

This Digest is all about #pregnancy #childrensdiet #teenager #lactose_intolerance # sarcopenia #weight_control #T2Diabetes #healthy_snack

Yogurt – good food for every Body

Whether you're a teenager or a mum, whether you're active or sedentary, whether you're in peak health or just want to look after your body, yogurt can play an important role in your daily eating habits. This Digest presents scenarios of case studies depicting the role of yogurt, the evidence-base for that particular need state, and practical examples of how it can form part of the daily menu of people with different dietary needs.



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Yogurt - a versatile choice

Different types of yogurt are consumed around the world ⁽¹⁾, and it is traditionally an inherent part of certain cultures. Think about the raita you might order with your Indian meal – it's a popular accompaniment to most South Asian cuisine. Or the tzatziki that is served with Greek grilled meats in the Mediterranean diet.

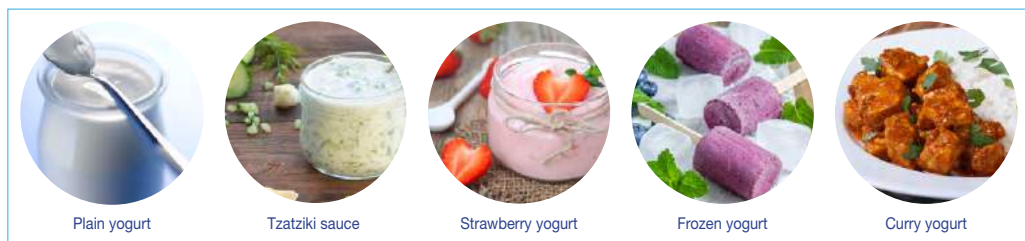


Figure 1: Yogurt can be used in different ways

**Worldwide,
yogurt consumers
generally adopt
healthier nutrition
and lifestyle
behaviour**

European countries, including Russia, consume the largest quantity of traditional yogurts. Research in 15 countries ⁽²⁾ also shows that the biggest consumers of yogurt in the world are the Netherlands, Turkey, France, Spain and Germany. Yogurt is nowadays deeply rooted in our eating behaviour and, worldwide, yogurt consumers generally adopt healthier nutrition and lifestyle behaviour.

There's no doubt that yogurt is nutritious food that plays an integral role in maintaining a healthy lifestyle. Here are just five reasons why:

1. Yogurt provides high quality proteins.
2. Yogurt can be an effective aid to weight management.
3. There is good evidence suggesting that yogurt can help to reduce risks of type 2 diabetes.
4. Yogurt is a convenient "swap food" for people wanting to make healthier choices.
5. The calcium, magnesium and other bone-friendly aspects mean daily consumption of any type of yogurt can help to maintain healthy bones and teeth.



Figure 2: Reasons to include yogurt into a healthy lifestyle

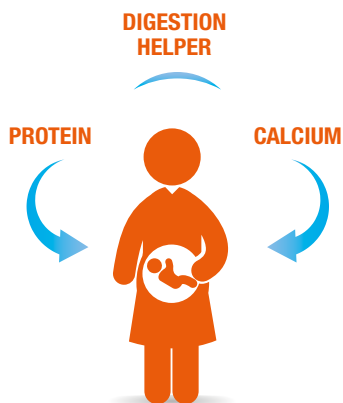
MEET JACQUELINE

Jacqueline is pregnant and her body is adjusting to the additional biological demands of pregnancy. These demands impose increased needs for high quality protein and calcium that can be provided by yogurt⁽³⁾. She also requires adequate regular physical activity to promote flexibility, muscle tone and energy.

Jacqueline is motivated to eat well, particularly as this is her first pregnancy. As a new mum, her responsibilities will also evolve into working with her partner to provide nutritious family meals as their child develops.



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So what?

Yogurt consumption is part of this “winning combination” of lifestyle improvements that can contribute to an optimal pregnancy. Indeed, yogurt is a source of key nutrients such as protein and calcium needed for the developing foetus⁽⁴⁾. Additionally, the good digestibility of yogurt can also be an asset for the pregnant woman that may experience digestive problems⁽⁵⁾. Yogurt consumption is well documented as part of the multiple good diet and lifestyle practices^(6,7) such as regular physical activity and a varied eating pattern (more fruit and vegetables, whole grain carbohydrates, unsaturated fat sources in place of saturates, lower fat dairy foods)⁽⁸⁾ that, when combined, can significantly contribute to overall wellness and good health, especially under more demanding conditions such as pregnancy.

Yogurt on the menu

Three tasty tips:

1. Need a quick snack? Mix plain yogurt with crushed chick peas, lemon juice and black pepper for a speedy healthy hummus. Serve with whole grain crackers or warmed pitta bread strips.
2. Can't stomach food first thing in the morning? Wait a while, then choose yogurt with berries if you prefer a lighter start to the day.
3. Aim for 2-3 portions of dairy foods, and at least five fruit and vegetables a day during pregnancy. Make it simple by combining the two! Try grated cucumber or raw courgettes (zucchini) in plain yogurt for a tasty dip, sliced banana with yogurt for a filling dessert, or add chopped pineapple to your pot of yogurt for a tropical touch.

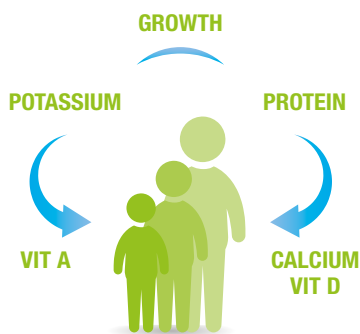


MEET PAUL

Paul is a happy 6-year-old boy. Like most young boys, he's typically very hungry after school and demands filling food – fast! It's a time of rapid growth and his parents are keen to expose him to a range of foods that are healthy, filling and tasty. They know he needs calcium every day, and they've found that Paul enjoys getting involved in the kitchen with simple things like mixing yogurt with brightly coloured fruit or blitzing it into a milk shake using added fruit and milk.



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So what?

A 6-year-old boy requires about 1700 kcalories, 19 g of protein, 1000 mg of calcium, 3800 mg of potassium, and 400 µg of vitamin A per day (US Dietary Reference Intakes⁽⁹⁾). A 150 g serving of plain low-fat yogurt provides about 40%, 28%, 9%, and 5% of Paul's needs for protein, calcium, potassium, and vitamin A!⁽¹⁰⁾

Children between the ages of 2 and 14 years who regularly eat yogurt have been shown to have a higher Healthy Eating Index (HEI) than those who are infrequent yogurt consumers⁽¹¹⁾. Further, children between 8-18 years who consumed yogurt had lower total fat and saturated fat intakes and higher protein, calcium, vitamin D, protein and potassium intakes than non-yogurt consumers⁽¹²⁾.

Yogurt on the menu

Three tasty tips:

1. Freeze fruity yogurt into ice lolly moulds for a refreshing summer cooler.
2. Yogurt provides a nutritious alternative to typical children's snack foods. It comes in a variety of flavours and textures, so Paul can enjoy drinking yogurt when he's thirsty, thick protein-rich yogurt when he's particularly hungry, and yogurt mixed with chopped fruit as a dessert or after school snack.
3. Swap out ice cream in desserts and serve lower fat yogurt instead – it will provide more protein and calcium.

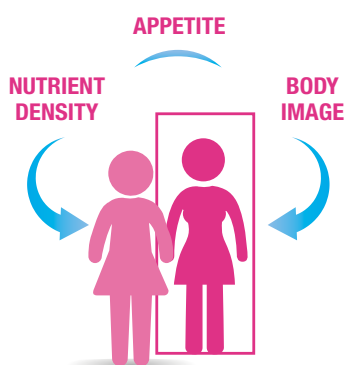


MEET NATASHA

Natasha is a teenage girl who is going through puberty and beginning to lay down fat stores around her hips. She's sensitive to social pressure towards leanness and has heard through social media that dairy makes you gain weight, so she's decided to avoid milk, cheese and yogurt in an attempt to minimise the growing curves on her body. She chooses diet soft drinks in place of milk and often skips breakfast.



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So what?

This context puts Natasha at risk of ignoring hunger sensations and having a distorted connection between hunger and eating. Obviously, she would benefit from well-targeted messages emphasizing healthy eating instead of an obsession towards body image. Yogurt consumption could also be part of the solution because of its documented beneficial effects on the control of appetite and energy intake. For instance, at snack time, yogurt represents a nutrient-dense food which was shown to be satiating by prolonging post-consumption hunger suppression⁽¹³⁾. A snack yogurt was also found to reduce subsequent energy intake to an extent exceeding its own caloric content⁽¹⁴⁾. Thus, beyond the well-targeted behavioural advice, the consumption of nutrient-dense foods like yogurt and fruit could help Natasha adopt a more sensible eating pattern.

Choosing soft drinks in place of milk could have a deleterious effect on her bone density, as avoiding dairy foods like yogurt compromises her calcium intakes⁽¹⁵⁾.



Yogurt on the menu

Three tasty tips:

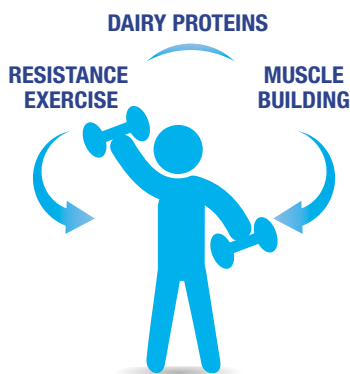
1. As Natasha appears to be conscious of her sugar intake, she can avoid sugared yogurts and choose to add freshly chopped fruit to plain yogurt for dessert.
2. Creamy yogurt topped with a swirl of chocolate spread or sauce with a sprinkling of chopped nuts provides an indulgent teenage treat.
3. Fresh vegetable crudité dipped into Greek yogurt can make a satisfying and healthy after-school snack, and yogurt-based dressing could offer a nutritious alternative to classic salad dressings.

MEET SIMON

Simon is a young professional with a demanding, stressful job. He works out at the gym regularly, is keen to optimise his body shape, and wants to improve his mental and physical performance. His active lifestyle demands an appropriate range of nutritious foods, containing high quality protein as well as adequate daily energy needs.



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So what?

Protein is an essential nutrient that plays a vital role in growth and development, immunity, the health of bones, skin, and nerves, and much more. Amino acids are the building blocks of protein. Nine are considered “essential” and must be obtained from the diet. High quality proteins, such as those found in yogurt, contain all 9 essential amino acids in the proportions that cells need for protein synthesis⁽¹⁶⁾.

Protein, and in particular whey protein, is important for muscle protein synthesis. Numerous trials have shown that the consumption of protein following resistance exercise increases muscle protein synthesis and can help lead to muscle growth over time^(17, 18). Most studies have examined milk’s ability to stimulate muscle protein synthesis following acute bouts of resistance exercise. However, since both yogurt and milk contain similar amounts of whey protein the results observed in milk would probably hold true if yogurt was consumed post exercise⁽¹⁷⁾.

Yogurt on the menu

Three tasty tips:

1. Simon will lose electrolytes and fluid through his physical activity, and can replace this by creating a salted caramel flavoured smoothie using protein-rich yogurt, semi-skimmed milk, diced pineapple and salted peanuts.
2. A pre-workout snack could comprise sliced banana mixed with yogurt.
3. High protein yogurt mixed with mashed avocado, chopped walnuts, diced sweet peppers and aromatic herbs make a great savoury protein-rich snack.



MEET SARAH

Sarah is a young woman who watches her weight and is often lured into faddy eating through celebrity-led diets or sensational media headlines promising speedy, effortless weight loss. She misses meals in an attempt to cut calories and better tolerate hunger; yet she is often hungry and this affects her mood. Her weight tends to fluctuate, as she loses weight whilst “on a diet” and then regains it when she comes “off the diet”. This cycle resurfaces once the next faddy diet lures her again into a false sense of security.



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LIFESTYLE NUTRIENT DENSITY



So what?

Sarah's behaviour of missing meals and trying to tolerate hunger represents a sort of rigid food restriction, and seems to be counterproductive since it is related to an increased risk of body weight gain in the long term⁽¹⁹⁾. Sarah would certainly benefit from the expertise of a dietitian who could advise her on filling, nutritious food choices when she feels real physical hunger. She could improve her eating patterns with regular consumption of small meals. For example, work from Dr Rolls' team showed that energy density of foods influences energy intake more significantly than the amount of dietary fat^(7, 17). In this regard, eating yogurt regularly as part of a healthy lifestyle can help to improve diet quality while promoting satiety at reduced energy intake⁽⁷⁾. In practical terms, Sarah would benefit from eating a range of healthy, satiating and low energy dense foods that provide fewer calories per serving⁽²⁰⁾.

Yogurt on the menu

Three tasty tips:

1. Yogurt jewelled with fresh pomegranate seeds makes a vibrant low calorie dessert option.
2. Swapping out flavoured chilled desserts like mousse or ice cream with flavoured yogurt can help to save calories and increase portion size.
3. Protein-rich yogurt can make a filling creamy sauce for pasta, a refreshing chunky dip with grated zucchini or cucumber, or a spicy korma dish where yogurt is used in place of cream.



MEET CLIVE

Clive is in his 40s, and is at risk of type 2 diabetes because of a strong family history and the fact that he is overweight, with a risky waist circumference. He likes to snack, and is a bit of a foodie; he enjoys creating innovative savoury dishes that he shares with friends. He's beginning to think about making dietary changes that could help to reduce his risks of developing diabetes, especially as he now has two children and wants to be able to live an active lifestyle as they grow.



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So what?

There is a possibility that obesity and diabetes share the same origin. Additionally, it is well recognized that unbalanced eating, inadequate physical activity habits, and insufficient sleep are problematic. Moreover, all these inadequate practices seem to promote glycaemia instability⁽¹⁹⁾ which favours excess energy intake, long-term body fat accumulation and hormonal compensations. Despite his family history, Clive can considerably improve his condition if he upgrades his lifestyle practices. This includes the regular consumption of healthy foods like yogurt which was recently shown to be independently related to a reduced risk of diabetes⁽²¹⁾ and weight gain over time⁽²²⁾.

Keeping to a new lifestyle can be challenging, so dietary changes need to be simple and tailored to his current eating preferences. At the same time, adding yogurt to the family menu will benefit his growing children in terms of nutrients such as calcium and protein, and general healthy eating. The satiating effect of yogurt could help Clive keep to his weight management goals, and since it can be incorporated into savoury foods, it's more likely that he will enjoy this modification to his diet⁽²³⁾.

Yogurt on the menu

Three tasty tips:

1. Yogurt isn't just for dessert. It can be incorporated into savoury meals for the whole family – use it in place of cream in rich dishes like stroganoff, chicken in cream sauce and korma.
2. Clive can use yogurt in salad dressings and dips to help lower the fat content of his meals. Examples include yogurt with fresh basil and chilli on a Thai-style salad, or a cooling dip of yogurt with lemon juice, fresh parsley and garlic as a partner to grilled meat or fish. Such habits can help expose children to exciting ways to add yogurt to daily meals.
3. Snacking in between meals isn't a bad thing, so long as you choose wisely. Clive's savoury palate could be satisfied by creating a filling, healthy snack made from plain protein-rich yogurt, fresh mint, chick peas and walnuts. And he could swap his usual high fat calorie-rich snacks for lighter snacks containing yogurt.

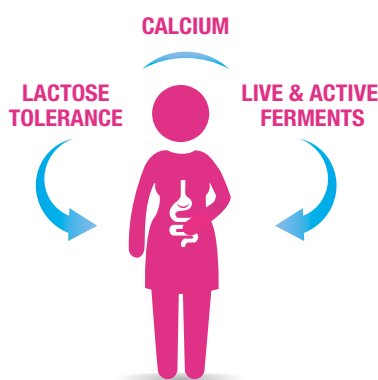


MEET NALINI

Nalini is a South Asian woman with lactose intolerance. Having read that dairy foods have lactose, she avidly avoids all yogurt and tells her friends she can't digest it. This sometimes means she chooses other desserts while her friends enjoy a pot of yogurt after a meal. She tries a range of dairy alternatives but doesn't believe they're just as good for her.



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So what?

Avoiding dairy foods can make Nalini susceptible to lower intakes of calcium and other bone-friendly nutrients, unless she chooses fortified dairy alternatives and has appropriate intakes of other calcium-providing foods like bread, nuts and green leafy vegetables. Dairy foods can be an important vehicle for other foods, such as fruit or cereals. Not drinking milk may mean she avoids breakfast cereals, many of which offer a good source of fibre and other nutrients. So, simply avoiding dairy puts the rest of her diet at risk too.

While lactose intolerance is an individualized condition, there are dairy solutions to help meet the needs of most people with lactose intolerance (LI). Here's a summary of some research evidence:

- Lactose in yogurt is easier for some people with LI to digest^(24, 25), possibly because the gut-friendly bacteria in yogurt provide some of the lactase needed to help the body breakdown lactose, or they may also help make a more favourable gut environment that helps reduce LI symptoms^(24, 25). Some preliminary studies are finding other options, such as probiotic intake, that may show promise to help reduce symptoms^(24, 25).
- Lactose in yogurt is better digested than that in milk⁽²⁶⁾. Additional studies^(27, 28) showed that lactose from unheated yogurt was better digested than that from heat-treated yogurt, indicating that the gut-friendly live bacteria in yogurt played a role in helping lactose digestion. According to EFSA, yogurt cultures promote better lactose digestion⁽²⁹⁾.
- The NIH found that those with lactose malabsorption can consume 12 g of lactose (the amount in about a cup of milk), at one time during a meal or in several intakes during the day, with no or minor symptoms⁽²⁹⁾. Consuming low or no-lactose dairy products such as hard cheeses can also help meet dairy recommendations⁽³⁰⁾.



Yogurt on the menu

Three tasty tips:

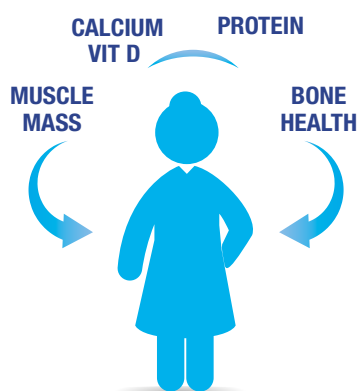
1. Yogurt mixed with grated cucumber and cumin seeds makes a refreshing raita, which Nalini can pair up with her authentic Indian meals.
2. Yogurt can even be made into curry, using gram flour and spices! Or use it as a marinade for chicken or fish tandoori dishes.
3. Nalini can enjoy a pot of yogurt as dessert in the same way her friends can. Fruit flavoured and plain varieties can all be tolerated.

MEET CAROLINE

Caroline is 65 years old, and at risk of osteoporosis and sarcopenia. She has noticed that her nails keep cracking and the muscles in her upper arm appear to be looking slacker, a sign of sarcopenia. Her friend recently fell and fractured her ankle, and she's aware that she needs to have more calcium and vitamin D for strong bones. Her doctor has told her she has been absorbing less calcium since menopause⁽⁶¹⁾, so she needs a good supply of calcium-rich foods. She doesn't like milk much, and wants to avoid eating too much cheese as she is trying to manage her weight.



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So what?

Dairy contains a robust nutrient package not found in other commonly consumed protein-providing foods, which are essential for maintaining bone and muscle. These nutrients include calcium, potassium, phosphorus, protein, vitamins A, D, B12, and riboflavin. The dairy food group is a substantial contributor of many of the above nutrients (e.g., calcium, phosphorus, vitamin A, vitamin D if enriched, and protein), all of which should work toward promoting bone and muscle health⁽³²⁾.

Yogurt consumers have been shown to have higher potassium intakes and be less likely to have inadequate intakes (based on Dietary Reference Intake) of several vitamins, including vitamins B2 and B12, calcium, magnesium, and zinc⁽³³⁾. Sarcopenia is the progressive loss of muscle mass and strength that accompanies aging, and it can increase the risk of falls⁽¹⁷⁾. Studies in older adults have shown that the stimulatory effects of dietary protein on muscle protein synthesis are blunted in older adults. Therefore, they require more protein (about 35-40 g per meal) at rest and after resistance exercise to stimulate muscle protein synthesis⁽¹⁸⁾. Higher intakes of dairy products including yogurt have been associated with higher lumbar spine bone mineral density⁽³⁴⁾.

Yogurt on the menu

Three tasty tips:

1. Controlled amounts of 30 g cheese per day is acceptable as part of a healthy diet and yogurt can help to make up for the shortfall in calcium, especially since she doesn't enjoy milk. A bowl of yogurt with breakfast cereal and fresh berries would help Caroline to take advantage of the micronutrients from lower sugar fortified cereals, whilst having a morning supply of calcium and protein from the yogurt.
2. Yogurt can be added to a range of main meals and Caroline could attempt to add yogurt to her menu as part of her daily routine. It could be used as the basis for a sauce for fish, as a condiment such as tzatziki for grilled meats, or used as a marinade for herby chicken.
3. Evening time can be yogurt time! A yogurt with a scattering of nuts and seeds makes a protein-rich powerhouse of bone-friendly nutrients. This way protein intake is spread throughout the day.



Yogurt is beneficial for every body

This Digest has given a breadth of scenarios where yogurt can successfully be enjoyed throughout different life stages, by men, women and children, and across different cultures and food preferences. The examples are by no means an exhaustive list, but they demonstrate that yogurt has a role to play in dietary improvements in the following groups:

- Mums-to-be: yogurt helps them meet their nutrient needs, and can provide nutrients that are vital for foetal development.
- Growing children: a convenient and tasty way (think lunchboxes, snacks, smoothies, desserts) to help growing children meet their calcium needs (as well as needs of other bone-friendly nutrients).
- Sports and activity: yogurt provides protein that helps to maintain muscle mass⁽³⁵⁾.
- People watching their weight: yogurt is low in energy density and calories compared to many snacks and desserts, but is satisfyingly nutrient-dense, making it ideal for people who are generally eating less in an attempt to lose weight.
- People at risk of type 2 diabetes: 80 g of yogurt daily has been associated with 14% reduction in risk of T2D⁽³⁶⁾.
- People with lactose intolerance: yogurt is generally tolerated well by most people who have symptoms of lactose intolerance. The generic yoghurt EFSA claim is that «Live yoghurt cultures in yogurt improve digestion of lactose in yoghurt in individuals with lactose maldigestion»⁽³⁷⁾.
- Ageing and elderly people: as people grow older, they tend to have smaller appetites; yogurt provides a good source of calcium and high quality protein, helping to reduce fracture risk and combat against sarcopenia.

IN CONCLUSION...

Yogurt is an integral part of the diet, and incorporating it into the diet at the very early stages of life and as young children grow and start to make food choices for themselves, could have a positive impact on bone health, the ability to manage weight successfully and reduce risks of conditions such as type 2 diabetes and sarcopenia.



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