

Dental decay and flavoured water

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A laboratory study published in the *International Journal of Environment and Health* looks at the effects of flavoured mineral water drinks and sugar substitutes on the exogenic erosion of tooth enamel. Given that many more people drink flavoured sugar solutions today than ever before, there is the likelihood of an emerging dental crisis. However, the switch to sugar substitutes might not be the answer to this problem, the researchers suggest.

Anna Lewandowska and Marzena Joanna Kuras of the Medical University of Warsaw in Poland investigated several drinks available in Poland. They considered pH, titratable acidity and the concentration of phosphorus in the various flavoured mineral waters on the market. They also used solutions of xylitol, erythritol, stevia, and glucose-fructose to see what effect such sweeteners have on exogenous erosion of tooth enamel in the laboratory, with a view to understanding how that might affect dental health in the outside world.

Both flavoured [mineral water](#) and sweeteners tested in this study cause exogenous erosion of enamel according to the results of phosphorus released from hydroxyapatite," the team explains. It is worrying that they discovered that "The erosive

potential of the tested [sugar substitutes](#) concerned as beneficial for our health was similar to the glucose-fructose syrup."

The team adds that "replacing glucose-fructose syrup with another sweetener has no [beneficial effect](#) on the exogenous erosion," Indeed, "Any type of sweetener enhances the exogenous erosion potential of the solution [because of the drink's] low pH.

More information: Anna Lewandowska et al. The impact of flavoured mineral water drinks and sugar substitutes available on the Polish market on exogenic erosion of teeth enamel - in vitro study: preliminary results, *International Journal of Environment and Health* (2019). [DOI: 10.1504/IJENVH.2019.100573](#)

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