

International Journal of Dental Science and Innovative Research (IJDSIR) IJDSIR : Dental Publication Service Available Online at: www.ijdsir.com Volume - 2, Issue - 5, September - October - 2019, Page No. : 322 - 331 Self-Reported Oral Health Attitudes and Behaviour among Malaysian Dental Students Dr. Riddhi Chawla, BDS, MDS, M ORTH RCS Ed (U.K), M ORTH RCPS (Glasgow), FPFA, Lecturer, Department of Orthodontics, Penang International Dental College, Malaysia Dr. Lahari Ajay Telang, BDS, MDS, Associate professor and Head of the Department of Oral medicine and Radiology, Penang International Dental College, Malaysia

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## Introduction

Attitude is a mirror of individuals' beliefs, experiences, perception of the cultures, and social interactions. It is also considered an essential prerequisite for health related behaviors. Basically, positive health attitude means positive health behavior. This also applies to a great extent to oral health attitude and is of paramount importance when it relates to oral health professionals.<sup>1</sup> Good oral hygiene is an important thing for our teeth and gums. Healthy teeth not only enable one to look and feel good, they make it possible to eat and speak properly. Good oral health is important for overall well-being. The Hiroshima University - Dental Behavioural Inventory (HU-DBI) developed by Kawamura M. in 1990, has been seen to be useful for assessing patients' perceptions and oral health behaviour.<sup>2</sup> The Questionnaire-consists of twenty dichotomous responses (agree-disagree) and has been translated from Japanese into a few languages for crosscultural comparisons. The degree of dental awareness depends on the cultural and socioeconomic background of the individual as well as a myriad of other factors. The degree and type of education also affects the perception of an individual and hence the dental awareness of the person.<sup>3</sup> Dentists and dental students can be considered as role models for good oral hygiene practices by their patients, family members and friends. Hence, this study was undertaken with the hypothesis that future dentists have positive oral health attitudes themselves in order to be able to emolliate good dental hygiene practices in others.

The aim of this study was to evaluate the oral health attitudes and behaviour of undergraduate dental students and to review the effects of gender and level of dental education on their oral health behaviour perception.

## Methodology

The HU-DBI questionnaire (Table 1) was distributed to undergraduate dental students belonging to clinical years 3, 4 and 5. Of the 214 students, 205 students responded to the survey making the response rate 96%. The questionnaire consists of 20 statements comprising of 12 questions that have an A & D symbol inscribed next to it (indicating agree or disagree statement respectively). Quantitative estimate of oral health attitude & behavior was provided by total agree and disagree responses. The maximum possible score was 12; a higher score indicates better oral health attitude & behavior. For calculation of score A=1 point was given for each agreed response and D=1 point was given for each disagreed response. Data was tabulated and analyzed using SPSS v.20. A statistical model was developed for one-way-analysis of variance (ANOVA); wherein 12 HU-DBI scores were taken as dependent variables and level of dental education and gender as independent variables.

## Results

Mean age of our participants was 22 years and the percentage of students that participated in this study for 3<sup>rd</sup> Year, 4<sup>th</sup> Year & 5<sup>th</sup> Year was (39.0%, 28.3% and 32.7%) respectively (Table 2).

The Percentages and analysis of "yes" responses according to gender in our study revealed that for females the highest "yes" response of 84.2% was obtained for "I often check my teeth in the mirror after brushing" and "I worry about having bad breath". The lowest "yes" response of 2.3% was obtained for "I use a child-sized toothbrush".

In males, the highest "yes" response of 79.2% was obtained for "I worry about having bad breath" whereas lowest "yes" response of 2.8% was obtained for "I have used a dye to see how clean my teeth are" (Table 3)

Percentages and analysis of "yes" responses according to level of dental education in our study revealed that the third year students had the highest "yes" response of 77.5% for "I worry about having bad breath" & "It is impossible to prevent gum disease with tooth brushing alone." While fourth year students had the highest "yes" response of 86.2 % for "I often check my teeth in the mirror after brushing." Fifth year students had the highest "yes" response of 88.1% for "I worry about having bad breath".(Table 4)

The mean score of HU-DBI was calculated to be 6.11 in our study. The HU-DBI scores according to the level of dental education were also found to show differences. Twenty five percent of third year students obtained a HU-DBI score of 7. The mean HU-DBI score for year Three dental students was found to be 5.78(Figure1). Among the Fourth Year dental students 28% had a HU-DBI score of 6. Thus, the mean HU-DBI score for year Four dental students was found to be 6.17 (Figure2). Among the fifth year dental students 25% had a HU-DBI score of 8. The mean HU-DBI score for year Five dental students was found to be 6.52(Figure3).

A significant difference (P< 0.05) in the mean HU-DBI scores between  $3^{rd}$ ,  $4^{th}$  &  $5^{th}$  year students was noticed and as the level of education increased, the score also was found to be higher. (Table 5)

## Discussion

In our study, no significant difference in HU-DBI score was seen between males and females, but an increase in score was seen along with the increase in level of education. This is in accordance with a study done by Kumar S et al where dental hygiene and dental hygiene practices among dental students in this South Indian population show an improvement among dental students from year to year. No significant differences were seen between male and female dental students even in their study.<sup>4</sup>

Our findings are in contrast with the study done by Ansari J et al who concluded that the knowledge and oral health behavior of the Health Sciences College students in Kuwait, especially among the male students, seemed to be poor compared to females and an urgent improvement of health education programs was called for.<sup>5</sup>

Al-Wahadni et al. in their study showed significant difference in oral health attitudes between Jordanian dental students and dental hygienists.<sup>6</sup>

A study done by by Komabayashi et al. showed that the mean HU-DBI score of British dental students was 7.33 and Chinese dental students was 5.07. In our study the mean score was  $6.11.^7$ 

Peker et al. in their study among Turkish dental students also showed that oral health behavior and attitude improved along with the level of education.<sup>8</sup>

Study done by Dogan B et al. also reported a similar finding as our study wherein the HU-DBI score of clinical students ( $7.47\pm1.86$ ) was significantly (P=0.000) higher than preclinical students ( $6.00\pm1.86$ ).<sup>9</sup>

However, a study done by Dagli R et al. on Indian students revealed that the total mean score was not markedly higher in the clinical years (years 3 and 4) than in the non-clinical years (years 1 and 2), indicating that the students were almost equally aware. Although there were no statistically significant differences in gender and academic year for the mean score of HU-DBI, this study showed that dental students in India generally had poorer oral health awareness compared to several other countries.<sup>10</sup>

A study done by Badovinac et al.highlighted that the mean HU-DBI score for the dental students showed average value of  $6.62 \pm 1.54$ , pointing out the need for a comprehensive oral hygiene and preventive program from the start of dental school.<sup>11</sup>

A study done by Esam S. et al. on dental as well as medical students showed that overall, the mean questionnaire score for the total sample was markedly low  $(4.91\pm1.58)$ , with no significant difference between dental and medical students (P>0.05). However, in this study, females had better oral health attitudes and behavior, especially towards visiting the dentist, tooth-brushing habits and oral hygiene practices (P0.05).<sup>12</sup>

On the contrary, a study done by R.Neeraja et al. concluded that among dental students, the overall knowledge of oral health was good, even though there were deficits in knowledge in a few areas. The oral health attitudes and behaviour of dental students improved with increasing levels of education.<sup>13</sup>

A study done by Jia Ven Ng et al. showed that dental students had the highest mean HU-DBI score (7.79  $\pm$  1.58), followed by their nursing (6.99  $\pm$  1.46) and medical (6.42  $\pm$  1.58) counterparts. The mean HU-DBI score for all clinical students (7.04  $\pm$  1.75) was significantly higher than those in their preclinical years (6.64  $\pm$  1.56).<sup>14</sup>

A study done by Dumitrescu AL et al. concluded that statistically significant differences in the mean HU-DBI scores were observed between year 1 and 2 (level of basic science course) and year 5 and 6 (level of clinical course) and between genders (p < 0.001). Statistically significant differences were notable in 10 items out of 20 between three levels of dental education (basic, preclinical and clinical levels). The most striking results were that year 5 and 6 students were less likely to use a toothbrush with hard bristles (p < 0.001), and less likely to worry about the colour of their teeth (p < 0.01). While 20% of year 1 and 2 students reported daily flossing, almost 46% was reported in year 5 and 6 students (p < 0.001). A significant difference was also observed on flossing behaviour between genders (p < 0.001).<sup>15</sup>

A study done by Kawamura M et al.on cultural variations in oral health attitudes showed that a higher percentage of the orientals put off going to the dentist until they have a toothache (p < 0.001). Only a small proportion of the occidentals (8%) reported a perception of inevitability in having false teeth, whereas 33% of the orientals held this fatalistic belief (p = 0.001).<sup>16</sup>

A study done by Peterson et al. on oral health status and oral health behaviour of urban and rural schoolchildren in Southern Thailand showed that important predictors of high caries experience were dental visits, consumption of sweets, ethnic group (Muslim) and sex (girls) whereas lower risk was observed in children with positive oral health attitudes.<sup>17</sup>

A Survey on Oral health behavior and attitude among dental, physiotherapy and pharmacy students of Pakistan by Mehmood B et al. revealed 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.<sup>18</sup>

## Conclusion

This study shows that with the increase in the level of education, the mean HU-DBI score also increased. Which means that the oral health attitude and behavior of dental students improved with the increasing level of education, independent of gender. In order to serve as good role models for their patients, friends and family members it is important that dental students imbibe positive oral health behaviour and put it to practice. One method to achieve this goal is to incorporate certain aspects of preventive dentistry earlier in the dental curriculum. It would also be interesting to note the correlation between self-reported oral health behaviour and actual oral hygiene status.

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Item No.	Statement
1.	I do not worry about visiting the dentist.
2.	My gums tend to bleed when I brush my teeth. D
3.	I worry about my colour of my teeth.
4.	I have noticed some white sticky deposits on my teeth. A
5.	I use a child-sized toothbrush.
6.	I think I cannot help having false teeth when I am old. D
7.	I am bothered by the colour of my gums.

8.	I think my teeth are getting worse despite my daily brushing. D
9.	I brush each of my teeth carefully. A
10.	I have never been taught professionally how to brush. D
11.	I think I can clean my teeth well without toothpaste. A
12.	I often check my teeth in the mirror after brushing. A
13.	I worry about having bad breath
14.	It is impossible to prevent gum disease with tooth brushing alone. D
15.	I put off going to a dentist until I have a toothache. D
16.	I have used a dye to see how clean my teeth are. A
17.	I use a toothbrush with hard bristles
18.	I don't feel I have brushed well unless I brush with strong strokes
19.	I feel I sometimes take too much time to brush my teeth. A
20.	I have had my dentist tell me that I brush very well

# Table 1: Questionnaire Items of The HU-DBI

Characteristics of Dental Students	No. of participants [N=205]	%
Level of education		
•Year 3	80	39.0
•Year 4	58	28.3
•Year 5	67	32.7
Gender		
•Male	72	35.1
•Female	133	64.9

# Table2: Profile of the study group of dental students

Items	Female [N]	Female [%]	Male [N]	Male [%]	Total [N]	Total [%]
1	96	72.2	52	72.2	148	72.2
2	16	12.0	14	19.4	30	14.6
3	98	73.7	47	65.3	145	70.7

4	55	41.4	28	38.9	83	40.5
5	3	2.3	3	4.2	6	2.9
6	72	54.1	28	38.9	100	48.8
7	34	25.6	26	36.1	60	29.3
8	18	13.5	11	15.3	29	14.1
9	97	72.9	53	73.6	150	73.2
10	24	18.0	23	31.9	47	22.9
11	10	7.5	8	11.1	18	8.8
12	112	84.2	50	69.4	162	79.0
13	112	84.2	57	79.2	169	82.4
14	104	78.2	47	65.3	151	73.7
15	50	37.6	30	41.7	80	39.0
16	8	6.0	2	2.8	10	4.9
17	10	7.5	7	9.7	17	8.3
18	31	23.3	19	26.4	50	24.4
19	34	25.6	17	23.6	51	24.9
20	62	46.6	23	31.9	85	41.5

Table3: Percentages and analysis of "yes" responses according to gender

Items	3rd Year [N]	3rd Year [%]	4th Year [N]	4th Year [%]	5th Year [N]	5th Year [%]	Total [N]	Total [%]
1	58	72.5	44	75.9	46	68.7	148	72.2
2	12	15.0	9	15.5	9	13.4	30	14.6
3	52	65.0	46	79.3	47	70.1	145	70.7
4	32	40.0	17	29.3	34	50.7	83	40.5
5	2	25.0	0	0	4	6.0	6	2.9
6	38	47.5	26	44.8	36	53.7	100	48.8
7	18	22.5	18	31	24	35.8	60	29.3
8	14	17.5	8	13.8	7	10.4	29	14.1
9	60	75	42	72.4	48	71.6	150	73.2
10	22	27.5	13	22.4	12	17.9	47	22.9
11	5	6.3	7	12.1	6	9	18	8.8
12	58	72.5	50	86.2	54	80.6	162	79.0

13	62	77.5	48	82.8	59	88.1	169	82.4
14	62	77.5	43	74.1	46	68.7	151	73.7
15	39	48.8	22	37.9	19	28.4	80	39.0
16	3	3.8	3	5.2	4	6.0	10	4.9
17	11	13.8	5	8.6	1	1.5	17	8.3
18	27	33.8	11	19.0	12	17.9	50	24.4
19	14	17.5	17	29.3	20	29.9	51	24.9
20	27	33.8	28	48.3	30	44.8	85	41.5

Table 4. Percentages and analysis of "yes" responses according to years of study



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Figure1: HU-DBI scores of Third Year Dental Students



Figure 2: HU-DBI scores of Fourth Year dental students



Figure 3: HU-DBI scores of Fifth Year dental stud	lents
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	Variable	Ν	Mean	Std. Dev.	P value
Gender	Males Females	72 133	6.03 6.19	1.678 1.666	not significant
Academic Year	3 <sup>rd</sup> Year 4 <sup>th</sup> Year 5 <sup>th</sup> Year	80 58 67	5.78 6.17 6.52	1.567 1.558 1.804	0.024(*)

Table 5: One way- ANOVA of the mean value of HU-DBI score and academic years