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Why ‘healthy’ sweetener may be bad for your GUT

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Artificial sweeteners are used by millions of Britons to cut their calorie intake and lower sugar consumption. the thinking is that these sweeteners, which have few or no calories, are better for the waistline and don’t increase blood sugar levels.



However, research suggests one of the most popular — stevia — may not be good for our gut bacteria, which play a key role in a host of functions including immunity and mood.
Artificial sweeteners, which can be added to drinks or sprinkled over food, include sucralose, aspartame, saccharin, and the sugar alcohols xylitol and erythritol.
A more recent option, stevia is a natural, plant-based sugar alternative, which can be bought in liquid, powder and granulated forms and can be used in tea and coffee, or in baking.
In some cases, it is combined with other sweeteners, and is also added to products such as fizzy drinks, chewing gum and soy sauce.
Approved for sale in the EU since 2011, it is 200 times sweeter than sugar, so only a very small amount is needed (recommended daily dose is 4mg per kilo of body weight).
It contains zero calories and, like other artificial sweeteners, does not raise blood sugar levels because it has a glycaemic index — a measure from 0 to 100 of how a food affects blood sugar levels — of 0.
Because it is derived from a plant, some people see stevia as healthier than artificial sweeteners and it’s becoming increasingly popular.
The Stevia rebaudiana plant is a member of the sunflower family, and is commonly known as candyleaf — it was discovered in Brazil and Paraguay, but is now grown all over the world.
Shop-bought products are made from purified extracts of one type of compound found in the leaves of the plant, called steviol glycosides or rebaudioside a (reb-a) and it is widely considered to be safe.

BUT there have been suggestions from animal studies that sweeteners generally 'trick' the brain, increasing your appetite — the brain thinks the body is processing sugar, but it's not getting the energy it expects, so makes you eat more. this was found by a study using fruit flies, published in cell Metabolism in 2016.

More recently, research specifically on stevia found it might have some unwanted sideeffects on the gut.

Over the past 20 years, medical research has increasingly looked at the gut, which contains millions of bacteria, known as the microbiome, and identified its importance not only for the health of our digestive system, but also in immunity and preventing diseases such as type 2 diabetes. it has even been linked to brain health and mood- related conditions including depression.

it's now known that a healthy microbiome depends on a diversity of 'good' gut bacteria. to ensure this we need to avoid the overuse of antibiotics. too much red meat and processed foods can also have a negative effect on the balance of bacteria in the gut.

However, a healthy diet with fibre and vegetables, plus fermented foods or probiotics containing live bacteria can all help promote good gut bacteria.

a study, published in the journal Molecules last year, suggests stevia may upset the balance of beneficial gut bacteria.

Researchers from Ben- Gurion University of the Negev in israel studied two forms of stevia: in a herb supplement and purified stevia extract (like you might sprinkle on food as a sugar substitute).

They looked at how the different forms of stevia affect the way bacteria in the gut communicate with each other, which is important for regulating microbes in the gut and so our overall health.

The team found that the stevia herb supplement had an ' inhibitory effect on bacterial communication', while the purified stevia extract showed 'a molecular interaction and possible interruption of [some forms of] bacterial communication'.

This suggests that stevia may contribute to an imbalanced gut and may explain reports of stomach pain and bloating from some people who use it over the long term.

However, as the study was carried out in the laboratory, it is unclear how applicable the findings are to patients. More research is now needed. Dr Karina Golberg, a biotech engineer and lead researcher, said: 'this is an initial study that indicates that more research is warranted before the food industry replaces sugar and artificial sweeteners with stevia and its extracts.'

Tummy problems have been reported in people who use stevia products, which often also contain added sugar alcohols. this is owing to a sensitivity to the chemicals, although these reactions are rare.

Other studies have shown stevia can reduce diarrhoea and symptoms of irritable bowel syndrome, and sweeteners are better for you than sugar. Separately, stevia extract has been shown to reduce signs of fatty liver disease.

A study on mice by U.S. researchers, published in the journal Scientific reports last year, found that replacing sugar with stevia extract reduced markers for nonalcoholic fatty liver disease, where fat builds up in the liver.

Fatty liver disease affects one in three people in the UK and one in 20 has a more serious form of the condition, where the liver has become inflamed, which can lead to serious liver damage, including cirrhosis.

RISK factors for the condition include obesity and high sugar consumption including a large intake of drinks sweetened with sugar.

The study also found that stevia lowered glucose levels and improved insulin sensitivity.

A reduction in cellular stress and changes in the gut microbiome may be responsible for the benefits seen with stevia.

Commenting on the latest research on stevia and gut bacteria, Glenn Gibson, a professor of food microbiology at the University of reading, said: ‘this study is not reflective of the real gut, where thousands of microbial species reside and are waiting to chop up carbohydrates like stevia to help their growth.

‘If stevia is broken down by gut microbes, this may circumvent any potential negative effects, perhaps even being positive — because carbohydrate metabolism by gut bugs is usually good news.’