

Oral Hygiene Attitude and Behavior of Dental Students in a Government College, India

¹Aasim F Shah, ²Choubarga Naik, ³Subha S Dany, ⁴Anup K Satpathy, ⁵Prashant Rajput, ⁶Suhail M Jan

ABSTRACT

Introduction: Dental caries is defined as a chemical dissolution of the tooth mineral resulting from metabolic events taking place in the dental biofilm covering the affected area. As it affects 60 to 90% of school-aged children and the vast majority of adults, dental caries is still a major health problem in most industrialized countries. In the Americas [decay, missed, filling teeth (DMFT) = 3.0] and in the European region (DMFT = 2.6), dental caries experience in children is relatively high, whereas the index is lower in most African countries (DMFT = 1.7). The oral hygiene attitude and behavior of dental health professionals affect their oral self-care habits along with their ability to motivate patients to undertake preventive oral health measures. This study was conducted to assess the oral health attitudes and behaviors among preclinical dental students in a Government Dental College, Srinagar, India.

Materials and methods: All first-year dental students were recruited for this study from Government Dental College, Srinagar, India. All Bachelor of Dental Surgery (BDS) students from first academic year were invited to complete the questionnaire in their classrooms. Sixty dental students were provided with Hiroshima University-Dental Behavioral Inventory (HU-DBI) and 56 students returned the completed forms.

Results: Government Dental College Students' HU-DBI score was 5.99. The HU-DBI score of females (3.58) was higher than that of males (2.41). The female students were more worried about color of their teeth and gums compared with male students ($p < 0.001$) and were more likely to brush their teeth carefully than the male students ($p < 0.001$).

Conclusion: In conclusion, dental education curriculum in a dental school should consider the gender difference during motivating the students based on their attitudes and behavior of oral health during their entire course for its proper effectiveness.

Keywords: Attitude, Behavior, Dental students, Hiroshima University-dental behavioral inventory, Oral hygiene.

How to cite this article: Shah AF, Naik C, Dany SS, Satpathy AK, Rajput P, Jan SM. Oral Hygiene Attitude and Behavior of Dental Students in a Government College, India. *Int J Prev Clin Dent Res* 2017;4(4):262-264.

Source of support: Nil

Conflict of interest: None

INTRODUCTION

Oral health is one of the important factors for the general well-being of an individual. The assessment of the oral hygiene attitude and behavior helps the dentist to plan the adequate strategy to improve the oral health of the population. Dental caries and periodontal disease have historically been considered the most important global oral health burdens. Dental caries is still a major health problem in most industrialized countries as it affects 60 to 90% of school-aged children and the vast majority of adults. In the Americas, dental caries experience in children is relatively high (DMFT = 3.0) and in the European region the DMFT score = 2.6, whereas the index is lower in most African countries (DMFT = 1.7).^{1,2} Dental caries is defined as a chemical dissolution of the tooth mineral resulting from metabolic events taking place in the dental biofilm covering the affected area. These events are the caries process, while the resulting caries lesion is the sign of the disease. Some components of the caries process act at the tooth surface (saliva, biofilm, diet, fluoride), while another set of determinants of the process act at the individual level (a person's behavior, knowledge, attitude, education, socioeconomic status, and income). The dental institutions are an integral part of the oral health care system in India. They help train the future professionals and expand scientific knowledge through research.³ The oral hygiene attitude and behavior of dental health professionals affect their oral self-care habits along with their ability to motivate patients to undertake preventive oral health measures.⁴ The HU-DBI was used in this study.^{5,6} This study was conducted to assess the oral health attitudes and behaviors among preclinical dental students in a Government Dental College, Srinagar, India.

MATERIALS AND METHODS

All first-year dental students were recruited for this study from Government Dental College, Srinagar, India.

¹Registrar, ²Assistant Professor, ³Senior Resident, ^{4,6}Professor and Head, ⁵District Consultant

^{1,6}Department of Public Health Dentistry, Government Dental College & Hospital, Srinagar, Jammu and Kashmir, India

^{2,4}Department of Dentistry, Veer Surendra Sai Institute of Medical Sciences and Research, Sambalpur, Odisha, India

⁵National Tobacco Control Program, Department of Health & Family Welfare, Ministry of Health & Family Welfare, Moradabad Uttar Pradesh, India

Corresponding Author: Choubarga Naik, Assistant Professor Department of Dentistry, Veer Surendra Sai Institute of Medical Sciences and Research, Sambalpur, Odisha, India, Phone: +919337237290, e-mail: choubarga@gmail.com

Table 1: Hiroshima university dental behavior inventory

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

Ethical clearance was obtained from the institution and the aim of the study was explained to all students and informed consent was obtained from all respondents before participation. A good test-retest reliability as well as good translated validity was found for HU-DBI, which was translated to English version for the study.⁶ All BDS students from first academic year were invited to complete the questionnaire in their classrooms. Sixty dental students were provided with HU-DBI and 56 students returned the completed forms. For any clarification regarding the inventory, investigators were available throughout the session. In this study, HU-DBI comprising 20 items was used (Table 1).⁷ The volunteers were asked to fill in the spaces with two responses only: "A" = Agree or "D" = Disagree. The respondent's identity was anonymous; gender was obtained and was considered as independent variable. When calculating the HU-DBI scores, one point was given for each of agree responses to the items 4, 9, 11, 12, 16, 19 and one point was given for each of disagree response to the items 2, 6, 8, 10, 14, 15. Maximum HU-DBI score was 12. Better oral behavior is shown by higher score.⁸ Statistical Package for the Social Sciences, version 20 was used to process and analyze the data to detect differences in mean HU-DBI scores of students by gender. Statistical significance was set at p-value of ≤ 0.05 .

Table 2: "Agree" response according to gender

Question	Males	Females	Total	p-value
1	12	28	40	NS
2	6	5	11	NS
3	24	41	65	NS
4	3	9	12	NS
5	2	4	6	NS
6	35	5	40	p<0.001
7	15	17	32	NS
8	3	3	6	NS
9	7	21	28	p<0.001
10	9	17	26	NS
11	6	12	18	NS
12	33	21	54	NS
13	27	20	47	NS
14	7	21	28	NS
15	12	19	21	NS
16	3	4	7	NS
17	7	12	19	NS
18	10	14	24	NS
19	19	17	36	NS
20	8	18	26	NS

NS: Not significant

RESULTS

The HU-DBI was distributed to 60 dental students and completed by 56 students (93%). These consisted of 61% males (37/60) and 38.3% females (23/60). Table 2 shows the percentage distribution of the students with "agree" response by gender. Significant differences ($p < 0.01$) were found for 2 of 20 items between the genders and described in detail under the following sections. The total HU-DBI score of the Government Dental College Students was 5.99. The female students' HU-DBI score (3.58) was higher than that of males (2.41). Compared with male students, female students were more worried about color of their teeth and gums ($p < 0.001$) and were more likely to brush their teeth carefully than the male students ($p < 0.001$).

DISCUSSION

The results showed that majority of dental students care about their oral health. In a previous study by different authors,⁹ it was noted that 18% of the British and 77% of the Chinese students were bothered by the color of their gums,⁸ which was in contrast to our observations. In another cross-national study, 25% of the Japanese and 45% of the Finnish dental students reported gum bleeding while toothbrushing^{8,10} compared with 11% of the students in our study. The female students' HU-DBI score (3.58) was higher than that of males (2.41). This could be attributed to females being more likely to have positive self-care attitudes in order to improve their appearance and self-esteem. This finding is consistent with a recent study done in Israel,¹¹ in which female dental students

showed a significantly improved attitude than their male colleagues.¹² The total HU-DBI score of the Government Dental College students was 5.99. This was higher than that of Chinese⁹ dental students (5.07) but lower than that of Turkish¹¹ (6.53), Indian (6.06),^{8,13} British (7.33),⁹ Greek (6.86),^{13,14} and Japanese (7.40) dental students.¹⁵ The HU-DBI revealed interesting differences in oral health attitudes and behavior between genders. In conclusion, dental education curriculum in a dental school should consider the gender difference during motivating the students based on their attitudes and behavior of oral health during their entire course for its proper effectiveness.

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