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Hidden risks of xylitol and erythritol: a call for further research

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A. Study design/planning
B. Data collection/entry
C. Data analysis/statistics
D. Data interpretation
E. Preparation of manuscript
F. Literature analysis/search
G. Funds collection

Dear Editor,

Recently, we have become interested in low-calorie sweeteners. We had the pleasure of reading the article by Reimisz [1] published in *Health Problems of Civilization*, which discussed this topic. Delving into the subject, we have come across some alarming new reports that we would like to share, drawing attention to the differing impacts of these substances on the body.

Natural sweeteners such as xylitol and erythritol are common additives in low-calorie products. Previously, their anticancer properties, immune system stimulation, and enhancement of tissue sensitivity to insulin were emphasized.

The article by Witkowski et al. [2], raised our awareness regarding one of these sweeteners – xylitol. This study highlighted major adverse cardiovascular events (MACE) risk due to the increased platelet activity and thrombus formation in vivo. The research demonstrated that consuming xylitol-sweetened beverages increased functional measures of platelet reactivity, posing an increased risk for cardiological patients as well as for healthy individuals.

In another article by Witkowski et al. [3], the impact of excessive erythritol levels in the serum on increased platelet reactivity was shown, which could raise the risk of thrombosis by enhancing the release of intraplatelet calcium. In vivo, studies also demonstrated a faster rate of clot formation and higher thrombotic potential in damaged arteries when erythritol levels in the plasma remained high. These studies demonstrated that after erythritol consumption, there was a significant increase of this substance in the plasma of the subjects, which persisted for at least 48 hours. If it reached levels above the threshold, it caused increased platelet activity and thrombotic potential. The study by

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Khafagy et al. [4] suggests that higher erythritol levels in the serum may positively affect BMI but may increase the waist-to-hip ratio adjusted for BMI.

The information from these articles suggests a great need for further research on the safety of using these substances. This is particularly important when products containing these substances are advertised as recommended for people with conditions such as type 2 diabetes, obesity and metabolic diseases, who inherently have an increased risk of cardiovascular events.

This raises our awareness regarding the use of these substances, which, based on our observations, are treated by patients as a healthy substitute. Patients usually do not impose restrictions on their consumption, unaware of the long-term consequences.

We also noticed weaker calories control among these patients, as they are convinced of the health benefits of products labeled as "sugar-free". This may lead to increased calorie intake and, as it turns out, a higher risk of MACE.

We believe it is worthwhile to educate patients about nutrition, expand research on these substances, and introduce safe intake limits for them in their daily diets.

References:

1. Reimisz P. Use of low-calorie sweeteners in treating obesity. Health Prob Civil. 2023; 17(2): 145-160. https://doi.org/10.5114/hpc.2023.128034
2. Witkowski M, Nemet I, Li XS, Wilcox J, Ferrell M, Alamri H, et al. Xylitol is prothrombotic and associated with cardiovascular risk. European Heart Journal. 2024; 45(27): 2439-2452. https://doi.org/10.1093/eurheartj/ehae244
3. Witkowski M, Nemet I, Alamri H, Wilcox J, Gupta N, Nimer N, et al. The artificial sweetener erythritol and cardiovascular event risk. Nature Medicine. 2023; 29: 710-718. https://doi.org/10.1038/s41591-023-02223-9
4. Khafagy R, Paterson AD, Dash S. Erythritol as a potential causal contributor to cardiometabolic disease: a mendelian randomization study. Diabetes. 2024; 73(2): 325-331. https://doi.org/10.2337/db23-0330