



A Preliminary: Effect of Use of Mouth Rinse Containing Dextranase and Nisin on Oral Plaque in Volunteers

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Abstract

Dental plaque is formed on the tooth surface by oral microbial, namely pathogens bacteria that cause oral diseases such as gingivitis and dental caries. Oral plaque structure is rich in dextran. The mechanisms for preventing oral diseases are the elimination of pathogenic microbes and plaque removal. Further investigation on the prevention has led to the idea of creating a mouthwash that contains important substances which reduce pathogens and plaque in the mouth, such as nisin and dextranase. The dextran-hydrolyzing enzyme or dextranase hydrolases the dextran. Besides, the nisin is a bacteriocin produced from lactic acid bacteria that can be used as a food additive and preservative to inhibit microbial growth such as oral pathogens. The preliminary experiment is reporting the effects of using the mouth rinse containing 2% dextranase and 0.02% nisin (MWDN) on the dental plaque in volunteers. The plaque index was decreased after the use of MWDN for one month. The plaque index was 2.317 ± 0.17 and 1.757 ± 0.16 at the baseline and after the treatment, respectively. Lastly, the MWDN was evaluated through a sensory test in 10 volunteers. The acceptability was used as a 5-point hedonic scale. Most volunteers agreed at Level 3 (like slightly). In the future, the results of this study can be a reference for the formulation development of MWDN. The researchers were funded by the Thailand Research Fund, Research and Researcher for Industry (RRI) and Supporting Research Funds for Industries (SURF).

Keywords: Dental plaque, Dextranase, Nisin, Plaque index (PI), Mouth rinse, Sensory test