



# Sucralose: A Promising Sweetener for Diabetics

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## Why in News?

A recent study from India has highlighted the potential benefits of using **sucralose, a non-nutritive sweetener**, as a substitute for **sucrose (table sugar)** among individuals with [Type 2 Diabetes](#).

- The study contrasts with the [WHO's](#) recent caution against **Non-Nutritive Sweeteners (NNS)** for weight control in non-diabetics.

## What were the Key Findings of the Study?

- The study reported **no significant changes in glucose or HbA1c levels**, a key indicator of blood glucose control, between the intervention and control groups.
- Participants using sucralose showed slight improvements in body weight, waist circumference, and **Body Mass Index (BMI)**.
- The judicious use of sucralose can help in reducing overall calorie and sugar intake, which is crucial for managing diabetes effectively.
- **Significance:** These findings are significant for India, where **sweeteners** are less **commonly used**. The study suggests that sucralose could **improve dietary compliance** and **aid in weight management for diabetics** in the country.

## What are Sugar and Sugar Substitutes?

- **Sugar:** It is a form of carbohydrate, along with fibre and starch. While carbohydrates are important for our health, **sugar itself is not essential**.
  - White table sugar, known as **sucrose, is the most** widely used sweetener.
  - Other **natural sugars** include: **fructose, galactose, glucose, lactose, maltose**.
- **Sugar Substitutes:**
  - Sugar substitutes offer a **sweet taste without the calories** associated with sugar, with some containing no calories at all.
  - They are commonly found in products labelled as '**sugar-free**', '**keto**', '**low carb**' or '**diet**'.
  - **Types of Sugar Substitutes:**
    - **Artificial Sweeteners:** Also known as **Non-Nutritive Sweeteners (NNS)**, are primarily synthesised from chemicals in laboratories, or derived from natural herbs. They can be 200 to 700 times sweeter than table sugar.
      - **Examples:** Acesulfame potassium (Ace-K), Advantame, Aspartame, Neotame, Saccharin, Sucralose etc.
    - **Sugar Alcohols:** They are synthetically derived from sugars, and are used in many processed foods. They are **less sweet than artificial sweeteners** and add texture and taste to items like **chewing gum and hard candies**.
    - **Examples:** Erythritol, isomalt, lactitol, maltitol, sorbitol, and xylitol etc.
    - **Novel Sweeteners:** They are derived from natural sources, offer the **benefits of both artificial and natural sweeteners**. They are **low in calories and sugar**, preventing weight gain and blood sugar spikes, and are typically **less processed**,

closely resembling their natural sources.

- **Example:** Allulose, Monk fruit, Stevia, Tagatose etc.

## What is Diabetes?

### ▪ About:

- **Diabetes** or [Diabetes Mellitus \(DM\)](#) is a medical disorder characterised by **insufficient insulin production** or an **abnormal response to insulin**, leading to **elevated blood sugar (glucose) levels**.
- While 70–110 mg/dL fasting blood glucose is considered normal, blood glucose levels between 100 and 125 mg/dL is considered prediabetes, and **126 mg/dL or higher is defined as diabetes**.

Types of Diabetes		
	Type 1 Diabetes	Type 2 Diabetes
Causes	In this, the <b>pancreas does not make insulin</b> , because the body's immune system attacks the islet cells in the pancreas that make insulin.	In this, the <b>pancreas makes less insulin</b> and the body becomes resistant to insulin
Prevalence	Type 1 diabetes affects about <b>5-10% of people</b> with diabetes, typically developing <b>before age 30</b> , though it can occur later in life.	Type 2 diabetes is <b>more common</b> but typically begins <b>after age 30</b> and increases with age
Prevention	<b>Cannot</b> be prevented.	<b>Can be prevented</b> with lifestyle changes.

### ▪ Initiatives to Tackle Diabetes:

- National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS).
- [World Diabetes Day](#)
- [Global Diabetes Compact](#)

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