NUJHS Vol. 3, No.4, December 2013, ISSN 2249-7110
Nitte University Journal of Health Science

Original Article

INCIDENCE OF LOSS OF ANTERIOR TEETH DUE TO CARIES IN SOUTH INDIAN POPULATION IN 2009

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Abstract :

Aim: To evaluate the incidence of loss of anterior teeth due to caries in 2000 patients randomly selected from the South Indian population in 2009.

Material and Methods: 2000 patients were examined for incidence of loss of anterior teeth due to caries and the recorded data was statistically analysed using Pearson Chi-Square test.

Results: Incidence of loss of anterior teeth due to caries in the population of South Canara district was found to be 16.3 %. It was observed that there was increased incidence of loss of anterior teeth in age group above 65 years. No difference in incidence of anterior tooth loss was observed between urban and rural patients and also between males and females. There was high rate of replacement for the missing lost anterior teeth.

Conclusion: This study showed that less than one fourth population of South Canara district had missing anterior tooth due to caries. Since anterior teeth occupies a strategic position in the dental arch, it is necessary to know the caries prevalence in this tooth and take adequate measures to prevent its progression and/or development of new carious lesions.

Keywords : Caries incidence, anterior teeth, South Canara District.

Introduction :

The anterior tooth occupies a strategic position in the dental arch. They help in maintaining arch continuity, give fullness and youthfulness to the face and maintain proper vertical dimension of face. Tooth loss diminishes oral functions and the quality of life. It causes difficulty in eating, speaking, affects the appearance and personality of a person. Hence it should be treated with concern.

Tooth loss is no longer considered an acceptable consequence of aging. One must understand its determinants before assessing the risk factors leading to premature tooth loss and should institute remedial action to avoid it [1]. The purpose of this study was to determine the incidence of loss of anterior teeth in South Canara population and to identify the differences between the various age groups, gender and between urban and rural settings. Another factor studied was the number of people having the replacement for the missing teeth. This was to find out the level of awareness of dental facilities among the lay public.

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Aims and Objective of the Study :

1. To evaluate the incidence of loss of anterior teeth due to caries
2. The effect of age, location and gender on the incidence of loss of anterior teeth due to caries.
3. To study the status of replacement of the lost-Anterior Teeth.

Materials and Methods :

This is an analytical epidemiological study conducted on 2000 patients randomly selected from the patients visiting the Department of Conservative Dentistry and

Endodontics, A.B.Shetty Memorial Institute of Dental Sciences, Deralakatte, Mangalore and from the rural areas in the South Canara district.

Diagnosis and treatment planning was done for all 2000 patients after a detailed case history was recorded and a thorough intra oral and extra oral examination was performed according to the WHO format.

The patients were examined for lost anterior teeth under good illumination using visual aids (mouth mirrors, straight probe, and Shepherd's hook explorer). A questionnaire was prepared to collect data. All the data were then coded and was subjected to statistical analysis using the Pearson Chi-Square test. The SPSS 15 software package was used to perform the statistical and epidemiological calculations.

Results :

Out of the 2000 patients examined 326 of the cases had loss of anterior teeth, giving an overall incidence of missing anterior teeth of 16.3 %.(Table 1)

Statistical analysis showed that anterior tooth loss was more prevalent in the age group of above 65years (54.1%). (Table 2)

Incidence of lost anterior teeth in urban areas was 15.9% and in rural areas it was 17.6%. The difference in locations was found to be not statistically significant. (Table 3)

It was observed that there was no statistically significant difference in anterior tooth loss between males and females (p value 0.8191) (Table 4)

The replacements given for the lost anterior teeth were 88.3% which showed statistical significance (Table 5).

Discussion :

This study aimed at finding the overall incidence in the loss of anterior tooth due to caries, and incidence of tooth loss in different age groups, location and gender and the replacement of affected tooth.

In this study the incidence of loss of anterior teeth was found to be 16.3 %. Similar results were reported by Heft and Gilbert in Florida [2]. In contrast to this the incidence of lost anterior teeth was found to be much less (4.3 %) in a study done by Ismail et al in Southwestern HHANES [3].

In this study the incidence of lost anterior teeth was highest in the age group above 65 years (54.1 %). Similar result was found in the study conducted by Heft and Gilbert in Florida [2]. The difference found between the younger and older age groups can be partly attributed to the fact that caries and periodontal diseases have cumulative effect on oral tissues [3, 4]

This study showed no statistical difference with loss of anterior teeth among the urban and rural population. In urban areas, regular preventive dental check- ups and immediate treatment helps in retention of their teeth [4]. The increase in the number of the charitable rural satellite centres and oral health awareness programmes help the rural population to improve their dental health.

Table1: Incidence of Missing Anterior Teeth

Missing anterior teeth	Frequency	Percentage
Yes	326	16.3%
No	1674	83.7%
Total	2000	100%

Table2: Incidence of Missing Anterior Teeth in the various Age Groups

Age Groups	Missing anterior teeth-Yes	Missing anterior teeth-No	Total	% of missing anterior teeth in each group
0-14 years	2 (.1%)	9 (.5%)	11 (.6%)	18.2%
15-25 years	41 (2.1%)	485 (24.3%)	526 (26.3%)	7.8%
26-35 years	76 (3.8%)	554 (27.7%)	630 (31.5%)	12.1%
36-45 years	67 (3.4%)	353 (17.7%)	420 (21.0%)	16%
46-55 years	79 (4.0%)	192 (9.6%)	271 (13.6%)	29.2%
56-65 years	41 (2.1%)	64 (3.2%)	105 (5.3%)	39.04%
Above 65 years	20 (1.0%)	17 (.9%)	37 (1.9%)	54.1%
Total	326 (16.3%)	1674 (83.7%)	2000 (100.0%)	16.3%

Chi-square value = 147.530, p-value = < 0.05 (Significant)

Keywords: Caries incidence, anterior teeth, South Canara District.

Table3: Incidence of Missing Anterior Teeth in Different Locations

Location	Missing anterior teeth – Yes	Missing anterior teeth – No	Total	% of missing anterior teeth in each group
Peri-Urban	238 (11.9%)	1262 (63.1%)	1500 (75.0%)	15.9%
Rural	88 (4.4%)	412 (20.6%)	500 (25.0%)	17.6%
Total	326 (16.3%)	1674 (83.7%)	2000 (100.0%)	16.3%

Chi-square value = .826,
p-value = 0.363 > 0.05 (Not Significant)

Table 4: Incidence of Missing Anterior Teeth in males and females

Gender	Missing anterior teeth-Yes	Missing anterior teeth-No	Total	% of missing anterior teeth in each group
Males	283 (14.15%)	845 (42.25%)	1128 (56.4%)	25.08%
Females	214 (10.7%)	658 (32.9%)	872 (43.6%)	24.54%
Total	497 (24.85%)	1503 (75.15%)	2000 (100.0%)	24.85%

Chi-square value = 0.052, p-value = 0.8191> 0.05 (Not Significant)

Table 5 : Number of Replacements Given For the Missing Anterior Teeth

Replacement	Frequency	Percentage
No	38	11.7%
Yes	288	88.3%
Total	326	100%

No difference in incidence of tooth loss was observed between the males and females.

Over the years dental care has changed and provision of curative care has increased hence the replacements given for the lost anterior tooth (88.3%) was significant. Hence the interrelationship between all these factors and their effect on oral health has become complex.[5]

Conclusion :

This epidemiological survey was conducted on 2000 patients randomly selected from the South Canara district, who were examined for the incidence of loss of anterior teeth due to caries. A comparative evaluation was done to correlate the incidence of loss of anterior teeth due to caries in different age groups, locations and gender.

It was concluded that:

1. Less than one fourth of the population of south Canara district had missing anterior tooth due to caries (16.3 %)
2. The incidence of lost anterior teeth due to caries was more in the in age group above 65 years
3. No difference in missing anterior tooth was found in patients from urban and rural areas and between males and females
4. There was a high rate of replacement for the missing lost anterior teeth.

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