1595 OAT CHEWING AND PERIODONTAL PATHOGENS: FURTHER EVIDENCE FOR PREBIOTIC PROPERTIES

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Objective: Chewing has been reported to induce subgingival microbial shifts that are compatible with periodontal health, suggesting it has prebiotic properties. The objective of the current study was to further assess the effect of oat chewing on a panel of classical and new periodontal pathogens in health and periodontitis.

Method: 40 oat chewers and 40 non-chewers, equally stratified by periodontal health status, were recruited. Taqman q-PCR assays were used to quantify total bacteria, Porphyromonas gingivalis, Tannerella forsythia, Treponema denticola, Panderonema micro, Filifactor alocis oralis, Aggregatibacter actinomycetemcomitans, and oral TMD in pooled subgingival biofilm samples obtained from each of the study subjects. Significance of differences in microbial parameters between the chewers and non-chewers were sought using ordinal regression analyses.

Result: In health, the oat chewers harboured lower absolute and relative counts of all the tested species except P. micro and T. denticola, however, only the differences in relative counts of P. gingivalis, T. forsythia, Oral streptococci, and TMD were significant for multiple comparisons (P<0.007). In periodontitis, all the tested taxa except TMD were also present at lower absolute and relative counts in the oat chewers compared to the non-chewers; however, none of the differences maintained significance after correcting for multiple comparisons, except for the absolute counts of T. denticola.

Conclusion: Lower proportions of periodontal pathogens were detected in subgingival biofilm of oat chewers with healthy periodontium. Further evidence is provided here for the prebiotic properties of oat on periodontal microflora.

Student Presenter

Keywords: Biofilm, Microbiology, Periodontal disease and Periodontal organisms

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