

ORIGINAL RESEARCH

Assessment of Oral Hygiene Habits among the Dental Students of Bhopal, Madhya Pradesh: A Questionnaire Survey

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ABSTRACT

The aim of conducting this study was to evaluate the oral hygiene attitudes among the budding dentists, and whether progressive dental education and their understanding of preventive dental procedures will improve their commitment toward enhancement of their own oral health attitudes. For this purpose, a cross sectional study was designed for 400 dental students of Bhopal divided into group A (first year and second year) and group B (third year and final year) using a custom formulated objective type of questionnaire to explore their dental health attitudes and behavior based on gender and level of dental education. The complex interplay of factors that shape attitudes and health behaviors, two major influences appear central: culturally determined attitudes/beliefs and behaviors (social norms), and learned experiences. Gender seems to play an important role as data collected show females belonging to both the groups to be having better self-reported health attitudes in majority of investigated areas. The findings of the present study highlighted the relatively poor oral health behavior of Indian dental students, which should be improved in order to serve as a positive model for their patients, family and friends.

Keywords: HU-DBI, BDS curriculum, Oral hygiene, Attitude, Behavior, Motivation.

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INTRODUCTION

Hygiene refers to the set of practices associated with the prevention of illness and preservation of health and healthy living through cleanliness. The term 'hygiene' is derived from hygieia, the Greek goddess of health, cleanliness and sanitation, whereas hygienics is the science that deals with the promotion and preservation of health. Although much published research has been concerned with how to motivate the patient to follow a prescribed, effective oral health care program, little attention has been given to the context of when and how dental students undergo Motivational behavioral changes with respect to their self-care regimen.¹ Furthermore, little is known about how the clinical training and course content influence and affect the developing oral health behavior of dental students as their understanding of preventive dental procedures will improve their commitment toward enhancing the oral health of their patients.² It is

assumed that future dentist's attitude toward their oral and dental health condition is the best means to reflect if students realize the significance of these factors for general health.² Since males and females have different physiological and psychological behaviors, it is possible that their oral health behavior might be different as well. Cross cultural comparison is also essential, as differences may exist regarding socioeconomic status and attitude toward dental health.^{3,4}

An important task of oral health professionals is to instill in their patients the correct oral habits to prevent oral diseases. The first step in establishing a habit is to provide relevant knowledge to the patients and to raise their awareness of how to prevent oral diseases. Also, it can be rightly said that, dental student belonging to first year can be compared with the strata of society which has limited awareness/unaware about dentistry in general and oral hygiene in particular. With progressive dental education through the undergraduate curriculum, he/she develops understanding about oral hygiene and oral hygiene practices. Likewise, the students belonging to the third and fourth year can be compared to the strata of educated and highly motivated subjects of society. The purpose of this study was to evaluate the oral hygiene attitudes among the budding dentists, and whether there is any change in the oral hygiene attitude with progressive dental education, and is there a need to reinforce these practices by giving additional stress in their curriculum.

METHODOLOGY

There is no universally accepted or recommended index/inventory to measure dental health attitude and behavior. The data that have been collected on the attitude and behavioral aspects were derived from a series of independent questionnaires. The Hiroshima University-Dental Behavioral Inventory (HU-DBI) questionnaire developed by Kawamura has been demonstrated to be useful for assessing patient's perceptions and oral health behavior and is widely used all around.⁵ For the present study, a custom-made questionnaire that closely resembled the HU-DBI of Kawamura, but our questionnaire was formulated to derive more information with regards to the habit and attitude of the subjects. These data may also help in assessing and comparing the focus of the curriculum on preventive aspects, so as to decide

whether dental students should be introduced more toward philosophy and practice of preventive dentistry.

STUDY POPULATION AND METHODS

A cross-sectional study of 400 dental students of Bhopal, Madhya Pradesh, was conducted using a specially formulated objective type of questionnaire consisting of open and close ended questions. Dental students in Bhopal were good representative sample of dental students in Madhya Pradesh. There are six dental colleges in Bhopal, all are financially supported by the private trusts and accept students from all over the country and from different socioeconomic classes. This study used the general approach in attitudes and behavior measurements to compare female and male dental students. Language of survey was chosen as English is the language of instruction at these dental schools.

SELECTION CRITERIA

Students under this study were divided into two groups each containing 200 subjects.

Group A: The preclinical group—consisting of first and second year BDS students.

Group B: The clinical group—consisting of third and fourth year BDS students.

Twenty-five students were randomly selected from each academic year of the four different dental colleges of Bhopal, namely:

1. Mansarovar Dental College
2. Peoples College of Dental Sciences
3. Rishiraj College of Dental Sciences and Research Centre
4. RKDF Dental College.

A total of 100 students from each dental college (25 from each academic year) took part in this survey, and the data was collected over a period of 2 weeks starting from January 7 to January 20, 2013. Participation in the survey was voluntary and anonymity was maintained about the personal and academic record and the respondents were asked to indicate only their gender. The questionnaire consisted of 25 questions and allotted time was 15 minutes. Any question unanswered, answered inappropriately led to disqualification from results.

STATISTICAL ANALYSIS AND RESULTS

Observations were classified into four groups (Table 1). The filled responses were then transferred to the Microsoft Excel sheet and statistical analysis was done utilizing Z test due to large sample size (Table 2). All the results were found to be statistically significant for Z test.

Table 1: Results of data collected on awareness and attitudes

	Group A	Group B	Male:	Male:	Overall
			female	female	
			Group A	Group B	Male/ female
Observation 1: Have you ever been to a dentist?					
Yes	138	153	41/97	43/110	84/207
No	62	47	29/33	17/30	46/63
Observation 2: Are you worried about the color of your teeth?					
Yes	73	116	29/84	51/65	80/149
No	127	84	41/46	9/75	50/121
Observation 3: Have you ever had complaint of bad breath?					
Yes	61	62	24/47	23/37	45/84
No	139	138	46/83	37/103	85/186
Observation 4: Frequency of toothbrushing.					
Once	69	42	39/30	13/29	52/59
Twice	104	131	24/80	37/94	61/174
After meals	27	27	7/20	10/17	17/37

Table 2: Statistical analysis and interpretation of the collected data

Group	Awareness/attitude		z-value	p-value	Result
	Poor	Good			
Observation 1	109 (27.25%)	291 (72.5%)	23.1499	<0.0001	S
Observation 2	11 (52.7%)	189 (47.3%)	2.1672	<0.0001	S
Observation 3	123 (30.7%)	277 (69.21%)	20.5708	<0.0001	S
Observation 4	111 (27.71%)	289 (72.2%)	23.1483	<0.0001	S

S: Significant

DISCUSSION

Preventive activities are influenced by three factors: thoughts (beliefs, values and expectations), social environment (interpersonal interactions), and individual ability.¹ Moreover, to follow directions given by the dentist, patients have to believe that they are exposed to the disease, that the disease is serious and that they can gain from the dentist's efforts.⁶ At the population level, oral cleaning habits are a matter of health-oriented lifestyle and to a lesser extent gender-related behavior, and socioeconomic factors. Lifestyle has a minor influence on the dental visiting habit, which is more clearly affected by socioeconomic factors.⁴

Male/Female

In our study, the awareness is seen more in female students regarding visiting a dentist, halitosis, color of teeth, brushing frequency and duration. Ostberg et al found that females engage in better oral hygiene behaviors/measures, possess a greater interest in oral health and perceive their own oral health to be good to a higher degree than males. Nanakorn

and Kassak found female university students in Thailand to have better habits in terms of tooth brushing than male students,⁷ while Fukai et al found that females visited their dentists and brushed their teeth more often than males.⁴

More males than females agreed that they put off going to the dentist until they had a toothache (57.6 vs 46.9%) in a survey conducted in Palestinian populace.⁸ In a recent study in Israel, female students showed a significantly better attitude than their male colleagues. According to Verbrugge, the reason for more frequent dental visits among women can be esthetic, or women may have a greater sensitivity toward illness and discomfort, and a willingness to seek help.⁴ Whereas according to Khami, positive dental health attitudes in females can be explained on the basis that females are more concerned about their body and appearance and would tend to be visiting the dentist more often.⁹

More number of participants in group A used to visit the dentist for regular check-up when compared to group B, and majority group B population visited the dentist only when they had a toothache. Which was similar to the finding across the three cultures (Japan, Hong Kong and China) where more than half the students put off going to the dentist until they had a toothache.¹⁰ Overall breakdown of data revealed that majority of males visit dental clinic only when suffering from tooth related pain whereas almost equal number in female population used to visit for regular check-up, scaling and polishing purpose. This suggests that female population is more motivated and seems to be having more stable orodental condition making them seek a dentist for esthetic reason only. More percentage of group B students visit a dentist for regular scaling and polishing compared to group A, this goes on to show the positive effect of dental education which makes them aware of the preventive practices but also makes them to take necessary steps to improve the same (observation 1 and 2). Our data collection also revealed that more of group B members were worried about the color of their teeth. Here interesting fact was that the male members of group B were more concerned with the color of their teeth when compared to counterparts of group A and corresponding group B female population. In spite of this, the ratio of group B male population visiting a dentist for regular cleaning purpose stands at 9.5% which shows negligence on their part despite of them being aware of discoloration of tooth (observation 2).

Appearance of Teeth

A questionnaire based study conducted in Sweden showed that about 59% of the respondents were satisfied with the appearance of their teeth. Whereas, in another study 68.1% of the students were found to be concerned about appearance

of their teeth¹ which was similar to result of study among dental students in Jordan, i.e. 66.9%.³ In the present study, 69% of the students (belonging to a similar age group) were satisfied with the appearance of their teeth. Dental students were considerably conscious about the appearance of their teeth, gums and halitosis, and looked in the mirror after brushing to evaluate their oral hygiene as compared to general population.¹¹ Almost equal number of male and female participants reported oral malodor related problems in group A. Comparatively less number of participants were suffering from self-reported halitosis in group B and it was found to be more prevalent in male members (observation 3).

Brushing Frequency

When probed with the question on frequency of brushing, group B (65%) students were more into brushing twice a day compared to group A (52%). Here also, female members outnumbered the males in both the groups and the difference was more significant in group A. Twenty-seven students in both population groups were found to be having overzealous brushing habits (after every meal). Overall 61% of our study population brushed twice a day (Observation 4). Eighty-five percent of Finnish university students brushed their teeth at least once a day compared to two-third of Jordanian dental students who brushed their teeth two or more times a day. The brushing frequency in our sample was higher than that reported from Kuwait where only one-third of students were brushing twice a day or more.³

When asked about the time duration of brushing, our study data revealed the time spent on oral hygiene measures gradually increased with the level of education. Though the time duration and frequency cannot be directly related to brushing efficacy, but can be taken as a measure of concern, i.e. more the time spent on brushing, more the concern and vice versa (observation 4).

'Treatment not needed' and 'cost' were the major barriers, prevented the students from Jordan from using dental services regularly. Cost may influence the seeking of dental care, as there is evidence that as family income increases, dental visit increases.¹²

CONCLUSION

Dental health behaviors were self-reported, thus they are exposed to errors. Subjects can overestimate or underestimate their behavior. The lifestyle variables used in this study seemed to be an appropriate tool to study the orientation toward health more comprehensively. However, our study did not analyze the association of general health behavior with each dental health behavior separately. The

findings of the present study highlighted the relatively poor oral health behavior of Indian dental students, which should be improved in order to serve as a positive model for their patients, family and friends. As an incidental finding, it is also suggestive of improving dental education in India, with special emphasis on preventive aspects of dental health as the majority of the respondents were in favor of a subject on preventive aspects of dentistry from the outset of dental curriculum.

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