Zinc: An Essential Mineral for Oral Health

Asad Naeem

HOW TO CITE: Naeem A. Zinc: an essential mineral for oral health. J Pak Dent Assoc 2023;32(3):104.
DOI: https://doi.org/10.25301/JPDA.323.104
Received: 01 July 2022, Accepted: 21 December 2023

Zinc is a trace mineral, essential for human health as sufficient zinc balance is cardinal for skin, hairs and skeletal growth, development, and function. Insufficient zinc status in the body is linked with multitude systemic disorders and has a significant effect on oral health. In the oral cavity, it is present in dental plaque, saliva, and enamel. It is present in mouthwashes and toothpaste due to its involvement in preventing plaque, calculus formation and halitosis. Clinical trials have also concluded that zinc ions reduce enamel demineralization.[1] A recent study published in Biological Trace Element Research by Gaur S et al. concluded that zinc is vital for periodontal health owing to its immune modulating effects on oral soft tissues. The study also reported that its deficiency along with other minerals can aggravate periodontitis associated with underlying diseases like diabetes mellitus.[2]

Furthermore, a study was published in 2016 in JPMA by Fatima T et al. which concluded that zinc at trace amounts can decrease acid dissolution and helps encourage dentine remineralization and decreasing demineralization.[3] This tells us that the role of zinc is similar to that of fluorides and helps in further reducing tooth decay. It helps protect teeth against disorders like gingivitis, mild periodontitis and other conditions associated with gums.[8] Another study on animals highlighted that oral health was improved in the group of rats who were fed a zinc component diet than the controls and they exhibited a better plaque index and gingival index.[6] Conversely, researchers highlighted a relationship between zinc deficiency and gingivitis and suggested it as a possible risk factor for oral and periodontal diseases.[4]

One of the main defenses against the plaque that forms around the teeth is zinc. Our bleeding gums wouldn't heal faster if the body is deprived of zinc because without zinc our body cannot transfer the vitamin A that the gums need in order to heal naturally. Maintaining excellent dental health requires a healthy diet rich in zinc and other minerals.[7] It is essential to consume a zinc-rich diet and to educate oneself on sources of zinc. High-risk populations notably pregnant women, children, and the elderly should receive zinc supplements, especially in developing countries. It also makes it imperative that healthcare providers should be aware of prescribing iron supplements along with zinc supplements as iron negatively affects zinc absorption.[5]

BDS Student, Department of Prosthodontics, Dr. Ishrat ul Ebad Khan Institute of Oral Health Sciences, Karachi.
Corresponding author: "Dr. Asad Naeem" < asad.naeem2808@gmail.com >

CONFLICT OF INTEREST

None declared

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