Nutrition Factsheet

January 2018

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SUGAR IN DAIRY PRODUCTS

Plain or sweetened, all dairy products can be part of a balanced and healthy diet

- The term "sugar" includes intrinsic sugars (natural) and added sugars.
- Lactose is the naturally occurring sugar in milk.
- Sugars can be added to dairy products to sweeten them, but also for technological purposes.
- Dairy provides a whole range of essential nutrients (proteins, vitamins and minerals), while its average contribution to added sugar consumption is relatively low at population level (Figure 3).
- Dairy products are part of a balanced and healthy diet, including plain and sweetened ones.

MILK AND DAIRY PRODUCTS CONTAIN NATURAL SUGARS

- The term "sugar" includes intrinsic sugars (natural) and added sugars. Lactose[a] is an intrinsic sugar because its **naturally present in dairy products** (1,2) (Figure 1). It is incorporated within the structure of milk and when ingested, it is digested by lactase, an enzyme present in the digestive system, that breaks down lactose into its two fragments: glucose and galactose, that are absorbed within the small intestine (3).

Natural sugar in milk represents **4.7%** of its composition

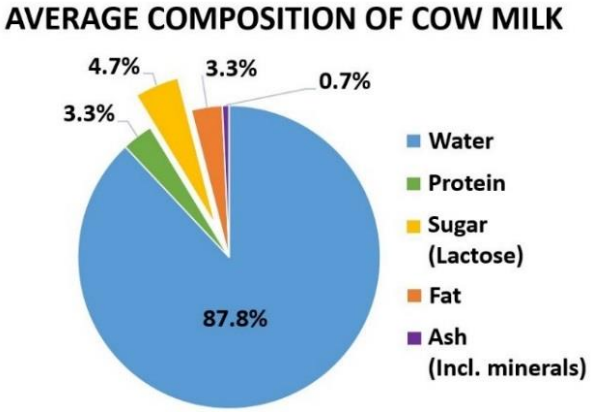

Figure 1. Composition of cow milk per 100g. Modified from (2).

- Leaving aside disorders like galactosaemia or lactose intolerance, there is **no evidence of adverse effects of consumption of dairy natural sugars, such as lactose, as confirmed by WHO** (4,5). In fact, **lactose is a source of energy** and it is particularly important in infancy (it is naturally present in breast milk) (1,6). Lactose also may contribute to the absorption and retention of minerals and may act as a prebiotic (7)[a]. In contrast to added sugars like sucrose, lactose results only in a small increase in blood sugar levels (8).

[a] More in EDA nutrition factsheet "Q&A on lactose intolerance"

EDA (European Dairy Association)
Av. d'Auderghem 22-28
1040 Brussels
Belgium

+32 2 549 50 40
www.euromilk.org/eda
eda@euromilk.org
@EDA_Dairy

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- In addition to their natural sugar content, some dairy products (flavoured fruit yoghurts, fermented milks, milk drinks…) **may also contain added sugars**. Sugars are added to products for different purposes like sweetening, colouring, creating texture or providing bulk.

Table 1. Average lactose content of dairy products (9,10).

DAIRY PRODUCT	LACTOSE (g/100g)
Milk	4.6-4.8
Chocolate milk	4.1-4.9
Yoghurt	3.2-4.5

- To know approximately how much added sugar is in a dairy product, **lactose must be substracted from the total sugar content** declared on the labelling of the product (9,10) (Table 1).

DAIRY IS AN IMPORTANT COMPONENT OF A HEALTHY DIETARY PATTERN

- Milk and dairy are naturally **nutrient-rich foods**[b] because they offer a **whole range of essential nutrients,** including **high quality proteins**, but relatively few calories (11,12). They also naturally provide **vitamins and minerals** and make a significant contribution to the daily nutrient intakes for calcium, riboflavin (vitamin B2), vitamin B12 and pantothenic acid (vitamin B5) (2,13). Dairy also contains other B-vitamins, phosphorus, potassium, iodine, selenium, magnesium and zinc (Figure 2).

Some dairy products contain added sugars, but **they are also nutrient-rich**, and make an important contribution to the daily intake of **vitamins, minerals** and **high quality protein.**

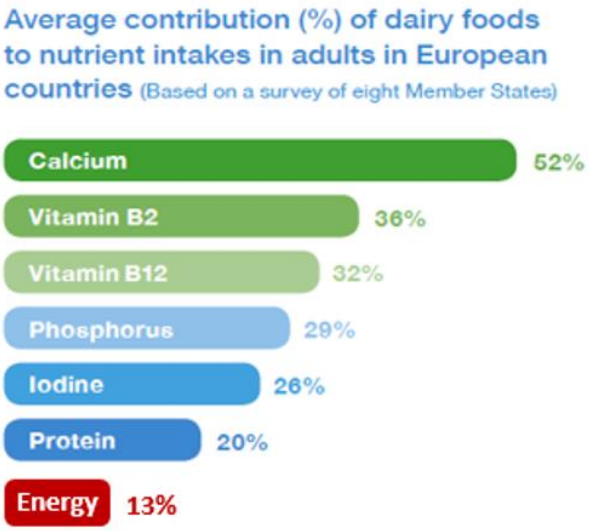

Figure 2. Contribution of dairy to nutrient intakes. Modified from EMF (13).

- This unique nutrient composition makes **dairy contribute to good health at all stages of life**[c]. Scientific studies show that, as part of a healthy diet, dairy foods have been linked to potential health benefits including bone health, improved body composition and weight control, reduced blood pressure (14) and reduced risk of type 2 diabetes (15), stroke (16), cardiovascular disease and colorectal cancer.

[b] More in EDA nutrition factsheet "Nutrient-rich dairy, an affordable source of nutrition"

[c] More in EDA nutrition factsheet "Health benefits and nutritional value of dairy"

EDA (European Dairy Association)
Av. d'Auderghem 22-28
1040 Brussels
Belgium
+32 2 549 50 40
www.euromilk.org/eda
eda@euromilk.org
@EDA_Dairy

- Dairy products also have a role in helping to maintain muscle mass and muscle function in older people[3]. There is also a **positive association between yoghurt consumption, including sugared ones, and diet quality, nutritional status and metabolic profile in children** (17) **and adults** (18)**.** Consumption of yoghurt, including sugared ones, is also associated with a reduced risk of type 2 diabetes (19,20).

- A recent systematic review on dietary and policy priorities for cardiovascular disease, diabetes and obesity concluded that yoghurt, plain or sugared, should be one of the foods to encourage (21). The beneficial effect of yoghurt, including sugared, may be linked to the low glycaemic index of such product (22).

- Besides their nutrient-rich composition, as represented in Figure 3, the contribution of dairy products to **added sugar intake** in the mentioned European Member States, represents only between **4 and 16% in adults** and between **6 and 18% in children** (23), which is far behind sweet products (confectionery, chocolates, cakes, biscuits, sugar and jam) and beverages (coffee, infusions, soft drinks, juices, nectars and alcohol).

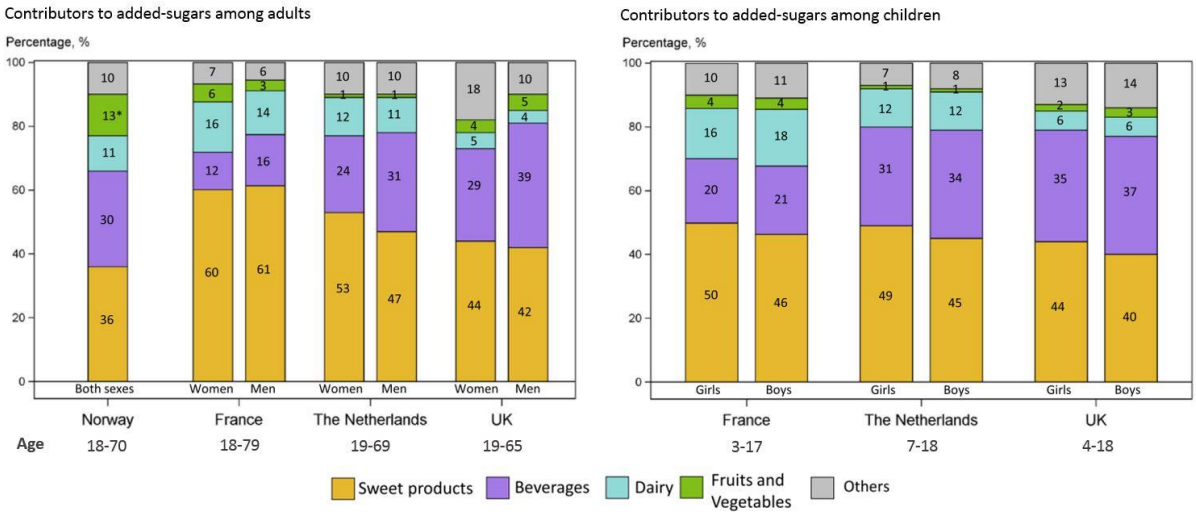

Figure 3. Contribution of different foods to added-sugar consumption in different countries. Modified from Azaïs-Braesco et al. (23).

- **The health effects of wholesome foods, such as dairy, are not only due to their nutrient content** but probably also to its complex structures. Although sweetened dairy products contain added sugars, no negative health effects have been observed, in contrast to other added sugar contributors. This might be explained by the interaction of the different components in the **dairy matrix** (nutrients, bioactive compounds, live cultures…) that are associated with beneficial health effects.

- When we consider different dessert or snacks options available to consumers, **some dairy products contain much less sugar than typical desserts** like cakes, sorbets or compotes and even less sugar than some fruits (Figure 4).

- An interesting additional perspective to consider is the **quantity of sugar added at home** to non-sweetened products. A French study (24) has demonstrated that consumers add on average 13.6 g of sugar per cup of plain yogurt, which is higher that commercially available pre-sweetened yogurts with 10.3 g of added sugar per cup (Figure 5). This study also showed that consumers underestimate by half the quantity of sugar that they add.

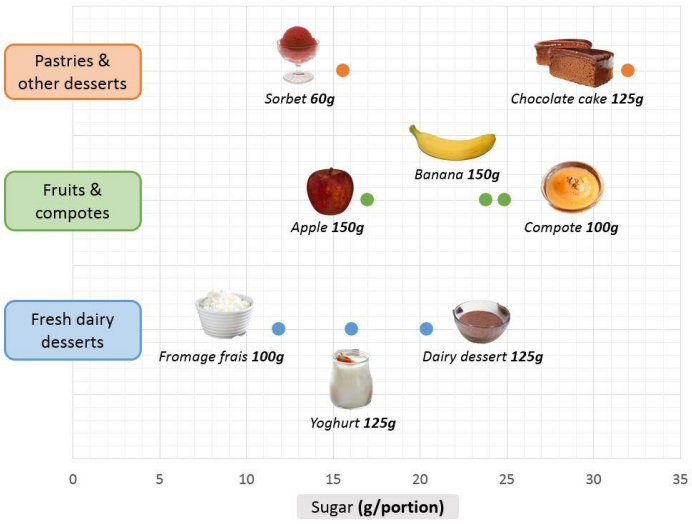

Figure 4. Sugar content of different dessert options. Modified from Syndifrais.

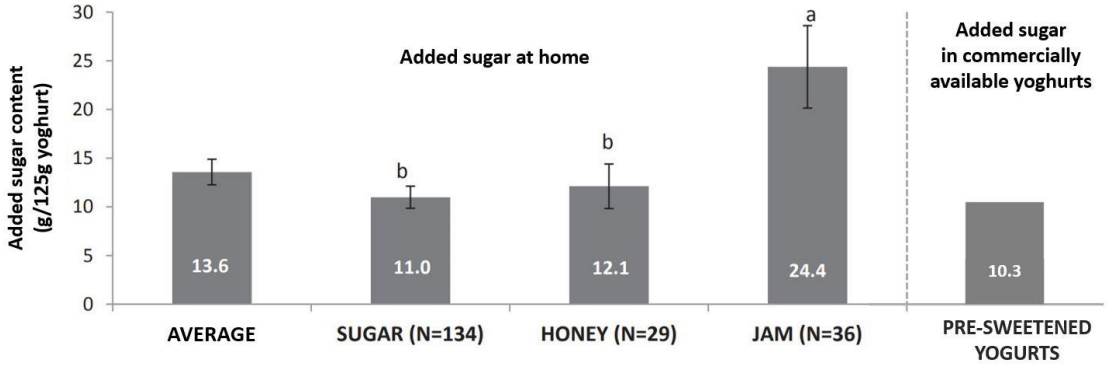

Figure 5. Impact of the sweetening agent used on the quantity of sugar added to 125g of plain yoghurt VS added sugar content in commercially available pre-sweetened yogurts. a, b: significantly differences at $p < 0.05$ (multiple comparison test). Modified from Saint-Eve et al. (24).

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DAIRY PRODUCT VARIETY TO ENSURE RECOMMENDED CONSUMPTION AND HEALTHY DIETARY PATTERNS

- **Milk consumption is steadily declining across the EU**, especially in children, adolescents, young women and elderly people. This correlates with the fact that many Europeans have less than an optimal intake of certain nutrients like calcium, selenium, iodine and vitamin D (25), which are found in many dairy foods.

- To satisfy consumer wishes and demands, and therefore make dairy recommendations easier to reach, dairy industry offers a wide range of products with different fat and/or sugar content, including milks, yoghurts, fermented milks and cheeses.

- There is a growing misconception that sugar is 'bad' and 'unhealthy', but it is an essential source of energy and can be enjoyed as part of a varied and balanced diet when consumed in moderation and according to a person's individual needs (26). Dairy products containing added sugar also deliver a multitude of essential nutrients. In fact, besides non-sweetened dairy, sweetened milks and yoghurts can also be considered a **way to increase milk consumption and boosting the population's vitamin, mineral and protein intake without any adverse impact on weight** (27–29). Several studies show that yoghurt consumption, including sugared ones, has a neutral or beneficial effect on weight status (30–32) and is also associated with **better overall diet quality without any adverse impact on health**. When milk is removed from the diet, it is often replaced by potentially nutrient-poor, energy-dense foods and beverages.

- Research and dietary guidance increasingly recognise the **importance of the whole diet** on health. Therefore, it is important that **consumers continue to be educated** on the distinction between the different types of sugar and the **difference between nutrient-rich and nutrient-poor products**. This will enable them to make informed decisions concerning their diet, and choose the most favourable patterns instead of eliminating interesting sources of high quality nutrients, like dairy.

Overall composition of dairy is the key
Dairy products are low contributors to added sugar intakes in Europe while they are high contributors of essential nutrients in all population groups (13).

EDA (European Dairy Association)
Av. d'Auderghem 22-28
1040 Brussels
Belgium

+32 2 549 50 40
www.euromilk.org/eda
eda@euromilk.org
@EDA_Dairy

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