

Oral health care awareness among nursing students of Karachi, Pakistan

Raima Bashir, Kulsoom Fatima Rizvi, Kiran Fatima, Mushtaq Ahmed, Anum Sami

Bahria University Medical and Dental College, Karachi, Pakistan

Objective: To assess and correlate the knowledge, attitude and practice of nursing students towards Oral Health Care.

Methodology: This descriptive, cross-sectional study was carried out among nursing students of Karachi from March to April 2019. The study consisted of a closed-ended questionnaire which was divided into 3 sections about knowledge, attitude and practice about oral health care. Each participant was given 20 min to fill the questionnaire. The data were statistically analyzed using SPSS version 23.

Results: Oral health care knowledge among nursing students was very good. 94.5% identified tooth paste and brush as ideal tool for proper oral hygiene maintenance, 88% showed awareness

about using fluoridated tooth paste, 62.3% of students brushed after meals, 66% used soft brushes, and 57.9% brushed using vertical technique. A positive attitude towards acquiring advance oral health knowledge was seen in 93% participants. A statistically strong association ($p < 0.001$) between knowledge and oral hygiene practice was found.

Conclusion: There is good basic knowledge, and attitude regarding oral health care among our nursing students. With provision of advance knowledge about oral diseases and oral hygiene protocols, nurses can be efficiently utilized in spread oral health promotion among our general population. (Rawal Med J 202;46:106-110).

Keywords: Oral health, awareness, attitude.

INTRODUCTION

Oral health is an intrinsic and inevitable part of general health. It is directly linked with the entire body and constitutes a significant component of an individual's overall health.¹ Multiple oral conditions are directly related to systemic diseases either as a manifestation of some systemic problem or by being the architect of certain disease's initiation and progression in the body.^{2,3} Frequent referrals to dentists for consultation about oral signs and symptoms are often overlooked and not emphasized upon by general physicians.⁴ Thus, attainment of good health requires syndicate efforts by both medical and dental care providers.^{3,5}

Paramedics play a significant role in providing health care services to general population.⁶ Nurses however have a more profound role in health care as compared to other paramedical personnel in promotion and dissemination of preventive information to the patients.⁷ The population of Pakistan is enormous with immense health needs, but the numbers of registered doctors/dentists available to cater to the health needs of our people are scarce.⁸ If nurses are imparted fundamental

knowledge about oral hygiene, they can be effectively utilized to provide basic oral health care (OHC) instructions and preventive protocol to general population.^{9,10} The aim of this study was to assess and correlate the knowledge, attitude and practice of nursing students towards OC.

METHODOLOGY

It was a descriptive, cross-sectional, questionnaire based study, conducted from March to April 2019 in Karachi. The study was approved by the Ethical Review Committee of Bahria University Medical and Dental College, Karachi. The study participants were male and females, aged between 18-29 years and belonging to all four years of nursing education. We distributed 202 questionnaires by non-probability convenience sampling technique. The students present on the day of data collection and consenting to participate were included in the study.

A self-administered closed-ended questionnaire, comprising of 19 questions was used for and evaluated upon 3 categories. Section one consisted of demographic details such as age, gender and year of education. Section two addressed questions regarding

knowledge and attitude towards OHC which included type, method and frequency of tooth brushing, duration of changing tooth-brush and impact of oral health towards general health. In the last section, questions about the practices of oral health care were correlated with the knowledge. The questionnaire was adapted from a study by Alsrouet al.¹⁵

Statistical Analysis: Statistical analysis was performed using SPSS version 23. Chi square test was used to find the association between knowledge and practice of oral hygiene. $p < 0.05$ was considered significant.

RESULTS

Among 202 distributed questionnaires, 183 were found eligible for data entry. The response rate was 91%. Among 183, 60 (32.8%) participants were males and 123 (67.2%) female. The mean age was 23 years. All four years of nursing students equally participated in the study. Regarding brushing technique, 57.9% respondents were aware about the circular brush technique and 30.6% responded with horizontal along with circular brushing technique as a proper brush technique (Table 1).

Table 1. Knowledge and Attitude about Oral Health.

S.No.	Questions	Options	Frequency	Percentage
1.	How many times should a person brush his teeth?	a) Morning	20	10.9
		b) Evening	134	73.2
		c) More than two times	14	7.7
		d) After every meal	15	8.2
2.	What is the proper brushing method?	a) Horizontal	16	8.7
		b) Circular	106	57.9
		c) Vertical	5	2.7
		d) Both a and b	56	30.6
3.	What kind of brush is ideal to use?	a) Soft	143	78.1
		b) Medium	39	21.3
		c) Hard	1	0.5
4.	How often a person should change his toothbrush?	a) once a month	24	13.1
		b) every 3 months	118	64.5
		c) every 6 months	34	18.6
		d) When it is spoilt	7	3.8
5.	Would you advice flossing and use of interdental brushes?	a) Yes	138	75.4
		b) No	25	13.7
		c) Don't know	20	10.9
6.	Should oral ailments be treated equally as other diseases/problems of the body?	a) Yes	177	96.7
		b) No	3	1.6
		c) Don't know	3	1.6
7.	Do you think collaboration between regular health care and dental care is needed?	a) Yes	166	90.7
		b) No	8	4.4
		c) Don't know	9	4.9

Table 2. Practices regarding Oral Health Care.

S.No.	Questions	Options	Frequency	Percentage
1.	At what time do you brush your teeth?	a. Morning	23	12.6
		b. Evening	14	7.7
		c. After meals	114	62.3
		e. More than two times	32	17.5
2.	For how many minutes do you brush your teeth?	a. Less than one minute	108	59
		b. More than one minute	66	36.1
		c. Don't remember	9	4.9
3.	What method of tooth-brushing do you use?	a. Horizontal	20	10.9
		b. Circular	72	39.3
		c. Vertical	4	2.2
		d. Both a and b	87	47.5
4..	What type of toothbrush do you use?	a. Hard bristle	11	6
		b. Medium bristle	51	27.9
		c. Soft bristle	121	66.1
5..	When do you change your toothbrush?	a. After 1-3 months	56	30.6
		b. After 4-6 months	118	64.5
		c. After 7-12 months	6	3.3
		d. After a year or more	3	1.6
6.	Do you use any other aid for cleaning your teeth?	a. Floss	13	7.1
		b. Mouthwash	149	81.4
		c. Combination of both	21	11.5

Table 3. Association between Knowledge, Attitude and Practice of Oral Health Care.

S.No	Questions		Knowledge & Attitude		Practice		P-Value
			N	%	n	%	
1.	Frequency of Brushing	Morning	20	10.9	23	12.6	0.001*
		Evening	134	73.2	14	7.7	
		More than 2 times	14	7.7	32	17.5	
		Every after meal	15	8.2	114	62.3	
2.	Kind of Tooth paste	Fluoridated	161	88	160	87.4	0.0001*
		Non- Fluoridated	17	9.3	20	10.9	
		Both	5	2.7	3	1.6	
3.	Kind of Tooth Brush	Soft	143	78.1	121	66.1	0.0001*
		Medium	39	21.3	51	27.9	
		Hard	1	0.5	11	6	
4.	Proper Brushing Technique	Horizontal	16	8.7	20	10.9	0.001*
		Vertical	106	57.9	4	2.2	
		Circular	5	2.7	72	39.3	
		Both A & B	56	30.6	87	47.5	
5.	How Often a person should change his tooth Brush	1 month	24	13.1	56	30.6	0.0001*
		3 months	118	64.5	118	64.5	
		6 months	34	18.6	6	3.3	
		When useless	7	3.8	3	1.6	

Regarding OHC practices, 62.3% students brushed after meals, 87.4% were using fluoridated tooth paste, 66% used soft brushes, and 57.9% brushed using vertical technique while 47.5% brushed using a combination of horizontal and circular brushing method (Table 2). Regarding association between knowledge and practice among oral hygiene modalities, there was a strong association between the two among all four years of nursing students as evident by statistically significant $p < 0.0001$ (Table 3)

DISCUSSION

In our study, the majority of undergraduate nursing students showed positive oral hygiene knowledge and 94.5% identified tooth brush and tooth paste as the primary tool for oral hygiene maintenance. This is closely in accordance with results observed by several other researchers.¹¹⁻¹³ 84.1% participants entailed brushing once whereas 15.9% responded with more frequent brushing. These results contrast with a similar study where 67.3% nursing students recommended brushing twice daily.⁶ Fluoridated toothpaste, for regular brushing was reported by 88% participants. It was contrary to 18% adult awareness about fluoridated toothpaste use in Africa.¹⁴

Circular brushing technique was identified by 57.9% as the appropriate brushing technique, which was similar to the 66.7% findings by nursing students in India and coincided with the vertical brushing technique reported by 87.5% of study population in another study.¹⁵ In our study 64.5% students knew that tooth brushes should be changed after every 3 months, which is comparatively better than 53.7% results reported in a study by Muttineni et al.⁶

The majority of the students (62.3%) in our study brushed their teeth after every meal, which is better than the nursing students in Jordan and Hong Kong and India, who brushed twice a day.^{12,15,16} This may be due to frequent interaction of nurses with patients and public dealing that they find it appropriate to brush after every meal especially when on duty. Significance of flossing was less apprehended (7.1%) by our study participants being lower than 31.2% response in a comparable study.¹⁷ This may be attributed to technique sensitivity and dexterity

associated with flossing. Mouth washes were however used by 81.4% participants who parallel 82.9% results in a study.¹⁸

CONCLUSION

There is good basic knowledge, and attitude regarding oral health care among our nursing students. With provision of advance knowledge about oral diseases and oral hygiene protocols, nurses can be efficiently utilized in spread oral health promotion among our general population.

Author Contributions:

Conception and design: Raima Bashir, Kulsoom Fatima Rizvi, Anum Sami

Collection and assembly of data: Raima Bashir, Kiran Fatima, Anum Sami

Analysis and interpretation of the data: Raima Bashir, Kiran Fatima

Drafting of the article: Raima Bashir, Kiran Fatima

Critical revision of the article for important intellectual content:

Kulsoom Fatima Rizvi Mushtaq Ahmed,

Statistical expertise: Kiran Fatima

Final approval and guarantor of the article: Raima Bashir, Mushtaq Ahmed

Corresponding author email: Raima Bashir:

raimabashir@gmail.com

Conflict of Interest: None declared

Rec. Date: Dec 16, 2019 Revision Rec. Date: Aug 4, 2020 Accept

Date: Dec 23, 2020

REFERENCES

1. Rizvi KF, Bashir R. Oral Health Status in public school children. *Pak Oral Dent J* 2015;35:649-54.
2. Alpert PT. Oral health: the oral-systemic health connection. *Home Health Care Manag Pract* 2017;29:56-9.
3. Casamassimo PS, Flaitz CM, Hammersmith K, Sangvai S, Kumar A. Recognizing the Relationship Between Disorders in the Oral Cavity and Systemic Disease. *Pediatr Clin N Am* 2018;65:1007-32.
4. Shimpi N, Schroeder D, Kilsdonk J, Chyou PH, Glurich I, Penniman E, et al. Medical Providers' Oral health knowledgeability, attitudes, and practice behaviors: an opportunity for Inter-professional collaboration. *J Evid Based Dent Pract* 2016;16:19-29.
5. Faragalla AI, Almalki EJ, Asiri HA. Knowledge, Attitude and Practice of Nurses to Oral Health Care for Hospitalized Patients in Abha City-Saudi Arabia. *Acta Sci Dent Sci* 2018;2:16-23.
6. Muttineni N, Bolla SC, Naheeda S, Shaik RB, Reddy SS, Gantha NS. Oral health awareness among the final year undergraduate nursing students in Khammam district, Telangana. *J Health Res Rev* 2014;1:70-3.
7. Kaira LS, Srivastava V, Giri P, Chopra D. Oral health-related knowledge, attitude and practice among nursing students of Rohilkhand medical college and hospital: A questionnaire study. *J Orofac Res* 2012;2:20-3.

8. Qureshi AZ, Rathore FA. Number of Pakistani physicians working abroad; Do we really need to know. *J Pak Med Assoc* 2014;64:1410-2.
9. Rabiei S, Mohebbi SZ, Yazdani R, Virtanen JI. Primary care nurses' awareness of and willingness to perform children's oral health care. *BMC Oral Health* 2014;14:14-26.
10. Monica M, Koppula YR, Reddy PP, Anjum S, Sheetal A, Pagatur N. Attitude and practices among nurses regarding oral health care of nonambulatory patients in hospitals of Warangal city-Telangana, India. *J Indian Assoc Public Health Dent* 2017;15:244.
11. Baseer MA, Alenazy MS, AlAsqah M, AlGabbani M, Mehkari A. Oral health knowledge, attitude and practices among health professionals in King Fahad Medical City, Riyadh. *Dent Res J* 2012;9:386-92.
12. Kaur S, Kaur B, Ahluwalia SS. Oral health knowledge, attitude and practices amongst health professionals in Ludhiana, India. *Dentistry* 2015;5:1-5.
13. Doshi D, Baldava P, Anup N, Sequeira PS. A comparative evaluation of self-reported oral hygiene practices among medical and engineering university students with access to health-promotive dental care. *J Contemp Dent Pract* 2007;8:68-75.
14. Varenne B, Petersen PE, Ouattara S. Oral health behaviour of children and adults in urban and rural areas of Burkina Faso, Africa. *Int Dent J* 2006;56:61-70.
15. Alsrouf SS, Nassrawin N, Al-Tawarah YM. Oral health knowledge, attitudes and behavior of nursing students at Mutah University (Jordan). *Pak Oral Dent J* 2013;33:102-6.
16. Messer LB, Calache H. Oral health attitudes and behaviours of final-year dental students. *J Dent Educ* 2012;16:144-55.
17. Chan JC, Chin LS. Oral health knowledge and psychological determinants of oral health behavior of nursing students. *J Health Psychol* 2017;22:79-88.
18. Bhattarai R, Khanal S, Rao GN, Shrestha S. Oral health related knowledge, attitude and practice among nursing students of Kathmandu—a pilot study. *JCMS-Nepal* 2016;12:160-8.