

EPA Statement in response to study concerning xylitol published in European Heart Journal

EPA, the European Association of Polyol Producers responds to the new study by Witkowski M., et al., concerning xylitol and cardiovascular health,¹ pointing out the confirmed safety of xylitol.

A new study titled “Xylitol is prothrombotic and associated with cardiovascular risk” by Witkowski, M., et al. published on 6th June in the European Heart Journal suggests that xylitol is associated with a risk of adverse cardiovascular events. EPA would like to stress that while the study utilized a range of different methodologies, the findings of the study do not establish causality and should not be extrapolated to the general public.

The participants included in the epidemiological study on metabolic parameters were, in fact, already at increased risk for adverse cardiovascular events. Increased cardiovascular risk is associated with impaired function of the liver, which includes elevated endogenous xylitol levels. It was therefore not surprising to see this group of individuals display elevated xylitol besides the actual metabolic hallmarks of cardiovascular risk. However, no consideration was given what this would look like in a healthy population and as such, the study results cannot be attributed to xylitol consumption.

As regards the other methods used in the study, none of them are conclusive either. In-vitro methods studying cellular effects do not adequately mimic the dynamic physiological environment of the overall human body, which includes absorption, metabolism, and excretion, where xylitol has a half-life of only minutes, and where xylitol is also endogenously produced by the uronic acid cycle. The mouse assay is also not representative as the researchers had to inject the xylitol directly into the bloodstream rather than rely on absorption from the digestive tract.

Finally, the intervention study where the included individuals were instructed to consume 300 ml of liquid containing 30 g of xylitol within 2 minutes does not reflect a typical serving size and consumption. It should be noted that absorption from liquids is much faster than from solid foods and that in the EU the use of xylitol is not authorized in beverages.²

Xylitol is a polyol (sugar alcohol) with sweet taste that is similar to sucrose. It occurs naturally in small amounts in many fruits and vegetables such as strawberries, raspberries, bananas, cauliflower, spinach, carrots, etc. Xylitol is well-tolerated, does not affect blood serum glucose or insulin levels and does not cause tooth decay. The safety of xylitol as a food ingredient under conditions of its intended use is substantiated by a number of human and animal safety studies. Xylitol, is an approved food additive in the EU, as well as in other

¹ Marco Witkowski, Ina Nemet, Xinmin S Li, Jennifer Wilcox, Marc Ferrell, Hassan Alamri, Nilaksh Gupta, Zeneng Wang, Wai Hong Wilson Tang, Stanley L Hazen, Xylitol is prothrombotic and associated with cardiovascular risk, European Heart Journal, 2024

² Commission Regulation (EU) No 1129/2011 of 11 November 2011 amending Annex II to Regulation (EC) No 1333/2008 of the European Parliament and of the Council by establishing a Union list of food additives: <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32011R1129>



countries around the globe, and is considered Generally Recognized As Safe (GRAS) by the US Food and Drug Administration (FDA).

For additional information on xylitol please visit the EPA website <https://polyols-eu.org>

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