

Dental Care (Prevention and Status) Among Family Practice Patients at a Teaching Hospital in Karachi, Pakistan

Afshan Rahim Khan¹, Waris Qidwai²

Abstract

Objective: To study the status of oral hygiene and preventive dental practices among family practice patients at a teaching hospital in Karachi.

Methods: A cross sectional questionnaire-based study was conducted at the Family Practice Center, Karachi, Pakistan, from July to October 2010. The questionnaire included the demographic profile and questions in line with the study objective. It was administered to 400 family practice patients, each participant was explained the study objective, a written consent was taken and full confidentiality was assured. Oral examination of all respondents was conducted by the Investigators.

Results: Out of 400 patients 258 (64.5%) respondents were female with 248 (62%) having graduation or higher education. The oral examination revealed plaque, previous extraction, restoration, stains, prosthesis and caries among 138 (34.5%), 114 (28.5%), 102 (25.5%), 38 (9.5%), 35 (8.8%) and 33 (8.3%) respondents respectively. Regular tooth brushing was practiced by 359 (89.8%) respondents. Sixty eight (17%) respondents were reluctant to consult a dentist. Reasons for reluctance were fear of pain, lack of sterilization of instruments, incorrect treatment, expense and a long waiting time to see the dentist in 32 (47%), 14 (20%), 10 (15%), 06 (09%) and 06 (09%) respondents respectively. Fifty five (13.8%) respondents visited the dentist on a yearly basis. The most common reason to visit a dentist was pain among 71 (17.8%) respectively.

Conclusion: A need exists to educate public on oral hygiene care through education programs in schools and media. Preventive dental care is a neglected area that requires attention on an urgent basis.

Keywords: Oral hygiene, dental hygiene, oral health, preventive dentistry. (AASH & KMDC 18(1):1;2013)

Introduction

Good oral hygiene and prevention of oral diseases is the basis of good health¹. It leads to a healthy life and starts from brushing one's teeth regularly and maintaining oral health. The dental health education should start at an early age and include proper instructions on oral hygienic practices².

Dental caries and periodontal disease are highly prevalent among adolescents. Dental caries is referred as an infectious disease,³ and is the most prevalent disease affecting permanent teeth². It eventually leads to tooth loss and impairs chewing resulting in avoidance of hard and fibrous foods including fruits, vegetables and whole grains⁴. Preventive dental visits and proper oral health practices reduce such occurrences⁵. The prevalence of caries

is related to a low frequency of brushing and a higher consumption of sweets⁶. Consumption of fluoridated water coupled with a reduction in non-milk extrinsic sugar intake, is an effective means of caries prevention⁴. Dietary counseling can help inhibiting the carious process⁷. The prevalence of caries is reported to be higher in rural than in urban areas⁶. In developing countries, life-style changes and dietary patterns are markedly increasing the incidence of caries⁸.

The practice of dental hygiene, fluoride in community water systems and the success of dental sealants have contributed to the decrease in incidences of dental diseases⁹.

Inadequate periodontal treatment including insufficient oral hygiene instructions causes an increase in the incidence of plaque accumulation that has an effect on caries progression¹⁰. Nature of dietary intake is significantly associated with calculus deposits¹¹.

¹Department of Oral Medicine, Dental Hospital Hamdard Medical University, Karachi

²Department of Family Medicine The Aga Khan University, Karachi

Correspondence: Waris Qidwai: waris.qidwai@aku.edu

A childhood dental visit is associated with positive attitude and beliefs about dental care¹². An early experience with a dentist is associated with an increase in preventive and restorative dental visits¹². A positive parental attitude has significant impact on the establishment of healthy oral habits among children¹².

A national oral health plan should aim at promotion of oral hygiene, reducing the frequency of sugar intake, instituting water fluoridation, improving access to fissure sealants and regular dental care, and promoting dental health services with effective preventive strategies¹³.

This study reports the status of oral hygiene and preventive dental practices among family practice patients. Its main purpose is to form the basis for the development of an interventional strategy to promote dental health and oral hygiene.

Subjects and Methods

A questionnaire-based cross sectional survey was conducted at the Family Practice Centres, Karachi from July to October 2010.

A questionnaire was developed by the study investigators after extensive literature search including input from colleges and patients. It included data on demographic profile of the patients and questions aimed at exploring patient's basic knowledge, attitude and practice regarding oral hygiene and preventive dental care.

It was administered in English and Urdu, depending on patient's comfort ability. The principal and the co-investigators interviewed and orally examined the patient and filled out the questionnaire. Those with dental problems were educated about the issues and were provided referral advice for treatment.

A pilot study was conducted before the start of the administration of the final questionnaire. An agreement was reached between the investigators about the administration of the questionnaire to ensure uniformity.

The questionnaire was administered in the waiting area outside the physician's office, prior to consultation. Patients were interviewed who agreed to participate in the study. The interviews were conducted throughout the months and no specific timings were followed.

Ethical requirement including the administration of written informed consent and the provision of the confidentiality were ensured. Study subjects were selected on their availability and convenience, without randomization. Statistical analysis was performed using SPSS version 18.0 for windows. Frequency and percentage were computed for qualitative and categorical variables such as gender, and percentage of subjects.

Results

We interviewed 400 subjects. Female respondents were 258 (64.5%), with 248 (62%) having graduate or more education (Table 1).

The oral examination revealed plaque, previous extraction, restoration, stains, prosthesis, and caries among 138 (34.5%), 114 (28.5%), 102 (25.5%), 38 (9.5%), 35 (8.8%) and 33 (8.3%) respondents respectively (Table 2).

Regular tooth brushing was practiced by 359 (89.8%) respondents. Fluoridated toothpaste was used by 307 (76.8%) and 100 (25%) respondents used mouthwash. Two seventy seven (69.3%) respondents brushed their teeth at least twice a day. Three hundred and twelve (78.1%) respondents brushed their teeth for two minutes or more and 292 (73%) employed the correct technique (Table 3). Addiction to areca nut, pan and smoking was reported by 68 (17%), 35 (8.8%) and 19 (4.8%) respondents respectively. Sixty eight (17%) respondents were reluctant to consult a dentist. Reasons for reluctance were fear of pain, lack of sterilization of instruments, incorrect treatment, expense and a long waiting time to see the dentist in 32 (47%), 14 (20%), 10 (15%), 06 (09%) and 06 (09%) respondents respectively. Fifty five (13.8%) respondents visited the dentist on a yearly basis,

195 (48.8%) rarely visited while 150 (37.5%) never did so. The most common reason to visit a dentist was dental pain among 71 (17.8%) respectively.

Table 1. Demographic profile of the study subjects (n=400)

Parameter	n (%)
Sex	
Males	142 (35.5)
Female	258 (64.5)
Marital Status	
Married	282 (70.5)
Single	116 (29)
Widow	02 (0.5)
Educational Status	
Uneducated	19 (4.8)
Can read and write	10 (2.5)
Grade X education	26 (6.5)
Grade XII education	97 (24.2)
Graduate	208 (52)
Post-graduate	40 (10)
Occupation	
Housewife	146 (36.5)
Private service	103 (25.8)
Student	68 (17.0)
Unemployed	17 (4.3)
Self employed	52 (3.0)
Government service	14 (3.5)

Table 2. Oral hygiene status on examination of the study subjects (n=400)

Status	n (%)
Dental plaque	138 (34.5)
Previous extraction	114 (28.5)
Restoration of teeth	102 (25.5)
Stains on teeth	38 (9.5)
Dental prosthesis	35 (8.8)
Dental caries	33 (8.3)
Average no. of the teeth	28

Discussion

We have been able to document the prevention and status of dental care among our study population. The sample size was 400 and the respondents were mostly educated women visiting a teaching hospital, therefore the result of this study cannot be generalized to the rest of the population. Despite such limitation, we have collected valuable data on the important issue of oral hygiene and prevention of dental disease.

One third of the population had plaque, the first sign of poor oral hygiene that leads to caries and threatens the survival of the teeth. As far as the brushing habit is concerned, we have found majority of the population brush their teeth at least twice daily and with correct technique by using fluoridated toothpaste. This practice helps to prevent progression of caries and promotes the likelihood of good oral conditions. The reason for such high number of respondents brushing their teeth could be due to the fact that study was performed among educated people. While in other countries such as China, prevalence of brushing teeth exists in almost half of the population¹⁴ and one third of the population in Jordan¹⁵. In Fiji, the prevalence of brushing habit is consistent with the finding in this study¹⁶.

It is interesting to note we found a minority of the population (8.3%) with dental caries. It shows that people are aware of dental self care whereas studies conducted in other countries show a much higher prevalence of caries^{17,18,19}, implying the excessive consumption of refined sugar in the diets and irregular brushing habits²⁰. It is also noted that less than half of the people had filled teeth and polishing done as compared to studies in Fiji and India where less than one third of the population had filled teeth and polishing done^{16,17}.

It is noted that in this study that almost everyone consumes sugar in one form or the other as it includes one third of the population who take sugar in their daily routine. This could easily lead to poor oral condition and caries progression. Other studies conducted on the relationship between sugar diet and dental caries showed high prevalence of sugar intake among the population with the disease^{19,21}.

It is good to note that a minority (9.5%) of the respondents had stains on their teeth despite a trend in the South East Asian countries to consume pan "betel quid" and chalia "betel nut" which cause extrinsic stains. Another study conducted in Bangladesh showed that majority of the population consumes pan "betel quid" and therefore had a higher prevalence of extrinsic stains²².

Table 3. Oral hygiene practices among the respondents (n=400)

Practice	n (%)	Practice	n (%)
Cleaning of teeth		Times of Brushing	
Brush	01 (0.3)	Once	96 (24.0)
Brush and toothpaste	359 (89.8)	Twice	277 (69.3)
Brush, paste & floss	20 (5.0)	Thrice	23 (5.8)
Miswak	05 (1.3)	More than 3 times	04 (1.0)
Manjhan	09 (2.3)		
Brush paste & miswak	04 (1.0)		
Brush/paste/manjhan	02 (0.5)		
Brushing duration in minutes		Brushing Techniques	
One	88 (22.0)	Horizontally	30 (7.5)
Two	166 (41.5)	Up & down	44 (11.0)
Three	61 (15.3)	Circular	13 (3.3)
More than three	85 (21.3)	All of above	292 (73)
		Horizontal/up down/ circular	17 (4.3)
			04 (1.0)
Brushing in the morning		Sugar intake	
Before breakfast	331 (82.8)	Yes	387 (96.8)
After breakfast	55 (13.8)	No	13 (3.3)
Both	13 (3.3)		
Don't brush	01 (0.3)		

It is interesting to know that nearly half of the population had visited the dentist once in their life-time; however only 14% visited in the previous 12 months and a little over a third never went to the dentist at all. In comparison with the studies in Saudia Arabia where one third of the population^{14,23}, and China where less than one third visited the dentist²¹ while in China and Fiji half of the people^{14,16} and in Bangladesh over half of the population didn't visit the dentist²². We found that pain was the commonest reason to visit a dentist. It is unfortunate because by the time pain appears, dental disease has progressed extensively and it confirms failure of preventive dental care.

We have found that people avoid going to dentist due to either pain as the major fear factor followed by the infection control as opposed to an other study in Fiji which reported that people could not visit dentist due to long appointment and high cost dental fees¹⁶. It is important not only to study the reasons why people avoid going to the dentist but also remove such reason, educate them and promote dental care in the country.

Conclusion

It is concluded that more people should be educated on oral hygiene care. Programs related to oral hygiene instructions should be conducted on larger scale and promoted in print and media. Teams should be recruited to visit nearby villages for free dental check-ups. Fluoridated toothpastes and mouthwashes are to be used to reduce the likelihood of caries and further hamper carious activities. Refined Sugar should not be taken in frequent intervals and reduced from the daily diet.

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