AN IN-VITRO STUDY ON THE EFFECT OF ACIDIC SOLUTIONS ON COLOUR CHANGES OF EXTRINSICALLY STAINED PORCELAIN

by

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ABSTRACT

BACKGROUND AND OBJECTIVES

In many dental practices custom extrinsic coloration ("staining") of porcelain restorations is performed in office to improve esthetics and match the demands of the patient. Patients with ceramic restorations may be treated acidulated fluoride gels to combat caries. Home bleaching agents provide whitening of tooth structure which is being commonly used by patients for esthetic reasons. Many beverages people consume as part of changing life style. Previous studies showed the effect of fluoride gel, bleaching agent and aerated drink on surface roughness of glazed and polished ceramic surface but no data is available regarding the colour change of extrinsically stained metal ceramic surface on exposure to acidic solutions. The objectives of this study is to evaluate the Colour change analysis of extrinsically stained metal ceramic samples after submersion in 1.23% APF gel,10% hydrogen peroxide, coca-cola using spectrophotometer.

METHOD: Disc shaped nickel-chromium samples were cast of standardised dimensions. All the specimens were finished. Porcelain build up was carried out followed by staining and glazing. These samples of metal ceramic discs were each divided into different groups and were immersed in artificial saliva, coca cola, carbamide peroxide and Acidulated Phosphate Gel based on average usage. The

colour changes (ΔE) of the specimens were analysed using spectrophotometer and results were tabulated.

RESULTS: Out of the three acidic solutions used 10% carbamide peroxide showed statistically significant increase in colour change followed by 1.23% acidulated phosphate gel and coca cola.

INTERPRETATION AND CONCLUSION: Out of the three acidic solutions used 10% carbamide peroxide showed statistically significant increase in colour change followed by 1.23% acidulated phosphate gel and coca cola. Therefore careful consideration must be given to the drinking habits, usage of these acidic fluoridated preparations and bleaching agents in patients with these restorations.

KEY WORDS:metal ceramic,APF gel,carbamide peroxide,coca-cola,colour stability.