ORAL HEALTH ATTITUDES AND BEHAVIOR AMONG DENTAL STUDENTS IN AJMAN, UNITED ARAB EMIRATES

Raghad Hashim[1], Marie Ibrahim[1]*

1. Ajman University of Science & Technology, Ajman United Arab Emirates.

Abstract

The aim of this study was to identify the oral health attitudes and behavior among dental students and analyse the variations in oral health attitudes based on the level of education, United Arab Emirates.

This study included 279 dental students. The Hiroshima University – Dental Behavior Inventory (HU-DBI) was used to assess oral health attitudes and behavior of the participants. Data were tabulated and analyzed by using Chi-square test, and statistical significance was set at $P < 0.05$.

Students from the higher years had better oral health attitudes, behavior, especially towards gingival health, oral hygiene practice, tooth brushing and visiting the dentist.

In this study the overall knowledge of oral health was good, even though there were deficits in their knowledge in a few areas. The oral health attitudes and behavior of dental students improved with increasing level of education.

Clinical article (J Int Dent Med Res 2013; 6: (2), pp. 84-87)

Keywords: Dental Students; Oral health attitudes and behavior; HU-DBI.

Received date: 14 June 2013 **Accept date:** 29 July 2013

Introduction

The behavior of oral health providers and their attitudes towards oral health could affect their capacity to deliver oral health and thus might affect the oral health of their patients.[1] Dental care providers are supposed to be an example for their patients in order to encourage them to maintain adequate oral health. Through dental student's undergraduate study, it is logical for the students to develop and modify their attitude towards their own oral health[2] which helps their patients to lead towards better oral health thus fulfilling the objectives of providing dental education, which is to motivate the patients to adopt good oral hygiene practices.[3]

Comparing the oral health attitudes and behavior of oral health care providers can be complicated. The Hiroshima University – Dental Behavior Inventory (HU-DBI) was developed by Kawamura *et al*[4] to investigate dental health behavior, attitudes and perceptions. The original questionnaire was written in Japanese. It consists of twenty items mainly associated with the oral health attitude and behavior. All items have a dichotomous responses format (agree/disagree). The HU-DBI has been translated into many languages and this allowed for cross-cultural comparisons.[5] The English version of the HU-DBI has good test-retest reliability as well as good translated validity.[2, 6, 7]

Some studies showed that oral health behavior and attitudes differ between preclinical and clinical European dental students.[8,9] In addition, dental students from different cultural backgrounds reported different oral health attitudes and behavior.[2,10] In Ajman University of Science and Technology (AUST) the students go into the clinical stage in the fourth year of study at which the students will be introduced into the clinical environment and have a direct contact with patients. The third year is the pre-clinical stage, where students are introduced to the practical aspects of laboratory-based dentistry. There is insufficient data, on oral health attitudes and behavior among dental students in Ajman, United Arab Emirates (UAE). The purpose of this study was to evaluate the self-

Corresponding author:
Dr. Raghad Hashim
Head of Growth and Development Department
College of Dentistry, Ajman University of Science & Technology
Ajman University, P.O.Box 346 Ajman, UAE

E-mail: raghad69@yahoo.co.nz

reported oral health attitudes and behavior among a group of dental students and to compare oral health attitude among students in different years of study in dental school.

Materials and methods

This study included 279 undergraduate dental students in Ajman University of Science & Technology. Ethical approval was obtained from the "Ethical Committee for Research" in Ajman University of Science & Technology. Participation was voluntary and participants remained anonymous. Demographic information was obtained including years of study, gender and age. The data were collected during the second semester of the academic year 2011-2012.

A modified English version of HU-DBI survey (Table 1) which consists of twenty dichotomous responses (agree-disagree) was used in this study. The aim of the study was explained to the participants and the students completed the questionnaires in their classrooms at the end of the lectures.

Item No.	Item Description
1.	I don't worry much about visiting the dentist.
2.	My gums tend to bleed when I brush my teeth.
3.	I worry about the color of my teeth.
4.	I have noticed some white sticky deposits on my
5.	I use a child-sized tooth brush.
6.	I think that I cannot help having false teeth when I
7.	I am bothered by the color of my gums.
8.	I think my teeth are getting worse despite my daily
9.	I brush each of my teeth carefully.
10.	I have never been taught professionally how to
11.	I think I can clean my teeth well without using tooth
12.	I often check my teeth in a mirror after brushing.
13.	I worry about having bad breath.
14.	It is impossible to prevent gum disease with tooth
15.	I put off going to a dentist until I have a toothache.
16.	I have used a dye to see how clean my teeth are.
17.	I use a tooth brush that has hard bristles.
18.	I don't feel I've brushed unless I brush with strong
19.	I feel I sometimes take too much time to brush my
20.	I have had my dentist tell me that I brush very well.

Table 1. The English version of (HU-DBI) survey used in our study.

The data were tabulated and analyzed by using SPSS version 15.0 (SPSS Inc., Chicago, IL, USA). Chi-square test was used to compare the oral health attitudes and behavior among students in the different years of study. Statistical significance was based on probability values less than 0.05.

Results

A total of 279 students (141 male and 138 female) from the 1st, 2nd, 3rd, 4th and 5th years participated in this study. Participants' characteristics presented in Table 2.

Characteristic of Dental Student	Number of Participants	Percentage (%)
Year of Study		
1st year	60	21.5
2nd year	60	21.5
3rd year	60	21.5
4th year	60	21.5
5th year	39	14.0
Sex		
Male	141	50.5
Female	138	49.5
Age		
17	14	5.0
18	29	10.4
19	34	12.2
20	44	15.8
21	47	16.8
22	34	12.2
23	32	11.6
24	45	16.0

Table 2. Profile of the dental students study group.

The percentage of "agree" and "disagree" responses according to years of study as well as the results of the chi-square test were shown in Table 3. Out of the 20 questions, 8 questions showed significant differences by year of study. Significant differences ($p < 0.05$) were observed between years of study for having bleeding gums while brushing (Q2), feeling that the teeth are getting worse despite of daily tooth brushing (Q8), receiving professional education regarding tooth brushing (Q10), cleaning the teeth well

without using toothpaste (Q11), consulting a dentist when they only had a toothache (Q15), using a toothbrush that has hard bristles (Q17), feeling that brushing was not done well unless done with strong strokes (Q18), being told by their dentist that they brush very well (Q20).

The percentage of the final year students who were told by their dentists that they carried out accurate tooth brushing (68%) was significantly higher ($p < 0.001$) than first year dental students (47%).

Question	Year 1	Year 2	Year 3	Year 4	Year 5	*P* value
Q. 1	64%	62%	53%	57%	54%	0.745
Q. 2	25%	30%	17%	22%	3%	**0.018***
Q. 3	78%	85%	87%	80%	68%	0.216
Q. 4	27%	22%	27%	23%	41%	0.296
Q.5	8%	3%	0%	3%	0%	0.183
Q. 6	48%	49%	36%	37%	38%	0.436
Q. 7	22%	19%	25%	17%	15%	0.705
Q. 8	32%	20%	20%	14%	5%	**0.001***
Q. 9	80%	78%	77%	83%	80%	0.917
Q. 10	37%	31%	25%	23%	15%	**0.001***
Q. 11	20%	15%	10%	8%	7%	**0.040***
Q. 12	90%	79%	80%	88%	85%	0.383
Q. 13	72%	71%	83%	76%	85%	0.316
Q. 14	77%	65%	64%	60%	50%	0.215
Q. 15	62%	59%	53%	48%	36%	**0.004***
Q. 16	23%	14%	20%	23%	27%	0.258
Q. 17	37%	22%	18%	15%	8%	**0.000***
Q. 18	42%	35%	27%	17%	5%	**0.000***
Q. 19	47%	41%	38%	52%	36%	0.471
Q. 20	47%	49%	56%	61%	68%	**0.000***

* Statistically significant relationship

Table 3. Percentages and analysis of 'agree' responses of the study population by year of study.

No significant differences were observed by year of study for worrying much about visiting the dentist (Q1), worrying about the color of the teeth (Q3), noticing some white sticky deposits on the teeth (Q4), bothered about the color of the gum (Q7), brushing the teeth carefully (Q9), checking the teeth with mirror after brushing (Q12), worrying about having bad breath (Q13), and taking too long for brushing the teeth (Q19).

Discussion

The current study identified significant differences in oral health attitude and knowledge of dental students from different year of dental study in Ajman University of Science and Technology. To our knowledge it is the first study in United Arab Emirates that examined the relationship between year of study and oral health attitudes. Gathered from all study years with relatively large sample the data can provide a basis for comparisons with other countries from different culture and social backgrounds. Self-administered questionnaire were used in this study; the main advantage of this tool in data collection is that it is free of interviewer effects or variability thereby eliminating that as a source of bias. [11] However, as with all self-administered questionnaires, there is a chance of bias from the respondents themselves regarding the degree of truthfulness of their answers. This problem was addressed by the authors by explaining the purpose of the study and making it very clear to the students that there is no right or wrong answers and was asked to respond to the best of their knowledge.

Informing the patients about the correct oral habits and raising their awareness on how to prevent oral diseases are important accountabilities of oral health providers. Since dental students are the health professionals of the future, they must adopt accurate oral health attitudes and behavior in their school years for directing their patients properly. The current study showed that the level of dental education was related to oral health attitudes and behavior. Statistically significant differences were found between first and senior years of study for having bleeding gums while brushing, feeling that the teeth are getting worse despite of daily tooth brushing, receiving professional education regarding tooth brushing, cleaning the teeth well without using toothpaste, consulting a dentist when they only had a toothache, using a toothbrush that has hard bristles, feeling that brushing was not done well unless done with strong strokes, and having had their dentist tell that they brush very well.

Better health attitudes and behavior were reported by the students as they progressed in their studies and education. This concurs with the results of previous studies that confirmed that oral health attitudes and behavior improved with

increasing the levels of education.[12-14]

This could be due to the increasing experience of the students about oral health care by being in contact with patients in clinical environment. In addition, as they progress in their dental education, students may become more aware of their overall health and more attentive to oral –health related issues; therefore, they adopt better oral health attitudes and behaviors. However, the results of this study disagree with the findings of other authors, who reported no effects of study year on oral health attitudes and behavior.[15] This might be explained by the difference in cultural background of the students examined.[2,7]

Conclusions

Dental students in Ajman University of Science and Technology had rather low oral health awareness in the beginning of their dental education. However, oral health behavior and attitude improved significantly in the fourth and fifth year's dental education. Further clinical studies are needed for determining the correlation between the repot and the intraoral clinical status of dental students.

Declaration of Interest

The authors report no conflict of interest and the article is not funded or supported by any research grant.

References

1. Brown, LF. A comparison of patients attending general dental practices employing or not employing dental hygienists. Aust Dent J 1996:41:47-52.
2. Kawamura M, Honkola E, Widstrom E, Komabayashi T. Cross-cultural differences of self –reported oral health behavior in Japanese and Finnish dental students. Int Dent J 2000:50:46-50.
3. Maatouk F, Maatouk W, Ghedira H, Ben Mimoun S. Effect of 5 years of dental studies on the oral health of Tunisian dental students. East Mediterr Health J 2006:12:626-631.
4. Kawamura M, Write FH, Declerck D, et al. An exploratory study on cultural variations in oral health attitudes, behavior and values of freshman dental students. Int Dent J 2005:55:205-211.
5. Komabayashi T, Kwan SYL, Hu DY, Kajiwara K, Sasahara H, Kawamura M. A comparative study of oral health attitude and behavior using Hiroshima University- Dental Behavioral Inventory (HU-DBI) between dental students in Britain and China. J Oral Sci 2005:47:1-7.
6. Kawamura M, Kawabata K, Sasahara H, Fukuda S, Iwamoto Y. Dental behavioral science Part IX. Bilinguals responses to the dental behavioral inventory (HU-DBI) written in English and in Japanese. J Hiroshima Univ Dent Soc 1992:22:185-199.
7. Kawamura M, Sparafora A, Kim KJ, Komabayashi T. Comparison of United States and Korean dental hygiene students using Hiroshima University-Dental Behavioral Inventory (HU-DBI). Int Dent J 2002:52:156-162.
8. Dumitrescu AL, Kawamura M, Sasahara H. An assessment of oral self-care among Romanian dental students using the Hiroshima University – Dental Behavioral Inventory. Oral Health Prev Dent 2007:5:95-100.
9. Perker I, Uysal O, Bermek G. Dental training and changes in oral health attitudes and behavior in Istanbul dental students. J Dent Educ 2010:74:1017-1023.
10. Komabayashi T, Kawamura M, Kim KJ, Wright FA, Declerck D, Goias Mdo C et al. The hierarchical cluster analysis of oral health attitudes and behavior using the Hiroshima University-Dental Behavioral Inventory (HU-DBI) among final year dental students in 17 countries. Int Dent J 2006:56:310-316.
11. Bryman, A. Bell, E. Business Research Methods, 2011, (3rd edn). Oxford: Oxford University Press.
12. Nusair KB, Alomari Q, Said K. Dental health attitudes and behavior among dental students in Jordan. Community Dent Health 2006: 23: 147–151.
13. Khami M, Murtomaa H, Razeghi S, Virtanen JI. Attitude towards preventive dentistry among Iranian senior dental students. J Dent (Tehran). 2012: 9(4):189-95.
14. Peker I, Alkurt M.T. Oral health attitudes and behavior among a group of Turkish dental students. Eur J Dent 2009:3:24-31
15. Dagli RJ, Tadakamadla S, Dhanni C, Duraiswamy P, Kulkarni S. Self reported dental health attitude and behavior of dental students in India. J Oral Sci 2008:50:267- 272.