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### EFFICACY OF A DENTAL PROBIOTIC IN REDUCING PLAQUE ACCUMULATION AND *S. MUTANS* LEVELS IN ORTHODONTIC PATIENTS: A RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED STUDY

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**Introduction:** Several studies have shown that both plaque accumulation and bacterial levels of *S. mutans* increase significantly in patients with fixed orthodontic appliances, thus placing patients at-risk for enamel demineralization and white spot lesions. A novel and safe probiotic complex consisting of six oral bacteria including *S. salivarius* BLIS K12 and five *lactobacilli* strains *L. paracasei*, *L. plantarum*, *L. acidophilus*, *L. salivarius* and *L. reuteri* has yet to be investigated within the orthodontic context.

**Objective:** This randomized clinical trial was designed to investigate the efficacy of the Lorodent probiotic complex at reducing plaque accumulation and cariogenic bacterial load in orthodontic patients

**Materials and Methods:** A total of 60 participants were randomized into two groups to receive either probiotic or placebo lozenges daily for 28 days. The participants were evaluated at 4 appointments over a total of two months. At each appointment, plaque index was assessed clinically and salivary and plaque samples were collected to determine the probiotic's effect on plaque accumulation and bacterial counts of *S. mutans*.

**Results:** No significant differences were seen in the plaque index scores of the probiotic group or between the probiotic or placebo groups at any surface (buccal, mesio-distal, lingual) at any time points. All participants self-reported a lozenge consumption compliance over 90%, and 78% of participants reported perfect compliance.

**Conclusion:** Dental probiotic therapy cannot be recommended for the prevention of white spot lesions during fixed orthodontic treatment in adolescent patients.

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