (e.g., vitamins, minerals, probiotics, anti-inflammatory, and bioactive molecules) that work together towards improved metabolic health. To conclude, consuming full-fat dairy products to help prevent diabetes and cardiometabolic issues would be a valid area to be further examined in many aspects. This further evaluation is expected to greatly contribute to improving public opinions on health and welfare in today's stressful life.

Keywords: Full-Fat Dairy Product; Diabetes; Metabolic Issue; Health; Nutrition

Philosophy and Discussion

The objective of this perspective article was to delineate if consuming full-fat dairy products may help prevent diabetes and metabolic issues. Milk and its products primarily yogurt and cheese are elegant health-promoting bio-functional foods. Nevertheless, from public standpoint, consuming full-fat dairy products could be attributed to greater blood cholesterol, and hence, greater risks of diabetes and metabolic issues [1]. As a result, the intake of low-fat or free-fat dairy products has been encouraged [2]. This science, nonetheless, has been challenged in various recent studies, indicating neutral or even beneficial effects of full-fat dairy products consumption on metabolic and public health and welfare [3,4].

The association of dairy fat intake and cardiovascular diseases has not been found sizable [2]. Apparently, individual saturated fatty acids (SFA) have special metabolic functions that could not be well estimated when considered as a collection. As an example,

myristic acid (14:0) is an activator of α-linolenic acid to docosahexaenoic conversion. Myristic acid is, in addition, needed for the activation of proteins during biochemical pathways. Myristic acid and lauric acid (12:0) display activities to decrease blood cholesterol (i.e., LDL) [5]. Moreover, SFA especially those with shorter chains may have some role in elevating blood good cholesterol (i.e., HDL) and improving LDL/HDL ratio in yogurt consumers [3,6]. Thus, the indication that SFA increase blood cholesterol and metabolic issues has been challenged. Persuasively, different other influencers such as social bond, nutrition, exercise, lifestyle, smoking, and stress play roles in development of diabetes and metabolic issues. Inflammation is seemingly an important effector in the incidence of metabolic problems [6]. Dairy lipids including, but not limited to, phospholipids and sphingolipids also show anti-inflammatory impacts that can contribute to reducing metabolic issues [6]. Moreover, angiotensin-converting enzyme inhibitors of milk proteins could help decrease blood pressure and related heart coronary problems [7].

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02

Noteworthy, full-fat dairy products ought to be viewed as unique matrices because they work together each with special functional roles [4]. Looking into food matrices instead of single nutrients offers a more accurate and precise evaluation of full-fat dairy products towards diabetes and metabolic issues stoppage [8]. Dairy products' nutritional elements, altogether, as a unique matrix may improve nutrient absorption and bio-function [6]. It is, therefore, contemplated that reducing the fat content of dairy products may have detrimental effects on their physiochemical structure and nature. This negative consequence could have undesirable health outcomes.

In recent large research using people from different countries, lower risk of mortality and cardiovascular issues were found in full-fat dairy consumers [9]. Additionally, full-fat dairy consumption has shown neutral or beneficial effects on cardiovascular health, with lower diabetes in yogurt consumers [10]. The odd-chain SFA are looked at as biomarkers of dairy fat consumption and metabolic diseases risks. Pentadecanoic acid (15:0), heptadecanoic acid (17:0) and trans-palmitoleic acid (t16:1n-7) are among examples [11]. Measuring these biomarkers in older adults suggested an inverse relationship between dairy fat biomarkers with cardiovascular diseases and mortality [11]. All in all, it is increasingly becoming a challenging position if full-fat dairy consumption can have anti-diabetes and anti-metabolic diseases effects. Addressing this challenging question will have significant implications for public health improvement in the new era.

Summary

From the recently growing evidence, it appears that consuming full-fat dairy products could have no harmful effects on metabolic performance and health. Lifestyle, social bond, stress, and inflammation, instead, may play more viable roles. Even, desirable effects of full-fat dairy consumption on diabetes and associated issues have been reported in yogurt eaters. It is contemplated that the world population be updated about the actual impacts of consuming full-fat dairy products on public health and welfare. This contemplation will possess vital implications for improving human health in the new times.

Acknowledgment

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