

NEW AND IMPROVED ENUMMI TOOTHPASTE IMPROVES ORAL MICROBIOME HEALTH

Technical White Paper

Millerlandy Popayan Jaramillo

4Life Research, Sandy, Utah

OBJECTIVE

The purpose of this study was to evaluate the efficacy of a new and improved Enummi Toothpaste in oral microbiome health by measuring the levels of different sets of bacteria in the saliva before and after using the toothpaste.

BACKGROUND

The mouth is one of the first lines of immune defense. As such, the oral cavity is a gateway to protecting the inner surface of the human body. The oral cavity hosts one of the most diverse microbiomes in the body with over seven hundred different microbial species identified to date.¹ Balanced interactions between variable oral bacteria help the human body fight against potential health threats. An imbalance of oral microbiome can contribute to oral diseases, which are associated with other health challenges surrounding the gut, as well as cardiovascular issues and diabetes². Therefore, the oral microbiome plays a key role in overall human health.

Regular use of toothpaste containing enzymes and proteins can significantly shift the oral microbiome to a healthier status¹. Enummi Toothpaste contains lactoferrin, a multifunctional protein that can act as an antimicrobial when interacting with the oral cavity; coenzyme Q10, a strong antioxidant that supports the health of the oral microbiome; postbiotic *Lactobacillus paracasei*, which reduces halitosis (i. e., bad breath); and 4Life Transfer Factor™ to support oral immunity.⁴

STUDY DESIGN

For this study, six participants were provided one tube of 4Life Enummi Toothpaste and were instructed to brush their teeth twice a day for seven days, once in the morning and once in the evening. Participants were instructed to brush for at least two minutes each time. Each participant collected saliva samples before and after using Enummi Toothpaste. Saliva testing was performed using a Bristle oral health test.³

STUDY FINDINGS

Enummi Toothpaste improved the oral microbiome in all study participants (see Figure 1). A 42% improvement was observed in commensals bacteria, indicating a healthier and more balanced oral microbiome. A 36% improvement in the tooth decay category indicated a reduction of cavity-causing bacteria. There was a 30% improvement in the diversity of the beneficial bacteria as well as a 16% improvement in the bacteria that produce volatile sulfur compounds, which are associated with bad breath.⁴ Nitrate results showed a 50% increase in the bacteria responsible for the reduction of nitrate into nitrite, which is important for regulating blood pressure and maintaining optimal cardiovascular health.



CONCLUSION

These results demonstrate that the new and improved Enummi Toothpaste, containing enzymes, proteins, 4Life Transfer Factor, and a postbiotic, significantly improved oral microbiome health in various categories such as commensals, tooth decay, halitosis, diversity, and nitrate by increasing health-associated bacteria and reducing disease-associated bacteria.

¹ <https://pubmed.ncbi.nlm.nih.gov/28240240/>

² <https://pubmed.ncbi.nlm.nih.gov/29736705/>

³ Lin, David. "Bristle Oral Health Test White Paper."

⁴ <https://www.ncbi.nlm.nih.gov/books/NBK534859>

⁵ These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

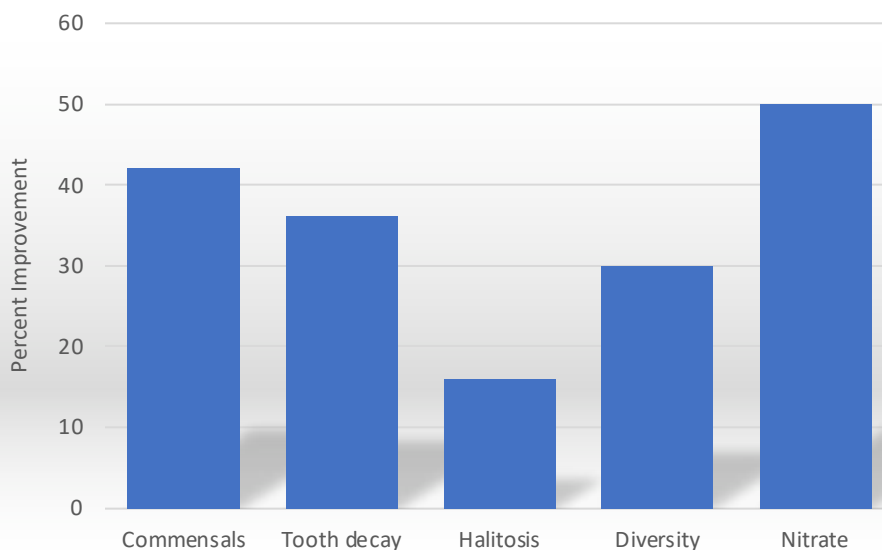


Figure 1. Percentage of improvement in salivary oral microbiome related to specific oral health categories for all participants after using Enummi Toothpaste for a week.