

Keep it short & sweet!

Time to know the truth
about artificial sweeteners
and sugar substitutes!

A Report by

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Comparing natural sugar with artificial sweeteners and sugar substitutes



Sugar has become an inseparable part of our lives. Most of us start our day with a cup of tea or coffee, usually sweetened with sugar to add to the taste. However, an increasing trend towards health and fitness has been observed in the recent years. As consumers are striving to choose healthier food choices, there has been increased demand of great variety of low-calorie foods. A sugar substitute or an artificial sweetener is one such option which duplicates the taste of sugar and usually has less food energy.

Artificial sweeteners and other sugar substitutes are usually found in variety of foods and beverages, advertised as "sugar-free" or "diet," including soft drinks and baked goods. But, are such sugar substitutes or artificial sweeteners healthy to consume? How can natural sugar and artificial sweeteners produce such similar taste? If you have such questions in your mind, you have come to the right place.

Understanding natural sugars, natural non-sugar sweeteners, and artificial sweeteners



Natural sugars

A type of carbohydrates known as saccharides that are made of carbon, oxygen, and hydrogen. You must have heard of monosaccharides and disaccharides.

Monosaccharides are the simplest sugars, made up of single-molecule sugars such as glucose (found in plants), fructose (found in fruits), and galactose (found in milk).

Table sugar or sucrose is a disaccharide, which comes from sugar cane. It is a compound made up of two monosaccharides (glucose and fructose). Other examples of disaccharides are lactose (found in milk) and maltose (found in grains). When you consume these sugars, your body breaks them down into molecules which gets converted into energy. The amount of energy released from these sugars is measured in calories.

Natural non-sugar sweeteners

Examples of natural non-sugar sweeteners are **stevia and natural sugar alcohols**. These are not sugar molecules but they taste sweet because they bind to the sweet receptors. Stevia is a molecule derived from the leaves of the ***Stevia rebaudiana plant*** which contains molecules that are sweet in nature, are much larger than most sugars and have three glucose molecules attached to them. The body takes much time to break down stevia and you do not get calories from eating them.

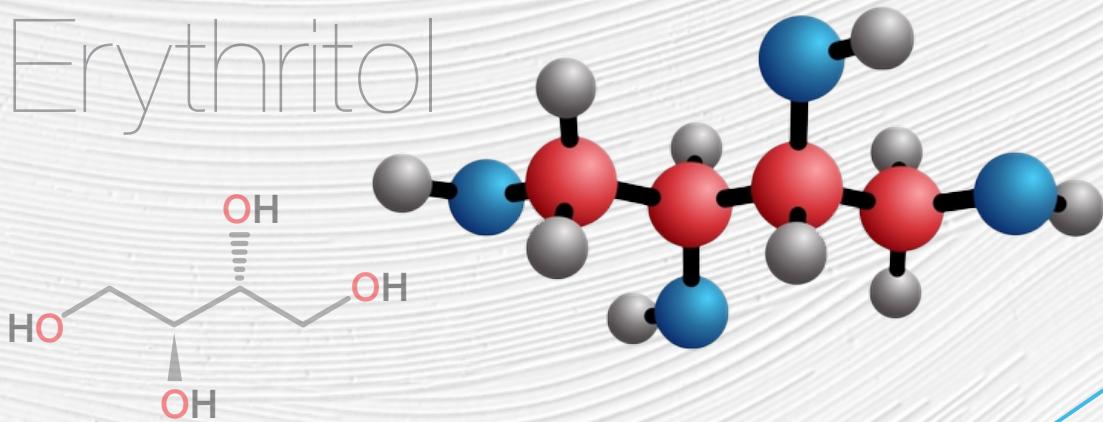


Is it safe to consume stevia?

As per expert opinions, stevia sweeteners do not have any effect on either blood pressure or blood glucose response, indicating that they are very safe to use in diabetic individuals. Stevia has almost zero calories due to its non-nutritive nature, and that makes it a very appealing sugar substitute for weight watchers. Several studies found that stevia lowers LDL, which is 'bad cholesterol', and increases HDL, which is 'good cholesterol'. Stevia can be used as a replacement for table sugar in a variety of food products and beverages, and you can even bake with stevia.

Sugar alcohols are natural carbohydrates that occur naturally in certain fruits and vegetables such as pineapples and carrots and are not sweeter than sugar. They are not alcoholic in nature, despite their name. They contain calories but they are lower in calories than sugar, making them a viable alternative.

Erythritol



Is it safe to consume sugar alcohols?

Sugar alcohols contribute to fewer calories and spike in blood sugar levels as compared to regular sugar and thus, they can be a viable option. However, if consumed in large amounts, they can lead to bloating, intestinal gas and diarrhoea.

The glycemic index (GI) is a measure of how quickly foods raise blood sugar levels. Most of the sugar alcohols have a very low GI value as compared with the GI of regular sugar. Hence replacing regular sugar with sugar alcohols may be a smart move for people with conditions like diabetes. Sugar alcohols may also promote gut health, however more research is needed to assess the overall health effects of consuming sugar alcohols.

Artificial sweeteners

They are synthetic sugar substitutes which are made up of chemicals produced in laboratories and are not found naturally. They taste sweet because they bind to certain receptors in taste buds. They are an attractive option to sugar because they do not add any calories to your diet, and a very small fraction is needed to sweeten things compared with the amount of sugar you would normally use.



Is it safe to use artificial sweeteners?

Just like there are two sides to a coin, there are pros and cons of using artificial sweeteners. Artificial sweeteners do not cause tooth decay, and they can help you with weight loss. If you are a diabetic patient, artificial sweeteners can be an attractive option as it does not raise blood sugar levels.

Talking about cons, experts have commented that artificial sweeteners produce worse glucose intolerance because it changes the microbiome in the GI tract and some studies have demonstrated that artificial sweeteners may cause weight gain and other health hazards. However, no conclusive evidence has been observed with artificial sweeteners till date.

FSSAI regulates artificial sweeteners as food additives, and they are reviewed and approved before being made available for sale. For each artificial sweetener, FSSAI has standardized acceptable daily intake (ADI), which is the maximum amount considered safe to consume each day.



Saccharin



★ ASPARTAME ★



BROWN SUGAR

What's the bottom-line?



Artificial sweeteners and sugar substitutes can help with health issues such as weight management but they need to be used with utmost consideration. When buying the food products, it is important to understand the entire food in terms of nutrition and calories, instead of just looking at individual sugar content.



Always remember that processed foods, which often contain sugar substitutes, do not offer the same health benefits as whole foods, such as fruits and vegetables. The discussion on the overall use of artificial sweeteners and sugar substitutes continue to shape up, and one needs to be amply informed about the potential benefits and risks of using them.



Xylitol



Sucratose
SUCRATOSE
SUCROSE
Sucratose
Sucrose

Thank you



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