

**SALIVARY HUMAN BETA DEFENSIN 2 (HBD-2) LEVELS
BEFORE AND AFTER PROBIOTIC *Lactobacillus reuteri*
ADMINISTRATION ON CARIES AND CARIES-FREE GROUPS**

ABSTRACT

Background. Dental caries is an inflammatory disease with multifactorial etiology. Salivary HBD-2 secretion in the oral cavity plays an important role in protecting the tooth structure from caries. On the other hand, probiotic can be used as a treatment and preventive against caries. *Lactobacillus reuteri* (*L. reuteri*), a probiotic bacteria, can decrease the number of *Streptococcus mutans* (*S. mutans*), a cariogenic bacteria in the oral cavity, because of its antimicrobial properties. *L. reuteri* besides acting as an antimicrobial, it acts as antiinflammatory which suppresses proinflammatory cytokines induced by caries. The research about the mechanism how probiotic *L. reuteri* protects the tooth from caries via modulation of HBD-2 is remained unknown. **Purpose.** The aim of this study was to know the difference of HBD-2 levels in saliva before and after probiotic administration on caries and caries-free groups. **Method.** Unstimulated whole saliva from thirty caries subjects and ten caries-free subjects (aged 6-7 years old) were collected. After that, *L. reuteri* Prodentis lozenges (1×10^8 CFU DSM 17938 + 1×10^8 CFU ATCC PTA 5289) were taken twice daily by both groups for 10 days, then unstimulated whole saliva was collected again. All the samples were investigated for the presence of HBD-2 by enzyme linked immunoassay–ELISA. **Result.** The result showed that HBD-2 levels in unstimulated whole saliva from caries and caries-free groups after probiotic administration, compared with before probiotic administration, decreased and was statistically significance in both groups ($p < 0.05$). **Conclusion.** HBD-2 levels decreased in saliva after administration of probiotic on caries and caries-free groups.

Keywords : Dental Caries, Saliva, Salivary HBD-2, *Lactobacillus reuteri*