ABSTRACT

Aim: To assess and compare the effectiveness of two commercially available fluoridated dentifrices on the risk factors of dental caries among institutionalized geriatric population in Chennai city.

Objectives:

1. To assess the dental caries risk factors among institutionalized geriatric population using Cariogram model (Bratthall D, 1997)

2. To determine the effect of organic fluoride based dentifrice (Amflor, Group pharmaceuticals limited) and inorganic fluoride based dentifrice (Colgate total) on risk factors of dental caries among institutionalized geriatric population in Chennai city.

3. To compare the effect of organic fluoride based dentifrice (Amflor, Group pharmaceuticals limited) with inorganic fluoride based dentifrice (Colgate total) on risk factors of dental caries among institutionalized geriatric population in Chennai city.

Methodology:

The intervention study was conducted over a period of six months. The study participants were divided into two Groups: Group I (received organic fluoride (Amflor) dentifrice), and Group II (received inorganic fluoride (Colgate Total) dentifrice). A total of 80 participants were included in the study with 40 subjects in each group. Clinical examination was done in both groups to assess the risk factors using cariogram model. Oral examination was done to assess dental

caries using Decayed – Missing – Filled Teeth index (Henry T. Klein, Carrole E. Palmer, and Knutson J.W, 1938) and plaque amount using Silness and Loe plaque index (Silness and Loe, 1964), as recommended by cariogram model. An interview was carried out to record general related diseases, diet frequency, fluoride programme of cariogram caries related factors. Saliva samples were collected from the participants of both groups to estimate saliva secretion rate, saliva buffer capacity, *Streptococcus mutans* count, and *Lactobacillus count*. The data was collected and analyzed using SPSS software and results were generated.

Results:

The mean chance of avoiding new cavities (Green sector) among the participants who received organic fluoride (Amflor) dentifrice was found to be high (75.85) compared to participants who received inorganic fluoride (Colgate Total) dentifrice (73.40). Among the Group I participants there was a statistically significant reduction in the *Streptococcus mutans* and *Lactobacillus* colony forming unit (CFU)/ml when compared to Group II participants over 6 months (p=0.000). Further there was a significant increase in the salivary pH among the participants of Group I (p=0.017) when compared to that of participants in Group II.

Conclusion:

The overall study results showed a marked increase in the actual chance of avoiding new cavities with a reduction in the *Streptococcus mutans* and *Lactobacillus* CFU/ml and increase in the saliva buffer capacity over six months

on use of organic fluoride (Amflor) dentifrice compared to inorganic fluoride (Colgate Total) dentifrice among the institutionalized geriatric population.