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RESEARCH ARTICLE

KNOWLEDGE AND ATTITUDE OF DENTISTS TOWARDS PREVENTIVE DENTAL TREATMENTS AT GREATER HYDERABAD CITY

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ABSTRACT

Aim: To know the knowledge and magnitude of the preventive dental services delivered by the dentists towards preventive dental treatment.
Methodology: A questionnaire study was conducted among the dentists who are practicing at Greater Hyderabad city to know the attitude of dentists towards preventive dental services. A stratified cluster random sampling method was employed to select a list of clinics from each zone. Sample size was 165 dentists.
Results: Approximately 37.8% dentists were using APF gels in their practice. Most of the dentists (68.3%) were applying pit and fissure sealants to not more than 10 children in a month.
In multivariate analysis there was a significant association was found between knowledge of dentists and number of out-patients in the clinic. (0R:4.291, CI: Low 1.037- high 17.751, p-value .044).
Conclusion: Most of the dentists showed positive attitude towards preventive dental treatments, but still some deficiencies were identified. There is a need to promote knowledge of dentists towards primary preventive services.

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INTRODUCTION

Preventing oral diseases is of at most important than treating them which gives more morbidity and cost to the patient. Despite of great improvements in prevention of oral diseases, the burden of oral health problems is still high without basic dental care throughout the world especially in India. The progressive nature of dental diseases coupled with lack of access to preventive care can significantly diminish the general health and quality of life for affected people (Shelly – Ann Sinclair *et al*., 2005). While dental caries is an infectious transmissible disease with children being at the highest risk, primary prevention can reduce this risk (Kitchens, 2005). Preventive dental interventions, including early and routine preventive care, fluoridation, and sealants are cost-effective in reducing disease burden and associated expenditures (Savage Matthew *et al*., 2004; Centers for Disease Control and Prevention, 2014; Centers for Disease Control and Prevention, 1999). Preventive approach in dental practice has been cited as a reason for caries decline in recent decades and as a predominant part of the service-mix of dental practices in the future (Hadi Ghasemi *et al*., 2009). WHO is giving more priority to the preventive dental services than curative dental treatments, but in contrast most of the dentists concentrate towards reparative dental services like root canal treatments, flap surgeries, crown & bridge etc., there is a very little focus on promotion of preventive dental treatment. Hence preventive oral health education and preventive therapies to achive good oral health are very important for the public. Dentists are the oral health care experts who convey evidence-based knowledge of preventive oral health care to public, they also influence their patients' oral health-related behavior by providing preventive dental services. In this regard, the present study is planned to evaluate magnitude of

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preventive treatment services offered and attitudes of dentists and their patients towards these services.

MATERIALS AND METHODS

A cross sectional, questionnaire based study was conducted among dentists who are practicing at Greater Hyderabad city, Telangana from January to June 2016. Ethical approval was obtained from the ethical committee of Sri Sai College of dental surgery, Vikarabad. Pilot study was conducted before the start of the main study to know the questionnaire reliability, validity and to calculate the sample size and it was determined as 165 subjects. The reliability of the questionnaire was tested using Cronbach's alpha and a value of 0.85 was obtained which is said to be good. A list of dentists' names and addresses of the private dental clinics in the Greater Hyderabad was obtained from the DCI state branch. Questionnaire which is being distributed had 18 closed ended questions and divided in to 3 parts**.** First part of questionnaire includes the demographic data. Second part has questions about attitude towards preventive dental services, knowledge and the constraints in promoting and advocating those preventive treatments in day to day practice and third part of questionnaire includes the questions about factors that might influence their treatment decision. Dentists who were not willing to fill the questionnaire were excluded and who are interested to fill the questionnaire were included in the study and written consent was taken from those dentists. Data was collected from dentists in randomly selected dental clinics of Greater Hyderabad city. Obtained data was entered in to Microsoft office excel sheet and subjected to analysis. The results were presented in numbers and percentages and depicted in tables. Multiple groups were compared by using ANOVA test. A p-value of <0.05 was considered as statistically significant.

RESULTS

A total of 165 dentists were participated in the study from the age group of 24 to 55 years and majority of dentists (51.5%) belong to the age group of 25-35 years and female dentists were more than male dentist (51.5% and 48.5%). According to qualification, 65.5% of the dentists were bachelor degree holders followed by master degree holders (34.5%). Majority of the dentists (49.1%) graduated after 2005, followed by 2000-2005 (23%), 1995(15.2%) and before 1995(12.7%). Most of the clinics (47.3%) have only 10 o.p (out patients) per day, 35.2% of clinics have 10 -30 o.p per day and only 17.6% of clinics have 30 o.p per day (Table-1).

Table 1. Distribution of study subjects (dentists) based on demographic characteristics

Characteristic	Number (Total =165)	Percentage
Age		
<25yrs	35	21.2%
25-35yrs	85	51.5%
35-45yrs	38	23%
>45yrs	7	4.2%
Gender		
Male	80	48.5%
Female	85	51.5%
Qualification		
BDS	108	65.5%
MDS	57	34.5%
Year of graduation		
Before 1995	21	12.7%
1995-2000	25	15.2%
2000-2005	38	23%
After 2005	81	49.1%
Out patients /day		
<10	78	47.3
10-30	58	35.2
>30	29	17.6

When dentists were questioned about preventive dental services, major area of concern for most of the dentists was prevention of the disease (43.9%) and 51.8% of the dentists motivate their patients about pit and fissure sealants, while topical fluoride varnish's/gels were recommended by 17.1% dentists and dental caries vaccine by 8.5% dentists. In the present study it was found that, 69.5% dentists suggested oral prophylaxis, regular flossing, and regular dental visits for their patients to prevent periodontal diseases. Less than 10 children were receiving pit & fissure sealants in 68.3% clinics in one month and 19.5% dentists they have never provided pit and fissure sealants. In the present study 37.8% dentist were using APF gels (Table-2).

Table 2. Practice of dentist towards primary preventive treatments

Question	Options	Number	%
Focus areas in patient education	Etiology of disease	30	18.3
	Diet counseling	8	4.9
	Prevention of disease	72	43.9
	Treatment plan	13	7.9
	Others	41	24
Motivation of patients about primary preventive treatments	Pit &Fissures	85	51.8
	Topical fluoride varnishes/gels	28	17.1
	Dental caries vaccine	14	8.5
	Others	14	8.5
		37	23
No of child patients receiving pit & fissure sealants in a month	<10	112	68.3
	10-20	19	11.6
	>20	1	.6
	None	32	19.5
Topical fluorides regularly used in clinical practice	Sodium fluoride	40	24.4
	Stannous fluoride	14	8.5
	APF gels	62	37.8
	Fluoride varnish	28	17.1
	Others	20	12.1

In this study 75.6% of the dentists reported that common dental diseases can be prevented effectively. Majority of the dentists (37.8%) reported that topical fluoride varnish/gels are the most cost effective treatment for children.74.4% dentist reported that pit and fissure sealants prevent dental caries by blocking the grooves. It was found that 68.9% of dentists reported that topical fluoride application prevent dental caries by providing equal protection to the all the surfaces, promoting remineralization, preventing demineralization and arrest caries process and 78% of dentists reported that oral prophylaxis prior to the fluoride application is necessary. In the present study 71.3% agreed that topical fluoride gels are the most accepted form of fluorides for children (Table-3).

In the present study 48.2% dentists agreed that sealant application for children is difficult and most of the dentists (90.9%) reported that further training about recent development in various preventive dental treatments is necessary (Table-4).

The multivariable logistic regression model attempted to explain association between independent variables (age, gender, qualification, year of graduation, out/day, years in practice, and type of practice) with knowledge, attitude, practice of dentists towards primary preventive dental

treatments. There was a significant association between knowledge of dentists and number of out patients in the clinic. (0R:4.291, CI: Low 1.037- high 17.751, p-value .044). Attitude of dentist was not significant when associated with age (p =0.709), gender(p =0.846), qualification(p=0.994), year of graduation (p =0.427),out pt./day(p =0.309), years in practice(p. =0.342), type of practice(p=0.142). In multivariate analysis practice of dentist was not significant according to age(p =0.655), gender(p =0.522), qualification (p =0.172), year of graduation(p =0.931), o.p/day(p =0.647). Oral health promotion and prevention is critical in reducing disease burden and increasing quality of life. The reorientation of oral health services towards prevention and health promotion is one of WHO priority action areas for the continuous improvement of oral health. The knowledge, attitudes and practices of dental professionals need to follow this reorientation. In the present study, assessment of knowledge and attitude in relation to preventive dental services was done using a questionnaire.

Table 3. Knowledge of dentists towards primary preventive treatments

Question	Options	Number	%
Most cost effective treatment for children in preventing dental caries	Pit &fissure sealants	57	34.8
	Preventive resin restorations	13	7.9
	Topical fluoride gels/varnish	62	37.8
	Others	32	19.5
Role of pit and fissures sealants in preventing dental caries	Fill cavities	16	9.8
	Block the grooves	122	74.4
	Improve appearance	1	.6
	Reduce the bacteria	5	3.0
	Others	20	12.1
Role of topical fluoride application in preventing dental caries	Provides equal protection to all the surfaces	5	3.0
	Promote remineralization	13	7.9
	Prevent demineralization	18	11.0
	Arrest caries process	6	3.7
	All the above	113	68.9
	Don't know	2	1.2
Is oral Prophylaxis prior to the fluoride application necessary	Agree	128	78.0
	Not sure	24	14.6
	Disagree	4	2.4
Most accepted form of topical fluoride for children	Solutions	40	24.4
	Gels	14	8.5
	Foam	62	37.8
Barriers for providing preventive treatments	Less knowledge about preventive treatments	70	42.7
	Difficult to manipulate	5	3.0
	Time consuming	7	4.3
	Patients unwillingness to pay for procedure	54	32.9
	All	2	1.2
	Others	26	15.8

Table 4. Attitude of dentist towards primary preventive treatments

Question	Options	Number	%
Is Sealant application for children difficult	Agree	79	48.2
	Not sure	19	11.6
	Disagree	66	40.2
Is training needed about recent development in various preventive dental treatments	Agree	149	90.9
	Not sure	4	2.4
	No	11	6.7

In the present study, 17.1% of dentists were motivating their patients about topical fluorides usage, while pit and fissure sealant usage was being encouraged by around 51.8% of dentists. This finding in the present study was in contrast to a study conducted by Hadi Ghasemi *et al*. where a higher percentage of dentists (77%) were motivating their patients for the provision of topical fluoride when compared to pit &fissure sealants (54%) (Hadi Ghasemi *et al*., 2009). The reason could be due to the difference in the attitude of dentists for provision of preventive dental services. Very few dentists (8.5%) were using fluoride varnishes in our study, where as in a study done by Lewis *et al* about 32% of dentists used fluoride varnish's regularly (Lewis *et al*., 1996). In this aspect there is a need to alter the attitude of dentists for provision of more preventive dental services in the present study. In the present study, around 33% of dentists reported that patient unwillingness to pay for procedure was the major barrier for providing preventive treatment. Where as in a study conducted by Najat *et al*, dentists reported that patients' unwillingness to pay for procedure was 21.2% followed by patients' difficulty to understanding the value of preventive treatments (27%). Lack of awareness and acceptance of sealants by patients might affect the patient's willingness towards preventive treatments and this can be overcome by health education and motivation by dentist.

In the present study, most of the dentists have positive opinion towards provision of preventive dental services and also it depends on patients' attitude to get the treatment, economical status of the patient and esthetic importance. Say for example Gregg *et al*. (2008) conducted a study to know the effectiveness of the preventive dental services, attitudes of the dentists and patients towards preventive dental treatments and result showed that only 9%of the people received at least one fluoride application, 75% received dental cleaning and Persons with high need are less likely to have received preventive dental services. In the present study 90.9% dentists reported that further training about recent development in various preventive dental treatments is necessary. This can be achieved by conducting workshops, CDE programmes, conferences, symposia and publishing professional articles. In multivariate analysis, there was a significant increase of dentist's knowledge with increasing number of out patients in the clinic. This finding in the present study might be because of the fact that the practitioners might have observed and attempted more number of dental diseases which increased knowledge of the dentists. The present study was a questionnaire study on dentists but there is a need to conduct direct interview studies among public also to know the attitude of the public about preventive dental care at multi centre level with large sample. There is a need to update the knowledge of dentists to change their attitude towards provision of preventive dental services by conducting CDE programmes, conferences and also to understand and follow newly emerging diagnostic, preventive and restorative practices, recommendations and guidelines. Government should provide reimbursement for the dental procedures to avoid economic burden on the patient which is the main reason for unwillingness for preventive dental services.

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