

A SURVEY ON ORAL HEALTH BEHAVIOR AND ATTITUDE AMONG DENTAL, PHYSIOTHERAPY AND PHARMACY STUDENTS

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ABSTRACT

The objective of this study was to evaluate the differences in the oral health behaviours and attitudes among physiotherapy, pharmacy and dental students of a teaching institution of Pakistan.

A cross-sectional survey on all undergraduate students in disciplines of dentistry, physiotherapy and pharmacy at Margalla Institute of Health Sciences, Rawalpindi, Pakistan was conducted. Non-probability convenient sampling technique was employed. For assessing the oral health behaviour and attitude, 'Modified Hiroshima University-Dental Behavior Inventory (HU-DBI) questionnaire, (English version)' was used.

Results reveal that almost 48% of pharmacy students reported their gums bleed while brushing compared to 29.7% dental students and 30% physiotherapy students ($p=0.029$). Furthermore, almost half of the pharmacy students (47.4%) and physiotherapy students (43.6%) agreed to using a child sized toothbrush compared to only 17.6% dental students ($p<0.001$). More than half of the pharmacy students (52.6%) agreed to putting off going to visit dentist until when needed as compared to dental students (35.2%) and physiotherapy students (44.5%), $p=0.023$. Although the present study provides some preliminary results, it is interesting that similar behaviour and attitude towards oral health was observed in non-dental students as their dental counterparts.

Key Words: Dental education; Hiroshima University Dental Behavioral Inventory; pharmacy students; physiotherapy; dental students; Oral health behavior.

INTRODUCTION

Good oral health is linked with general health and also has significant influence on mental, physical and social well-being of an individual. Dental students, play a very important part in providing oral health education and oral health promotion.¹ The belief and attitude of oral health care provider has an impact on their skill to

encourage patients regarding preventive measures.^{2,3} It is observed from various studies that students in field of dentistry have positive behaviour and attitude towards the dental health⁴ and a significant difference in the oral health behaviour and attitude exists among different study disciplines, cultures and countries.^{5,6,7}

To assess participants' perceptions and oral health behaviour, The Hiroshima University-Dental Behavioural Inventory (HUDBI) questionnaire by Kawamura was introduced.⁸ the questionnaire possesses excellent test-retest reliability and considered very valuable tool for comparisons cross culturally.^{8,9} The questionnaire is translated into French, Finnish, English, Italian, Korean Chinese, and various other languages for cross-cultural comparisons.⁶ HU-DBI contains of twenty dichotomous responses (agree-disagree). One score is assigned for each "agree" response to items 4, 9, 11, 12, 16, and 19, and one score is given for each "disagree" response to items 2, 6, 8, 10, 14, and 15. Minimum score is 0 and the maximum score is 12. A high score indicated better oral health attitude and behaviour.^{10,11}

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Although, oral health behaviour and attitude of dental students have been assessed in different nations using HU - DBI scale,^{6,8,12,13} there is insufficient data on this among dental students in Pakistan. Hence, the aim of the present study was to find out the differences in the oral health behaviours and attitude among physiotherapy, pharmacy and dental students of a university in Pakistan.

METHODOLOGY

A cross-sectional survey on all undergraduate students in disciplines of dentistry, physiotherapy and pharmacy at Margalla Institute of Health Sciences, Rawalpindi, Pakistan was conducted. Non-probability, convenient sampling technique was employed.

The data was collected in academic year 2017 during the month of May. Questionnaires were distributed among students in their class rooms. All the students present on the days of survey were considered for inclusion. Participation in the survey was voluntary. The questionnaires that were unfilled or partly filled were excluded.

Modified Hiroshima University-Dental Behaviour Inventory (HU-DBI) questionnaire, the English version, was used for evaluating the oral health behaviour and attitude. The questionnaire consisted of 20 items in a dichotomous response format (agree/disagree). Responses from 12 items provide a quantitative estimate of oral health attitude and behaviour. 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 is 12. A high score indicates better attitude towards oral health behaviour. Data collected was than analysed using SPSS version 22. Independent sample t test and one way ANOVA was used to analyse the scores between the two genders and the three disciplines respectively. The set level of significance was 0.05.

RESULTS

A total of 465 students took part in the survey. This includes 298 dental students, 57 pharmacy students and 110 physiotherapy students. The mean HU-DBI score for dental students was 7.30, for pharmacy students the mean score was 7.23 and 6.97 for physiotherapy students. There were no significant difference found among the scores of the three disciplines (Table 1). Similarly, no significant difference between the mean HU-DBI scores of the two genders was observed (Table 2).

Table 3 denotes that almost half of the pharmacy students (47.4%) reported their gums bleed while brushing compared to 29.7% dental students and 30% physiotherapy students (p= 0.029). Furthermore, almost half of the pharmacy students (47.4%) and physiotherapy students (43.6%) agreed to using a child sized toothbrush as compared to only 17.6% dental students (p= <0.001).

Majority of students from all three disciplines (85.9% dental students, 77.2% pharmacy students and 74.5% physiotherapy students) thought that they couldn't help having false teeth in their old age (p= 0.017). Also, more than half students, 67.8% dental, 52.6% pharmacy and 55.5% physiotherapy students reported that their teeth were not getting worse if they daily brush (p=0.016) (Table 3).

Table 3 also shows major proportion of students of the three disciplines agreed to brushing their teeth carefully (92.2%, 80.7% and 85.5%, respectively, (p= 0.013). Similarly, majority of students disagreed to cleaning their teeth well without using a toothpaste (94.3% dental, 75.4% pharmacy and 90% physiotherapy students, p= <0.001).

More than half of the pharmacy students (52.6%) agreed to deferred visiting a dentist until when need arises as compared to dental students (35.2%) and physiotherapy students (44.5%), (p= 0.023). Also, 91.2% dental, 80.7% pharmacy and 86.4% physiotherapy students disagreed to brushing with strong strokes for proper tooth cleaning (p= 0.048) and did not feel they took a long time to brush their teeth (dental 72.1%, pharmacy 56.1%, physiotherapy 61.8%), p=0.02 (Table 3).

TABLE 1: COMPARISON OF MEAN SCORES OF HU-DBI AMONG THE THREE DISCIPLINES OF STUDENTS

Discipline	n	Mean	Standard Deviation	F	P value
Dental	298	7.30	1.57	1.67	0.189
Pharmacy	57	7.23	1.74		
Physiotherapy	110	6.97	1.60		
Total	465	7.21	1.60		

- * One way ANOVA was applied
- * Level of significance kept at 0.05
- * HUDBI refers to Hiroshima university dental behaviour inventory

TABLE 2: MEAN SCORES OF HU-DBI BETWEEN MALE AND FEMALE STUDENTS

Gender	n	Mean	Standard Deviation	F	P value
Male	102	7.07	1.52	0.622	0.601
Female	363	7.25	1.62		
Total	465	7.21	1.60		

- * Independent samples t test was applied
- * Level of significance kept at 0.05
- * HUDBI refers to Hiroshima university dental behaviour inventory

TABLE 3: QUESTIONNAIRE ITEMS OF THE HU-DBI AND PERCENTAGE OF 'AGREE' AND 'DISAGREE' RESPONSES BY STUDENTS OF ALL THREE DISCIPLINES

Statement	Dental		Pharmacy		Physiotherapy		Significance P value
	Agree N (%)	Disagree N (%)	Agree N (%)	Disagree N (%)	Agree N (%)	Disagree N (%)	
I don't worry much about visiting the dentist	211 (71.3)	85 (28.7)	41 (71.9)	16 (28.1)	89 (80.9)	21 (19.1)	0.14
My gums tend to bleed when I brush my teeth (D)	88 (29.7)	208 (70.3)	27 (47.4)	30 (52.6)	33 (30)	77 (70)	0.029*
I worry about the color of my teeth	268 (90.2)	29 (9.8)	51 (89.5)	06 (10.5)	95 (86.4)	15 (13.6)	0.534
I have noticed some white sticky deposits on my teeth (A)	267 (90.8)	27 (9.2)	51 (89.5)	06 (10.5)	93 (84.5)	17 (15.5)	0.196
I use a child sized toothbrush	52 (17.6)	244 (82.4)	27 (47.4)	30 (52.6)	48 (43.6)	62 (56.4)	<0.001**
I think that I cannot help having false teeth when I am old (D)	42 (14.1)	256 (85.9)	13 (22.8)	44 (77.2)	28 (25.5)	82 (74.5)	0.017*
I am bothered by the color of my gums	171 (58.4)	122 (41.6)	37 (64.9)	20 (35.1)	76 (69.1)	34 (30.9)	0.124
I think my teeth are getting worse despite my daily brushing (D)	95 (32.2)	200 (67.8)	27 (47.4)	30 (52.6)	49 (44.5)	61 (55.5)	0.016*
I brush each of my teeth carefully (A)	273 (92.2)	23 (7.8)	46 (80.7)	11 (19.3)	94 (85.5)	16 (14.5)	0.013*
I have never been taught professionally how to brush (D)	182 (62.3)	110 (37.7)	34 (59.6)	23 (40.4)	68 (61.8)	42 (38.2)	0.93
I think I can clean my teeth well without using a toothpaste (A)	17 (5.7)	279 (94.3)	14 (24.6)	43 (75.4)	11 (10)	99 (90)	<0.001**
I often check my teeth in a mirror after brushing (A)	273 (91.9)	24 (8.1)	52 (91.2)	05 (8.8)	97 (88.2)	13 (11.8)	0.505
I worry about having bad breath	227 (77.2)	67 (22.8)	41 (71.9)	16 (28.1)	83 (75)	27 (25)	0.408
It is impossible to prevent gum disease with tooth brushing alone (D)	182 (62.3)	110 (37.7)	34 (59.6)	23 (40.4)	68 (61.8)	42 (38.2)	0.93
I put off going to the dentist until I have toothache (D)	105 (35.2)	193 (64.8)	30 (52.6)	27 (47.4)	49 (44.5)	61 (55.5)	0.023*
I have used a dye to see how clean my teeth are (A)	176 (59.3)	121 (40.7)	40 (70.2)	17 (29.8)	63 (57.3)	47 (42.7)	0.23
I use a toothbrush that has hard bristles	25 (8.4)	273 (91.6)	07 (12.3)	50 (87.7)	18 (16.4)	92 (83.6)	0.065
I don't feel I've brushed unless I brush with strong strokes	26 (8.8)	269 (91.2)	11 (19.3)	46 (80.7)	15 (13.6)	95 (86.4)	0.048*
If I feel I sometimes take too much time to brush my teeth (A)	83 (27.9)	214 (72.1)	25 (43.9)	32 (56.1)	42 (38.2)	68 (61.8)	0.02*
I have had my dentist tell me that I brush very well	146 (49.8)	147 (50.2)	29 (50.9)	28 (49.1)	55 (50)	55 (50)	0.990

Significant at 0.05 level ** highly significant at 0.05 level

DISCUSSION

The purpose of the present study was to figure out the difference in behaviour and attitude towards oral health of dental, pharmacy and physiotherapy undergraduate students at a university in Rawalpindi, Pakistan. Results reveal that the gender and the study discipline did not have any significant influence on the oral health behaviours and attitude of the students. This is in contrast to study performed by Vangipuram et al. (2015)¹⁴ in India, in which they reported females to have better behaviour and attitude towards maintaining oral health. Kumar et al. (2012)⁷ reported significant difference between oral health behaviour and attitude of dental and pharmacy students in Saudi Arabia. This too is contrary to our findings.

Interestingly, more than half of the pharmacy students (52.6%) reported that they deferred visiting a dentist until they have a toothache. This is similar to results of study reported by Kawamura et al. (2000)¹⁵ in which they found 60% of dental hygiene and nursing students to have symptomatic visits; and Nirmala et al. (2015)¹⁶ who reported 79% pharmacy students visited the dentist when needed only. Al Hussaini (2003)¹⁷ also reported 70% of health sciences students in Kuwait reported symptomatic dental visits.

Furthermore, in our study, significantly greater number of pharmacy students agreed to using strong strokes while brushing (19.3%) than their dental (8.8%) and physiotherapy (13.6%) counterparts. This is alike the study by Rong et al. (2005)¹⁸ in which they found significantly greater number of medical students (35.7%) using hard bristles than dental students (2%).

Although, our study provides preliminary results, it is interesting to note that students in non-dental disciplines have similar attitude and behaviour towards oral health as their dental counterparts. Further studies at other health sciences institutions would provide more robust results.

CONCLUSION

The results of the present study show similar oral health attitude and behaviors among students of dentistry and students of other health sciences.

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- 3 Muhammad Kaleem:** Data analysis, helped in reference citation.
- 4 Mehreen Riaz Faisal:** Data analysis and relevant statistical work, data collection and discussion writing.
- 4 Faiza Siddiq:** Data collection and data entry.