



Yogurt provides the solution in lactose intolerance

People who are lactose intolerant can eat as much dairy food as they like without suffering symptoms – as long as it's yogurt, according to experts at the First Global Summit on the Health Effects of Yogurt, held recently in Boston, USA.

Lactose is a sugar found only in milk and milk products. But many adults lack the ability to digest it, and so suffer stomach upset if they drink milk. As a result, they may choose to avoid dairy products and so miss out on the wealth of essential nutrients they contain, such as calcium, potassium, and protein.

But more than 10 years of research have revealed why yogurt has a unique ability to overcome this problem in the gut and so allows people to enjoy the benefits of dairy without fear of the typical symptoms of lactose intolerance.

This is because yogurt provides a more easily digestible alternative to milk, said Dennis Savaiano, Professor of Nutrition Science at Purdue University, USA.

Yogurt contains live bacteria that can survive passing through the acidic conditions of our stomach and into the small intestine.

'Yogurt bacteria contain high levels of a lactase and this enzyme acts in the intestine to help digest the lactose. So eating yogurt is like taking a digestive enzyme supplement,' said Professor Savaiano.

'Live yogurt, which contains a high level of bacteria, is extremely well tolerated' he added. 'There are well controlled double-blind clinical trials that show lactose-intolerant individuals can consume as much yogurt as they want and not have symptoms of intolerance.'

The advantage of yogurt over milk was first shown in people when it was discovered that, among a group of lactose intolerant people having a test drink of milk, about half had symptoms of diarrhoea or flatulence – the typical signs of lactose intolerance. No symptoms were associated with the yogurt.



Professor Savaiano and his colleagues have carried out several studies in which they measure hydrogen gas in the breath of participants. Hydrogen is released by people with lactose intolerance when undigested lactose passes into the colon where it is fermented by some of the billions of our own gut bacteria that dwell there.

In one study, ten lactose intolerant people were given different test drinks, each containing an equivalent amount of lactose. Following the yogurt drink, there was only about one-third as much hydrogen released as there was after the equivalent milk or water drink.

The yogurt also resulted in fewer symptoms than did a similar quantity of lactose in milk or water; two out of the ten participants reporting diarrhea or flatulence after yogurt compared with eight out of the ten after milk.

'The yogurt bacteria were delivering an enzyme that was breaking down lactose and was active in the small intestine,' said Professor Savaiano.

Live yogurt is best

In a study by another group of researchers, results revealed that this effect disappeared after heating the yogurt – a process that kills the live bacteria. The study participants suffered poor lactose digestion and the familiar symptoms returned.

Killing the bacteria destroys its lactase enzyme activity, 'whereas, with fresh, live yogurt you get significant enzyme activity following yogurt consumption,' Professor Savaiano explained.

Regular yogurt has two main types of bacteria that confer this beneficial effect, called *Streptococcus thermophilus* and *Lactobacillus bulgaricus*. Each millilitre of milk contains about 100 million of these bacteria. Reducing this amount impairs the yogurt's ability to digest lactose and is linked with more symptoms, the researchers found.

But as long as it's live yogurt, it doesn't matter which brand you buy in the supermarket. Testing several different commercial brands of yogurt showed that they all worked, said Professor Savaiano. 'They all improved lactose digestion. The only yogurts we tested that didn't work were those that were heat-killed.'

A boost to the immune system

But the benefits of yogurt bacteria don't stop there. Yogurt cultures could also have good effects on our ability to fight infections, said Lorenzo Morelli from the Microbiology Institute at the University Cattolica del Sacro Cuore, in Piacenza, Italy.

Professor Morelli described a study testing the effect of one particular yogurt culture on winter illnesses. The study, involving 113 people aged 59-84 years who ate the yogurt for 12 weeks, found that the yogurt was associated with a reduction in the rate of common colds.

'We have to keep in mind that in our intestine there are a lot of cells that are related to immune function and so if you have good bacteria – the probiotic bacteria – in your gut, they could modulate your immune system in order to attain two final goals: one is to have a very active immune system against infection and the second is to reduce the risk of allergy.' In particular, several studies have shown a benefit of 'good' bacteria against the allergic skin condition, atopic dermatitis, said Professor Morelli.

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