

ORIGINAL ARTICLE

Oral Health Behavior and Practice among Nursing Students in Hyderabad City, Pakistan

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ABSTRACT

Objective: To investigate the oral health behavior and practice among nursing students of Hyderabad.

Methods: This cross-sectional study was conducted among 390 nursing students from three different institutes of Hyderabad from November to December 2018. Nursing students with age 16 years and above with no restriction of gender were selected through non-probability purposive sampling technique. Data were collected through the questionnaire designed on the basis of Hiroshima University Dental Behavioral Inventory (HU-DBI).

Results: The mean age of the participants was 26.57 ± 4.67 years. Overall highest mean HU-DBI score was found for age group 31-35 (3.91 ± 0.850), for male (3.92 ± 0.750), for BSN Post RN (3.91 ± 0.856) and for 2nd-year students (3.84 ± 0.912). A statistically significant difference was observed for gender only (p-value < 0.001). The majority (83.3%) of the participants brush their teeth every day. Half of the participants mentioned that they use a brush and miswak every day. More than 90% of participants did not use mouthwash and toothpick regularly. Only 8.2% of nursing students floss daily.

Conclusion: Male nursing students were found to be more conscious about their dental hygiene. There was no significant difference in dental behavior among nursing students of different years and education program. There was a lack of floss practice among nursing students. The behavior of nursing students about oral health was adequate.

Keywords: Oral health, oral hygiene, practice, nursing students.

INTRODUCTION

A nursing student is supposed to be a good model for complete health behavior. As a future health care provider nursing student are expected to guide their patients, members, and friends to maintain good oral health. Regrettably, dental care is an ignored part of the most nursing curricula which may result in disregard of the dental health care of their patients. Attitudes of nursing students towards their own oral health show their understanding of the significance of precautionary dental procedures and their promise towards improving the oral health of their patients.¹ Knowledge and attitude of dental treatment modalities toward oral health care

have not been found promising among Nairobi university students.¹ The World Health Organization, says that health is a state of complete mental, physical and social well-being and not only the absence of illness and disease.² In dentistry, this viewpoint on health proposed that the eventual goal of dental care, namely good oral health, should not be based only on the absence of caries or periodontal disease; a patient's psychological and social well-being must be considered as well.³⁻⁵ Based on this, it is the key concern of dental specialists and oral health tutors to convey a positive behavior and knowledge of oral health in the society and there has been a rising idea of promoting health via instruction, education, and motivation all over.^{2,6-7}

A study was conducted to assess bad breath problem among the dental and medical students of a private institute of Karachi showed that approximately 15% of students complained of bad breath.⁸ Furthermore, medical students showed significantly higher concerned about brushing their teeth when compared with dental students. Another cross-sectional study accomplished among nursing students of Rohilkhand Hospital India.² Almost 87% of students were aware of the diseased gingival condition and the results because of plaque accumulation. However, a majority of students gave importance to their teeth likewise as their overall health. That study concluded that the knowledge, attitude and practice of the participants about oral health was satisfactory.

Another cross-sectional study was conducted using Hiroshima University Dental Behavioral Inventory questionnaire among medical and dental students from a conveniently selected private medical and dental college in Karachi.⁹ In that study, a significant difference was observed between medical and dental student different oral health behaviors. It was concluded that dental students, had better dental health practices.

Dental, medical and paramedical students perform a substantial character in oral health care and promotion. What they learn in institutions becomes ineffective unless it leads to a deep variation in students' attitude and behavior to improve their own personal health. Nurses also have an important role in the dissemination of information about health prevention and promotion, therefore it is substantial that their personal oral health knowledge should be decent, and their behavior approves to hope of the community people. The purpose of this study was to investigate the oral health behavior and practice among nursing students of Hyderabad.

METHODS

This cross-sectional study was conducted among 390 nursing students of School of nursing Liaquat university, Hospital, Dua institute of nursing and School of nursing, Sir CJ Institute of Psychiatry Hyderabad from November to December 2018.

Nursing students with age 16 years and above with no restriction of gender were selected through non-probability purposive sampling technique. Critically ill and unable to provide informed consent were not selected. Data were collected through the questionnaire designed on the basis of Hiroshima University Dental Behavioral Inventory (HU-DBI).^{10,11} Information regarding sociodemographic and oral health practices was also obtained. Sample size calculation was performed on Open Epi version 3.0. With the assumption of nursing students' adequate practice of oral health as 50%, the margin of error 5% and confidence interval as 95% the calculated sample size was 390.

Data were entered and analyzed in SPSS version 22.0. Demographic variables include age, gender, education program and year of education. The mean and standard deviation was calculated for quantitative variables and frequency and the percentage was obtained for qualitative variables. Independent sample t-test was applied to compare the difference of dental behavior between gender. P-value <0.05 was taken as the level of significance. All procedure followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2008.

RESULTS

The mean age of the participants was 26.57 ± 4.668 . Nearly two-thirds of the students were male, 50% were from general nursing whereas one-fourth belonged to Post Basic Specialty and BScN Post RN respectively (Table 1). For male students highest mean score was found for I am satisfied with the appearance of my teeth 4.86 ± 2.327 followed by I use a standard-sized toothbrush 4.67 ± 1.995 . Whereas for female participants highest mean score was found for satisfaction with teeth appearance 4.28 ± 2.849 followed by observation on sticky deposits on teeth 4.21 ± 2.685 . (Table 2) Significance difference between gender was found for satisfaction with teeth appearance, gums tend to bleed, standard-sized toothbrush, worried by gums color, getting worse despite my

daily brushing, carefully brushing, cleaning teeth without toothpaste, checking teeth in a mirror, worried about bad breath, dye usage for seeing cleanliness of teeth, usage of hard bristles toothbrush, feeling unless brush with strong strokes and much time to brush teeth. (Table 2) Overall highest mean HU-DBI score was found for age group 31-35 (3.91±0.850), for male (3.92±0.750), for BSN Post RN (3.91±0.856) and for 2nd-year students (3.84±0.912).

Here statistically significant difference was obtained for gender only (p-value < 0.001) whereas, variables education program (p=0.086) and year of education (p=0.079) are insignificant. (Table 3)

The majority (83.3%) of the participants brush their teeth every day. Half of the participants mentioned that they use a brush and miswak every day. More than 90% of participants did not use mouthwash and toothpick regularly. Only 8.2% of nursing students floss daily. (Figure 1)

Table 1: Demographic and nursing education characteristic

Characteristic	n	%
Age Mean ± SD	26.57±4.668	
16- 20	44	11.3
21 - 25	118	30.3
26- 30	146	37.4
31 - 35	82	21.0
Gender		
Male	249	63.8
Female	141	36.2
Education Program		
General Nursing	202	51.8
Post Basic Specialty	98	25.1
BScN Post RN	90	23.1
Year of Education		
1st Year	155	39.7
2nd Year	196	50.3
3rd Year	39	10.0

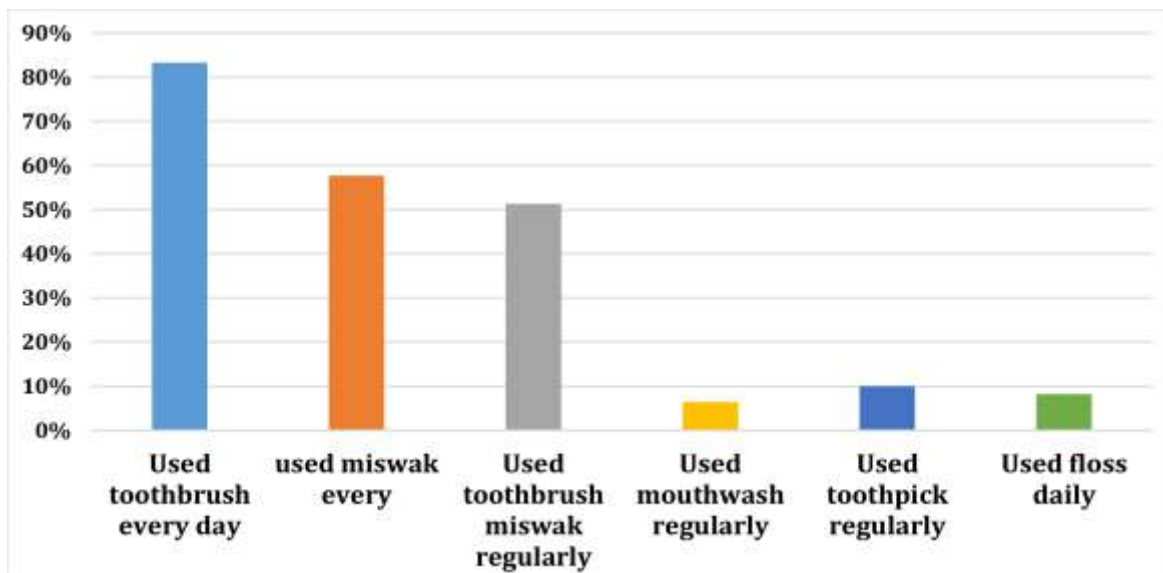


Figure 1. Distribution of oral health practices among nursing students

Table 2: Comparison of the HU-DBI items scores between gender among nursing students

Gender	Male		Female		P-value
	Mean	SD	Mean	SD	
Satisfied with the appearance of teeth	4.86	2.327	4.28	2.849	0.030
Gums tend to bleed when brush teeth	3.38	2.041	3.87	2.723	0.044
Worry about the color of teeth	3.59	1.914	3.48	2.860	0.647
Noticed sticky deposits on teeth	3.79	2.173	4.21	2.685	0.092
Use a standard-sized toothbrush	4.67	1.995	3.33	2.674	<0.001
Cannot help having false teeth when old	2.93	2.354	3.04	2.518	0.652
Worried by the color of gums	3.60	1.984	2.70	2.484	<0.001
Teeth are getting worse despite daily brushing	4.14	1.930	3.04	2.571	<0.001
Brush each of tooth carefully	4.59	1.984	3.13	2.717	<0.001
Never been taught professionally how to brush	4.08	1.990	3.72	5.820	0.379
Can clean teeth well without using tooth paste	3.94	2.204	3.42	2.694	0.041
Often check teeth in a mirror after brushing	4.26	2.059	3.52	2.753	0.003
Worry about having bad breath	3.66	1.981	3.11	2.795	0.023
Impossible to prevent gum disease with tooth brushing alone	3.73	2.269	3.33	2.756	0.115
Never go to a dentist until have a toothache	3.79	1.981	3.43	2.817	0.148
Used a dye to see how clean teeth are	3.74	2.086	3.01	2.608	0.003
Use a toothbrush which has hard bristles	3.98	2.014	3.28	2.627	0.003
Not feel have brushed well unless brush with strong strokes	4.15	1.971	3.08	2.561	<0.001
Feel that sometimes take too much time to brush teeth	4.46	1.762	3.46	2.604	<0.001
Dentist tell that I brush very well	3.93	2.240	3.64	2.729	0.252
Not worry much about visiting the dentist if needed	3.22	2.470	3.07	2.727	0.569

HU-DBI Items score: Hiroshima University Dental Behavioral Inventory Questionnaire, Independent t-test applied.
p- value <0.05 taken as significant

DISCUSSION

The oral disease might be viewed as a public health issue because of its upsurge prevalence and noteworthy social impact. Because of the professional role and educational level of the nurses, it is anticipated that nurses are to be more well-informed in society regarding oral health and its diseases. Keeping in mind the

anticipated part to be performed by the nursing students, it was necessary to assess knowledge, attitude and practice regarding oral health among nursing students. Oral hygiene is essential to maintain the oral health. In this study, Hiroshima University Dental Behavioral Inventory (HU-DBI) questionnaire was used for data collection from three different institutes.

Table 3: Comparison of overall HU-DBI scores in Age groups, gender, education and year of education

Characteristic	Mean	SD	p-value
Age, years			
16- 20	3.54	1.40	0.206
21 – 25	3.77	1.00	
26- 30	3.65	1.05	
31 - 35	3.91	0.85	
Gender			
Male	3.92	0.75	<0.001*
Female	3.38	1.38	
Education Program			
General Nursing	3.62	1.30	0.086
Post Basic Specialty	3.77	0.47	
BScN Post RN	3.91	0.85	
Year of Education			
1st Year	3.640	0.97	0.079
2nd Year	3.8452	0.91	
3rd Year	3.5055	1.77	

Analysis of variance applied. Independent sample t test, p-value<0.05 taken as significant

In our study, with respect to education level the oral behavior has not changed statistically significantly, which is in line with the study aimed for attitude comparison to the oral health care between medical and dental students.⁹ which is contrary to the study conducted by Yildiz et al among dental students in Turkey.¹² In our study male students showed more consciousness to their oral health when compared with female students, overall HU-BDI score differed significantly between gender. This result are consistent with the findings of the study but not in line with a study among Palestine dental students. In our study overall HU-BD, I score did not differ significantly when the difference was sought with respect to age group.^{9,13}

Our study revealed that 83.3% of students brush teeth regularly, other study conducted by Doshi among engineering and medical students showed that 96% student were using toothbrush and another study among school going kids by Al-Omiri et al and Walsh reported the same percentage of using toothbrush at least once a day.¹⁴⁻¹⁶ A study conducted by Shah in Gujrat

India showed that 72.8% of students used brush once a day.¹⁷ In our study only 6.4% students use mouthwash daily this is contrary to the study conducted in the medical and dental college of Karachi reported 41.7% medical and 60.3% dental students used miswak regularly.⁸ Flossing of teeth is as much needed as brushing for the whole cleaning. In our study, only 8.2% of study participants floss daily, whereas 32.3 % of Turkish dental students flossed regularly while 16% of our dental students flossed.¹⁸ This depicts that nursing students were not well educated about the advantages of flossing. Another study conducted in Karachi showed 23.5 % medical and dental student floss daily respectively and the study conducted by Khami et al showed 52 students did floss at least once a day.^{8,19} In our study overall HU-BD, I score for a male was significantly higher than female this is not consistent with the findings of the study conducted in medical students of Yamen and reported that female students scored significantly higher than male students.²⁰

The limitation of this study is that self-reporting might be an unreliable way of detailing behavior

as it can be biased because of gained knowledge and social beliefs. Furthermore, because of cross-sectional design it does not describe cause of alternations in behaviors of participants. However, in spite of these constraints, it is suggested that the students' attitude and knowledge to increase their own health is more efficient when it leads to wide variation. This research is the first to recognize the oral health behavior of nursing students and would benefit the nursing staff to have decent health skills and to demonstrate them. It is recommended that the oral health care practices should be further highlighted from the starting in the nursing curriculum as better oral hygiene has good impact on the self-confidence and healthcare.

CONCLUSION

This study exhibited an inclusive overview of the oral health behavior and practice of nursing students of Hyderabad, Pakistan. Male nursing students were found to be more conscious about their dental hygiene. There was no significant difference in dental behavior among nursing students of different years and education program. There was a lack of floss practice among nursing students. The behavior of nursing students about oral health was adequate. More comprehensive studies probing thoroughly about the knowledge, attitude, and practice of oral health can always be explored further among the nursing profession.

AUTHORS' CONTRIBUTION: SK substantially contributed to the conception and design of the study. SYS, HJ worked in the acquisition, analysis, and interpretation of data. ZAR, ZA drafted the manuscript. SK, IA revised it critically for important intellectual content gave the final approval of the manuscript.

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