ORIGINAL ARTICLE

AWARENESS ABOUT PERIODONTAL DISEASE AMONG PATIENTS- A STUDY

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ABSTRACT

Periodontal diseases can lead to tooth loss. The bacterial plaque is the main etiology of periodontal diseases, while many other factors such as hormonal changes, diabetes, poor nutrition, smoking, and stress may affect the initiation and progression of gingival and periodontal diseases.

The objective of this study was to evaluate the knowledge about periodontal oral health and causes of inflammatory periodontal diseases among patients of our local population.

A total of 105 patients presented to out-patient department of Khyber College of Dentistry, Peshawar were included in this study. Age, gender, economic level, educational level, occupation and specific questions about periodontal diseases were recorded. Questions related to periodontal diseases like meaning and causes of periodontal disease, relation to the risk factors, prevention and treatment of periodontal diseases. Each question was provided with different options (Yes and No) to patients were requested to answered. The collected data were processed and analyzed by SPSS (statistical Package for Social Sciences) version 17.0. Percentages and frequencies were tabulated and shown in the form of charts.

Of total 105 patients 74(70.47%) were males and 31(29.52%) females. The most common age decade was third. Most of participants belonged to medium income families and most of their had university level education. Educated patients were using tooth brush while illiterate patients used miswak wooden stick. University level educated patients were more aware about the meaning, risks factors and causes of periodontal diseases.

Key Words: *Periodontal disease, diabetes, smoking.*

INTRODUCTION

Periodontal diseases, if untreated, can lead to tooth loss.[1] The bacterial plaque is the main etiology of periodontal diseases, while many other factors such as hormonal changes, diabetes, poor nutrition, smoking, and stress may affect the initiation and progression of gingival and periodontal diseases. The initiation and progression of common periodontal diseases depend mainly on human behavior, and the control of the these diseases can be easily achieved because the etiologic factors are well documented.[2]

Plaque control measures are essential components of periodontal therapy.[3,4] Many studies showed that effective plaque control for each person cannot be achieved without interactive motivation that includes educational and informative knowledge for the patients about periodontal diseases, their initiation factors, and the major role of dental plaque as the initiating cause for inflammatory periodontal changes.[3,5] Many researchers have stressed on patient's awareness for prevention of periodontal diseases.

In Pakistan, little work is available on patient's awareness about periodontal diseases except one study on awareness of risk factors for periodontal diseases.[6] Many studies on prevalence[7], awareness of adult and children[8], and of University students[9] about periodontal diseases have been carried out in other countries.

The objective of this study was to evaluate the knowledge about periodontal oral health and causes of inflammatory periodontal diseases among patients of our local population. This study provides data for future research and allows comparison with patient's oral health knowledge in other nations.

METHODOLOGY

This cross-sectional comparative study was conducted as Khyber College of Dentistry, Peshawar from December 2013 to July 2014. The data were collected

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from 160 patients who come to out-patient department of Khyber College of Dentistry Hospital, Peshawar by using convenient sampling technique. After obtaining informed consent, data about awareness about periodontal health was obtained from each patient on specially designed proforma. The patients with medical problems, physically handicapped, mentally retarded and below age 20 were excluded from the study. Patients from both genders, with any educational (primary, medium, high school and illiterate) and cooperative were included.

A previously prepared structured questionnaire was distributed to the participants through personal interview by researchers. All the participants were provided with full explanation of the study and questionnaire. Medical and dental terms related to the causes, signs and symptoms of periodontal diseases were also explained to them. Once completed, each questionnaire was double-checked to make sure that all the items and answered and participants were requested to complete any missing data.

Age, gender, economic level, educational level, occupation and specific questions about periodontal diseases were recorded. Questions related to periodontal diseases like meaning and causes of periodontal disease, relation to the risk factors, prevention and treatment of periodontal diseases. Each question was provided with different options to patients were requested to answered.

TABLE 1: DEMOGRAPHIC DATA OF PARTICIPATING PATIENTS

Factor		Number	%age
Gender	Male	96	60.0
	Female	64	40.0
Age	13- 20 years	37	23.1
	21-30 years	57	35.6
	31-50 years	54	33.7
	51-75 years	12	7.5
Income	Low	35	21.8
	Medium	104	65.0
	High	21	13.1

TABLE 2: AFFIRMATIVE ANSWERS FOR ORAL HYGIENE MEASURES OF PATIENTS

OHM*	Illiterate (30)	Primary school (30)	Matric (30)	College (30)	University (40)
Tooth brush	10	13	19	20	28
Miswak	15	11	10	10	11
Peel of walnut (dandasa)	5	6	1	0	1

TABLE 3: DISTRIBUTION OF RESPONSES TO THE MEANING OF PERIODONTAL DISEASES AMONG PATIENTS BY LEVEL OF EDUCATION (N= 160)

Questions	Illiterate (30)	Primary School (30)	Matric (30)	College (30)	University (30)
Is periodontal disease mean?*					
Bleeding from gums	Yes=28 No=2	Yes=20 No=10	Yes=24 No=6	Yes=20 No=10	Yes=31 No=9
Pain in gums	Yes=29 No=1	Yes=21 No=9	Yes=26 No=4	Yes=23 No=7	Yes=30 No=10
Hypersensitivity of teeth (feeling hot & cold)	Yes=28 No=2	Yes=19 No=11	Yes=22 No=8	Yes=23 No=7	Yes=24 No=16
Swelling of gums	Yes=27 No=3	Yes=12 No=22	Yes=28 No=2	Yes=24 No=6	Yes=32 No=8
Ulceration of gums	Yes=25 No=5	Yes=17 No=13	Yes=20 No=10	Yes=24 No=6	Yes=27 No=13
Peeling of gums	Yes=22 No=8	Yes=10 No=20	Yes=26 No=4	Yes=9 No=21	Yes=8 No=32
Loosening of teeth	Yes=28 No=2	Yes=25 No=5	Yes=26 No=4	Yes=19 No=11	Yes=28 No=12
Exposure of teeth' roots	Yes=23 No=7	Yes=18 No=12	Yes=20 No=10	Yes=17 No=5	Yes=24 No=16
Bad smell in mouth	Yes=24 No=6	Yes=19 No=11	Yes=27 No=3	Yes=13 No=9	Yes=26 No=14
Pus discharge from gums	Yes=21 No=9	Yes=24 No=6	Yes=23 No=7	Yes=13 No=9	Yes=30 No=10

*p-value is not significant(P>0.005)

TABLE 4: AFFIRMATIVE ANSWERS AMONG PATIENT ABOUT THE EFFECT OF SYSTEMIC CONDITIONS ON PERIODONTAL HEALTH

Disease/condition	Illiterate	Primary school	matric	college	University
Diabetes	20	25	28	27	35
IHD*	25	18	11	12	31
HIV	—	—	2	8	8
Pregnancy	—	—	—	—	7
Puberty	—	5	—	—	9

*ischemic heart diseases

TABLE 5: DISTRIBUTION OF RESPONSES ABOUT THE ETIOLOGY OF PERIODONTAL DISEASES AMONG PATIENTS BY LEVEL OF EDUCATION (N= 160)

Questions	Illiterate (n=10)	Primary School (n=16)	Matric (n=14)	College (n=22)	University (n=43)
The possible cause of periodontal diseases are?					
Plaque and culculus*	Yes=10 No=0	Yes=13 No=3	Yes=14 No=0	Yes=16 No=6	Yes=29 No=14
Pan chewing*	Yes=6 No=4	Yes=11 No=5	Yes=10 No=4	Yes=12 No10	Yes=35 No=8
Smoking*	Yes=4 No=6	Yes=11 No=5	Yes=10 No=4	Yes=12 No=10	Yes=37 No=6
Stess*	Yes=4 No=6	Yes=4 No=12	Yes=2 No=12	Yes=20 No=2	Yes=8 No=28
Naswar*	Yes=8 No=2	Yes=11 No=5	Yes=8 No=6	Yes=14 No=8	Yes=39 No=4
Medications*	Yes=4 No=6	Yes=7 No=9	Yes=8 No=6	Yes=7 No=15	Yes=21 No=22
Improper Brushing*	Yes=6 No=4	Yes=14 No=2	Yes=14 No=0	Yes=20 No=2	Yes=39 No=4

*p-value is not significant(P>0.005)

TABLE 6: DISTRIBUTION OF RESPONSES ABOUT THE PREVENTION OF PERIODONTAL DISEASES AMONG PATIENTS BY LEVEL OF EDUCATION (N= 160)

Questions	Illiterate (30)	Primary School (30)	Matric (30)	College (30)	University (40)
Can periodontal disease be prevented by regular brushing?*	Yes=30 No=0	Yes=28 No=2	Yes=27 No=3	Yes=29 No=1	Yes=40 No=0
Can periodontal disease be prevented by using maswak (wooden stick) *	Yes=29 No=1	Yes=23 No=7	Yes=26 No=4	Yes=26 No=4	Yes=39 No=1
Can periodontal disease be prevented by using floss? *	Yes=5 No=25	Yes=12 No=18	Yes=20 No=10	Yes=15 No=15	Yes=32 No=8
Can Periodontal disease be prevented by using tooth pick? *	Yes=12 No=18	Yes=8 No=22	Yes=12 No=18	Yes=10 No=20	Yes=27 No=13
Can periodontal disease be prevented by regular visiting a dentist? *	Yes=30 No=0	Yes=24 No=6	Yes=30 No=0	Yes=28 No=2	Yes=38 No=2w

*p-value is not significant(P>0.005)

The collected data were processed and analyzed by SPSS (statistical Package for Social Sciences) version 17.0. Percentages and frequencies were tabulated. ANNOVA test was applied for determining significance between different educational groups. P-value less than 0.005 was considered significant.

RESULTS

Of total 160 patients 96(60.0%) were males and 64(40.0%) females. The most common decade was third. Most of patients belonged to medium income families. Many had a university level education Table 1.

Most of highly educated patients were using tooth brush while illiterate using miswak. (wooden stick) (Table 2). University level educated patients were more aware about the meaning, of risks factors and causes of periodontal diseases. (Table 3-6). There was no statistical significance among different educational groups for awareness about periodontal diseases.

DISCUSSION

A person's oral health information and knowledge are cumulative and build up through his entire life. Parents, society, media and health care providers (dentists) participate in creating his or her oral health knowledge attitude and behavior among patients.[9] However; media and dentists remain the main source. Patients comply better with oral health measures when informed and positively reinforced. In developing countries there is not much emphasis on oral and dental health care during primary, middle and high school education.[10]

Most of the participants in the current study were of high literacy level (61.90%) having college and university level education) in spite of the fact that educational level is very low in Pakistan. The reason for this was that most illiterate were uncooperative and unable to understand the terms and meaning of periodontal diseases so were less in number.

Quetish Taani[12] showed that high percentage of adults reported gum bleeding on brushing, bad breath and were irregular attendees to dentists. This was in accordance with our study. Yokoyana et al[13] conducted a study consisted of 225 participants who pinpointed that predisposing factors for periodontal diseases were plaque and calculus, lack of brushing and smoking. This coincides with the results of the present study. Same findings were shown studies conducted by Paul Erik Petersen[14] and Axelsson et al.[15]

Most people in the developed countries show great interest in oral hygiene and that 16% to 80% of boys in 32 in Europe and North America practiced tooth brushing more than once a day, whereas girls reported better compliance 26-89%. Another multinational study of 22 countries reported similar results.[16] A national survey in 1993 demonstrated that 95% of Japanese brushed their teeth every day.[17] Oral hygiene practices are also prevalent in some other countries. For instance, tooth brushing is practiced habitually by most Chinese, although a small proportion of elderly people do not brush their teeth at all. In Korea, 97% of Koreans brush their teeth once a day.[18] While in India only 69% of the population brushed their teeth.[19] A national health survey in Pakistan showed that about 36% of the Pakistani population cleaned their teeth daily, irrespective of whether chewing sticks (miswak) or toothbrush was employed, while 54% did so either on alternative days, weekly or monthly. In Tanzania, it was reported that 92% of children up to the age of 15 years did not brush their teeth every day. In Saudi Arabia, 83% of school children used toothbrush for oral hygiene while 16% used miswak (chewing stick prepared from Salvadora persica). In this study most participant from high educational categories used tooth brush while miswak was used by illiterate and poor.

REFERENCES

1 William RC. Understanding and managing periodontal diseases: a notable past a promising future. J Periodont 2008; 79(8): 1552-59.

2 Newman MG, Henry HT, Perry PK, Carranza FA. Carranza's clinical periodontology. 10th ed. Elsevier Inc 2009; 134-63.

3 Terezhalmy RD, Bartizek AR. Plaque removal efficacy of four types of dental floss. J Periodont 2008; 79(2): 245-55.

4 Mitchell L, Mitchell D, McCall L. Oxford Handbook of clinical dentistry. 5th ed. New York 2009; 1730-80.

5 Paraskeves MF, Velden UV, Vander GA. Additional effect of dentifrices on the instant efficacy of brushing. J Periodont 2006; 77(9): 1522-27.

6 Mallik AR, Aslam M, Malik S. Patient's awareness about the risk factors and theprevention of dental diseases. Pak Oral &Dent J 2012; 32(2): 80-89.

7 Quteish DSM. Oral health in Jordan. Int Dent J 2004; 54(6): 395-400.

8 Al-Omari QD, Hamesha AH. Gender specific oral health attitudes and behavior among dental students in Jordan. J Dent Prac 2005; 6(2): 107-14.

9 Gur A, Majra JP. Knowledge, Attitude and Practices Regarding the Systemic Effects of Oral Diseases among the Medical Practitioners. Int J Dent Sci. 2009; 6: 25-29.

10 Lin HC, Wong MC, Wang ZJ, Lo EC. Oral health knowledge, attitudes, and practices of Chinese adults. J Dent Res 2001; 80: 1466-70.

11 Chohan AN, At-Rowily FH, Al-Shehri BM. Oral Health knowledge and practices by parents of children attending King Saud University College of Dentistry Clinics. Pakistan Oral and Dent J 2004; 24: 145-48.

12 Quitesh Taani D. Periodontal awareness and knowledge and pattern of dental attendance among dentists in Jordan. Int Dent J 2010; 52 (2): 94-98.

13 Yokoyana J, Mughamba EGS. Awareness on causes, risk factors and prevention of periodontal diseases among secondary school students in Kimdoni district, Dar-es-Salam, Tanzania. Tanzania Dent J 2005; 12 (1): 1-8.

14 Paul Erik P, Hiroshi O. Strengthing the Prevention of Periodontal Disease. The WHO Approach. J Periodont 2005; 76 (12): 2187-93.

15 Axelsson P, Nystrom B, Lindhe J. The long term effect of a plaque control program on tooth mortality, caries and periodontal diseases in adults. J Clin Periodontol 2004; 31: 749-57.

16 Khalaf F, Al-Shammari, et al. Risk Indicators for Tooth Loss due to Periodontal Disease, J Periodont 2005; 76(11) 1910-18.

17 Maes L, Vereecken C, Vanobbergen J, Honkala S. Tooth brushing and social characteristics of families in 32 countries. Int Dent J 2006; 56: 159-67.

18 Corbet EF, Zee KY, Lo EC. Periodontal diseases in Asia and Oceania. J Periodont 2000 2002; 29: 122-52.

19 Kwan SY, Bedi R. Transcultural oral health care and the Chinese – An invisible community. Dent Update 2000; 27: 296-99.