

The Frequency of *Streptococcus Mutans* and *Lactobacillus* spp.in 3-5-year- old Children with and without Dental Caries

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Abstract

Background and Objective: The high occurrence of early childhood caries (ECC) is one of the most common problems in children dentistry. *Streptococcus mutans* and *lactobacilli*.spp are closely associated with the development of early childhood caries (ECC). Therefore, the aim of this study was to investigate the frequency of *streptococcus mutans* and *lactobacilli*.spp in 3-5 –year- old children with and without dental caries.

Material and Methods: This case-control study was conducted on 60 children aged 3 -5-years, without any history of systemic disease, who had not received any antibiotic therapy and fluoride usage during the last month. The cases were divided into three groups of early childhood caries, usual caries and caries-free. The infected dentin samples were collected from cervical and proximal in ECC and usual caries group, respectively. Also in all the three groups, the samples of dental plaque from buccal surfaces were collected and immediately immersed into Brain Heart Infusion (BHI) broth medium. After that, the diluted sample was plated onto MitisSalivarius agar (Difco) for detecting *streptococcus mutans* and *Rogosa agar* (Difco) for detecting *lactobacilli*.spp. Data were analyzed by Chi- Square and ANOVA.

Results: of the samples taken from dental plaque, *S. mutans* is observed in 90% of ECC, 80% of proxymolcarries and in 25% of caries-free individuals. Based on the results, the presence of *S.mutans* in the group of caries is significantly higher than that of without caries, but there is no significant difference between the two groups of caries. In addition, *lactobacill*.spp is isolated from 60% of the samples, but there is no significant difference between two groups of caries and caries-free. The average of decayed, missing and filled teeth (DMFT) index in the group with early childhood caries (6.95 ± 1.572) and usual caries (5.80 ± 1.105) is different significantly. Pearson correlation test shows that there is a significant relationship between caries experience and the amount of *S.mutans*, but there isn't this relationship with *lactobacill*.spp.

Conclusion: The findings show that the children with early decay have the higher level of *S.mutans* in their dental plaque. The most common strain isolated from dentin, without consideration of their location, is *S.mutans*.

Key words: Early dental care, Dental caries, DMFT index, *Streptococcus mutans*, *Lactobacilli*.spp.