

Sugar causes obesity even without sweet taste

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Sugar causes obesity even in the absence of its sweet taste, according to a new study. The research was conducted in mice and also uncovered an increased risk of metabolic syndrome (increased blood pressure, high blood sugar, excess body fat around the waist and abnormal cholesterol). The results of the four-year study were recently published in the *American Journal of Physiology-Endocrinology and Metabolism*. It has been chosen as an APSselect article for August.

The success of the study was made possible in part due to mice that lack taste signaling but maintain sweet receptors in the gut. These "taste-blind" mice do not transfer taste information from the [taste buds](#) to the taste nerves.

Researchers reported three additional key findings in their study:

- Taste-blind mice demonstrated a preference and appetite for sugar regardless of not being able to taste its sweetness, indicating sugar can induce preference or craving through other mechanisms besides its sweet properties.
- Mice that were unable to metabolize fructose showed no appetite for any sugar, such as sucrose and high fructose corn syrup.
- Taste-blind mice with a high sugar intake developed obesity and [metabolic syndrome](#), suggesting sugar can induce metabolic disease independent of its sweet properties.

More than 40% of adults in the U.S. are obese, according to the most recent data by the Centers for Disease Control and Prevention. Study co-

author Miguel Lanaspá García, Ph.D., explained why these research results are relevant to improving the health of people: "It proposes targeting fructokinase, the enzyme involved in fructose metabolism, to prevent or even treat sugar-induced metabolic syndrome, while at the same time reducing our appetite for sugar."

Read the full article, "Sugar causes obesity and metabolic syndrome in mice independently of [sweet taste](#)," published in the *American Journal of Physiology-Endocrinology and Metabolism*.

More information: Ana Andres-Hernando et al. Sugar causes obesity and metabolic syndrome in mice independently of sweet taste, *American Journal of Physiology-Endocrinology and Metabolism* (2020). [DOI: 10.1152/ajpendo.00529.2019](#)

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