

## How lactose tolerance in humans became widespread

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As per the recent research, people who did not carry a copy of the lactase persistence gene variant might have died before reaching their reproductive years.



[Ref- Dairy News]

### Key Highlights of the study

- **65% of humanity is lactose-intolerant**, which means they lack the gene to break down lactose into adulthood.
- Beyond the age of 5, **lactose cannot be naturally broken** down in the stomach and it remains in the gut causing flatulence, acidity and diarrhoea.
- India is among the **largest producers of milk** and, by country, the **largest consumer**.
  - But only around **18-25%** have it.
- **Lactase persistence** is a trait that allows European pastoralists to produce **lactase**
  - Lactase is an enzyme that breaks down lactose into a digestible form well into adulthood due to a genetic mutation.
  - The **genetic variant found in Indians** is nearly identical to that found in Europeans, implying that it was **brought to India by migrant European populations**.
- It also states that **drinking milk was actually harmful** to those who lacked the gene-variant, but only during times of famine and adversity.
- There were **minimal differences in milk drinking behaviour** between genetically lactase persistent and non-persistent people.
- The majority of people who were genetically lactase non-persistent had **no negative health effects** when they consumed milk.
- As populations and settlement sizes increased, human health would have been negatively affected by **poor sanitation and an increase in diarrheal diseases**.
  - Consuming milk under these conditions would have been harmful to those who **lacked the digestive gene**.

### About Lactose

- It is a sugar that is **naturally found in milk** and milk products, like cheese or ice cream.
- It makes up **around 2–8%** of milk.
- It is composed of **galactose and glucose subunits**.

- The name comes from **lac**, the Latin word for milk, plus the suffix **-ose** used to name sugars.
- The compound is a **white, water-soluble, non-hygroscopic solid** with a mildly sweet taste.
- It is used in the **food industry**.
- It is **not added directly to many foods**, because its solubility is less than that of other sugars commonly used in food.