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Correlation of Fluoride Concentration in Saliva after the Use of Highly Fluoridated Tooth Paste Containing Nano Silver Fluoride Particles: A Cross over Randomized Controlled Double Blinded Trial

¹Mahbooba Khazir, ^{2*}Sabzar Abdullah, ³Geeta Rajput, ⁴Gaurav Singh, ⁵Pransu Varshney

¹Resident Department of Public Health Dentistry TMU Dental College

²Assistant professor Department of prosthodontics ZA Dental College, AMU

³professor Department of prosthodontics ZA Dental College, AMU, Aligarh

⁴professor Department of prosthodontics ZA Dental College, AMU, Aligarh

⁵Resident Department of paediatric Dentistry ZA Dental College, AMU

Email Id: serviceheb@gmail.com

ABSTRACT

Aim: This study was done to find out the increased concentration of fluoride in the saliva after using the highly concentrated tooth paste with Nano silver fluoride particles and comparison of that with the placebo.

Objectives of the study: To evaluate the bioavailability of fluoride in the saliva implant failure rates. To assess the anti-caries effect of dentifrices with fluoride. To assess complications. To evaluate oral health status.

Methodology: This study was to find out the increased concentration of fluoride in the saliva after using the highly concentrated tooth paste with Nano silver fluoride particles and comparison of that with the placebo. 80 students were taken for this cross over double blinded study. 40 were asked to brush with the fluoridated tooth paste containing 5028.3µg/ml, another 40 to brush with placebo followed by rinsing. Samples of saliva were taken to find out the fluoride concentration and collection was carried out at the baseline and at an interval of 1 hour seven days and 5 and 12 months.


Results: the antimicrobial and cytotoxic activity of Nano Silver Fluoride against Streptococcus mutans in comparison to placebo. It was found that the NSF is a bacteriostatic and bactericidal

compound and the MIC and MBC values for the ATCC (25,175) strains were 33.54 _ 14.52 mg/mL and 50.32 mg/ mL, respectively. The difference between the MIC values ($p = 0.032$) and the MBC ($p = 0.035$) of the tested substances were assessed for statistical significance. The NSF was not toxic at any concentration tested for any type of erythrocyte and is more biocompatible than SDF.

Discussion: Increased prevalence of dental caries is a major problem of the community, various measures have been taken to combat this problem but still it is a major threat. Dental caries According to WHO global data there is an upward trend in DMFT from 1.6 to 10.4. A cross sectional research in India has indicated mean DMFT of 2.41 in school children.

Conclusion: As the poor communities are facing the large risk and only single application in the year can reduce the risk to such a great extent so it is possible that the school can provide tooth paste along with the meals as they are more affordable for the education authorities and also for the regular families

Key Words: Placebo, Nano Silver Fluoride, Endosseous dental Implants

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