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Gender-specific oral health attitude and behavior among dental students

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Abstract

Oral health attitudes and behavior among dental students were found to vary in different cultures. The aim of this research was to assess oral health attitudes among Iraqi dental students at Baghdad University and to compare the differences in oral health attitude between male and female dental students for all academic years and also to determine the differences between the preclinical and clinical years.

A self-administrated questionnaire based on a modified version of Hiroshima University Dental Behavior Inventory (HU-DBI) was distributed among 200 dental students at College of Dentistry, University of Baghdad.

Significant differences between male and female dental students were found for all academic years with significant and highly significant differences between the first three years when compared with the final year.

Female dental students had more positive oral health attitudes and practices than male student, which showed an increase in the percentage of smoking with increase age .Also in, general; this study showed that dental students had poor oral health.

Key word: gender, oral health behavior, dental students.

Introduction

Oral health is important for physical and psychological well-being [(1)]. There is evidence that oral health depends upon biological, social, environmental, mental and physical factors [(2,3,4)]. Different studies reported variations in prevalence of caries and periodontal disease among different sub-groups of the same society [(5,6)].

Dental health is a highly individualized concept, the perception of which is very much affected by an individual's culture and socio-economical status. The attitude of people towards their own teeth, and the attitude of the dentists who provide dental care, play an important role in determining the oral health condition of the population [(7)].By choosing a dental curriculum at the undergraduate level, dental students become a model for oral health [(8)].

Dentist occupy an important position in society as licensed health care workers, therefore ideally, dental students should be a good example of positive oral health attitudes and behavior to their families, patients, and friends.

Dental students in general have been found to be motivated about maintaining a good oral health attitude [(9)]. The development of positive attitudes among general dental practitioners had been shown to

increase with undergraduate and postgraduate exposure [10].

The need to investigate under graduate dental students oral health attitudes and behavior become very important as a future dentist. Since male and female have different physiological and psychological behavior, it is possible that their oral health behavior might be different as well.

Researchers have found female to engage in better oral hygiene behavior measures, posses a greater interest in oral health and perceive their own oral to be good to higher degree than do male [11]. Nanakorn [12] and kassak [13] found that female university students have better habits in term of tooth brushing than male students. Others found female visited their dentist and brushed their teeth more often than male.

There is no universally accepted or recommended index or inventory to measure dental health attitude and behavior. The data that have been collected and the attitude and behavioral aspects were derived from a series of independent questionnaires. The Hiroshima University Dental Behavioral Inventory (HU-DBI) questionnaire developed by Kawamura [14] has been demonstrated to be useful for assessing patient's perception and oral health behavior.

The (HU-DBI) also retain excellent psychometric property after translation from Japanese into English, and no apparent deficiency found in the translated version, although wide variation in knowledge and attitude of dental students towards preventive dentistry has been reported in Japan [15]. It is therefore considered that HU-DBI is capable of measuring dental health attitudes and behavioral aspects of dental students, and may serve as a useful standard for cross-cultural comparisons of dental students in other populations.

Materials and Methods

This study is based on a collection of responses of a twenty items self-administrated questionnaire based on a modified version of Hiroshima University Dental Behavior Inventory (HU-DBI). The HU-DBI questionnaire consist of 20 items dichotomous response format (Yes/No).The survey was written in English and distributed to 200 dental students, 40 for each academic year of the College of Dentistry, University of Baghdad.

80 male and 120 female were invited to complete the questionnaire in their classrooms after certain lectures rather than outside of class.

Participation in the study was voluntary and questions regarding the meaning of the words in Arabic were allowed and answers to such questions were announced to all other students.

Statistical Analysis

The SPSS.10 under windows statistical program was used to process and analyze the differences in the distribution of all the variables in the modified HU-DBI survey by gender.

The significance level (p-value) was set at (0.05).

Results

The distribution of participating dental students according to their gender and academic year is shown in Table 1.

Table 2 presents the percentage distribution of both male and female students with “yes” responses to each item of the 20 questions of the questionnaire.

The result of this study indicated that about 77.5% of male dental

students lived with their family, 22.5% of them lived away from their families in response to (Q#1). It was interesting to find that approximately 21.5% of total dental students had never been seen the dentist (Q#2), and about 58.5% of them went to the dentist only when they had toothache (Q#3).

In this study about 80% of dental students brushed their teeth regularly (Q#4) including 84.2% of females and 73.75% of males with a significant differences between male and female dental students. 16.5% had a bleeding gingiva including 26.25% of males and 10% of females and the difference was significant (Q#5).

About 33% of the total dental students claimed they had never been professionally taught how to brush their teeth (Q#6) .The percentage of total dental students who thought that the condition of their teeth was getting worse even with their daily brushing was 43% with highly significant differences between male and female dental students (Q#7) and 31.5% of them believe they had to brush with strong strokes (Q#8). 19.5% of students felt they spend too much time brushing their teeth with significant difference between male and female (Q#9).

Highly significant results were obtained in regard to questions 15, 16, 18, 19 and 20 between male and female dental student.

Significant results were found in regard to questions 10, 11, and 12 , while non significant relation were obtained for the questions 13,14and 17 (Table 2).

Table 3 shows the comparison between fifth year students with the other under graduated years. In regarding to bleeding with brushing significant differences were found between the first, second and the third academic years when compared with the final year (Q#5); high significant differences were found between all academic years and the final year in regarding to the use of strong stroking with brushing (Q#8).

Significant differences were found between all academic years with the final year for flossing on regular basis (Q#12).

The result of this study showed that the final year students had the highest number of smokers and those had been smoking for more than a year with highly significant differences when compared to other academic years (Q#20).

Discussion

An important task of oral health professional is to instill in their patients the correct oral habits to prevent oral diseases. The first step in establishing a habit is to provide relevant knowledge to the patients and to raise their awareness of how to prevent oral disease. High awareness of self-oral health in a dental student may have direct impact on his attitude for patient education and may help to create oral awareness in the general population [(7)].

This study showed major differences between male and female dental student; hence, gender was a major factor influencing the HU-DBI percentage of yes/no responses. The finding is consistent with other studies done by Ostberg et al. [(11)] who found that females engage in better oral hygiene behavior oral measures, possesses a greater interest in oral health, and perceive their own oral health to be good to a higher degree than males. Also Nanakorn [(12)] and Kassak [(13)] found that female university students have better habit in terms of tooth brushing than male students, while Maatouk et al.[(16)] and Fukai et al.[(17)] found that females visited their dentists and brushed their teeth more often than males.

A study conducted among new undergraduate students in Lebanon showed that female brushed their teeth four times more often than male [13].

In the present study about 21.5% of the total dental students had never been visited the dentist before and about 58.5% of them went to the dentist only when they had pain, that means we need to increase the level of dental education among dental students.

This study showed that female brushed their teeth on regular basis more often than males and this results agreed with another study from Kuwait which showed that Kuwait females brushed their teeth and visited their dentist more often than males [18].Contrary to our study, Tseveenjav et al. [19] found no differences between males and females Mongolian dental students in tooth brushing frequency.

Dental students were considerably concerned about the appearance of their teeth, gums and halitosis. Similar finding were reported among Indian[7], British and Chinese [20] dental students.

In Sweden the results from a questionnaire based study on 20-25 years old showed that about 59% of the sample were worried about the appearance of their teeth [21], while in the present study 62% of the students (who were from a similar age group) where worried with the appearance of their teeth this could be due to an increase in the awareness about the oral health once the students attend dental clinic.

In a similar study in Jordan revealed that 66.9% of dental students were concerned about the appearance of their teeth [22].

About one-third of respondents had never been professionally instructed on how to brush their teeth (Q#6), and about half of the participants indicated that they would postpone going to the dentist until they had toothache (Q#3). Thus, it is necessary for oral health professionals to recognize the significance and importance of preventive activities to make their patients aware. Thus an organized intervention, leading towards an improved dental status by increasing the population's knowledge, attitude and behavior should be carried out.

In many studies involving Japanese [14], Greek [23] and Chinese [24], dental student's age was not a significant factor affecting attitude and behavior and there was no trend to evaluate it with HU-DBI.

This study showed that the number of the final year students that did brushing and flossing on regular basis was the highest among other academic years, which means increase in the level of dental health education due to clinical experience acquired by the final year students. These results agreed other studies conducted in different universities [15, 16].

The present study showed that the first, second and the third academic year's students had wrong information about oral hygiene attitudes and behavior when compared with final year students, these results agreed kawamura et al. [15].

Although it was not the main purpose of this study, the results showed the prevalence of smoking among dental students was 14% and the smoking was increase with age. Although this is a serious problem among dental students, the prevalence of smoking in this study was lower than that among other students which was done in Jordan University of Science and Technology 17.2% [22].

An effort needs to be made to tackle the problem of smoking among dental students especially as these students are health professionals and they should be a good example in the society.

Conclusions

The study showed that the female dental students had in general more positive oral health and practices than male students.

The result showed that both male and female dental students in Iraq still need to improve their oral health behavior in order to survey as appositive model for their patients, families and friends. More emphasis should be placed on the courses that teach the students how to improve their oral health. Further studies are needed to clinically asses the oral health of the students.

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Questionnaire

Q1	I live with my family now	No	Yes
Q2	I had been to a dental office before	No	Yes
Q3	I do not go to the dentist unless I have a toothache	No	Yes
Q4	I brush my teeth twice daily or more	No	Yes
Q5	My gums bleed when I brush my teeth	No	Yes
Q6	I have never been professionally taught how to brush	No	Yes
Q7	I think my teeth are getting worse despite my daily brushing.	No	Yes
Q8	I don't feel I have brushed my teeth properly unless I brush with strong strokes.	No	Yes
Q9	I feel that I spend too much time brushing my teeth	No	Yes
Q10	I think I can clean teeth without using tooth paste	No	Yes
Q11	It is impossible to prevent gum disease with tooth brushing alone	No	Yes
Q12	I do use tooth floss on regular basis	No	Yes
Q13	I do use mouth wash on regular basis	No	Yes
Q14	I worry about having bad breath	No	Yes
Q15	I am bothered by the color of my gums	No	Yes
Q16	I worry about the color of my teeth	No	Yes
Q17	I am worried about the appearance of my teeth	No	Yes
Q18	I am a smoker	No	Yes
Q19	I smoke more than half pack a day	No	Yes
Q20	I have been smoking more than a year	No	Yes

Table (1): Distribution of students by academic year and gender

Academic year	Gender		Total participation among class (%)
	Male (%)	Female (%)	
1st	14 (7)	26 (13)	40(20)
2nd	17 (8.5)	23 (11.5)	40(20)
3rd	10(5)	30 (15)	40(20)
4th	20(10)	20 (10)	40(20)
5th	19 (9.5)	21 (10.5)	40(20)
Total	80 (40)	120 (60)	200(100)

Table (2): Percentage of students answering "yes" for each item by gender on the HU-DBI

Q.	Male (%)	Female (%)	Total (%)	Chi- square	p- value	Sig.
1	77.5	99.2	90.5	3.619	0.046	S*
2	90.0	70.8	78.5	3.207	0.049	S
3	57.5	59.2	58.5	2.278	0.131	NS**
4	73.75	84.2	80.0	8.849	0.003	S
5	26.25	10.0	16.5	8.948	0.003	S
6	18.75	42.5	33.0	28.351	0.000	HS*
7	27.5	53.3	43.0	27.677	0.000	HS
8	32.5	30.8	31.5	0.64	0.424	NS
9	30.0	12.5	19.5	8.901	0.003	S
10	20.0	25.8	23.5	4.307	0.038	S
11	76.25	40.8	55.0	10.046	0.002	S
12	27.5	38.3	34.0	9.149	0.002	S
13	58.75	46.7	51.5	0.041	0.840	NS
14	52.5	40.0	45.0	0.187	0.666	NS
15	11.25	35.0	25.5	33.327	0.000	HS
16	32.5	55.0	46.0	22.056	0.000	HS
17	72.5	55.0	62.0	0.305	0.581	NS
18	32.5	1.67	14.0	46.901	0.000	HS
19	10.0	0.00	4.00	18	0.000	HS
20	31.25	0.00	12.5	56	0.000	HS

Table (3): Comparison between students answering Yes in response to the questionnaire questions in fifth academic year with their corresponding of other years

Q.	1st & fifth			2nd & fifth			3rd & fifth			4th & fifth		
	Chi-square	p-value	Sig.	Chi-square	p-value	Sig.	Chi-square	p-value	Sig.	Chi-square	p-value	Sig.
1	6.419	0.011	S*	10.03	0.002	S	21.221	0.000	HS	5.85	0.016	S
2	3.415	0.063	NS**	4.661	0.031	S	7.161	0.007	S	3.333	0.036	S
3	2.999	0.049	S	3.833	0.044	S	3.192	0.007	S	4.980	0.048	S
4	5.354	0.021	S	3.666	0.041	S	7.244	0.007	S	0.013	0.908	NS
5	3.429	0.049	S	3.999	0.048	S	1.925	0.049	S	0.200	0.999	NS
6	3.274	0.007	S	3.222	0.007	S	2.431	0.119	NS	6.933	0.008	S
7	20.11	0.000	HS***	17.00	0.000	HS	18.00	0.00	HS	19.00	0.000	HS
8	18.11	0.000	HS	17.00	0.000	HS	20.00	0.00	HS	17.00	0.000	HS
9	0.194	0.659	NS	1.029	0.310	NS	0.800	0.111	NS	10.578	0.001	S
10	9.231	0.002	S	6.462	0.002	S	3.832	0.32	S	8.370	0.004	S
11	1.222	0.269	NS	4.821	0.028	S	15.572	0.000	HS	0.759	0.384	NS
12	3.622	0.001	S	3.633	0.012	S	2.777	0.032	S	4.880	0.014	S
13	14.639	0.000	HS	8.937	0.003	S	15.184	0.000	S	0.022	0.998	NS
14	2.301	0.023	S	6.822	0.042	S	4.352	0.037	S	4.636	0.031	S
15	19.22	0.000	HS	18.00	0.000	HS	20.11	0.000	HS	19.00	0.000	HS
16	2.368	0.042	S	1.790	0.044	S	2.100	0.043	S	2.571	0.027	S
17	0.584	0.445	NS	7.519	0.006	S	18.601	0.000	HS	4.623	0.032	S
18	20.10	0.000	HS	17.00	0.000	HS	18.770	0.000	HS	20.00	0.000	HS
19	0.000	1.000	NS	0.144	0.999	NS	0.143	0.988	NS	18.00	1.000	NS
20	17.00	0.000	HS	20.00	0.000	HS	17.000	0.000	HS	16.000	0.000	HS