

# High sugar consumption gives rise to dental costs in the billions

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Worldwide, people are eating far too much sugar. This has negative consequences for dental health. At the global level, the costs of dental treatment are currently running at around \$172 billion U.S. (€128 billion). In Germany alone, these amount to €17.2 billion (\$23 billion U.S.) per year. These are the results of a joint study conducted by the Martin Luther University Halle-Wittenberg (MLU) and the Biotechnology Research and Information Network AG (BRAIN AG) published in the *International Journal of Dental Research*.

The researchers evaluated representative data from 168 countries for the year 2010 on the prevalence of caries, inflammation of the gums (periodontitis), tooth loss, corresponding [costs](#) of treatment and the disease burden, as well as data on [sugar](#) consumption. On the basis of this data, they calculated the share of total costs attributable to excessive consumption of sugar. In addition to white household sugar, the researchers also focused their attention to "hidden" sugar that is contained in many processed products, including soft drinks, ketchup, ice cream and frozen foods, as well as breads, cakes and pastries.

"The data shows a clear correlation between the consumption of sugar and the incidence of caries, periodontitis and, as a result, [tooth loss](#)," said the lead author of the study, Dr Toni Meier from the Institute of Agricultural and Nutritional Sciences at the MLU. "For every additional 25 grams of sugar consumed per person and day—which amounts to roughly eight sugar cubes or a glass of sweetened lemonade—the costs of [dental treatment](#) in high-income countries increase on average by

\$100 U.S. (€75) per person and year."

In Germany, the average daily sugar consumption is between 90 and 110 grams per person. The costs of treatment amount to \$281 U.S. (€210) per person and year. This puts Germany in the group of countries with the highest costs of treatment per person and year. Other countries in the group are Switzerland (\$402 U.S., €300), Denmark (\$238 U.S., €178) and the U.S.A (\$185 U.S., €138).

"If the target of 50 grams of sugar per person and day set by the World Health Organization could be reached, this would result in savings in the costs of treatment within Germany of €150 (\$201 U.S.) per person and year. Extrapolating this figure to the federal level shows annual potential savings of approximately €12 billion, or \$16 billion U.S.," said Meier. A low-sugar diet is becoming increasingly difficult, however, since almost all processed products in supermarkets contain large quantities of added sugars.

The highest levels of sugar-related dental illness were observed by the researchers in Guatemala, Mauretania and Mexico. "Newly industrialised countries such as India, Brazil and Mexico, but also Pakistan and Egypt, could avoid an excessive burden of illness and of [health care costs](#) by anchoring the topic in their health and nutritional policies at an early stage," said the co-author of the study and nutrition scientist Professor Gabriele Stangl of the MLU. This objective could be achieved by way of educational campaigns or by special taxation on high-calorie food. Such a sugar tax was introduced in Mexico in 2014, and after one year, has proven to be effective, reducing the consumption of sugar-sweetened beverages by 5 percent. In the second year, this decrease doubled to 10 percent.

"To be able to reduce the burden of nutrition-related illnesses, a balanced mix of educational work and food policy initiatives, along with

innovative technological solutions, are needed," said the co-author of the study, Dr Katja Riedel, joint coordinator of the NatLifE 2020 innovative alliance and program manager of system products nutrition at BRAIN AG.

**More information:** T. Meier et al, Global Burden of Sugar-Related Dental Diseases in 168 Countries and Corresponding Health Care Costs, *Journal of Dental Research* (2017). [DOI: 10.1177/0022034517708315](https://doi.org/10.1177/0022034517708315)

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