"IS DENTIST A PARAGON FOR BETTER ORAL HEALTH?" - A CROSS SECTIONAL STUDY AMONG DENTAL PROFESSIONALS IN TELANGANA STATE.

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Abstract:

Introduction: Health behavior entails a complex variety of knowledge, attitudes and actions which positively or negatively impact health. The dental communities who supposedly are the role models as far as oral health is concerned are considered to have adequate knowledge to practice appropriate oral hygiene, dental care and oral health behaviour.

Objective: The present study was carried out to assess the self perceptions, oral hygiene practices and oral health status among dental practitioners.

Methodology: A cross-sectional study was conducted among 200 dentists using area sampling in Hyderabad, Telangana. Oral health behaviour and perceptions on their oral health status was assessed using a self-administered questionnaire. WHO Dentition status-2013 and OHIS index was recorded.

Results: About 61 % of the dentists brushed their teeth twice daily, with only 16.5% of them following modified bass technique. 43.5% of the dentists delay their dental treatment due to time factor (16.5%) and negligence (13%). There was no association between perception of dentists regarding their oral health status and the DMFT scores. The OHIS scores and the self perception were significantly associated.

Conclusion: Unsatisfactory oral hygiene of the dentists in the study recommends regular dental visits by a dentist too, thus discouraging the wrong notion that self check up would be sufficient for dentists. As a health professional, one should not ignore oral health as a trivial issue as it may lead to loss of time and resources.

Dental Public Health Significance: The health educator should follow what he preaches. He should set an example for other people to follow. Dentists play a pivotal role in promoting oral health in the society. Hence, it is important as a dentist to maintain their own oral health.

Keywords: Dentists, oral health, oral hygiene practices, oral health status, DMFT, OHIS

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INTRODUCTION:

Periodontal disease and dental caries are the two commonest oral diseases affecting mankind since the dawn of civilization. [1-3] Oral health is an essential component of general health. [1-2] According to World Health Organization oral health can be defined as "a standard of health of oral and related tissues which enable an individual to eat, speak and socialize without active disease, discomfort or embarrassment and which contributes to general well-being." [3-4]

Oral health behavior of an individual is extremely vital for oral disease prevention and is determined by the brushing habits, interdental area cleansing and regular dental visits.[2,5] Health behavior entails a complex variety of knowledge, attitudes and actions which positively or negatively impact health. An integral part of one's general health is oral self-care practice, which is an effective preventive measure for maintaining good individual oral health. [6]

The need to promote the practice of preventive dental care is critical because the available resources in most developing countries are inadequate to support the traditional curative care of dental diseases. In dental practice, the preventive approach has been cited as a predominant part of the service mix of dental practices and has also been the reason for caries decline in recent decades.

Achieving optimal oral health through preventive efforts is a hallmark of the dental profession and such efforts are geared towards encouraging patients in developing a commitment to self-care, embracing preventive behaviors as well as the receipt of appropriate professional care. Recommended oral self-care includes brushing teeth more than once a day, taking food items, which have less sugar content and regular use of fluoride toothpaste.[7-8]

Oral hygiene promotion involves a combination of educational, organizational, economic and environmental support for behavior conducive to oral health. By virtue of their profession, dentists play a pivotal role in health promotion and dissemination of preventive information among their patients, family and society. [3] Due to their profession, dentists are expected to exhibit meticulous oral hygiene procedures as compared to the general public. [4,7,9] Since dentists are expected to be role models to their community, patterns of oral health behavior in dentists, their beliefs and attitudes, invariably influence the knowledge they impart to the general public and their community in performing oral self-care practices. [7]

Studies have shown that dental students with positive oral health attitude are good models for oral health behavior and serve as instructors to their friends, family members, patients and their society on how to maintain good oral health. Maatouk *et al*. believes that the principal task of a dentist is to motivate patients to adopt good oral hygiene practices and they can do this even more effectively if they themselves are highly motivated. [8]

Hence, with this in consideration, the study was designed to assess oral hygiene practices, self perceptions and oral health status among dental practitioners in Hyderabad city.

OBJECTIVES OF THE STUDY:

1. To assess the oral hygiene practices among dental practitioners in Hyderabad.
2. To assess the self perceptions among dentists regarding their oral health.
3. To assess the oral health status among dental practitioners in Hyderabad
4. To compare self perceptions of dentists regarding their oral health with their oral health status

MATERIALS AND METHODS:

A cross sectional epidemiological study was conducted on 200 dental practitioners in Hyderabad to assess their self perceptions, oral hygiene behaviors and oral health status. Voluntary verbal informed consent was obtained from all the subjects participating after explaining the purpose of the study in detail and was approved by the Ethics Committee of MNR Dental College and Hospital. Research has been conducted in full accordance with the World Medical Association Declaration of Helsinki.

Area sampling procedure was followed to select the sample. Considering the 5 zones of Hyderabad, the sample is divided equally as 40 dentists from each zone. Few areas were randomly picked from each zone and the dentists practicing in those particular areas were included in the study to reach the desired sample size.

Sample Size Estimation :

Sample size was estimated based on the pilot study. It was determined using the formula

$$N = \frac{(Z_\alpha)^2 \times P \times Q}{\Delta^2}$$

Required sample size was estimated to be 97.
Since area sampling method was carried out for the study, the sample was doubled (97×2=194) and rounded to 200.

The subjects in the pilot study were not included in the main study. A pilot study was conducted to check the reliability of data collection tool, to note any difficulties encountered during the collection of data from dentists. A random sample of 30 dentists in 10 different areas spotted on map which is obtained from official website of greater Hyderabad Municipal Corporation. The questionnaire (annexure I) consists of demographic details (gender, age and number of years of clinical experience) and also assess dentists oral health behavior and perceptions of their oral hygiene. It was constructed based on previous literature and objectives of the study. Validity was assessed using Content Validity Ratio (CVR- 0.82) and Reliability was assessed by Cronbach's alpha which was found to be 0.84, indicating that the data collection tool is valid and reliable.

Prior to conducting the study the investigator was calibrated and trained to record dentition status from WHO oral health assessment form 2013 and OHIS index under the guidance of a staff member in the department of public health dentistry, MNR Dental College and Hospital. In order to marginalize the examiner variability and for standardization, calibration was conducted on dental practitioners in the MNR Dental College and Hospital. These subjects were pre-selected so that they collectively represent the full range of conditions expected to be assessed in the actual survey. The diagnostic criteria were applied by examining a group of about 30 dentists, on successive days. The intra examiner variability was 0.83 with kappa value of 0.89.

The study was systematically scheduled to spread over a period of two months from July 2019 to August 2019. The dental practitioners were approached in their working hospitals / clinics and examination was carried out on their dental chair in their respective clinics. Dentists who were not available on the day of study in a particular area were consulted again and data was collected but those who were not willing to participate were excluded. All the data was compiled and entered in excel 2007 for analysis. Descriptive statistics were done using SPSS V 2.0. The associations was done among the perceptions and the oral health status using ANOVA and Wilcokson Non Parametric analysis in SPSS V2.0

RESULTS:

Table 1 shows the demographic details of the study population. Out of 200 subjects , majority 135(65%) were male practitioners and 134 (67%) were under the age group of 25 -30 years. Based on their specialization MDS and BDS, dentists were almost in equal numbers 51% and 49 % respectively. Based on number of years of experience 63.5% were under <5years group and 27.5% were under 5-10 years group .

Charachteristic		Number	Percentage
Gender	**Male**	135	65
	Female	65	32.5
Age	**25-30 years**	134	67
	31-35years	38	19
	36-40years	26	13
	41-45 years	12	6
Designation	**MDS**	102	51
	BDS	98	49
Years of experience	**1-5 years**	127	63.5
	5-10 years	55	27.5
	>10 years	18	9

Table 1: Distribution of demographic variables of dental practitioners

Table 2 shows the oral hygiene practices of the dental practitioners. Out of 200 subjects, majority 61% of them brushed twice daily , with 16.5 % following modified bass technique. Based on the usage of fluoride tooth paste 41% of them used regularly whereas 33% used quite often. According to the usage of tobacco products 90% did not use any tobacco where as 5.5% had quit the habit and 4.5% of them do use tobacco products. Based on time of consuming sugar foods , majority 62.5% do not follow any particular time whereas, only 27.5 % consume in between meals. Particularly observing 4.5 % prefer with meals and 5.5 5 consume before going to bed.

Frequency of tooth brushing	Once	78	39
	Twice	122	61
Tooth brushing technique followed	Horizontal	24	12
	Vertical	52	26
	Circular	71	35.5
	Modified bass	33	16.5
	Combination	20	10
Usage of fluoride tooth paste	Always	82	41
	Quite often	66	33
	Seldom	25	12.5
	Never	27	13.5
Usage of tobacco products	Yes	9	4.5
	No	180	90
	I used to , but I have quit	11	5.5
Time of consuming sugar foods	In between meals	55	27.5
	With meals	9	4.5
	Before going to bed	11	5.5
	Not particular	125	62.5

Table 2 : Based on oral hygiene practices of dental practitioners

Table 3 shows the attitude or perceptions of the dental practitioners towards oral health. Majority 69.5% preferred dental check up by another dentist where as 29.5 % felt self check up would be sufficient. Among 200 subjects, 64.5% visit a peer dentist for their treatment and 29.5% opt for reputed dental clinic. Based on the attitude towards the delay in their treatment 43.5 % of them delay and 56.5% do not delay getting their treatment done. The reasons were varied with time factor being 16.5%, self respect 6%, fear of dentist 8%, negligence 13%. About 64% of the dentists reported for not having any dental decay at the time of study and 33% expressed the dental decay problem in their oral cavity. Based on the perception, majority 67.5%of dental practitioners perceived good oral hygiene , 38% to be very good and 4.5% to be excellent.

Is dental check up required for a dentist	Yes – self	59	29.5
	Yes – by another dentist	138	69
	No	3	1.5
Where do you get your dental treatment done	Peer dentist	129	64.5
	Reputed dental clinic	59	29.5
	I don't get any	12	6
Do you delay getting dental treatment	Yes	87	43.5
	No	113	56.5
Reason for the delay	Time factor	33	16.5
	Self respect	12	6
	Fear of dentist	16	8
	Negligence	26	13
	No delay	113	56.5
Do you have any dental decay now	Yes	66	33
	No	134	67
How do you rate your oral hygiene status	Excellent	9	4.5
	Very good	56	38
	Good	135	67.5

Table 3 : Based on attitudes towards oral health

Table 4 shows the past dental history of the dental practitioners. Among 200 subjects, 16.5 % of the dentists did not get any treatment done, 21% got their teeth restored, 7.5% got oral prophylaxis in the past, 22% of them had got treatment done in many combinations of restorations, extractions, prosthesis, prophylaxis and orthodontics**.**

It is observed that the mean DMFT was 1.9 and about 147 dentists i.e., majority of them had excellent oral hygiene status.

	NO TREATMENT	RESTORATIONS	EXTRACTIONS	ORTHO	PROSTHESIS	ORAL PROPHYLAXIS	COMBINATIONS
NO OF DENTISTS	33	42	0	44	22	15	44
PERCENTAGE	16.5	21	0	22	11	7.5	22

TABLE 4: PAST DENTAL HISTORY OF THE DENTAL PRACTITIONERS

DISCUSSION:

Developing countries show lack of awareness and poor oral hygiene habits among large sections of the population, increasing the risk of oral health problems. It is of primary need as a dentist to have good knowledge and expertise in oral health behaviors according to professional criteria. In general, global data on dentists oral health status and behavior are rare. Hence, clinical examination of the dental practitioners besides questionnaire was carried out which would probably affirm the results.

No previous study has been carried out on dentist's practitioners in Hyderabad oral health status and oral health behavior. The results of this study are a good representation of dental practitioners in the capital city.

More than half i.e. 61% among the dentists brush twice daily which is consistent with the study done by Gopinath 55.9%, Giri D et.al. 64.5% and Khami et al., 57%. [4, 7, 12] Higher frequency of tooth brushing was reported by a study done in Mongolia by Tseveenjav B et al., 81% , Wagle M et al.,80.5%, whereas the considerably lower frequencies was reported by India, Reddy et.al., 34.9% and Folayan M O et.al, 48% ,which might be noticed as the study was conducted on dental students. [1, 2, 5, 6]

There are many brushing techniques in practice since decades. Bass and Roll method are most commonly recommended. In the study done by Poyato-Ferrera *et al*. modified bass method was found to be superior in maintaining good oral hygiene. [13] It is surprising as only 16.5% of the dentists in the present study used modified bass method . This is in contrast with Giri D et al., where 64.5 % followed modified bass method. [4] But in literature it is stated, best method is one that suits the individual needs and abilities. [3]

Dental caries is a major dental disease affecting a large proportion of the inhabitants of the world. The cariostatic efficacy of fluorides has been convincingly demonstrated and the recent decline in caries prevalence is primarily attributed to the increased use of various fluoride agents. In the present study usage of Fluoride containing tooth paste on a regular basis was by 41% and of the mouthwash was 9%. This is in contrary with many other studies with greater percentage of dentists using fluoridated tooth paste i.e. the findings of Gopinath revealed 55%, Tseveenjav et al., 62% of Mongolian dentists, around 74% of Iranian dentists and Folayan Mo et al., 95.4 % in Nigeria.[4, 6, 7] Usage of fluoride tooth paste by majority of the dentists might be attributed to awareness among dentists about the anti caries effect of fluoride and as we all know " Prevention is better than cure ".

Present study also revealed that majority of the dentists had never used tobacco products 90% and 5.5 % had quit smoking. Such high percentages of non smokers was reported by Reddy et al., 93.3% in India , Gopinath 81.1% , Folayan et al., 91.5% in Nigeria, Giri D et al., 64.5% in Nepal. [4,6,7] This high percentage of dentists not consuming tobacco could be because of their knowledge regarding the consequences of tobacco consumption.

The findings of dental professionals was disappointing with only 27.5% of them consuming sugar foods in between meals and 5.5% before going to bed . 62.5% in the present study , 43.5% in the study done by Folayan et al., revealed that the dentists show no particular frequency or timing in consuming sugary foods. [6] Reasons like time factor and negligence given by many dentists, in delaying their treatment makes them no much difference with general public, not giving priority to health.

Self-care is the best care, and motivation on the part of the individual is the key factor for the success of plaque control program. [8] It is of primary need that, as the dentists need to have good knowledge and expertise in oral health behaviors according to professional criteria. The attitude and behavior toward oral health maintenance of the dental professionals reflect their understanding of the preventive oral health measures, and this is very important for the improvement of their patient's oral health.

Dentists (29%) perceived that regular self-check up would be sufficient for maintaining good oral health. But the mean DMFT was found to be 1.9. This is comparatively low when compared with the Mongolian dentists showing Mean DMFT to be 6.4 in the study done by Tseveenjav B et al. Among the 67% who claimed for not having any decay, 16% dentists showed dental caries in oral cavity. Though not significant, but still among 67.5% of the dentists who perceive their oral hygiene status to be good, 21.5% showed OHIS rating as fair.

This implies the gap between perceived need and the actual need. Preventive dental visit is part of optimal oral health behavior recommended. But the untreated carious status and unsatisfied oral hygiene among few dentists in the study is to be considered.

As the present study is a report of a local population of dentists it cannot be generalized to other groups of dental professionals. A further research needs to be encouraged in this aspect.

CONCLUSION:

Oral health practices and behavior of the dental health professionals reflects in the community they are practicing. Unsatisfactory oral hygiene of the dentists in the study recommends regular dental visits by a dentist too, thus discouraging the wrong notion that self check up would be sufficient for dentists. Dentists should not ignore oral health as a trivial issue as it may lead to loss of time and resources. The oral hygiene practices followed was found to be good but need to improve much more to consider dentists as the role models for better future.

DENTAL PUBLIC HEALTH SIGNIFICANCE: The health educator should follow what he preaches. He should set an example for other people to follow. Dentists play a pivotal role in promoting oral health in the society. Hence, it is important as a dentist to maintain their own oral health.

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