SDM
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ASSESSMENT OF FLUORIDE UPTAKE ON TOOTH ENAMEL FROM FOUR DIFFERENT FLUORIDE DENTIFRICES – AN IN-VITRO STUDY.

By

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ABSTRACT

Background and objective: Since the introduction of fluoride as a therapeutic agent in commercially available dentifrices, there has been interest as to which if any among the fluoride types might provide greater levels of protection against the development and progression of dental caries. Fluoridated dentifrices have been the focus of much research. For the caries preventive effects the bioavailability of fluoride is of importance. Bioavailability of fluoride is dependent from the solubility of fluoride containing compound and form the adhesion of the fluoride compound to the tooth surface. Fluoride uptake and retention vary with the topical dentifrice employed. Hence the objective of this study is to evaluate the fluoride uptake on tooth enamel with four different fluoride dentifrices.

Methods: In this study **60** human premolars undergoing extraction for orthodontic purpose were selected. The teeth were covered with nail varnish leaving a window of 4 X 4 mm on the enamel surface of buccal and lingual side. The teeth were demineralized and were divided into 4 groups with 15 teeth in each group. The buccal window served as experimental and the lingual window was covered with a nail varnish of different colour and served as control. The teeth were immersed in toothpaste slurry containing: Sodium fluoride - group A; Sodium monofluoro phosphate - group B; Stannous fluoride - group C and Amine fluoride - group D. The fluoride content in the etched superficial enamel layer in the windows were analysed by fluoride sensitive electrode.

Results: This study evaluated the uptake of fluoride by tooth enamel by 4 different fluoride dentifrices. Topical fluoride treatment by dentifrices enhances the uptake of