

## Study of oral health behaviors and attitudes among dental students at government dental college, Alappuzha

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**Abstract** : Dentists as primary oral health care providers play an important role in developing positive oral health attitude among the general population. In order to achieve this, the dentist themselves should develop positive health behaviors and attitudes so that they can effectively teach what they believe. In this study we have tried to assess the oral health behaviors and attitudes among clinical and preclinical dental students of government dental college, Alappuzha using Hiroshima University Dental Behavior Inventory (HU-DBI). The HU-DBI score for clinical students was found to be slightly higher than for preclinical students which was however not statistically significant. The overall HU-DBI score was found to be 5.66. The low overall HB-DBI score emphasize the need for improvement in dental health behaviors and attitudes in the subjects involved.

**Keywords** - Oral health behavior, Oral health attitude, HU-DBI score, Dental students

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Date of Submission: 13-02-2018

Date of acceptance: 07-03-2018

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### I. INTRODUCTION

Poor oral hygiene is related with common dental diseases like dental caries and periodontitis<sup>1</sup>. Various studies have shown that poor oral hygiene may affect the course and pathogenesis of various systemic conditions like cardiovascular disease, bacterial pneumonia, diabetes mellitus, and low birth weight<sup>2</sup>. Dentists as primary oral health care providers play an important role in developing positive oral health attitude among the general population. In order to achieve this, the dentist themselves should develop positive health behaviors and attitudes so that they can effectively teach what they believe<sup>3</sup>. Hiroshima University Dental Behavior Inventory (HU-DBI) was developed by Kawamura to investigate dental health behavior, attitudes and perceptions<sup>4</sup>. The original questionnaire of the HU-DBI was written in Japanese. HU-DBI consists of twenty items dealing mainly with the oral health attitude and tooth-brushing behavior. The HU-DBI was found to have good test-retest reliability (0.73) in a sample of 517 Japanese university students over a four-week period<sup>5</sup>. The English version of the HU-DBI had good test-retest reliability and translated validity in a sample of 26 bilinguals<sup>6</sup>.

In this study we have tried to assess the oral health behaviors and attitudes among dental students of Government Dental College, Alappuzha using the English version of HU-DBI. A comparison of HU-DBI scores between the clinical and preclinical students will be made.

### II. NULL HYPOTHESIS

There is no difference in the oral health behaviors and attitudes as assessed by HU-DBI score between clinical students and preclinical students of government dental college, Alappuzha.

### III. MATERIALS AND METHODS

The English language version of HU-DBI was distributed among all preclinical (First Year BDS and Second Year BDS) and clinical students (Third Year BDS and Final Year BDS). Informed consent was obtained from all the students. All items in HU-DBI were in dichotomous responses format either agree or disagree. A quantitative estimate of overall oral health attitude and behavior is provided by the total number of appropriate agree/disagree responses. Based on Kawamura's analytical research, 12 items out of 20 were identified for scoring. The purpose of the study was explained to the students and any doubts regarding the questions were answered.

Statistical analysis-Data were collected and entered into excel sheets. All data were analyzed using SPSS 17.0 for windows. The responses (agree and disagree) were analyzed using Chi-square test and Z test was used to compare the HU-DBI scores of preclinical and clinical dental students. It was considered statistically significant if p value was < 0.05.

#### IV. RESULTS

The total number of clinical student was 54 with mean age of 21.83 years, while for clinical students it was 89 with mean age of 19.95 years. The mean HB-DBI score for clinical students was found to be  $5.78 \pm 1.76$  and for nonclinical student was  $5.57 \pm 1.67$ . The difference was however not statistically significant (Table 1). The overall HU-DBI score was found to be 5.66.

**Table 1 Sample size, Mean Age and Mean HU-DBI score of clinical and preclinical students**

Category	Sample size	Mean Age (Years)	Mean HB-DBI Score	Standard Deviation	Z Value	P Value
Clinical	54	21.83	5.78	1.76	0.1997	0.841
Preclinical	89	19.95	5.57	1.67		

More preclinical (68.18%) than clinical students (83.33%) did not worry about visiting the dentist. Also more preclinical students (33.33%) than clinical students (15.09%) think their teeth are getting worse despite daily brushing. More number of preclinical students (25%) did not receive professional training regarding how to brush as compared to clinical students (9.26%). Only 66.67% of clinical students and 59.55% of preclinical students agree that they brush their teeth carefully. More preclinical students (17.98%) than clinical students (1.85%) believe they can brush the teeth without using toothpaste. Only 31.48% of clinical student and 31.46% of preclinical students feel they sometimes take too much time in brushing teeth. (Table 2)

**Table 2 HU-DBI response given by Clinical and Preclinical students**

Statement	Clinical Students		Preclinical Students		p Value
	Agree	Disagree	Agree	Disagree	
I don't worry much about visiting the dentist.*	45(83.33%)	9(16.66%)	60(68.18%)	28(31.81%)	0.04584
My gums tend to bleed when I brush my teeth. (D)	9(16.66%)	45(83.33%)	13(14.60%)	76(85.39%)	0.74066
I worry about the color of my teeth.	29(53.70%)	25(46.29%)	59(66.29%)	30(33.70%)	0.1336
I have noticed some white sticky deposits on my teeth. (A)	13(24.07%)	41(75.93)	29(75.93%)	60(32.58%)	0.27871
I use a child-sized toothbrush.	4(7.41%)	50(92.59%)	2(2.25%)	87(97.75%)	0.13568
I think I cannot help having false teeth when I am old. (D)	20(40.82%)	29(59.18%)	42(50%)	42(50%)	0.30577
I am bothered by the color of my gum.	14(25.93%)	40(74.07%)	37(42.05%)	51(57.95%)	0.05193
I think my teeth are getting worse despite my daily brushing. *(D)	8(15.09%)	45(84.91%)	29(33.33%)	58(66.67%)	0.01761
I brush each of my teeth carefully. (A)	36(66.67%)	18(33.33%)	53(59.55%)	36(40.45%)	0.39479
I have never been taught professionally how to brush.*(D)	5(9.26%)	49(90.74%)	22(25%)	66(75%)	0.02032
I think I can clean my teeth well without using toothpaste *(A)	1(1.85%)	53(98.15%)	16(17.98%)	73(82.02%)	0.00387
I often check my teeth in a mirror after brushing. (A)	33(61.11%)	21(38.89%)	62(69.66%)	27(30.34%)	0.29378
I worry about having bad breath.	27(50%)	27(50%)	52(58.43%)	37(41.57%)	0.32586
It is impossible to prevent gum disease with tooth brushing alone. (D)	37(69.81%)	16(30.19%)	60(68.18%)	28(31.82%)	0.83971
I put off going to the dentist until I	27(50%)	27(50%)	57(64.04%)	32(35.96%)	0.09814

have toothache. (D)					
I have used a dye to see how clean my teeth are (A)	1(1.85%)	53(98.15%)	5(5.68%)	83(94.32%)	0.27074
I use a tooth brush with hard bristle.	6(11.11%)	48(88.89%)	9(10.23%)	79(89.77%)	0.86789
I don't feel I have brushed well unless I brush with strong strokes.	14(25.93%)	40(74.07)	25(28.09%)	64(71.91%)	0.77819
I feel I sometimes take too much time to brush my teeth. (A)	17(31.48%)	37(68.52%)	28(31.46%)	61(68.54%)	0.99793
I have had my dentist tell me that I brush very well.	8(15.38%)	44(84.62%)	26(29.55%)	62(70.45%)	0.05903
I do use tooth floss on regular basis.	1(1.85%)	53(98.15%)	8(9.09%)	80(90.91%)	0.08566
I do use mouth wash on regular basis.	2(3.70%)	52(96.30%)	8(8.99%)	81(91.01%)	0.2296

\* P value significant (A) or (D) correct answer- 12 responses were scored

### V. DISCUSSION

The overall mean HB-DBI score was found to be 5.66 which was lower than that found in other studies (Table 3). However the number of questions scored were found to be higher for other studies and this may have contributed for the higher scores in these studies. The low score however emphasize the need for improvement in oral hygiene attitude and behavior in dental students involved in the study.

The HU-DBI values for clinical (first and second BDS) and preclinical students (third, fourth and fifth BDS) were derived from available data wherever possible.

**Table 3 HU-DBI score of dental students in various studies**

Author	Place	HU-DBI Score	No of Questions scored	Ist Year	IInd Year	IIIrd Year	IVth Year	Vth Year	Preclin.	Clin.
Imran Alam Moheet et al 2013	Saudi Arabia	6.4	12						5.8	7
R Neeraja et al 2011	Bangalore, India	8.61	15	6.88	7.32	8.25	9.28	11.4	7.1	9.64
Khalid K et al 2016	Sudan	7.7	17							
Sinem Yildiz et al 2011	Turkey	6.53	12						6	7.47
Rushabh J Dagli et al 2008	Udaipur, India	6.06	12	6.22	5.71	6.11	6.15		5.99	6.12
Ahed Mohammed et al 2004	Jordon	6.51	11				6	6.53		
AgryPolychronoPoulou et al 2005	Greece	7.1	12	6	6.2	6.3	7.5	8.2	6.11	7.29

The mean HB-DBI score was only slightly higher for clinical students than nonclinical students which was however not statistically significant, so the null hypothesis has been accepted. This means there is no difference in the oral health behaviors and attitudes between clinical and preclinical students of government dental college, Alappuzha.

This is similar to study by Rushabh J Dagli et al 2008<sup>7</sup> who had also found only a slight increase in HU-DBI score for clinical students. In contrast, Moheet I A et al 2013<sup>8</sup>, Neeraja et al 2011<sup>9</sup>, Sinem Yildiz et al 2011<sup>10</sup> and Agry polychronopoulou et al 2005<sup>11</sup>, had found a significantly higher HD-DBI score for clinical students than for nonclinical students. The study suggests there are no significant improvement in dental health behavior and attitude in clinical students than in preclinical students. More preclinical students think their teeth are getting worse despite daily brushing. This may be due to the fact that more preclinical students have not received professional training regarding tooth brushing. A large number of both clinical and preclinical students accept that they do not carefully brush each of their teeth. A majority of clinical students does not believe they

can clean their teeth properly without using toothpaste. This suggests an undue importance given to toothpaste in oral hygiene maintenance. All these should be considered significant since the dentist play an important role in developing positive oral health attitude among the general population. To achieve the same they themselves should develop correct oral health attitudes.

## **VI. Conclusion**

No significant differences were found in HU-DBI scores of clinical and preclinical students. The low overall HB-DBI score found in the study emphasize the need for improvement in dental health behavior and attitude in the subjects involved. Steps should be taken to impart correct knowledge as well as proper attitude towards oral hygiene in the students.

## **REFERENCES**

- [1] Løe H. Oral hygiene in the prevention of caries and periodontal disease. *International dental journal*. 2000 Jun 1;50(3):129-39.
- [2] Li X, Kolltveit KM, Tronstad L, Olsen I. Systemic diseases caused by oral infection. *Clinical microbiology reviews*. 2000 Oct 1;13(4):547-58.
- [3] Moheet IA, Farooq I. Self-reported differences between oral health attitudes of pre-clinical and clinical students at a dental teaching institute in Saudi Arabia. *The Saudi dental journal*. 2013 Oct 1;25(4):149-52.
- [4] Kawamura M. Dental behavioral science - The relationship between perceptions of oral health and oral status in adults. (In Japanese). *J Hiroshima Univ Dent Soc* 1988 20: 273- 286.
- [5] Kawabata K, Kawamura M, Miyagi M et al. The dental health behavior of university students and test-retest reliability of the HU-DBI. (In Japanese). *J Dent Health* 1990 40: 474-475.
- [6] Kawamura M, Kawabata K, Sasahara H et al. Dental behavioral science Part IX. Bilingual's responses to the Dental Behavioral Inventory (HU-DBI) written in English and in Japanese. (In Japanese). *J Hiroshima Univ Dent SOC* 1992 24: 185-191.
- [7] Dagli RJ, Tadakamadla S, Dhanni C, Duraiswamy P, Kulkarni S. Self reported dental health attitude and behavior of dental students in India. *Journal of oral science*. 2008;50(3):267-72.
- [8] Moheet IA, Farooq I. Self-reported differences between oral health attitudes of pre-clinical and clinical students at a dental teaching institute in Saudi Arabia. *The Saudi dental journal*. 2013 Oct 1;25(4):149-52.
- [9] Neeraja R, Kayalvizhi G, Sangeetha P. Oral health attitudes and behavior among a group of dental students in Bangalore, India. *European journal of dentistry*. 2011 Apr;5(2):163.
- [10] Yildiz S, Dogan B. Self reported dental health attitudes and behaviour of dental students in Turkey. *European journal of dentistry*. 2011 Jul;5(3):253.
- [11] Polychronopoulou A, Kawamura M. Oral self- care behaviours: comparing Greek and Japanese dental students. *European Journal of Dental Education*. 2005 Nov 1;9(4):164-70.

Dr Sreeraj Rajappan. " Study of oral health behaviors and attitudes among dental students at government dental college, Alappuzha.." *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*, vol. 17, no. 3, 2018, pp. 15-18.