DENTAL TRIBUNE

EDITION MIDDLE EAST

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Erythritol functional roles in oral-systemic health

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Oral health functionality of Erythritol Mäkinen et al. 2005 demonstrated that in comparison to other sugar alcohols like sorbitol and xylitol, erythritol can decrease dental plaque mass and acids associated. Erythritol has the potential to reduce streptococci mutans in saliva hence minimizing the risk of dental caries.

Falony et al 2016 concluded that the erythritol group had significantly fewer tooth surfaces with enamel or dentin caries in comparison with sorbitol.

In addition, the time of enamel or dentin caries lesions to progress and dentin caries to extend further was significantly longer in the erythritol group compared with the other polyol groups.

Runnel et al. 2013 confirmed that the amount of fresh dental plaque and counts of *S. mutans* in saliva and plaque were lower in the erythritol group in comparison to the sorbitol and xylitol groups. Dental plaque in the erythritol group also showed lower levels of acetic, propionic, and lactic acid compared to control.

Honkala et al. 2014 in a study demonstrated that at the end of a 3 year intervention, the erythritol group had the lowest caries.

Yao et al. 2009 in another study suggested that compared to xylitol, erythritol in low concentrations had a weaker inhibition effect on the bacterial growth and acid production of *S. mutans* while having stronger effect at high concentrations.

Hashino et al. 2013 reported that 10% erythritol had an inhibitory effect on the microstructure and metabolomic profiles of biofilm composed of *Porphyromonas gingivalis* and *Streptococcus gordonii*.

Erythritol was the most effective reagent to reduce *P. gingivalis* accumulation onto *S. gordonii* substrata compared to

xylitol and sorbitol

Systemic health effects

Erythritol is noncaloric, noninsulinemic, and nonglycemic besides being well-tolerated. It has a very high bioavailability, showing potential to provide cardiovascular benefits due to its capability to act as an antioxidant systemically.

Effects of Erythritol on the Gastrointestinal Tract

Munro et al. 1998 reported the fact that erythritol due to its small molecular size is rapidly absorbed through passive diffusion. Approximately 90% of the ingested dose is absorbed from the small intestine and excreted in the urine unchanged. European Food Safety Authority also confirmed that young children tolerate erythritol equally well as adults on a body weight basis

Effects of Erythritol on Cardiovascular Health

Boesten et al. 2013 in a research confirmed that in endothelial cells, erythritol could shift a variety of damage and dysfunction parameters to a safer side, thereby reversing the damaging effects of hyperglycemic conditions.

Conclusion & Sales arguments

- Erythritol as an antioxidant improves the endothelial function and their vascular health status in people with type 2 diabetes.

- Erythritol provides healthier tooth protection than sorbitol and xylitol, in children and teenagers.

- Erythritol is of great importance not only in oral care or dietary-based preventive strategy but also to help maintain oral and cardiovascular health besides supporting weight management benefits when replacing sugar.

Erythritol is not just an AIR FLOW powder, but a complete, efficient and safe one stop solution for dental prophylaxis with additional supportive action as an antioxidant.

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