

ORAL HEALTH STATUS OF PARTICIPANTS VISITING A DENTAL EXHIBITION AT A TERTIARY CARE CENTRE

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Abstract

Introduction:

Tertiary care centers are usually associated with teaching hospitals equipped with sophisticated diagnostic and treatment facilities, as well as sub-specialty resources, not available at general hospitals. An exhibition at a tertiary care centre offers a confluence of patients, doctors, professionals and individuals from different forms of society.

Materials and Method:

A descriptive cross-sectional study on 379 patients was conducted to assess the oral health status, different oral hygiene practices and adverse habits amongst the individuals visiting the exhibition in a tertiary care hospital. A structured proforma assessed the oral hygiene practices and adverse habits amongst the individuals. WHO Oral health assessment form 2013 for adults was used to record the oral health status of the individuals.

Results:

334 (88.12%) participants denied consumption of any form of smokeless tobacco whereas 4.48% reported alcohol consumption in the present study. 367 (96.8%) were using toothbrush and toothpaste to clean their teeth and majority 79.4 % brushed their teeth once. 247 participants (65.1%) had decayed teeth, 101 (26.6%) had missing teeth and 79 participants (20.8%) had filled teeth. The mean DT, MT, FT in the present study was found to be 2.15+2.84, .98+3.03 and .52+1.42.

Conclusion:

Dental caries status in the participants attending the exhibition at a tertiary care centre was found to be high. This study emphasized the need for strong referral

linkages and integrated approach for comprehensive treatment.

Introduction

Health continues to be a neglected entity despite continuous efforts for health promotion, worldwide. Health is often taken for granted, and its value is not fully understood, until it is lost.¹ The compartmentalization involved in viewing the mouth separately from the rest of the body must cease because oral health affects general health by causing considerable pain and suffering and by changing what people eat, their speech and their quality of life and well-being.² Because of the failure to tackle social and material determinants and incorporate oral health into general health promotion, millions suffer intractable toothache and poor quality of life and end up with few teeth.³

Oral health affects people physically and psychologically and influences how they grow, enjoy life, look, speak, chew, taste food and socialize, as well as their feelings of social well-being.⁴ Oral diseases are the most common of the chronic diseases and are important public health problems because of their prevalence, their impact on participants and society, and the expense of their treatment. The determinants of oral diseases are known — they are the risk factors common to a number of chronic diseases: diet and dirt (hygiene), smoking, alcohol, risky behaviors causing injuries, and stress — and effective public health methods are available to prevent oral diseases.³

A tertiary care center is defined as specialized consultative care provided by specialists working in a center that has personnel and facilities for special investigation and treatment of complicated medical conditions. Tertiary care centers are usually associated with teaching hospitals equipped with sophisticated diagnostic and treatment facilities, as well as sub-specialty resources, not available at general hospitals.⁵ An exhibition at a tertiary care centre offers a confluence of patients, doctors, professionals and individuals from different forms of society.

Numerous studies in the past has revealed a variety of work-related oral health problems, including associations between declining work performance and temporo-mandibular joint related pain,⁶ and frequent bruxism and working stress.⁷ Moreover, other studies have revealed high levels of work-

related stress in workers whose self-evaluation of oral health status was poor 8,9 and association of work-related psychological dependency, psychological stress due to workload, and other workplace parameters with periodontal diseases.¹⁰

All India Institute of Medical Sciences, New Delhi, a tertiary care hospital in India celebrated its 63rd Institute Day on 25th September 2018, and an exhibition by all the professional and paraprofessionals departments was displayed from 25th to 30th September 2018. The Centre for Dental Education and Research CDER, AIIMS set up a dental booth equipped with two fully functional portable dental chairs during the six day exhibition and the booth was awarded with "Best Exhibit" during the exhibition.

In a generation where evidence holds the key, scientifically testing the basic concept of oral diseases among individuals with diverse backgrounds should be of utmost importance. An analysis of existing literature also reveals scarcity in determination of oral health status of such varied group of individuals visiting a exhibition in a tertiary care centre. Hence the present study was aimed to assess the oral health status of individuals visiting dental exhibition at a tertiary care centre. The present study also assessed various oral hygiene practices and adverse habits among the study individuals.

Materials and Method

A descriptive cross-sectional study was conducted to assess the oral health status, different oral hygiene practices and adverse habits amongst the individuals visiting the exhibition in a tertiary care hospital. The study is a total enumeration of 379 participants fulfilling the inclusion criteria.

Permissions for conducting study and clinical examinations were obtained from the respective authorities. Written informed consent for participation was obtained prior to conduction of study.

Inclusion and Exclusion Criteria

Participants willing to participate and intellectually and physically capable of responding were included, whereas the participants with the inability to cooperate with the study protocol were excluded from the present study.

Sample Size

The study is a total enumeration of the entire participants visiting the exhibition during the 6 days, fulfilling the inclusion criteria. The booth had a footfall of 413 participants during the time period; however, 379 underwent oral examination. Thus, the final sample size of the present study consisted of 379 participants.

Training and Calibration

Training and calibration of the examiners was carried out at Centre for Dental Education and Research, AIIMS New Delhi, under the guidance of an expert examiner. Clinical training and calibration was done first by practicing on group of 10

participants and then on 20 participants twice with time interval of half an hour and with a wide range of level of disease conditions. This was done to ensure uniform interpretation, understanding and application of the codes and criteria for various conditions to be observed and recorded. The Kappa value (0.8) for calibration exercise showed substantial agreement for observations and measurement.

Measurement tools

A structured proforma assessed the oral hygiene practices and adverse habits amongst the individuals. WHO Oral health assessment form 2013 for adults was used to record the oral health status of the individuals.¹¹

Data collection

Five trained investigators carried out the oral examination of all the individuals. The clinical examination and recording took about 5-10 minutes per individual. The clinical examination involved an inspection of the oral cavity with plane mouth mirror and community periodontal (CPI) probe under good illumination.

The data collected was entered in Microsoft Excel and subjected to statistical analysis using Statistical Package for Social Sciences (SPSS, IBM version 20.0). Descriptive statistics was used to determine the frequencies, mean and standard deviation of variables considered in the study.

Results

An assessment of 379 participants in the present study revealed that 29.19% were females and 70.8 % were males. Approximately 52% were working in the tertiary care centre AIIMS, whereas 46.3 % were patients or individuals visiting the exhibition. 334 (88.12%) participants denied consumption of any form of smokeless tobacco, 346 (91.29%) of smoking tobacco and only 4.48% reported alcohol consumption in the present study.

The most commonly (96.8%) used oral hygiene aid in the present study was toothbrush and toothpaste whereas the frequency of brushing in majority (79.4 %) of cases in the present study was found to be once.

In the present study 247 participants (65.1%) had decayed teeth, 101 (26.6%) had missing teeth and 79 participants (20.8%) had filled teeth. The mean DT, MT, FT in the present study was found to be 2.15+2.84, .98+3.03 and .52+1.42 (Table 1).

Variable	Mean	Standard Deviation	Minimum	Maximum
Decayed Teeth		2.84	0	22
Missing Teeth	0.98	3.03	0	32
Filled Teeth	0.52	1.42	0	13

Table 1: Mean decayed, missing and filled teeth among the screened participants.

Variable		Number	Percentage
Upper Dentures wearer	Partial Denture	2	0.52
	Complete Denture	4	1.05
	Total	6	1.58
Lower Dentures wearer	Partial Denture	1	0.26
	Complete Denture	2	0.52
	Total	3	0.79
Total		9	2.37

Table 2: Denture usage among the screened individuals.

Dental Erosion	Number	Percentage
No sign of erosion	367	96.8
Enamel lesion	3	0.79
Dentinal lesion	8	2.11
Pulp involvement	1	0.26

Table 3: Dental Erosion seen in the screened participants (%).

The root caries prevalence in the present study was found to be 15.3%.55.1% reported signs of bleeding whereas as an assessment of periodontal conditions in the present study revealed pockets in 7.65% population and loss of attachment in 23.5 % population. An assessment of interventional urgency during the dental camp at the exhibition revealed that 66% of the participants required prompt treatment.

Discussion

The present study conducted was unique and one of it's kind. Hence the results cannot be compared directly with results of any other study. The differentiating feature of the present study was the inclusion of a diverse population of patients, doctors, staff members and participants from different sections of the society visiting a general health exhibition of which oral health exhibition was a part. The assessment of oral health status, oral hygiene and adverse habits among 379 participants visiting exhibition in a tertiary care hospital is reported and discussed here.

In the present study 37.9 % participants belonged to the age group of 30 years whereas 62.1% were more than 30 years old. The present study reported a male predominance (70.8%) with only 29.19 % female participants. In line with the results of the present study, Amaral COF et al., 12 in their study on oral health status in hospitalized patients also reported male predisposition. Majority of participants in the present study denied consumption (88.12 %) of smokeless/smoking tobacco or alcohol. In contrast to the results of the present study, I. Vagropoulos et al., 13 reported 50 % prevalence of smoking habits among the hospital staff of a general hospital. Gutkha chewing followed by tobacco and lime was found to be the chief form of smokeless tobacco consumed. Gutkha consumption warrants every state and not just individual states to ban gutkha

and pan masala containing tobacco.¹⁴ In contrast to the results of the present study, Goyal et al., 15 reported that 21.6 % young adults in the Northern Indian population consumed tobacco. The low prevalence of tobacco consumption in the present study is attributed to the prohibition of tobacco consumption and sale around the tertiary care hospital. Cigarette smoking was the most common form of smoking tobacco, the results of the study correlate with study by Sujata Mishra et al., 16 who also reported a rise in cigarette smoking in Delhi region from past years.

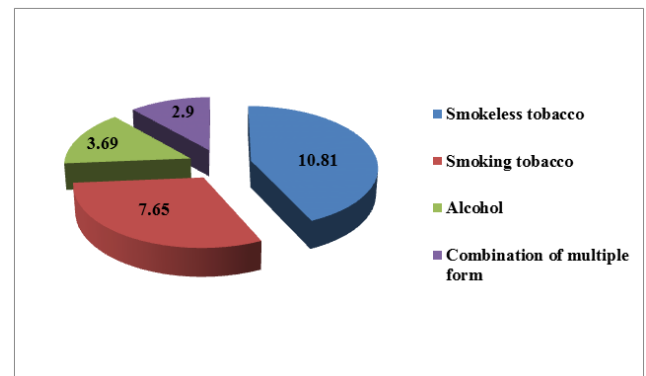


Figure 1: Frequency of screened participants (%) with habit history.

The information regarding oral hygiene practices revealed that 96.8% used toothbrush and toothpaste to clean their mouth and the frequency of brushing in majority of participants was once daily (79.4%). A comparative evaluation of the categorized age group (less than or equal to 30 and more than 30 years) revealed that majority of participants with age above 30 years (70 %) brushed twice daily.

Bobby Paul et al., 17 in their study on oral hygiene awareness and practices in Kolkata reported that 69.20 % participants used both toothbrush and toothpaste together and the frequency of cleaning once and twice daily were found to be 58.93% and 35.71% respectively.

247 participants (65.1%) had decayed teeth, 101 (26.6%) had missing teeth and 79 participants (20.8%) had filled teeth. 65.44 % participants with age more than 30 years had decayed teeth. The mean DT, MT, FT in the present study was found to be 2.15+2.84, .98+3.03 and .52+1.42. P.D Garkoti et al., 18 reported 54.54 % prevalence of dental caries in their hospital based cross sectional study. Dasgupta U et al., 19 in their hospital based study in Kolkata observed that 68.9% of the patients had dental caries.

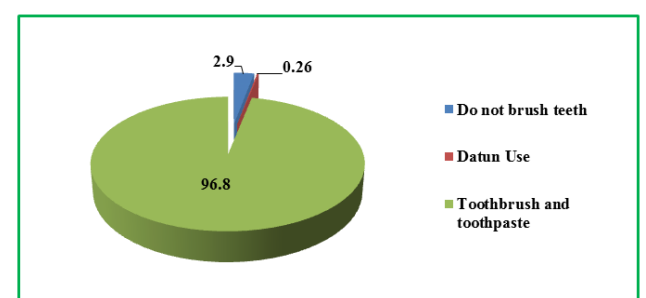
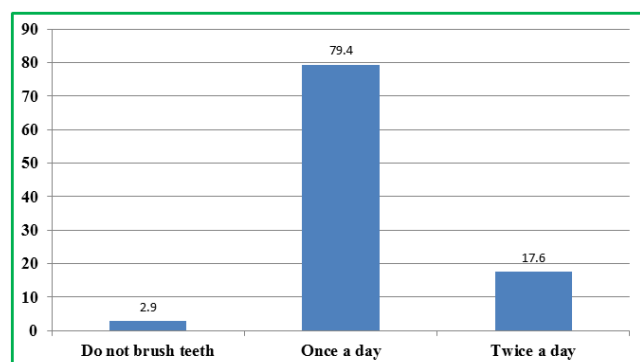
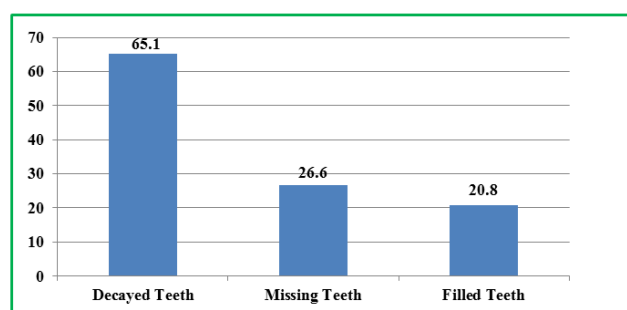
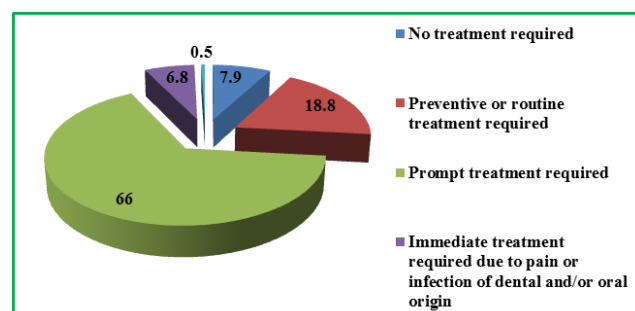


Figure 2: Brushing habit among screened participants (%).**Figure 3:** Frequency of brushing habit among screened participants (%).

Root caries prevalence in the present study was found to be 15.3%. Sugandhi Soni et al., 20 in their hospital-based study reported 42 % prevalence of root caries in their study. 55.1% participants in the present study reported signs of bleeding. A comparative evaluation of the categorized age group (less than or equal to 30 and more than 30 years) revealed that 32.2 % participants with age less than or equal to 30 years had bleeding. In line with the results of the present study Dasgupta U et al., 19 reported that 50.8 % participants in their hospital based study had gingivitis, P.D Garkoti et al., 18 reported prevalence of gingivitis in 37.62% patients. Study conducted by Amaral COF 12 reported bleeding in 62.2% individuals.

**Figure 4:** Decayed, Missing and Filled Teeth (%) among screened participants.**Figure 5:** Treatment need and level of intervention urgency (%).

During the dental camp at the exhibition, 66% of the participants required prompt treatment (including scaling), 65.9 % of those participants belonged to the age group more than 30 years. The need for prompt treatment primarily due to poor oral hygiene was also reported by Amaral COF 12 who reported that

63.1% of participants presented poor oral hygiene and thick biofilm. Poor oral hygiene can worsen the systemic condition that may arise from oral status, such as periodontal diseases, caused by the large variety of bacterial species present in the biofilm. 20, 21, 22

It also seems appropriate to highlight some of the limitations of the study. As the present study was cross-sectional, differentiating cause and effect from simple association could not be done. The selection of purposive sampling limits the projection of data beyond the sample.

Conclusion

Based on the findings of the present study it can be concluded that dental caries status in the participants attending the exhibition at a tertiary care centre was found to be high with decayed teeth in 65% study population. 55.1% participants reported signs of bleeding, 7.65% had pockets and 66 % required prompt treatment. Oral mucosal lesions were present in 4.44 % population. Majority of participants reported brushing once daily (79.4%) which still warrants the awareness regarding adequate oral hygiene measures. The present study emphasizes the need for strong referral linkages and integrated approach for comprehensive treatment.

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