

## **Oral health Knowledge, attitudes and behaviour among a sample of Kurdish people in Sulaimani governorate**

**Dr. Shokhan Abdullah Karim**

*B.D.S, M.Sc (Periodontics) Department of Periodontology, School of Dentistry, Faculty of Medical Science, University of Sulaimani*

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### **Abstract:**

**Objective:** This study was carried out to assess the oral hygiene knowledge, behaviour and attitude among a sample of Kurdish people in Sulaimani governorate.

**Materials and Methods:** A cross-sectional study was carried out among the patients visiting the Department of Periodontology, School of Dentistry, University of Sulaimani. A total of 500 patients were selected using random sampling technique. A self-constructed questionnaire including 16 multiple choice questions was presented to them. The data analyzed using Responses SPSS statistical software.

**Results:** Among the participants, 30.8% brushed their teeth at least twice daily while 26.2% seldom or not brushed their teeth, from these about 24.42% of subjects regarded it as too much bother or had no time for tooth brushing. About 56% agree that used of fluoride prevent tooth decay; only 15.4% performed recommended methods of tooth brushing. 44% of participants preferred to use soft toothbrush and 66.74% changed their toothbrush during 4-6 months. The difference between males and females for changed their toothbrush statistically significant ( $P=0.000142$ ). A total of 19% used dental floss and 67.4% used mouthwash and the difference between males and females for using mouthwash was statistically significant ( $P=0.001996$ ). 44.8% visited dentist 3 times or more while 22.4% never visited dentist in their lifetime. A dental visit within the previous 1-2 years ago was reported by 39.17% of all participants and 9.79% had a dental check-up during lifetime. Only 9.2% of the subjects would visit a dentist if they experienced bleeding from gingiva; about 13.6% of the subjects visited dentist for filling if had signs of caries and 19.6% did not pay attention if there was no pain and the difference between males and females was statistically significant ( $P=0.000218$ ). Only 43.36% of participants knew that good oral health had effect on general health.

**Conclusions:** Knowledge of studied subjects about oral hygiene was limited. Oral health promotion programs are needed to improve oral health knowledge, attitude, and behaviour of the population.

**Keywords:** Knowledge, attitude, Behaviour, Oral hygiene.

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### **I. Introduction:**

Health is a universal human need for all cultural groups. General health cannot be attained or maintained without oral health. The mouth is regarded as the mirror of the body and the gateway to good health. Oral hygiene has been considered as a risk indicator, risk factor and risk predictor for various oral problems and access to oral health is a complex issue involving barriers as diverse as inability to afford services to cultural preferences, from lack of adequate services to technological setbacks. Also important is the dentists' attitude and awareness regarding oral health<sup>(1)</sup>.

Knowledge as defined by 'Oxford dictionary' is the 'expertise and skills acquired by a person through experience or education. Knowledge acquisition involves complex cognitive processes: perception, learning, communication, association and reasoning. The term knowledge is also used to mean the confident understanding (theoretical or practical) of a subject with the ability to use it for a specific purpose.

An attitude is a relatively enduring organization of beliefs around an object, subject or concept which pre-disposes one to respond in some preferential manner. An attitude is a relatively enduring organization of beliefs around an object, subject or concept which pre-disposes one to respond in some preferential manner. Attitude is an acquired characteristic of an individual. People demonstrate a wide variety of attitudes towards teeth, dental care and dentists. These attitudes naturally reflect their own experiences, cultural perceptions, familial beliefs, and other life situations and they strongly influence the oral health behaviour<sup>(2, 3)</sup>.

Health behaviour as defined by Steptoe and colleagues is 'the activities undertaken by people in order to protect, promote or maintain health and to prevent disease'<sup>(4)</sup>. The broad categories of factors that may influence individual and community health behaviour include: knowledge, beliefs, values, attitudes, skills, finance, materials, time and the influence of family members, friends, co-workers, opinion leaders and even health workers themselves<sup>(5)</sup>. The people who have assimilated the knowledge and feel a sense of personal control over their oral health are more likely to adopt self-care behaviour<sup>(6)</sup>. Dental health providers need to set an example for their patients, family and friends by maintaining good oral health in their own mouth.

Several recent studies concern the oral health attitudes and behaviours of young adults and the relation between their attitudes and behaviours and their dental or oral status<sup>(7,8)</sup> Oliveira et al. report that children with inadequate oral health knowledge are twice as likely to have caries as children with adequate knowledge. Studies have shown that there is an association between increased knowledge and better oral health<sup>(9,10)</sup>. Hence, the purpose of the study was to assess the knowledge, attitude and behaviour of oral health among a sample of Kurdish people in Sulaimani governorate.

## **II. Material And Methods:**

A cross-sectional study was carried out on the patients attending the Department of Periodontology, School of Dentistry, University of Sulaimani. This proposed study was reviewed by the ethical committee and clearance was obtained. (500 patients) were selected using a simple random sampling technique.

A self-constructed 16-items close-ended questionnaire was distributed to groups between 18-75 years of age and was filled by a dental professional for illiterate persons.

The questionnaire included information related to the patient's name, age, gender, occupation, and residential area. It was further categorized to evaluate the knowledge, attitude and behaviour pattern related to oral health. After distribution of questionnaire, 10 min were allotted for completing the questionnaire. Results were subjected for statistical analysis.

## **III. Statistical Analysis:**

The data was first transferred to Microsoft Excel and then the results were analyzed by using SPSS statistical software and  $P < 0.05$  was considered statistically significant. Frequency distribution, number, and percentage were calculated. The descriptive statistics and statistical significance of any difference between the two genders were determined using the Chi-square test.

## **IV. Results:**

Total of 500 patients participated in this study. Among 500 patients aged between 18-35 years (269), 36-55 years (183), 56-75 years (48). 51% (254) were males and 49% (246) were females.

Table 1 reveals that 61.2% participants, gain knowledge on oral health through media (TV, radio, internet), 19% learn on oral health through print media (newspapers, magazines), and 19.8% gain knowledge through like dentist, family and friends. Fifty six percent of the participants were aware that fluoride prevents dental caries. The difference between males and females regarding knowledge of oral hygiene was not statistically significant ( $P > 0.05$ ).

Table 2 shows most of the study population (43.36%) think that oral health is important for overall health for that reason take dental and gingival care and brushing their teeth, while 17.61% of participants were in opinion that dental and gingiva care taken just to appear clean and bright teeth. Among the participants; 14.36% believed that the care of teeth and gingiva should be taken to prevent gingival bleeding, dental caries (13.27%) and to get rid of foul breath (11.38%). According to 24.42% of participants found teeth brushing was too much bother or not had time for tooth brushing and 11.45% of participants didn't know any benefits from tooth brushing. It was interesting to find out that 10.68% of participants thought that good teeth are hereditary.

According to 44.8% (males 45.98%, females 54.01%) participants visited dentist 3 times or more while 22.4% never seen a during their lifetime. Among the reasons for the last dental visit were (21.64%), tooth filling (21.13%), scaling (18.81%) and dental check-up (9.79%). The difference between males and females regarding the attitude of oral hygiene was not statistically significant ( $P > 0.05$ ).

Table 3 reveals that 30.8% (male 46.75%, 53.24% female) brushes their teeth twice daily; 30.4% (male 49.34%, 50.65% female) brush once in a day and 26.2% (male 58.01%, female 41.99%) seldom or not brushing their teeth. Only 11.83% used electric tooth brush. When they were asked about the brushing time, 51.56% individuals brushed their teeth for 2 minutes or more and 48.43% less than 2 min. Furthermore, 41.96% individuals not used any systematic method during tooth brushing; 21.87% individuals used horizontal brushing technique; 20.75% individuals used vertical brushing technique and 15.4% individuals recommended certain methods of tooth brushing like Bass-method.

In addition to toothbrush, 19% used dental floss; 14% used tooth pick and only 3.6% used interdental brush. Only 67.4% participants used mouthwash like chlorhexidine. The difference between males and females, regarding the using of mouth wash, was statistically significant ( $P=0.001996$ ). Majority (66.74%) change their toothbrush once in 4-6 months; 30.35% in 1-3 months, whereas 1.56% once in 7-12 months and 1.33% more than one year change their toothbrush. The difference between males and females regarding the practice of changing toothbrush, was statistically significant ( $P = 0.000142$ ).

Regarding to the responses of participants to bleeding of gingiva, 28% never had such symptoms; 15% of participants stop brushing when had bleeding of gingiva; 14.4% ignore gingival bleeding; while 12.4% paid

more attention to gingiva during tooth brushing, and only 9.2% of individuals go to see a dentist. When asked about pain, 28.6% of the participants would seek help from a dentist while 16.4% of individuals taken pills for pain relief and 9.8% would brush their teeth more often when had a pain. The difference between males and females, regarding responses of participants if had sign of tooth decay, was statistically significant ( $P=0.000218$ ).

**Table (1): Comparison of gender-related to knowledge of oral hygiene:**

Items	Male(%)	Female(%)	Total(%)	Chi-square	P-value
Where do you learn on oral health?					
Media (TV, radio, internet)	50.32	49.67	61.2		
Print (magazine, newspaper)	54.73	45.26	19	0.828825	0.660728
Others	48.48	51.51	19.8		
Fluorides prevent dental decay?					
Agree	49.28	50.71	56		
Disagree	49.38	50.61	16.2	1.157612	0.560567
Don't know	54.67	45.32	27.8		

**Table (2): Comparison of gender-related to attitude of oral hygiene**

Items	Male(%)	Female(%)	Total(%)	Chi-square	P-value
Why should you take care of teeth and gingiva or do tooth brushing?					
Clean, bright teeth	44.61	55.38	17.16		
Prevention of caries	51.02	48.97	13.27		
Prevention of bleeding	37.73	62.26	14.36	3.737058	0.442759
To get rid of foul breath	42.85	57.14	11.38		
Know good oral health have effect on general health	51.25	48.75	43.36		
Why you not take care of teeth and gingiva or not do tooth brushing?					
Too much bother	78.12	21.87	24.42		
No time for brushing	53.12	46.87	24.42		
Useless, good teeth are hereditary	50	50	10.68	8.355441	0.137704
Gums bleeding when brushing	79.16	20.83	18.32		
No such habit from childhood	57.14	42.85	10.68		
Don't know of any benefits from brushing	66.66	33.33	11.45		
How often you visit dentist during your lifetime?					
Never	54.46	45.53	22.4		
1-2 times	54.87	45.12	32.8	3.773227	0.151584
3 or more times	45.98	54.01	44.8		
How much time passed since the last visit to the dentist?					
Less than 1 year	42.62	57.37	31.44		
1-2 years ago	50.65	49.34	39.17	4.391159	0.111294
3 or more years ago	56.14	43.85	29.38		
What is the reason for your last visit to dentist?					
Check-up	39.47	60.52	9.79		
Scaling	50.68	49.31	18.81		
Filling	54.87	45.12	21.13		
Extraction	50	50	21.64		
Tooth trauma	53.33	46.66	3.86		
Repair of denture	52.94	47.05	4.38		

Getting a new denture or crown and bridge	42.85	57.14	5.41	3.441064	0.94422
Gum bleeding, swollen, purulence	50	50	4.12		
Problem with wisdom tooth	52.94	47.05	4.38		
Toothache	44	56	6.44		

**Table(3): Comparison of gender-related to behaviour of oral hygiene:**

Items	Male(%)	Female(%)	Total(%)	Chi-square	P-value
How many times do you brush your teeth daily?					
Seldom or no brushing	58.01	41.99	26.2		
Once in a day	49.34	50.65	30.4	3.930958	0.269017
Twice in a day	46.75	53.24	30.8		
More than 2 times	49.2	50.79	12.6		
You brush your teeth for... minutes					
Less than 2 min	49.76	50.23	48.43		
2 min or more	48.48	51.51	51.56	0.073896	0.785747
Which kind of tooth brushing technique do you use?					
Horizontal	55.1	44.89	21.87		
Vertical	49.46	50.53	20.75	2.017223	0.56884
Recommended methods	46.37	53.62	15.4		
No systematic methods	46.8	53.19	41.96		
What kind of toothbrush do you use?					
Hard	51.25	48.75	17.85		
Soft	50.25	49.74	44.41	0.633906	0.888628
Medium	46.55	53.44	25.89		
Electrical tooth brush	47.16	52.83	11.83		
How often do you change your toothbrush?					
1-3 months	43.38	56.61	30.35		
4-6 months	52.17	47.82	66.74		
7-12 months	28.57	71.42	1.56		
more than one year	50	50	1.33	20.38032	0.000142*
What do you do if having bleeding of gingiva?					
Stop brushing	60	40	15		
Pay more attention when brushing	45.16	54.83	12.4		
Brush more frequently	41.93	58.06	12.4		
Go to see a dentist	43.47	56.52	9.2	8.778644	0.186415
Ignore bleeding	50	50	14.4		
Never had this problem	51.42	48.57	28		
Don't know what to do	62.79	37.2	8.6		
What do you do if having signs of tooth decay?					
Don't care if no pain	69.38	30.61	19.6		
Take pills for pain relief	53.65	46.34	16.4		
Go and see a dentist only when in pain	46.15	53.84	28.6		
Go and see a dentist immediately for filling	52.49	47.05	13.6		
Go and see a dentist for extraction of tooth	38.33	61.66	12		
Brush teeth more often when having pain	34.69	65.3	9.8	23.99181	0.000218*
In addition to toothbrush, do you use...					
Dental floss	43.15	56.84	19		
Tooth Pick	57.14	42.85	14		
Small interdental brush	55.55	44.44	3.6		
No	51.41	48.58	63.4	3.558172	0.313295

Do you use mouthwash?					
Yes	45.99	54	67.4		
No	60.73	39.26	32.6	9.552988	0.001996*

\*P<0.05 statistically significant

## V. Discussion:

Health is a universal human need. It has been established that optimal health cannot be attained independent of oral health. Hence the purpose of this study attempts were made to describe the oral health knowledge, attitude and behaviour of the studied sample of Kurdish people in Sulaimanigovernorate.

In this study about 61.2% of participants reported to receive information regarding oral health mainly from media. However, this information was mainly certain brand specific and was focusing on only one or two aspects. The public oral health knowledge should be improved through the school health programs as well as different community based projects in collaboration with media<sup>(11)</sup>.

About 56% of participants were aware that fluoride prevent dental caries and it was contrary with the result of Hanaa M. Jamjoom<sup>(12)</sup> that only 4.3% of participants agree that fluoride prevent dental caries, but in agreement with studies of Mehta and Kaur<sup>(13)</sup> who showed that 43.2% of participants believed that fluoridated tooth paste prevent dental caries, so that good knowledge on the perception of oral health was reported among sample of Kurdish people .

Although brushing was the commonly used method of cleaning, in our study only 30.8% of the participants brushed their teeth twice a day and it was accordance with results of Dali and Laleet<sup>(14)</sup> reported it to be 33%, on contrary Dilip<sup>(15)</sup> described a much higher percentage (58%) of the police recruits did the same.

It is noted that 21.87% of the respondents brushed their teeth using traditional horizontal method, which will jeopardize the tooth structure. This finding is disagreement with that of the study done by Zhu et al.<sup>(16)</sup> where 60% of the sample did the same .Only 15.4% of participants used recommended certain method and this result was in contrast with the result of Zhu et al.<sup>(16)</sup> that 38 % of the Chinese urban adolescents used the same tooth brushing technique.

About 44.41% of the subjects used soft toothbrush, which is more than that observed among Jain et al. subjects<sup>(17)</sup> where 10% of the sample uses the same.

30.35% change their toothbrush once in 3 months, while 66.74% changed during 6 months this disagreement with Dali and Laleet<sup>(14)</sup> that 33.1% of participants changed toothbrush during 6 months.

There is generally a failure in the use of interdental aid as a preventive tool that only about 36.5% of the total patients used any of the interdental aids, out of which only 19% subjects used dental floss, 14% patients used toothpick while only 3.6% subjects used any other interdental aid like interdental brush, this accordance with the results of Parveen et al.<sup>(11)</sup> that 15.4% of subjects used dental floss. In contrast, Hamilton and Coulby<sup>(10)</sup> found that a high percentage (44%) of the sample they studied in North-eastern Ontario used dental floss. Reason for this may be the significant resource allocation to health education programs that are carried out in Canada. This emphasizes the urgent need for educating and motivating the public to use this efficient method for oral health care.

About 67.4% of subjects used mouthwash Interestingly enough this results contrary with the Jain et al.<sup>(17)</sup> that only 10% of participants used mouthwash. This difference can attributed to a higher regarding personal hygiene and health care among females.

As regards dental visiting habits, the results of our study presents that about 44.8% of participants visited to dentist 3 or more times and only 22.4% never visited dentist during lifetime in contrast to Zue et al.<sup>(16)</sup> that about one third of the participants had never seen a dentist, but in agreement with Jain et al. <sup>(17)</sup> that 30% subjects never visited a dentist.

Visiting a dentist is still not considered a preventive dental behaviour, at present it only depends on the treatment needs<sup>(18)</sup>. The most frequent reasons for visits were need for tooth extraction, tooth filling and scaling and only 9.79% for check-up, these results in contrast with the study conducted by Marylnetal. in which 67.9% of the study population reported having had a dental check-up<sup>(19)</sup>.

In the case of bleeding from gums, only 9.2% of participants visited a dentist, this it was in agreement with Zue et al.<sup>(16)</sup> that 15% of subjected would visit a dentist if they experienced bleeding from gums.

As regards signs of tooth decay, the majority of adults stated that they go and see a dentist only when developed a pain; the principal responses to pain were the use of painkillers, seeking a dentist for care, or no paid attention to signs of caries if there was no pain, this in agreement with study by Zue et al.<sup>(16)</sup> , so self-treatment was somewhat more than consulted a dentist.

In our study indicated that only 43.36% of participants take care of teeth and gingiva and performed tooth brushing because they knew good oral health had effect on general health ,this in agreement with study done by Kapoor et al.<sup>(20)</sup> who showed that 43.2 % of subjects knew about the relationship between the oral health

and general health. The awareness of people toward this relationship is important because many disease show their first appearance through oral sign and symptom.

According to the habit of tooth brushing, majority of people not brushed their teeth because they regarded brushing too much bother or not had time for brushing, this in agreement with Zue et al. <sup>(16)</sup>, so the elevation of oral health education is important specially health education program in school because 10.68% of participants in our study not had such habit from childhood.

Missing awareness about the crucial role of regular dental check-ups in preventing and detecting dental diseases is poor public education. In addition, to this large proportion of the population never seen a dentist which is another gap in public education. It is the dentist's responsibility to educate and motivate people to visit a dentist.

## **VI. Conclusion:**

The present study show limited oral health knowledge among a sample of Kurdish people in Sulaimani governorate. Hence, there is a need to educate and spread knowledge of proper dental care and prevention of dental diseases through the dentists, outreach programs and relevant public health awareness measures to make a healthy individual and a healthy society.

The dentists, will have to keep reinforcing the importance of correcting all aspects related with brushing and flossing and early identification of tooth decay along with the importance of regular checkups and majority of the patients were not aware of the fact that oral health has an effect on systemic health, so more concentration needs to be undertaken regarding oral health care in term of health education programs and this should start at early stage in life.

## **References:**

- [1]. Kassak KM, Dagher R, Doughan B. Oral hygiene and lifestyle correlates among new undergraduate university students in Lebanon. *J Am Coll Health* 2001; 50(1):15-20.
- [2]. Chen MS. Children's preventive dental behaviour in relation to their mother's socioeconomic status, health beliefs, and dental behaviours. *J. Dent Child.* 1986; 53:105-09.
- [3]. Wright FA. Children's perception of vulnerability to illness and dental disease. *Comm Dent and Oral Epid.* 1982; 10:29-32.
- [4]. Steptoe A, Wardle J, Vinck J, Tuomisto M, Holte A & Wichstrom L. Personality and attitudinal correlates of healthy and unhealthy lifestyles in young adults. *Psychology and Health.* 1994; 9:331-43.
- [5]. K. Park. Park's Textbook of preventive and social medicine. 18th edition. BanarsidasBhanot Publishers, (2005) 1-2.
- [6]. Freeman R, Maizels J, Wyllie M, Sheiham A. The relationship between health related knowledge, attitude and dental health behaviours in 14-16 years old adolescents. *Community Dental Health.* 1993; 10:397-404.
- [7]. Kawamura M, Sasahara H, Kawabata K, et al. Relationship between CPITN and oral health behaviour in Japanese adults. *J Aust Dent.* 1993; 38:381-8.
- [8]. Honkala E. Oral health promotion with children and adolescents. In: Cohen LK, Gift HC, eds. *Disease prevention and oral health promotion.* Copenhagen: Munksgaard. 1995:169-87.
- [9]. Woodgroove J, Cumberbatchm G, Gylbier S. Understanding dental attendance behaviour. *Community Dent Health.* 1987; 4:215-221.
- [10]. Hamilton ME; CoulbyWM. Oral health knowledge and habits of senior elementary school students. *J Publ Health Dent.* 1991; 51:212-218.
- [11]. Parveen N, Ahmed B, Bari A, Butt A. Oro dental health: Awareness and practices. *JUMDC.* 2011; 2 (2): 5-10.
- [12]. Jamjoom HM. Preventive Oral Health Knowledge and Practice in Jeddah, Saudi Arabia. *J KAU: Med Sci.* 2001;9:17-25.
- [13]. Mehta A, Kaur G. Oral health-related knowledge, attitude, and practices among 12-year-old schoolchildren studying in rural areas of Panchkula, India. *Indian J Dent Res* 2012; 23 (2) :293.
- [14]. Dali M, Laleet R. A study on oral health knowledge, attitude and practice among population of siswanijahadavdc in biratnagar city, Nepal – A questionnaire survey. *Asian Pac. J. Health Sci.* 2014; 1(2): 51-56.
- [15]. Dilip CL. Health status, treatment requirements, knowledge and attitude towards oral health of police recruits in Karnataka. *J Indian Assoc Public Health Dent.* 2005;5:20-34.
- [16]. Zhu L, Petersen PE, Wang HY, Bian JY, Zhang BX. Oral health knowledge, attitudes and behaviour of adults in China. *Int Dent J.* 2005;55:231-41.
- [17]. Jain N, Mitra D, Ashok KP, Dundappa J, Soni S, and Ahmed S. Oral hygiene-awareness and practice among patients attending OPD at Vyas Dental College and Hospital, Jodhpur. *J Indian Soc Periodontol.* 2012; 16(4): 524-528.
- [18]. Gundala R, Chava VK. Effect of lifestyle, education and socioeconomic status on periodontal health. *Contemp Clin Dent.* 2010;1:23-6.
- [19]. Survey of family tooth brushing practices. Bureau of Dental Health Education. Bureau of Research and Statistics. *J Am Dent Assoc.* 1966;72:1489-91.
- [20]. Kapoor D, Gill S, Singh A, Kaur I, and Kapoor P. Oral hygiene awareness and practice amongst patients visiting the Department of Periodontology at a Dental College and Hospital in North India. *Indian J Dent.* 2014;5(2): 64-68.