



ORAL HYGIENE AND ATTITUDE TOWARDS ORAL SELF-CARE AMONG THE STUDENTS IN SAVEETHA DENTAL COLLEGE

Dental Science

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ABSTRACT

BACKGROUND: In the society we live in at present, oral health is considered an extremely vital part of overall health. Even though there is a steady increase constantly in the products used for dental hygiene, oral diseases are still recognized as the most dominant problems in most countries around the world.

AIM: To assess attitude and knowledge towards oral hygiene and oral self-care associated with students over the various years of studying dentistry in Saveetha Dental College.

MATERIALS AND METHOD: This study was to be conducted on 250 students studying in Saveetha Dental College. The students were requested to fill up the questionnaire. The questionnaire given to the students was HU-DBI questionnaire translated in English.

REASON FOR THIS PROJECT: In today's world, oral health has become an extremely important part of overall health. Maintaining good oral health has now become important and to do so, the knowledge and attitude towards oral self-care is required. This study aims to determine the knowledge, attitude and behaviour among dental students of all years towards oral self-care.

KEYWORDS

INTRODUCTION

Oral problems are the most prevalent problems of society [1,2]. The flora present in oral cavity are up to 350 different species of bacteria which can colonize the different parts of the oral cavity [3,4]. Some of the bacterial genera seen commonly in most of the oral cavity are Veillonella, Gemella, Granulicatella and Streptococcus [5].

The use of instruments in removal of dental plaque such as toothpicks, toothbrushes, dental floss and mouthwash is considered as personal oral hygiene [6]. Oral health can also be defined as being without dental caries, periodontal diseases, oral cancer or other oral issues [7,8,9].

Causes of such oral problems vary from disease to disease. Periodontal diseases are mostly caused due to the bacteria found in plaque [10]. Dental caries is a result of risk factors such as cariogenic microbes and caries conducting diets [11].

Oral diseases can be prevented and controlled if appropriate techniques and procedures are used. Change to improve the knowledge on oral health have been found, but the outcomes have not been always found to be successful [12 - 15].

The most widespread and effective technique of control plaque at home is done by toothbrushing [16]. There are many factors such as frequency of brushing, technique of brushing, duration, bristle characteristics, pressure of brushing, toothpaste usage and flossing which influences the safety and effectiveness of the dental hygiene [17, 18]. Fluorides has a cumulative effect and provides the protection for young as well as the old [19]. They provide protection for the smooth surfaces of teeth than rough surfaces [20]. Protection for pits and fissures, especially on the chewing surfaces is carried out best by dental sealants [21].

There are many consequences of oral ill health which may be local or systemic. The oral ill health can also be an indication of any other underlying systemic conditions. Hence over the past few decades, more attention is diverted towards educating the public about good oral health. In most of the developed countries, oral health has been given a high priority in comparison with the under developed countries.

Dental school students play an important part in oral health education of the public through the community dental health programs conducted by most dental schools. The knowledge and awareness among dental students, about oral health/ ill health also varies depending on which year of study they belong to [22]. This study aims to determine the oral hygiene and attitude towards oral self care among dental students among dental students of various years.

METHODOLOGY

The survey was conducted from January to February 2016 in Saveetha Dental College, Chennai. The students' participation in the survey was voluntary. The HU-DBI questionnaire consists of twenty statements which is in the form of agree or disagree responses. The total score which can be calculated is 12.

QUESTIONNAIRE

Name -
Academic year -

Tick the option according to your own daily specifications

- | | |
|--|----------------|
| 1 I don't worry much about visiting the dentist | Agree/Disagree |
| 2 My gums tend to bleed when I brush my teeth | Agree/Disagree |
| 3 I worry about colour of my teeth | Agree/Disagree |
| 4 I have noticed some white sticky deposits on my teeth | Agree/Disagree |
| 5 I use a child-sized toothbrush | Agree/Disagree |
| 6 I think that I cannot help having false teeth when I am old | Agree/Disagree |
| 7 I am bothered by the colour of my gums | Agree/Disagree |
| 8 I think my teeth are getting worse despite my daily brushing | Agree/Disagree |
| 9 I brush each of my teeth carefully | Agree/Disagree |
| 10 I have never been professionally taught how to brush | Agree/Disagree |
| 11 I think I can clean my teeth without using toothpaste | Agree/Disagree |
| 12 I often check my teeth in a mirror after brushing | Agree/Disagree |
| 13 I worry about having bad breath | Agree/Disagree |
| 14 It is impossible to prevent gum disease with toothbrushing alone | Agree/Disagree |
| 15 I put off going to the dentist until I have a toothache | Agree/Disagree |
| 16 I have used a dye to see how clean my teeth are | Agree/Disagree |
| 17 I use a toothbrush which has hard bristles | Agree/Disagree |
| 18 I don't feel I've brushed well unless I brush with strong strokes | Agree/Disagree |
| 19 I feel I sometimes take too much time to brush my teeth | Agree/Disagree |
| 20 I have had my dentist tell me that I brush very well | Agree/Disagree |

FIGURE 1

The questionnaire for the survey was distributed to the different clinics in the campus. The reason for the research, was explained to each one of the students and the students were requested to fill out the questionnaire. The survey was conducted across 250 students of different years of study. In the 5 year curriculum in the dental school, the students work with patients from third year to give them exposure into the field and help them start their careers under the guidance of their mentors.

Out of 20 statements, only 12 are included for scoring. One point is given for the correct answer of each of those statements. A higher score obtained in the questionnaire indicates good oral hygiene and attitude towards oral self-care.

The data was organized onto spreadsheets in Microsoft Excel and was

processed statistically with the help of SPSS software version 22.0.0.0. The attitude of oral hygiene in each batch was analyzed and compared to one another using Kruskal Wallis, ANOVA and chi-square tests.

RESULT:

The distribution of students by gender and academic year has been done. Out of the total 250 students who filled out the questionnaire, the total number of female participants was found to be 205 and the number of male participants was found to be 45. After running the data in SPSS software, chi-square, Kruskal Wallis and ANOVA tests were conducted.

Table 1 : Distribution Of The Students By Academic Year And Gender.

Academic Year	Total number	Total number of females	Total number of males
First year BDS	50 [20%]	35	15
Second year BDS	50 [20%]	44	6
Third year BDS	50 [20%]	46	4
Fourth year BDS	50 [20%]	41	9
Final year BDS	50 [20%]	39	11
Total	250 [100%]	205	45

Table 2 : Comparisons Of Questions By The Students

Questions	Academic year										Total		P value
	1		2		3		4		5				
	n	%	n	%	n	%	n	%	n	%	n	%	
1 - My gums tend to bleed when I brush my teeth. (D)	40	80	44	88	42	84	48	96	49	98	223	89.2	0.015*
2 - I have noticed some white sticky deposits on my teeth. (A)	3	6	2	4	3	6	4	8	5	10	17	6.8	0.801
3 - I think that I cannot help having false teeth when I am old. (D)	30	60	36	72	34	68	39	78	33	66	172	68.8	0.378
4 - I think my teeth are getting worse despite my daily brushing. (D)	39	78	35	70	30	60	25	50	20	40	149	59.6	0.001**
5 - I brush each of my teeth carefully. (A)	30	60	33	66	36	72	38	76	40	80	177	70.8	0.191
6 - I have never been taught professionally how to brush. (D)	35	70	34	68	32	64	30	60	28	56	159	63.6	0.586
7 - I think I can clean my teeth well without using toothpaste. (A)	2	4	3	6	5	10	6	12	8	16	24	9.6	0.262
8 - I often check my teeth in a mirror after brushing. (A)	46	92	44	88	40	80	39	78	37	74	206	82.4	0.109
9 - It is impossible to prevent gum disease with tooth brushing alone. (D)	19	38	20	40	22	44	24	48	25	50	110	44	0.715
10 - I put off going to the dentist until i have tootache. (D)	40	80	44	88	45	90	46	92	47	94	222	88.8	0.209
11 - I have used a dye to see how clean my teeth are. (A)	8	16	10	20	12	24	14	28	15	30	59	23.6	0.457
12 - I feel I sometimes take too much time to brush my teeth. (A)	5	10	6	12	8	16	9	18	10	20	38	15.2	0.615

*p<0.05; **p<0.001

Table 2 shows the comparisons of the HU-DBI score (mean±SD) by academic year. The mean HU-DBI score of the dental students was 6.224±1.55. Analysis of variance (ANOVA) showed no statistical significant differences in mean HU-DBI score according to academic year (p=0.565). Comparing to academic year 1, mean HU-DBI was increased in other academic years. But the increasing score level is not significant.

Table 3 : Comparisons of scores by the students

Scores	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1st year	50	5.9400	1.58320	.22390	5.4901	6.3899	2.00	9.00
2nd year	50	6.2200	1.35962	.19228	5.8336	6.6064	2.00	9.00
3rd year	50	6.1800	1.53450	.21701	5.7439	6.6161	4.00	10.00
4th year	50	6.4400	1.56701	.22161	5.9947	6.8853	3.00	10.00
5th year	50	6.3400	1.69766	.24009	5.8575	6.8225	3.00	10.00
Total	250	6.2240	1.54901	.09797	6.0310	6.4170	2.00	10.00

P value = 0.565

Table 4 : Kruskal-wallis Test Ranks

score	1st year	50	115.22
	2nd year	50	126.36
	3rd year	50	121.33
	4th year	50	133.56
	5th year	50	131.03
	Total	250	

Based on the HU-DBI questionnaire, the questions which are taken into consideration for marking have been taken and the percentage of agree response along with the number of students who have put agree as their response has been tabulated, totalled and the p value has been calculated for each and every question.

Table 1 shows the actual number and percentage of agree responses according to different academic years. Out of 12 questions only 2 questions were found to be statistically significant between academic years.

In question 2 of the questionnaire (my gums tend to bleed when I brush my teeth), the percentage of agree response increases as the academic year increases except in academic year 3. But compared to the academic year 1(80%) the agree response was more in academic year 3(84%). In overall the percentage of agree response was statistically significant between the academic years (p=0.015).

In question 4 of the questionnaire (I think my teeth are getting worse despite my daily brushing), the percentage of agree response decreases as the academic year increases. Compared to the academic year 1(78%) the agree response was less in academic year 5(40%). In overall the percentage of agree response was highly statistically significant between the academic years (p=0.001).

Table 5 : Anova Test

ANOVA					
score					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7.136	4	1.784	.740	.565
Within Groups	590.320	245	2.409		
Total	597.456	249			

Table 6 : Chi-square Tests

Chi-Square Tests			
	.Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.669 ^a	4	.615
Likelihood Ratio	2.734	4	.603
Linear-by-Linear Association	2.612	1	.106
N of Valid Cases	250		
a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 7.60.			

P value was found to be 0.565. P value less than 0.05 is considered significant. P value is not significant statistically even in Kruskal-Wallis Test which is a non parametric test. It shows there is no significant difference in the mean score between the students.

DISCUSSION:

The future of dentistry lies in the hands of the dental students. They will be the providers of knowledge and will educate their patients and surrounding people on oral health. Along with the progress in curriculum in today's dental schools, there has been an increase in the knowledge found in this generation dental students than before.

Dental students are not only expected to be able to educate their patients on oral health, but they are expected to be role models of their knowledge. Their duty to educate their patients on such a matter is of extreme importance as this information is what helps the society in showing better oral hygiene and showing lesser oral disease

manifestations, hence breaking the ideology of oral problems being the most prevalent disorders found in society.

The knowledge imparted to the students is of extremely high content. But the amount of knowledge that the student attains shows a steady progress over the years. This study shows that the students, although, are aware of the importance and techniques of maintenance of oral hygiene, their application grows over the years and during their final year, they show pride in their profession and hence application of the knowledge is at the peak.

HU-DBI questionnaire has been the most appropriate tool for the assessment of the knowledge and practices of a dental student.

It is important to maintain oral health. The best method of preventing oral problems is by maintenance of oral health. By maintaining oral health to the best, the requirement of dental help for a dentist is much less. The health of the surrounding structures of the tooth is preserved in good condition.

The signs of having good oral health are seen when the patient has good gums, fresh breath and the teeth have very small deposits of plaque and no signs of caries are seen.

Maintenance of oral health can be simply performed by tooth brushing, using toothpaste, dental flossing and rinsing the oral cavity with mouthwash. However, these techniques have various influences which are to be noted and there should be correct technique usage. These factors are the frequency of brushing, the type of bristles of the toothbrush, the toothpaste used, pressure applied, duration of brushing and the effectiveness of the dental products used.

A similar study was conducted in Croatia in the University of Zagreb. In that study, 503 students completed their questionnaire. The percent of female respondents in Croatia was 72.4%. However, in this study, the percentage of female respondents was found to be 82%. The university of Zagreb has 6 academic years to compare amongst while our study conducted in Saveetha Dental College has been conducted over 5 academic years.

In the statistical significance comparison between the two studies, the study conducted in Croatia was found that it was statistically significant as the p value they had got was 0.011. This study, when the data was analysed, it was found that the p value was 0.565 which is statistically insignificant.

Both studies show that the students have been progressing in their knowledge with each academic year.

The first year students show that they have lesser comprehension as they are new to the concepts in the field of dentistry. Second year students were theoretically well aware and but their application skills were questionable. Third year students had just been exposed to the clinical environment and were found to be more aware than the first year and second year students. Fourth year students have been found to be more aware and better in application than the third years but not as much as the final year students.

In the Croatian study, there was a significant difference seen amongst the students of a single academic year due to the cultural differences and linguistic differences seen amongst the students.

CONCLUSION:

Based on the results seen from the study, the following were the conclusions drawn. There is a progress in the scores seen from first year to final year, although it is not significant statistically. The students show a progress in awareness in oral hygiene and are well aware of the various techniques and maintenance of oral health. For enriched knowledge, it would be advisable that the students have mandatory comprehensive reinforcing lectures on oral hygiene as it not only increases their knowledge, but also their oral health attitudes and behavior.

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