

EFFECT OF CHLORHEXIDINE VARNISH AND STANNOUS FLUORIDE SOLUTION ON SALIVARY STREPTOCOCCUS MUTANS COUNT IN HIGH CARIES- RISK CHILDREN USING FIXED LINGUAL ARCH SPACE MAINTAINERS

Harem E. Amin *

A.BSTRACT

Thorough plaque control is very difficult in children with fixed space maintaining appliances and the use of chemotherapeutical agents have been shown to be useful adjuncts in plaque control of these patients. The purpose of this work was to study and compare the long-term inhibitory effect of professionally applied, chlorhexidine varnish and stannous fluoride solution on salivary streptococcus mutans count in high caries-risk children using fixed lingual arch space maintainers. Fifteen high caries-risk children 7 to 14 years old scheduled for fixed lingual arch space maintainers were divided into 3 groups (n=15): Group I received chlorhexidine varnish application every 3 months, group II received topical application of stannous fluoride solution every 3 months and group III was a negative control group. All children continued normal oral hygiene habits during the study. Salivary samples were taken at the base line and subsequently at each month till the end of this nine-month study to assess salivary streptococcus mutans count. Throughout the study, chlorhexidine varnish significantly reduced salivary streptococcus mutans count in comparison to stannous fluoride or control groups with observed carry over effect. Moreover, during the experiment chlorhexidine varnish resulted in decreasing streptococcus mutans count in all salivary samples below the specific high caries-risk threshold of 2.5×10^6 CFU/mL. Also, children treated with stannous fluoride solution (group II) demonstrated a statistically significant reduction of salivary streptococcus mutans count compared to the control group. However, the inhibitory effect of stannous fluoride W:1S found to be of short duration: 2 months after each application, salivary streptococcus mutans count returned to almost its original level. In the control group, streptococcus mutans count gradually increased throughout the trial. According to the findings, it can be suggested that, periodic topical chlorhexidine varnish application or more frequently applied stannous fluoride solution can effectively suppress streptococcus mutans in children with an estimated risk for caries development during fixed preventive orthodontic therapy.