Yogurt Nutrition Digest
Issue 7
September 2016
#Yogurt4Health

YOGURT IN NUTRITION
INITIATIVE FOR A BALANCED DIET

This Digest is all about #Yogurt and Available #Evidence

Everything you wanted to know about yogurt... but didn't have the time to read

If you're a regular Digest reader, you'll know that in each issue you'll get insights into evidence on yogurt and a particular health benefit, such as satiety or nutritional content. But if you haven't had the time to digest all the conclusions from previous issues, this "one-stop shop" will give you snippets of news on yogurt attributes, with links that help you explore your interests further, if you wish to.

Figure 1: Explore the 6 key topics in Yogurt in Nutrition (click on the chapter you wish to reach)

History of yogurt and how it is made

Yogurt and its benefits have been recognised since as early as 5000BC. Could it have been discovered by chance as a result of milk fermenting in the hot Middle Eastern sunshine? At around 2000BC, it was discovered that yogurt was a traditional way to preserve milk, and yogurt was used as an ingredient in India and Persia (now Iran).

Medicinal properties were detected as early as 1072, when the Turks used it for symptoms such as diarrhoea and sunburnt skin. And Genghis Kahn's army were supposedly fed on yogurt because they believed it would instil strength. Yogurt was later brought to Europe by the French King Francis 1, after he noticed it cured him from severe diarrhoea. And the rest, as they say, is history!

Yogurt is made through the fermentation of lactic acid bacteria, usually *Lactobacillus bulgaricus* and *Streptococcus thermophilus*, with milk. After heating, homogenising and cooling the milk, bacteria are added as a starter culture and it's the proteins in milk that coagulate and set. The milk is then maintained at the same temperature for several hours to permit fermentation. The fermentation process releases the distinctive aroma and flavour of yogurt, and it can be made from fat-free as well as full-fat milk.

More info on www.yogurtinnutrition.com
- Yogurt, the food of ancient nomads
- The complete history of yogurt-making (infographic)
- 11 countries that consume the most yogurt
- 5 things about yogurt and the bacteria that defines it

Yogurt – a nutrient-dense food

Yogurt provides high quality protein wrapped up in a robust nutrient package. The milk proteins in yogurt score highly in both the methods currently available on assessing protein quality: the high PDCAAS and DIASS for milk indicates that dairy proteins are well digested and absorbed (good bioavailability), and its mix of amino acids (including all of the 9 essential amino acids), supports efficient protein synthesis.
Choosing yogurt in place of other snacks or desserts can have nutritional benefits. Yogurt provides more than just calcium. Most 8 ounce/225g servings in US and 140g in EU are sources of calcium, phosphorus, and riboflavin, and provide smaller but valuable amounts of a range of other micronutrients.

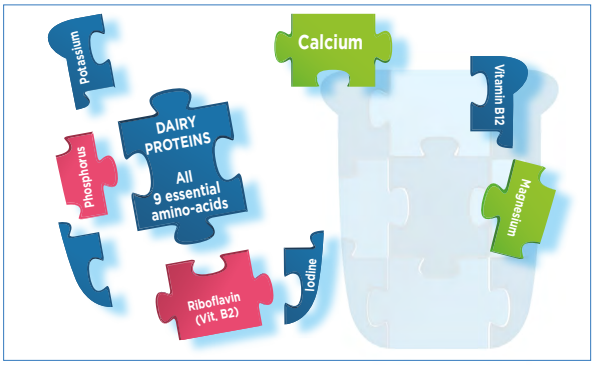

Figure 2: Yogurt is a nutrient-dense food

More info on www.yogurtinnutrition.com
- How yogurt contributes to nutrient intake at different life stages
- When yogurt drives a better diet quality
- Nutrient density: foundation of dietary recommendations and guidelines

Incorporating more nutrient-dense planned snacks could help to lower the risk of nutrient deficiencies. With its protein content and nutrient density, yogurt, including sweetened yogurt, can be a nutritious and potentially satisfying snack for people of all ages and activity levels. And remember, yogurt can be used in different ways in several meal occasions. It can be spiced up, sweetened, frozen, cooked, blended with fruit into a smoothie, even made into a curry!

Figure 3: Yogurt can be used in different ways

Lactose intolerance

Figure 4: Yogurt provides a solution for lactose intolerance

Lactose is the type of sugar naturally found in milk. Lactose intolerance occurs when the enzyme lactase available in the gut isn't efficient enough to digest lactose. This leads to undigested lactose passing into the large intestine where it can be fermented by the bacteria in the colon causing unpleasant symptoms, such as flatulence, diarrhoea and abdominal pain. As a result, people with lactose intolerance tend to avoid all dairy products, putting their intake of vital nutrients at risk.

Research has consistently shown that most people with lactose intolerance can better tolerate yogurt compared to standard/unfermented milks [1], so nutrient-dense yogurt with its high quality protein can still be included in the diet. There appear to be a number of possible reasons for this, including the activity of live bacteria in the yogurt.

Yogurt: could it be the signature of a healthy diet & lifestyle?

Figure 5: Yogurt as the signature of a healthy diet

Yogurt, and especially protein-rich yogurt, provides a convenient vehicle that contributes to a nutritionally balanced day. People who choose yogurt more regularly also appear to make other more nutrient-rich food choices. For example, they tend not to be high consumers of potato chips, and yogurt eaters might have chosen a lifestyle that promotes good metabolic and overall health.

Yogurt consumption appears to be an indicator of a healthy diet and lifestyle. Consumers have been shown to:

- Have greater intakes of key nutrients
- Have healthier eating habits in general
- Be better able to meet dietary guidelines
- Tend to be more physically active
- Tend to be 30% less likely to smoke.

Eat yogurt, eat better

Eating yogurt daily appears to drive healthier food choices [2]. It has been proposed that increasing yogurt intake could help people to achieve greater diet adequacy. The diets of American children aged 2 to 11 provided higher than recommended levels of sugar and energy, but insufficient in vitamin D, calcium and potassium. Substituting current snacks with a serving of low-sugar whole milk yogurt would contribute to an increased consumption of these valuable nutrients [3]. Recent research from the University of Iowa suggested that frequent yogurt consumption could help improve diet quality as well as insulin profile in children [4]. Yogurt consumption was associated with less body fat and higher levels of calcium, vitamin D, protein and potassium in the NHANES Survey [5].

More info on www.yogurtinnutrition.com

- New US dietary guidelines: what about dairy products and yogurt?
- The typical Italian yogurt consumer is healthier
- Yogurt goes with a healthy lifestyle: an interview with Dr Lori Shemek
- Yogurt consumption is an indicator of a healthy diet and lifestyle (infographic)

Yogurt affects more than just dietary intake

D'Addezio [6] showed that people who eat yogurt tend to have a healthier diet and lifestyle, and yogurt consumption appears to drive healthier behaviours. Those who ate more yogurt had higher levels of education, were more active, and had a good knowledge of food and health.

Dairy foods have their own inherent nutritional benefits. But there also appears to be a displacement effect – people who eat more yogurt also consume more fruit and vegetables and less meat, fish, nuts and alcohol.

Yogurt & weight matters

Yogurt-eaters who consume more than three servings of yogurt per week appear to be better able to manage their weight over time [7]. This association was not observed for other dairy sources such as milk or cheese. A review [8] of existing research on yogurt and weight also found that yogurt-rich diets were associated with less weight gain over time.

More info on www.yogurtinnutrition.com

- 3 facts you should know about yogurt and weight management (infographic)
- Whole milk yogurt associated with a reduction in abdominal obesity

You may think it's just a calorie debate, in that lower fat yogurts will be lower in calories and hence contribute to successful weight management. But a Spanish study [9] showed that people who ate full-fat yogurt daily were 19% less likely to be obese compared to those who ate less than two pots a week. People who followed a Mediterranean eating pattern were found to be 36% less likely to be obese than infrequent yogurt consumers who did not follow a Mediterranean diet.

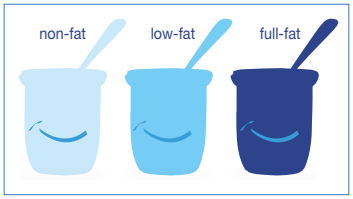

Figure 6: Yogurt is associated with weight management regardless of fat content [7, 8, 9]

Beneficial changes have also been detected in terms of waist circumference and yogurt consumption in the PREDIMED study, including 4545 subjects at high risk of cardio-vascular disease: a significant association was found between whole milk yogurt consumption (though not overall yogurt consumption) and metabolic syndrome [10].

A recent systematic review [11] confirmed an association between yogurt intake and lower BMI, body weight, smaller waist circumference overtime.
More on yogurt, weight and curves.

Diabetes risk and yogurt

It is well documented that yogurt, and in particular, protein-rich yogurt is an example of a nutritious food that, when eaten as a snack, has been shown to increase satiety between meals (lower hunger and higher fullness ratings) in a number of studies. There is now emerging evidence on reduction in risks of Type 2 diabetes.

Within three cohorts, researchers from Harvard School of Public Health [12], found that total dairy consumption had no association with the risk of developing Type 2 diabetes. But it was found that high consumption of yogurt was associated with a lower risk. A 28g serving of yogurt per day was associated with an 18% lower risk of Type 2 diabetes. Scientists at the University of Cambridge [13] found that higher consumption of low-fat fermented dairy products, which include all yogurt varieties and some low-fat cheeses, also reduced the relative risk of diabetes by 24% overall. In another study, eating 4.5 pots of yogurt a week seemed to exert a risk reduction of 28% [14].

More info on www.yogurtinnutrition.com
- Yogurt consumption & risk of Type 2 diabetes (infographic)
- Yogurt & T2 Diabetes: overview of recent epidemiological studies (slideshow included)
- The 4th Yogurt Summit: targeting (T2) Diabetes (Summary Report)
- Yogurt consumption and risk of Type 2 Diabetes (infographic)
- Dairy, yogurt and diabetes by figures (infographic)

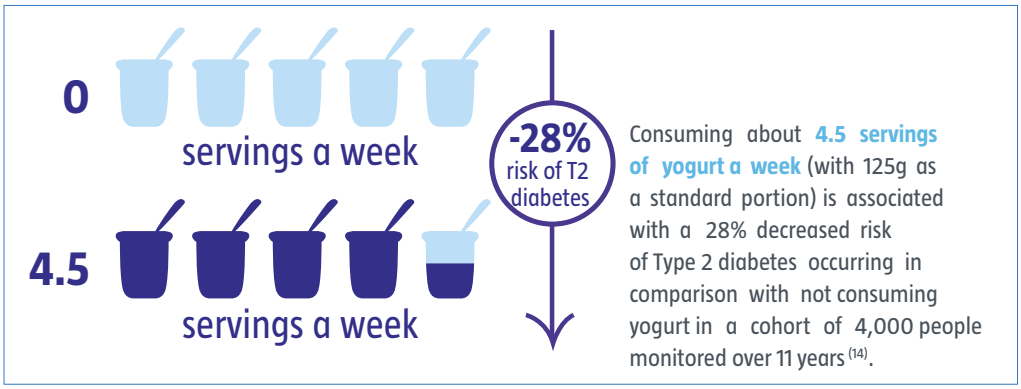

Figure 7: Yogurt is associated with a decreased risk of Type 2 diabetes

'Did you know?'

Sweeten plain yogurt yourself and you could be having more sugar!

In France, 50% of consumers sweeten plain yogurt with, for example, sugar, jam or honey before eating it. People seem to under-estimate the amount of sugar they add to plain yogurt to give it desired sweetness. They added on average 13.6g of sugar, which is higher than the average 10.2g of sugar found in commercial sweetened yogurts [15].

Saturated fats from dairy foods is not like other sat fats

It appears that saturated fats from dairy sources are associated with reduced risk of CVD. The authors speculate that this could be attributed to other nutrients in dairy foods, such as calcium, potassium, peptides and some vitamins [16].

Not all saturated fats work in the same way. In the EPIC-InterAct Study [17], people who consumed more dairy including full-fat varieties had lower risk of Type 2 diabetes.

Gut microbiota – the earlier the better

Colonization of the gut in early life significantly impacts future health, according to Dr Goulet and his team in France [18]. Intestinal microbiota can promote a healthy gut immune system and early implementation may influence the risk of future disease such as metabolic syndrome, auto-immune diseases and IBS. Yogurt is a well documented source of living micro-organisms that positively impact gut related disorders.

More info on
- Gut Microbiota May Benefit From Yogurt (Pr Donovan)

It's not just the calcium that's good for teeth...

It's well known that high acid and sugar drinks and snacks increase the risk of tooth erosion, but conversely, high intakes of milk and yogurt reduce the occurrence of erosion. A meta-analysis by researchers in Brazil [19] observed a preventive effect with high milk and yogurt consumption.

More info on
- No more tooth caries : the surprising effect of dairy

Low-fat yogurt is just as rich in calcium

Remove the fat and you still maintain the calcium.

Going for a run? Yogurt before exercise may not cause gastrointestinal discomfort

A team of Australian researchers [20] found that substantial amounts of dairy foods can be eaten before strenuous cycling without it causing gut discomfort. Moreover, it had no effect on performance.

Yogurt can lower blood pressure

A 15-year study [21] of 2000 healthy volunteers suggested that eating yogurt may help to lower risks of hypertension. People who ate a pot of yogurt every three days were 33% less likely to develop high blood pressure. The mechanism is unknown, but researchers [22] suggest that bacteria present in the gut may help to regulate blood pressure. Yogurt contributes bacteria as well as short chain fatty acids (SCFAs) that may be responsible for this protective effect.

More info on
- Eating yogurt lowers blood pressure

Yogurt as a vehicle for protein supplementation

Protein is particularly important in older age to maintain muscle mass. 20g of protein from protein-enriched yogurt and 6.9g from protein-enriched bread, taken on three consecutive days showed that 36% of the intervention group reached the daily minimum recommendations of 1.2g/kg body weight, compared to 8% in the control group [23]. Yogurt can contribute to protein intake without adding excessive calories.

Further, eating two servings of calcium and vitamin D-fortified yogurt a day has been shown to reduce bone loss in older people at risk of fractures [24]. Yogurt consumption has also been shown to be positively associated with hip bone mineral density. Results from the Framingham Offspring study showed that 4 servings a week had a small but protective effect on hip fractures [25].

More info on
- What about fat?
- Why older adults need more yogurt

IN CONCLUSION...

Yogurt is part of the world food heritage that appears as a friend for the human body. It provides essential elements for health and functionality and may promote their bioavailability. There is a good fit between its consumption and the adherence to healthy behaviours.

Digest 1: What added value does yogurt bring to dairy protein?
http://www.yogurtinnutrition.com/added-value-yogurt-bring-dairy-protein/

Digest 2: Role of protein and yogurt in appetite control
http://www.yogurtinnutrition.com/role-of-protein-and-protein-rich-yogurt-in-appetite-control/

Digest 3: How yogurt can be a satisfying snack
http://www.yogurtinnutrition.com/how-yogurt-can-be-a-satisfying-snack/

Digest 4: What is a healthy snack?
http://www.yogurtinnutrition.com/what-is-a-healthy-snack/

Digest 5: Yogurt, weight and curves
http://www.yogurtinnutrition.com/yogurt-weight-and-curves/

Digest 6: Yogurt – why it could be the signature of a healthy diet
http://www.yogurtinnutrition.com/yogurt-why-it-could-be-the-signature-of-a-healthy-diet/

http://www.yogurtinnutrition.com

Look out for your next issue of Yogurt Nutrition Digest:
Yogurt and diabetes - from evidence to eating

What did you think of Yogurt Nutrition Digest 7? Tweet us your feedback **@YogurtNutrition - #Yogurt4Health**

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