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Original Article

Attitudes of dental and pharmacy students to oral health behaviour at Jazan University, Kingdom of Saudi Arabia

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Abstract The Hiroshima University Dental Behaviour Inventory (HU-DBI) was used to assess the attitudes towards oral health behaviour of the pharmacy and dental college students at Jazan University, Kingdom of Saudi Arabia (KSA). HU-DBI consists of 20 items primarily associated with tooth brushing behaviour. All of the items have a dichotomous response format (agree/disagree). A quantitative estimate of oral health attitude and behaviour is provided by the total appropriate agree/disagree responses. The maximum possible score is 12. Greater HU-DBI score indicates better oral health attitude and behaviour. A total of 57 students participated in the survey with a response rate of 71%. There was a significant difference (p=0.0001) between dental and pharmacy college students for oral health attitudes with dental students presenting a mean HU-DBI score of 6.65 in contrast to 4.74 among pharmacy students. Significantly greater percentage of pharmacy students (83.9%) reported that they don't worry much about visiting the dentist than the dental students (53.8%). Nearly three-fourths of pharmacy students believed that their teeth was getting worse despite of daily brushing and significantly more pharmacy students were worried about bad breath Dental college students reported better attitudes to oral health behaviour than students of pharmacy.

Keywords: Attitudes; dental students; oral health behaviour; pharmacy students.

Introduction

One of the general objectives of teaching dentistry is to train experts whose principal task is to motivate patients to adopt good oral hygiene practices. They are more likely to be able to do this if they themselves are motivated (Maatouk *et al*., 2006). Thus, teaching in dental schools become ineffective unless it leads to a profound change in the student's behaviour and attitude towards improvement of his own personal oral health (Chattopadhyay, 1990).

Attitudes towards oral health determine the condition of the oral cavity. In addition, the behaviour of oral health providers and their attitudes towards oral health could affect their capacity to deliver oral health care and thus might affect the oral health of their patients (Neeraja *et al*., 2011; Peker and Alkurt, 2009).

Cortes *et al*., (2002) observed that dental students in general have been found to be motivated about maintaining a good oral health attitude. In addition to dental students, students from allied health streams also are supposed to have better oral health knowledge and behaviour as proper knowledge and oral health behaviour can play an important role in the health education of individuals and groups (McGonaughy *et al*., 1991; Uitenbroek *et al*., 1989). Considerable differences were found in dental health attitudes and behaviour among students from different countries, cultural groups and courses (Kawamura *et al*., 2000a; Komabayashi *et al*., 2006; Kumar Tadakamadla *et al*., 2010).

There is no data regarding the oral health attitudes and behaviour of the present study population from this region of Saudi Arabia. Hence, the present study was initiated to assess the attitudes towards oral health behaviour of male dental and pharmacy students at Jazan University, KSA.

Materials and methods

The target population for the present cross-sectional survey comprised of eighty students, divided equally from the Faculty of Dentistry and the Faculty of Pharmacy at Jazan University, KSA. No sampling technique was used and the participation was voluntary. As a result, only a sample of 57 students, Faculty of Dentistry (n=26) and the Faculty of Pharmacy (n=31) participated in the present survey. All the students present on the days of the survey were considered for inclusion and the questionnaires that were unfilled or partly filled constituted the exclusion criteria. However, none of the questionnaires were incomplete.

The students included in this study were in the second year of their course and there were no senior students as the colleges were recently established. Moreover, female students could not be included in the study due to cultural reasons prevailing in the area. All of the participants were provided with a full explanation of the purpose of the study and Hiroshima University-Dental Behaviour Inventory (HU-DBI) questionnaires, the English version, (Kawamura, 1988) were then distributed. It has been observed that the HU-DBI questionnaires retained excellent psycho-metric properties after translation into English and no deficiency was found in the translated version. The English version has also shown good test-retest reliability and translation validity in a sample of 26 bilingual individuals (Kawamura *et al*., 1992).

The study was conducted in January 2011 during the academic year 2010-1011. The questionnaire consisted of 20 items that were primarily associated with oral health behaviour. All of the items had a dichotomous response format (agree/disagree). A quantitative estimate of oral health attitude and behaviour is provided by the total appropriate agree/disagree responses from 12 items (Table 2). Of the 12 items, 6 items are given one point for each agreed response (marked as 'A') and zero on disagreed response while for the other 6 items one point is given for each disagreed response (marked as 'D') and zero on agreed response. The maximum possible score was 12. A high score indicated better attitude towards oral health behaviour. Data collected were entered into spreadsheets, and statistical analysis was performed by SPSS (version 15.0). Discrete data were analysed by the Fisher's exact test, it is the test of choice for 2×2 contingency table. Independent samples *t*-test analysed the significance of difference between the HU-DBI scores from the dental and pharmacy students. A *p*-value of < 0.05 was considered significant.

Results

The response rates among dental and pharmacy students were 65% (26 of 40) and 77.5% (31 of 40) respectively. All the participants were of Saudi origin and none of them belonged to other ethnic groups. Dental students presented a HU-DBI score of 6.65 in comparison to 4.74 among pharmacy students and the difference was significant which suggests that the dental students had better attitudes towards oral health behaviour than their pharmacy counterparts (Table 1).

Table 1 Mean HU-DBI scores among the study population in relation to course

Faculty	Mean	Std. Deviation	Mean difference	*t*-statistic	Degree of freedom	P value
Dental	6.65	1.648	1.912	4.299	55	0.0001
Pharmacy	4.74	1.692	1.912	-	-	-

Table 2 Questionnaire items of the HU-DBI and percentage of 'agree' and 'disagree' responses by course of study

Statement	Dental		Pharmacy	
	Agree n (%)	Disagree n(%)	Agree n(%)	Disagree n (%)
I don't worry much about visiting the dentist*	14 (53.8)	12(46.2)	26(83.9)	5(16.1)
My gums tend to bleed when I brush my teeth(D)	16 (61.5)	10(38.5)	26(83.9)	5(16.1)
I worry about the color of my teeth	20 (76.9)	6(23.1)	27(87.1)	4(12.9)
I have noticed some white sticky deposits on my teeth(A)	9 (34.5)	17(65.5)	15(48.4)	16(51.6)
I use a child sized tooth brush	7 (28.0)	19(72)	2(6.5)	29(93.5)
I think that I cannot help having false teeth when I am old(D)	9 (34.8)	17(65.2)	16(51.6)	15(48.4)
I am bothered by the color of my gums	13 (50.0)	13(50)	16(51.6)	15(48.4)
I think my teeth are getting worse despite my daily brushing*(D)	12 (46.1)	14(63.9)	23(74.2)	8(25.8)
I brush each of my teeth carefully(A)	19(73.1)	7(26.9)	21(67.7)	10(32.3)
I have never been taught professionally how to brush(D)	10(38.5)	16(61.5)	15(48.4)	16(51.6)
I think I can clean my teeth well without using tooth paste(A)	11(42.3)	15(57.7)	11(35.5)	20(64.5)
I often check my teeth in a mirror after brushing*(A)	23(88.4)	3(11.6)	21(67.7)	10(32.3)
I worry about having bad breath*	17(65.3)	9(34.6)	28(90.3)	3(9.7)
It is impossible to prevent gum disease with tooth brushing alone*(D)	17(65.3)	8(34.6)	29(96.7)	1(3.3)
I put off going to a dentist until I have a toothache*(D)	11(42.3)	15(57.6)	25(80.6)	6(19.4)
I have used a dye to see how clean my teeth are*(A)	15(57.5)	11(42.5)	2(6.5)	29(93.5)
I use a tooth brush that has hard bristles*	6(23)	20(77)	17(54.8)	14(45.2)
I don't feel I've brushed unless I brush with strong strokes*	10(38.5)	16(61.5)	22(71)	9(29)
I feel I sometimes take too much time to brush my teeth(A)	16(61.5)	10(38.5)	17(54.8)	14(45.2)
I have had my dentist tell me that I brush very well	17(65.4)	9(34.6)	17(54.8)	14(45.2)

*Fisher's exact test, $p<0.05$

Table 2 denotes that significantly greater number of pharmacy students (83.9%) than the dental students (53.8%) were not bothered about visiting the dentist. Similarly, approximately three fourths (74.2%) of the pharmacy students in contrast to 46.1% dental students felt that their teeth are getting worse despite brushing daily. It is evident from Table 2 that 88.4% and 67.7% of the dental and pharmacy students respectively reported that they checked their teeth in a mirror after brushing. More than one third (34.6%) of the dental students disagreed that it is impossible to prevent gum disease with tooth brushing alone in contrast to 3.3% of pharmacy students. It was interesting to note that 90.3% of the pharmacy students worried about having bad breath in comparison to 65.3% of

dental students. Approximately, four-fifths (80.6%) of the pharmacy students informed that they don't visit a dentist until they have a toothache in contrast to 42.3% dental students.

It was observed that significantly double the number of pharmacy students reported of using hard bristles toothbrush and brushing with strong strokes to clean their teeth. In addition, only 6.5% of pharmacy students used a dye to see how clean their teeth are in contrast to 57.5% of the dental students.

Discussion

Dental students presented a HU-DBI score of 6.65 in comparison to 4.74 among pharmacy students and the difference was significant which suggests that the dental students had better attitudes towards oral health behaviour than their pharmacy counterparts. Such difference between the pharmacy and dental students could be due to the extra knowledge and experience dental students had gained from their basic dental subjects. In accordance, two previous studies among Indian students observed similar results. Doshi *et al*. (2007) found medical and dental students to have better attitudes towards oral health behaviour than their engineering counterparts. Furthermore, Kumar Tadakamadla *et al*. (2010) also reported that dental students exhibited better HU-DBI scores than students from other streams.

A proportion of 64.9% of the whole population informed that they put off visiting a dentist until they have a toothache, in accordance Kawamura *et al*. (2000b) observed a similar figure of more than 60% among dental hygiene and nursing students. In agreement with the present study, Al-Hussaini *et al*. (2003) reported that the main reason for visiting a dentist was toothache in 70% of the Health Sciences students of Kuwait. However, in contrast to the present findings where 80.6% and 42.3% of the pharmacy and dental students respectively informed that they don't visit a dentist until they have a toothache the corresponding figures among medical and dental students of Emirates were found to be 46% and 20% respectively (Al Kawas *et al*., 2010). It was noticed that more dental students used mirror to check their teeth after brushing than their pharmacy counterparts. In addition, a greater number of pharmacy students worried about having bad breath and believed that their teeth are getting worse despite brushing daily. Studying dentistry would predispose dental students to receive dental health related information routinely and thus aid in adopting positive attitudes and oral health behaviour. Approximately, four-fifths (80.6%) of the pharmacy students informed that they don't visit a dentist until they have a toothache in contrast to 45.8% dental students. This is in accordance with a study in India (Usman *et al*., 2007) which observed that 86% of paramedical students and more than half the dental students (69%) put off visiting the dentist till they encountered a dental problem (p<0.001).

Rong *et al*. (2006) compared the oral health behaviour of dental students with medical students and found that 60% of dental students used dye in contrast to 11.9% medical students to see how clean their teeth, this is in concordance with the present study where significantly greater number of dental students used dye than their pharmacy counterparts. Furthermore, Rong *et al*. (2006) found that significantly greater number of medical students (35.7%) used hard bristles than their dental colleagues (2%) which is in agreement with the present study where significantly double the number of pharmacy students reported of using hard bristles toothbrush.

Although the present study has yielded some preliminary findings on the oral health behaviour of dental and pharmacy students of Jazan University, it is not free of limitations. The main limitations are as follows; only male students were included, students from medical or other paramedical professions were not considered and only second year students participated.

Conclusion

Dental college students reported better attitudes to oral health behaviour than students of pharmacy. Furthermore, future studies on dental students in clinical years would aid in assessing the influence of clinical experience on oral health knowledge, attitudes and behaviour.

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