

PATTERN OF ORAL HYGIENE MAINTENANCE AMONG PATIENTS SEEN AT TWO TERTIARY HOSPITALS

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ABSTRACT

The study was conducted in two tertiary hospitals to observe frequency & duration of tooth brushing & their relation with incidence of caries, gingivitis & sensitivity. In this study total 1200 patients were selected randomly reported to Department of Operative Dentistry of both institutes. The duration of study was one year. Out of these 1200 patients 755 (62.91%) were male and 445 (37.08%) were female with age range from 15- 74 years. All patients were divided into three groups on the basis of their age, in group 1 age range was 15-25 years, in group 2 age range was 26-50 years while group 3 included patients of above 50 years.

After taking consent from the patients a self designed questionnaire was used to get necessary details. Data compiling and statistical analysis was done by using SPSS – 20 & results were obtained.

Brushing frequency and duration of brushing is better in group 2 followed by group 1 & 3 respectively. The rate of caries and gingivitis is also significantly higher in group 2 (50.8% & 40.4%) followed by group 1 (21.6% & 15%) and group 3 (1.8% & 2.5%) respectively.

Key Words: Caries, gingivitis, sensitivity, frequency & duration of brushing.

INTRODUCTION

Good oral hygiene is one of the primary indicators of overall general health. In literature so much information is available on different methods to maintain good oral hygiene but unfortunately these methods are not properly practiced, as a result incidence of various oral health disorders are continuously increasing.¹

To maintain good oral hygiene proper tooth brushing is one of the simpler and easy way but still it is not properly practiced in our community. There are numerous brushing techniques like Bass, Stillmans, Leonard, Smith-Bell, Fones and Charters etc which are discussed in the literature. Each technique has its own advantages and disadvantages.² Apart from brushing technique frequency of tooth brushing, total duration of tooth brushing, type of tooth brush, quality of tooth paste are also very significant factors in order to maintain good oral hygiene.³ Use of other cleansing aids like dental floss, interdental brushes, fluoride application and varnishes are also some significant factors in this regard.⁴

Faulty and irregular tooth brushing technique are directly related to increase incidence of various oral health disorders especially caries and gingivitis which will ultimately lead to loss of teeth.⁵ Bad oral hygiene not only affect the oral cavity but it can also contribute to other systemic diseases like cardiovascular diseases, prosthetic joint infections etc.⁶ This study was conducted to obtain information about frequency of tooth brushing and their relation with certain oral health problems in patients visited two different tertiary care hospitals.

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METHODOLOGY

The study was conducted at Department of Operative Dentistry, Nishtar Institute of Dentistry, Multan and Department of Operative Dentistry, Hamdard University Dental Hospital, Karachi. The duration of this study was one year from 1st April 2014 to 31st March 2015. Total 1200 patients (600 from each institute) were selected randomly reported to Department of Operative Dentistry of both institutes. Out of these 1200 patients 755 (62.91%) were male and 445 (37.08%) were female with age range from 15-74 years. All patients were divided into three groups on the basis of their age, in group 1 age range was 15-25 years, in group 2 age range was 26-50 years while group 3 included patients of above 50 years.

After taking consent from the patients a self designed questionnaire was used to get necessary details. Data collection and statistical analysis was done using SPSS – 20 and results were obtained.

RESULTS

Brushing frequency and duration of brushing is better in group 2 followed by group 1 and 3 respectively. The rate of caries and gingivitis is also significantly higher in group 2 (50.8% and 40.4%) followed by group 1 (21.6% and 15%) and group 3 (1.8% and 2.5%) respectively as shown in Table 1.

DISCUSSION

Good oral hygiene is a primary requisite for having better general health. There are numerous aids available for maintaining good oral hygiene. Using proper tooth paste with adequate brushing technique, brushing frequency and timing of brushing are important factors required for having good oral health.⁷

Parera et al⁸ reported that by using proper tooth paste with adequate brushing frequency are directly related with good oral hygiene. The incidence of caries and tooth loss was significantly higher in those individuals who did not brush their teeth properly. This is also found in this study. The brushing frequency and duration of brushing are the two most important factors for maintaining good oral hygiene. Peker et al⁹

observed in their study that brushing frequency and oral hygiene is better in young population as compared to the older population. The similar results were obtained in this study as well. The sample size of both studies were also same.

Apart from manual tooth brush now days some special types of tooth brush like inter dental tooth brush, electrically operated tooth brushes are also available but their use is restricted in specific type of population. In this study, majority of the population used manual tooth brush. Field et al¹⁰ reported that in their study the use of both manual and electric tooth brush was effective in maintaining good oral hygiene.

In this study, the incidence of brushing twice was 28.7% which closely matches with the study of Peeran et al¹¹ conducted in Libian population. This is in contrast to the study of Ganss et al¹² where frequency of brushing twice was 79.6%.

Peterson et al¹³ noted in their study that frequency of tooth brushing is generally high in younger age groups as compared to older age group which is mainly due to high esthetics demand of younger population. Similar findings were also observed in this study. In the present study, 71.2% were doing tooth brushing for more than 2 minutes while 28.7% had duration of less than two minutes, while Albertsson et al¹⁴ noted in their study that duration of tooth brushing for more than 2 minutes was 41% and less than 2 minutes was 40.1%.

The overall incidence of caries in this study was 74.3% which is significantly high, the incidence of caries in younger age group was 50.8% which is much higher than the elderly population which is only 1.8%. This result may be because of consumption of different variety of foods, faulty brushing technique, deposition of more secondary population in older population.. These findings were also noted by Chu et al¹⁵ where caries incidence is low in elderly population. This is in contrast to the study of Zubiene et al where incidence of caries was higher in older age group which was 25.6%.¹⁶

In the current study, 21.6% of the middle age group individuals had been found with carious teeth while

TABLE 1: STATISTICS SHOWING FREQUENCY, DURATION OF TOOTH BRUSH, CARIES & GINGIVITIS IN DIFFERENT AGE GROUPS

S. No.	Age in years	Brushing Frequency			Brushing Time		Gender		Caries	Gingivitis	Sensitivity
		1	2	3	Less than 2 min	More than 2 min	M	F			
1	15-25	210	138	42	80	310	203	187	260	180	95
2	26-50	480	169	90	215	524	509	230	610	485	121
3	Above 50	28	38	05	50	21	43	28	22	31	18

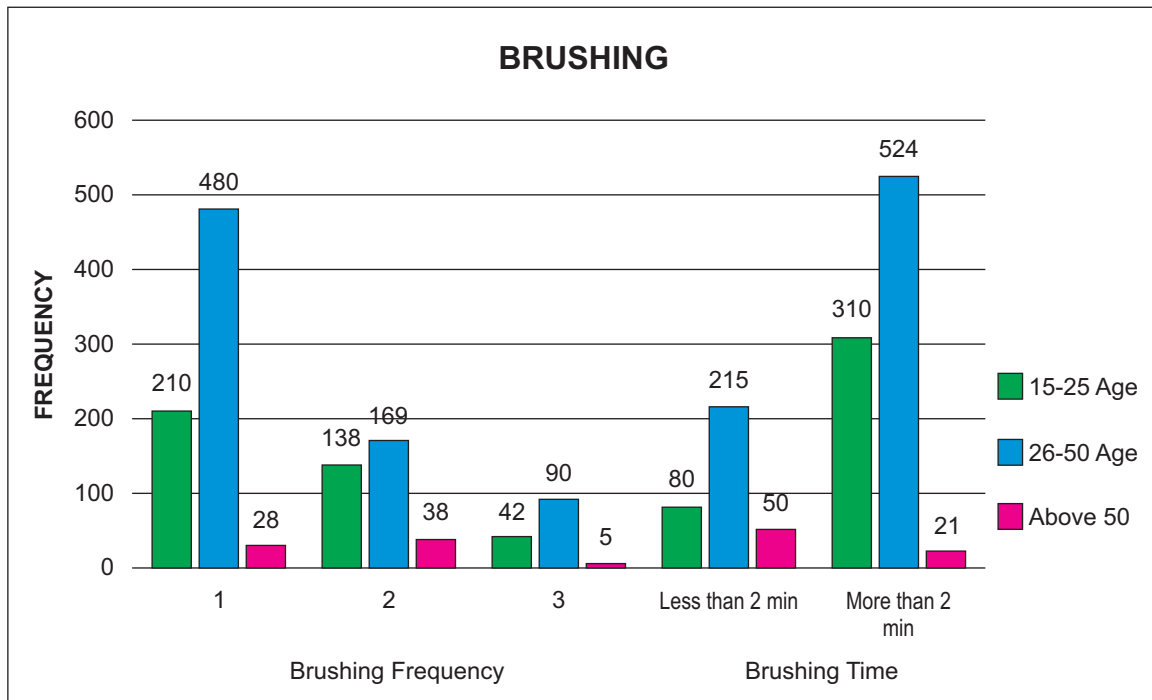


Fig 1: Frequency & duration of brushing in different age groups

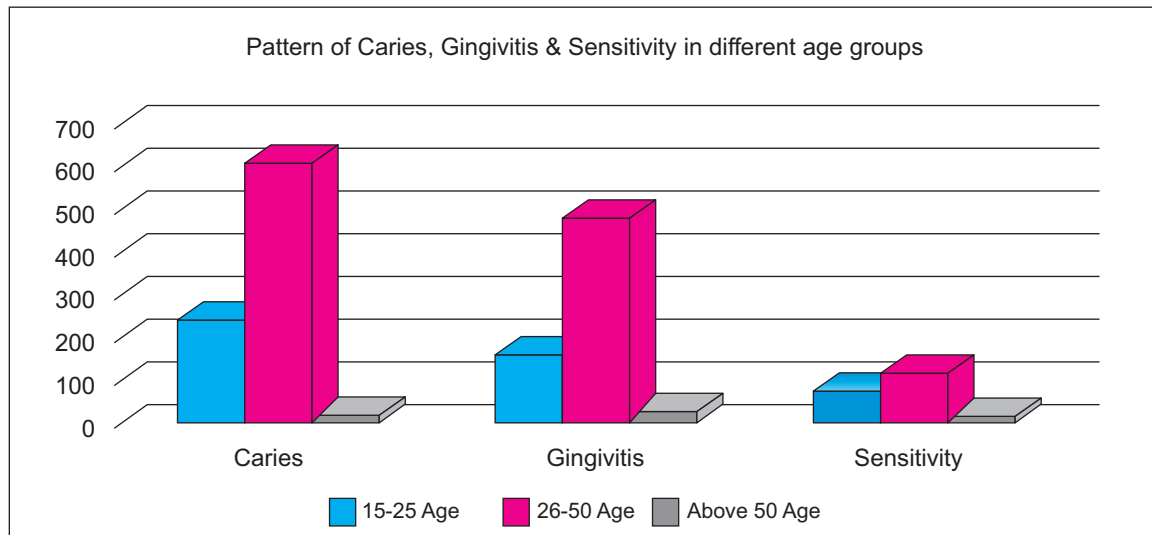


Fig 2: Pattern of caries, gingivitis and sensitivity in different age groups

Chen et al¹⁷ in their study found that incidence of caries in middle age group was 37.9%. The low frequency of brushing and faulty brushing technique will also affect the periodontal status of the existing dentition as well. In this study the incidence of gingivitis is 57.9% while Natto et al¹⁸ in their study conducted in population of Chad noted the incidence was 56.6% which is in close relation with this study. Darby et al noted in their study conducted on Australian population that the incidence of gingivitis was 28.4%.¹⁹

The incidence of sensitivity in the present study was 19.5% with higher incidence in younger age as compare to older age group, which is mainly due to deposition of

secondary dentine and consumption of particular type of diet. The prevalence of hypersensitivity was 12.3% in the study conducted by Cunha et al²⁰ in American population. Their results are also similar to this study where rate of hypersensitivity was low in elderly population. Sadaf et al²¹ in their study conducted in selected patients reported to tertiary care hospital of Karachi found the incidence of hypersensitivity was 38% which is significantly higher as compare to the current study.

The study was conducted to observe the teeth brushing pattern both in terms of duration and frequency. With limitation of the sample size in this study, it was observed that in general oral health of our population

is not adequate. There is an immense need to improve the oral health of our community by increasing the awareness about effects of good and poor oral hygiene on oral cavity as well as on general health. Regular educational programme for general public should be organized by the public and private organizations. Oral health care provider can also play a significant role in this regard.²²

CONCLUSION

In general the oral hygiene of the studied population is not adequate which is linked with decrease duration and low frequency of tooth brushing. Dentists can play a vital role in improvement of oral hygiene of the population.

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CONTRIBUTION BY AUTHORS

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| 1 Syed Abrar Ali: | Wrote manuscript and examining patients. |
| 2 Rehman Shahid: | Collection of data. |
| 3 Hasnain Abbas: | Examining patients. |
| 4 Mehmood Hussain: | Assistance in inferences. |
| 5 Muhammad Imran: | Biostatistics. |