



## RESEARCH ARTICLE

### ORAL HEALTH AWARENESS AND PRACTICE OF PATIENTS VISITING OUTPATIENT DEPARTMENT OF PERIODONTICS A.J INSTITUTE OF DENTAL SCIENCES, MANGALORE

Dr. Nandini Manjunath, Dr. Sahana Purushotham, \*Dr. Jenny Susan Roy  
and Dr. Rosh Shalom Raphy

Department of Periodontology, A.J.Institute of Dental Sciences, Mangalore

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#### ABSTRACT

**Background:** Oral health is of paramount importance for the physical, social and psychological well-being of an individual. Poor oral health negatively affects an individuals productively. Lack of awareness is one of the major factor leading to oral diseases.

**Objective:** The study was carried out to assess the oral hygiene awareness and practices amongst patients visiting the OPD of A.J Dental College, Mangalore.

**Materials and Method:** A cross sectional study was conducted among the patients attending the outpatient department of periodontology, A.J Institute of dental science, Mangalore. A self constructed questionnaire was distributed to 1000 patients. The questionnaire consisted of questions that was categorized to evaluate the knowledge, attitude and practices of subjects related to oral health. After the completion of the questionnaire, they were analyzed statistically to obtain the results.

**Results:** The result of this study shows an lack of oral hygiene awareness and limited knowledge of oral hygiene practices.

**Conclusion:** Most of the dental problems can be prevented by educating the population thereby enhancing their levels of awareness. Hence, there is a need to educate the individuals about correct oral hygiene practices and methods for the prevention of dental diseases. Professional dental care and regular follow up along with the patients oral hygiene practices can minimize the level of oral diseases.

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## INTRODUCTION

India is one of the emerging economies of the world with a population of approximately 1022 million which spreads over more than 6.4 lakhs villages, 5661 towns and cities, 5564 tehsils/talukas, 7 union territories and 28 states. (Agarwal *et al.*, 2010) The National Oral Health Survey, conducted in 2005 by the Indian Dental Association (IDA), highlighted that 95% of the population in India suffers from gingival disease, only 50% use toothbrush, and just 2% of the population visit the dentist. (Indian Dental Association. National oral health program. Bombay Mutual Terrace, 2012) Therefore, the studies on the prevalence of periodontal disease in different populations are useful, to determine the extent and severity of the disease, its rate of progression and possible etiological factors of the disease. (Shewale *et al.*, 2016) Poor health awareness amongst the population is one of the reasons for

steady rise in the prevalence rates of periodontal diseases. Majority of the Indians are unaware of the fact that good oral health not only ensures freedom from pain and suffering associated with oral health problems, but is also essential for the overall health improvement and elevation of self-esteem, quality of life, and performance at work. (Chavan *et al.*, 2012) Prevention of oral diseases can be achieved by optimizing the oral health practices in the form of correct tooth brushing technique, visiting dentist at regular intervals, and proper dietary measures. Despite the fact of having easy access to dental care, many individuals suffer from oral diseases. Patients need proper guidance for maintaining their oral hygiene. Majority of diseases can be prevented at individual and community levels by providing oral health education thus improving the oral health attitude and practices in general population. Therefore the present study was conducted to assess the oral hygiene awareness and practices amongst patients visiting the Outpatient Department of Periodontics in A.J Dental College, Mangalore.

\*Corresponding author: Dr. Jenny Susan Roy,  
Department of Periodontology, A.J.Institute of Dental Sciences, Mangalore

## MATERIALS AND METHODS

A cross sectional study was conducted among the patients attending the outpatient department of periodontics, A.J Institute of dental science, Mangalore. A self constructed questionnaire containing 20 questions in English was distributed to 1000 patients on random basis. The dental professionals helped the illiterate to fill the questionnaire. On an average 20 patients were interviewed each day for a period of 50 days excluding Sundays and public holidays. The survey consisted of questions that were categorized broadly to evaluate the knowledge (importance of brushing, type of brush used, correct brushing technique), attitude (need to visit dentist) and practices (frequency of tooth brushing, frequency of changing the tooth brush, whether subjects use tooth brush and paste or any other indigenous methods, whether subjects had the knowledge of mouthwash, floss or any other interdental aids) of subjects related to oral health.

**Inclusion criteria:** Patients above 16 years of age who were willing to participate, were randomly selected for the study.

**Exclusion criteria:** Patients suffering from debilitating diseases were excluded from the study. The overall oral hygiene of the patient were assessed based on their responses to various questions asked regarding their day to day oral hygiene practice.

### Statistical analysis

After the completion of the study the questionnaire were analyzed statistically to obtain the results in terms of percentage. Data was entered into Microsoft excel and analyzed using SPSS version 19.0. The completed questionnaires which consisted descriptive statistics like oral hygiene practices including the demographic information were calculated for response items in terms of percentages.

## RESULTS

A total of 1000 participants with the age group of 16-70 yrs were included in the study. Of the 1000 participants, 656 were male and 344 were females.

### Questionnaire

#### Personal details

NAME :  
AGE :  
SEX :  
ADDRESS :  
OP.NO :

- |    |  |                       |                       |                      |                       |
|----|--|-----------------------|-----------------------|----------------------|-----------------------|
| 1. | Do you brush your teeth                        | Yes                   | <input type="radio"/> | No                   | <input type="radio"/> |
| 2. | How many times do you brush your teeth         | Once                  | <input type="radio"/> | Twice                | <input type="radio"/> |
|    |  | More than two times   | <input type="radio"/> | Occasionally         | <input type="radio"/> |
| 3. | Do you think night brushing is important       | Yes                   | <input type="radio"/> | No                   | <input type="radio"/> |
| 4. | How do you clean your teeth                    | Charcoal              | <input type="radio"/> | Salt                 | <input type="radio"/> |
|    |  | Neemstick             | <input type="radio"/> | Toothbrush and paste | <input type="radio"/> |
|    |  | Toothbrush and powder | <input type="radio"/> |                      |                       |
| 5. | What type of brush you use to clean your teeth | Hard                  | <input type="radio"/> | Medium               | <input type="radio"/> |
|    |  | Soft                  | <input type="radio"/> | Dont know            | <input type="radio"/> |
| 6. | How often do you change your brush             | Never                 | <input type="radio"/> | Once in 3 months     | <input type="radio"/> |
|    |  | Once in 6months       | <input type="radio"/> | Once in a year       | <input type="radio"/> |
| 7. | Which method do you use to brush your teeth    | Horizontal            | <input type="radio"/> | Circular             | <input type="radio"/> |
|    |  | Vertical              | <input type="radio"/> | Dont know            | <input type="radio"/> |
| 8. | How much time do you take to brush your teeth  | 1 minute              | <input type="radio"/> | Less than 1minute    | <input type="radio"/> |
|    |  | 2 minutes             | <input type="radio"/> |                      |                       |

9. Do your gums often bleed while brushing	Yes <input type="radio"/>	No <input type="radio"/>
10. Do you have any habits	Smoking <input type="radio"/>	Alcohol <input type="radio"/>
	Pan chewing <input type="radio"/>	Others <input type="radio"/>
11. Do you use interdental aids	Yes <input type="radio"/>	No <input type="radio"/>
12. If yes, which interdental aid	Floss <input type="radio"/>	
	Interdental aid <input type="radio"/>	
	Toothpick <input type="radio"/>	
13. Do you use mouth wash	Yes <input type="radio"/>	No <input type="radio"/>
14. Do you clean your tongue	Yes <input type="radio"/>	No <input type="radio"/>
15. Do you rinse your mouth after eating	Yes <input type="radio"/>	No <input type="radio"/>
16. Have you ever noticed smell from your mouth	Yes <input type="radio"/>	No <input type="radio"/>
17. Do you visit dentist	Yes <input type="radio"/>	No <input type="radio"/>
18. If yes how often	Only in problem <input type="radio"/>	
	Once in 3 month <input type="radio"/>	
	Once in 6months <input type="radio"/>	
	Once in a year <input type="radio"/>	
19. What is the main reason for your last visit to dentist	Went on own <input type="radio"/>	
	Something was wrong / <input type="radio"/>	
	Bothering /hurting <input type="radio"/>	
20. What is the importance of oral hygiene	very important <input type="radio"/>	
	Not so important <input type="radio"/>	
	Ignorant/don't know <input type="radio"/>	

- 85.6 % of the participants knew the importance of oral hygiene practices whereas 10.5 % were not aware of it. (Fig 1)
- 78.6 % of the participants used to brush their teeth once daily, 21% of the participants brushed twice daily whereas 0.4 % brushed their teeth more than two times.53.3% of the subjects brushed their teeth for more than two minutes per session (Fig 2)
- 75.8 % of the subjects were not aware of the importance of night brushing whereas 24.2% brush their teeth at night regularly.
- In response to cleaning of teeth, most of the patients about 92% used tooth brush and tooth paste whereas few patients about 0.4 % and 0.5% used combination of tooth brush with tooth paste or tooth powder. Very few patients about 0.3 % used indigenous methods like neemstick. (Fig 3)
- Among all the participants about 67.8 % of them were not aware about the type of tooth brush used to clean the teeth. about 9 % used hard bristle tooth brush,13.9% used medium bristle whereas 9.3 % used soft bristle. (Fig 4)
- In response to the question ‘how often you change your brush’ it was observed that about 62.7% of the participants changed their brush only once a year. (Fig 5)
- Among the participants, it was noted that 73.4% used horizontal method, 2.2 % used circular method whereas 0.2 % used both horizontal and vertical method for brushing the teeth. 22 % were not aware of method they used for brushing. (Fig 6)
- About 90% of the participants did not use any interdental aids along with tooth brushing whereas 9.1 % used interdental aids. Among the 9.1 % floss was used by 61.5 % and tooth pick was used by 38.5 % of the participant
- Among the participants about 71.3 % noticed bleeding while brushing whereas 28.7 % have not noticed bleeding of gums.
- Only 38% of the subjects had tongue cleaning habit also, 88 % of the participants rinsed their mouth after eating food.
- About 94% of the patients were not using mouth wash and were not aware of its importance, where as only 6% of the population used mouth wash.
- Among all the participants 85.8 % of the participants went to dentist only when there was a problem, 5.2 % visited dentist once in 3 months, 5.8 % visited in 6 months whereas 3.1 % visited once a year. (Fig 7 and 8)

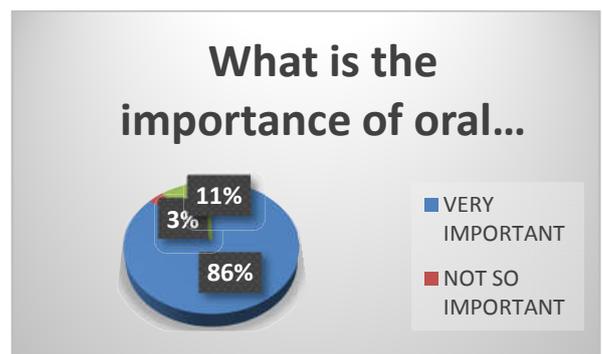


Fig.1. Importance of oral hygiene

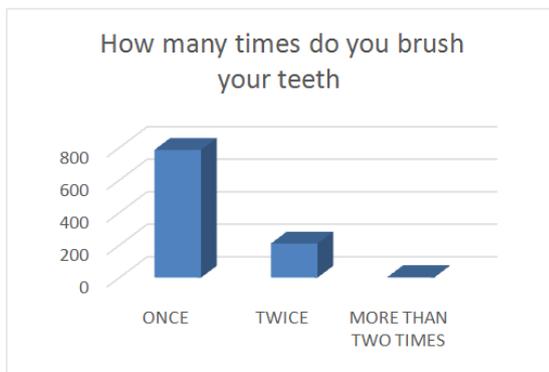


Fig.2. Frequency of tooth brushing

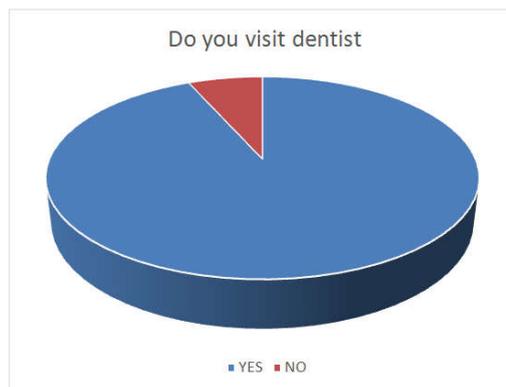


Fig.7. Do you visit dentist

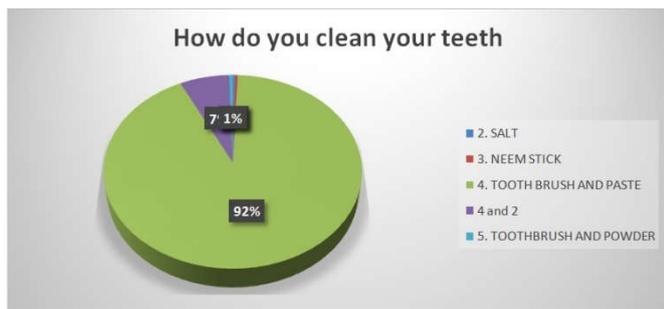


Fig.3. Methods used to clean teeth

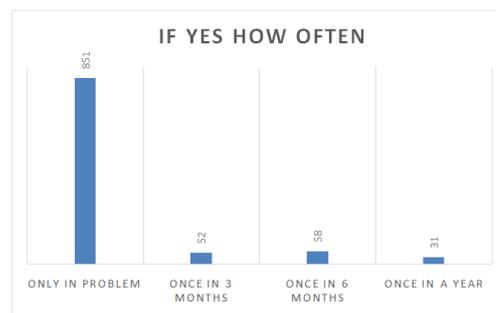


Fig.8. Frequency of visiting dentist

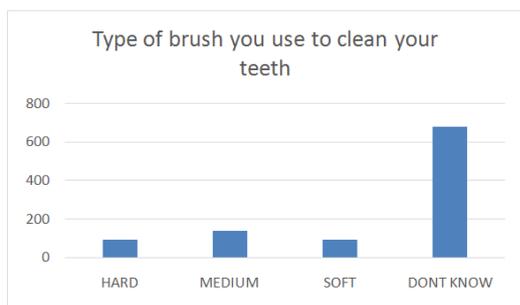


Fig.4. Type of Brush Used

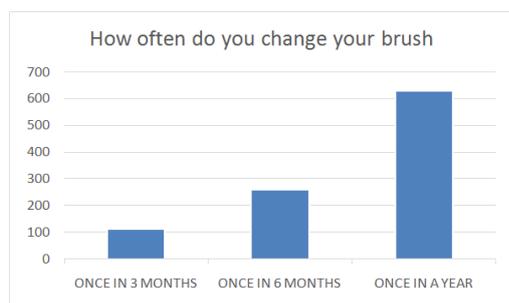


Fig.5. Frequency of changing tooth brush

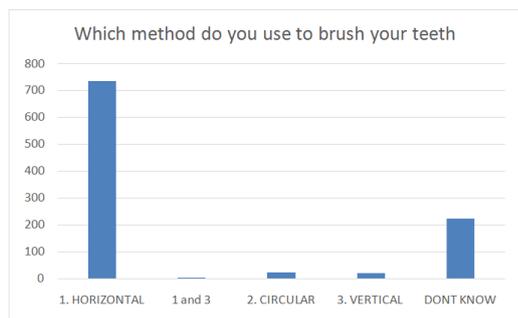


Fig.6. Method of brushing teeth

## DISCUSSION

It has been observed that appropriate oral hygiene has remained as an unseen and unobserved major stigma in the society. Preventing the oral diseases is an important way to keep our teeth healthy. Teeth can last for a longer duration with proper preventive oral care. Hence, in this study attempts were made to evaluate oral health knowledge, attitude, and practice of the population of Mangalore. The American dental association recommends individual to brush twice a day and use interdental cleansers once a day. They recommend twice daily brushing because most of the individuals do not adequately remove microbial plaque at one brushing and doing it a second time improves the results. (American dental association 2009) The present study found that brushing with toothbrush and toothpaste was the most commonly used method of cleaning the teeth (92%) but only 21% of the subjects brushed their teeth twice daily. Similar findings were also noted by the study conducted by Jain *et al.* (2012) where importance was given to frequency i.e twice daily brushing (23%) and appropriate tooth brushing method. In a study conducted by Bobby Paul *et al.* (2014), it was observed that only one third of the subjects brushed their teeth twice daily. Most of the subjects were not aware of the importance of night brushing. In the present study, although the frequency of brushing twice was 21%, the duration of brushing by the subjects per session was more than 2 minutes (53.3%). In a study conducted by Drisko in 1996, it has been proved that the average daily home care routine lasting less than 2 minutes removes only 40%of the plaque. (Drisko, 1996) 67.8% of the subjects did not know the type of brush to be used to clean their teeth and only 9.3% of the subjects used soft brush, which is less than that observed in the study done by Zhu *et al* (Zhu *et al.*, 2005) where 27% of the subjects used soft brush. People were not aware of the different types of brushes available in the market and that brushing their teeth with hard

brush can lead to wearing away of the tooth structure and gingival recession when compared to soft bristles. (Khocht *et al.*, 1993) Only 11.4% of the subjects changed their brush once in 3 months, whereas 25.9% changed their brush once in 6 months and 60% of the study population changed their brush only once a year, when it was totally worn out. This was in accordance to the study conducted by Jain *et al.* (2012) where 60% of the population changed their brush when it was totally useless. Subjects did not know that the ideal time to change the tooth brush [according to ADA specification] was 3-4 months when the bristles of the brush starts fraying. However upto 9 weeks, visible bristle wear does not appear to affect plaque removal. (Daly *et al.*, 1996)

73.4% of the subjects used the horizontal method of the toothbrushing. Although this method is commonly used by three fourth of the total population, this technique when used for longer duration can lead cervical abrasion. Individuals were not aware of the benefits of using interdental aids in oral health care. This is mainly due to lack of oral health education, awareness and the cost factor. In the present study only 9.1 % of the total patients used interdental aids, out of which only 61.5% subjects used dental floss, 38.5 % patients used toothpick. This is similar to a study conducted by Hanna M Jamjoom (2001) where individuals were not aware that interdental plaque control is essential to prevent oral diseases. In the present study, bad breath was experienced by 20 % of the patients which is similar to the study findings of Kumar *et al* (2015) in which 21% of participants experienced bad breath. Most of the subjects even though they experienced oral malodor, were not aware of the cause of it and the treatment modalities present to prevent oral malodor. In a large scale Japanese study done on 2500 subjects (aged 18-64 years), volatile sulphur compounds (VSCs) value higher than 75 parts per billion was considered to be the limit for social acceptance. (Miyazaki *et al.*, 1995) Patients often complain of bad breath without realizing that it may be caused by bacterial accumulation on their tongue. Papillae on the tongue provide a perfect place to harbor bacteria and debris that can lead to development of bad odour. Tongue scrapping, which is basic and simple method of maintaining oral hygiene was practiced by only 38.2% of the subjects. This is an obvious sign of lack of awareness among subjects. (Daniel *et al.*, 2008) Visiting a dentist is still not considered a preventive dental behavior, at present it only depends on the treatment needs. The present study shows that around 85.2% of the patients visited the dentist only when they had dental problems which is similar to study findings conducted by Nabil Al-Beirut, (Al Beirut, 1997) where participants visited dentist only when they were in pain. Thus, the results of our study was in accordance with the study conducted by Kapoor *et al.* (2014) in Patiala and Jain *et al.* (2012) in Jodhapur where individuals were not aware of the correct oral hygiene practice and methods.

#### Limitation of the study

This study was a cross sectional study done in one of the dental college in the city. To get accurate information on the population level practices a large scale survey may be required which gives a representative picture about the oral hygiene practices in Mangalore city.

**Conclusion:** Most of the dental problems can be prevented by educating the population thereby enhancing their levels of awareness. Hence, there is a need to educate the individuals

about correct oral hygiene practices and methods for the prevention of dental diseases. Outreach programs and camps should be conducted at schools, colleges and in community levels to enhance public health awareness. Professional dental care and regular follow up along with the patients oral hygiene practices can minimize the level of oral diseases.

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