KUVEMPU UNIVERSITY

EVALUATION OF 2% SODIUM FLUORIDE IONTOPHORESIS AS AN ALTERNATIVE TO LINING IN CLASS I CAVITY PREPARATIONS - AN IN VIVO STUDY

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INTRODUCTION

Dental caries is one of the most significant of human chronic diseases merely because of its frequency of occurrence, affecting persons of both sexes in all races, all socio economic strata and every age group. Despite the extensive investigations for more than a century, many aspects of its etiology are still obscure and efforts at prevention have been only partially successful. Until dental caries has been completely eliminated, dental research will strive to find the ideal restorative material.

The aim of all conservative treatment of vital teeth is to maintain them in a healthy and functional state. A primary requirement for the ideal restorative material is that, it should form a perfect union with the surrounding tooth structure to prevent ingress of saliva, fluids and debris. It is well known that none of the presently used posterior restorative materials, truly adheres to tooth structure; consequently, the principal cause for secondary caries and failure may be the penetration of fluids and microorganisms around the margins of the restorations.[46] Only amalgam provides a reasonably close adaptation to the walls of the prepared cavity.

About 70% of all caries related restorations made in dental practice are replacements.[46,39] Secondary caries is