

Knowledge and Practices of Periodontal Health and Oral Hygiene among BDS Students

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ABSTRACT

Background: Periodontal disease is an inflammatory oral disease that affects the soft and hard tissues supporting the teeth. Gingivitis, an early stage, when untreated leads to periodontitis that causes progressive tooth mobility leading towards tooth loss. Periodontitis is ubiquitous and commonly manifests in adult life. Early detection of oral diseases makes them more amenable to treatment and allows better chance of cure. BDS students are young adults who are going to be future oral health care provider. Their knowledge and oral hygiene practices may impact oral health status of a society.

Aims: The aim of this study was to evaluate the knowledge of oral health and periodontal disease and correlate it with oral hygiene practices among BDS students not exposed to clinical practice.

Materials and Methods: This cross-sectional study was carried out among 120 students of first, second and third year BDS at Kantipur Dental College. The students who were not exposed to clinical practice were invited to participate. The data was collected by self-administered structured questionnaire. There were total of 15 questions on knowledge and oral hygiene practice and scores were assigned to each question. Data analysis was done by SPSS 20 software program.

Results: The mean knowledge score of the population was 6.58 ± 1.29 and mean practice score as 6.20 ± 1.73 . The participants had good knowledge (55%) of oral health and periodontal diseases. However, only 22.5% of participants followed good oral hygiene practices. There was no significant difference of knowledge between males and females ($p = 0.831$) but a statistically significant difference was seen in the practice of oral hygiene ($p = 0.006$).

Conclusion: Despite having good knowledge (55%) of oral and periodontal health, 77.5% of the BDS students did not follow good oral hygiene practices on a regular basis. Dental students must be encouraged to be good role models in practicing as well as promoting oral health. The authors would like to recommend incorporating some oral health and preventive dentistry topics in the non-clinical BDS curriculum.

Keywords: knowledge; oral health; oral hygiene; periodontal health; practice; tooth brushing.

INTRODUCTION

Periodontal diseases are one of the most common diseases among population and, when left untreated, lead to tooth loss.¹ Staggering 47.5% of Nepalese population suffer from periodontitis.² Periodontitis has been associated with many systemic conditions such as cardiovascular diseases, diabetes, preterm low birth weight deliveries, rheumatoid arthritis, pulmonary diseases, etc. Thus, maintaining good oral health is important not only for healthy dental status but also for improved systemic health.³ The main cause

of periodontal disease is bacterial plaque although many other factors such as smoking, diabetes, drugs, stress, haematological disorders and hormonal changes, may affect the initiation and progression of gingival and periodontal diseases.⁴ Taking care of oral hygiene by removing dental plaque remains mainstay of maintaining oral and periodontal health. The young adult age group can be motivated to instil good oral hygiene practices at an early age for life-long good oral health conditions.

The Bachelor of Dental Surgery (BDS) students, who are not exposed to the clinical practice and the subject of Periodontology in their curriculum, are good representative of health aware individuals of the young adult age group.

This study was conducted to evaluate the knowledge of periodontal health and various oral hygiene practices among BDS students and to assess the potential relationship among gender, level of knowledge and practices of oral hygiene.

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Citation

Malla S, Shrestha R, Dhami B, Gupta S, Deo S. Knowledge and practices of periodontal health and oral hygiene among BDS students. J Nepal Soc Perio Oral Implantol. 2017;1(2):51-4.

MATERIALS AND METHODS

This is a cross-sectional observational study, carried out among 120 students of Kantipur Dental College, Kathmandu, Nepal during May 2017. Before embarking upon the study, proposal was submitted to ethical committee and approval was taken. The students who were not exposed to clinical practice were recruited for the study. Utmost confidentiality was maintained and no names, documents are disclosed anywhere other than among the researchers. The inclusion criteria included students of first, second and third year enrolled in BDS program and willing to sign an informed consent. The exclusion criteria included the students who had attended lectures of Periodontics or exposed to clinical practice.

Convenience sampling method was utilized and the sample size of 114 was calculated using Slovin's (1960) formula:

$$n = \frac{N}{1 + Ne^2} = 113.16$$

Where n = required sample size

N = population size = 126

e = margin of error = 0.03 (at confidence level 99%)

1 = constant value

The participants completed a self-administered structured questionnaire. The questionnaire consisted of items to assess participants' personal data (age, gender) and knowledge related to periodontal health and their oral

hygiene practices. There were total nine questions on knowledge with maximum score nine (Table 1) and six questions on oral hygiene practice with maximum score of 10 (Table 2).

The data from the proforma were entered in Microsoft Excel and statistical analyses were performed using Statistical Package for Social Sciences (SPSS) software program version 20.0. Chicago: SPSS IBM Corp. The scores of knowledge and oral hygiene practice were graded as Good, Fair and Poor (Table 3). Statistical significance was based on probability values of less than 0.05. Potential association among knowledge of periodontal health, oral hygiene practices and gender were analysed (Table 3).

RESULTS

The minimum knowledge score of the population was observed to be three and maximum nine while the minimum practice score was two and maximum 10. The mean knowledge score of the population was found to be 6.58 ± 1.29 and mean practice score as 6.20 ± 1.73 (Table 3).

When the knowledge scores were checked with gender there was no significant difference ($p = 0.0831$) while the practice scores showed a statistically significant ($p = 0.006$) association (Table 3).

The age of the participants ranged from 20 to 24 years (21.26 ± 0.95) and among all the participants (120) there were 27 (22.5%) males and 93 (77.5%) females (Table 3).

Table 1: Knowledge of periodontal health and oral hygiene (total score = 9).

		n (%)	Scores
1.	Which type of brushing technique do you think is better for good oral health?		
	Horizontal	26 (21.7)	
	Vertical	34 (28.3)	
	Roll stroke	54 (45)	1
	Not aware	6 (5)	
2.	What is the most common cause for bleeding gums?		
	Vitamin C deficiency	52 (43.3)	
	Poor oral hygiene	56 (46.7)	1
	Injury to the gums	11 (9.2)	
	Not aware	1 (0.8)	
	41.13 (8.57)		
3.	What is the most common cause for bad breath?		
	Smoking	3 (2.5)	
	Poor oral hygiene	113 (94.2)	1
	Lung diseases	1 (0.8)	
	Onion/garlic food product	3 (2.5)	
4.	Do you think coffee or tea causes staining of teeth?		
	Yes	68 (56.7)	1
	No	7 (5.8)	
	Maybe	37 (30.8)	
	Not aware	8 (6.7)	

5.	What do you think is the most common cause for loose teeth?		
	Old age	39 (32.5)	
	Diabetes	1 (0.8)	
	Poor oral hygiene	74 (61.7)	1
	Accident/ Injury	6 (5)	
6.	Do you think sensitivity to hot or cold food can be treated?		
	Yes	95 (79.2)	1
	No	8 (6.7)	
	Maybe	14 (11.7)	
	Not aware	3 (2.5)	
7.	Do you think bad oral hygiene affects your general health?		
	Yes	115 (95.8)	1
	No	1 (0.8)	
	Maybe	3 (2.5)	
	Not aware	1 (0.8)	
8.	What is the most common cause for receding gums?		
	Improper tooth brushing	109 (90.8)	1
	Nail biting habit	4 (3.3)	
	Injury	4 (3.3)	
	Diabetes	3 (2.5)	
9.	Has any member of your family lost more than 6 teeth at young age of <35 years?		
	Yes	4 (3.3)	1
	No	101 (84.2)	1
	Maybe	4 (3.3)	
	Not aware	11 (9.2)	

Table 2: Practices of oral hygiene (total score = 10).

		n (%)	Scores
1.	Do you brush your teeth daily?		
	Yes	119 (99.2)	1
	No	1 (0.8)	
2.	How often do you brush your teeth?		
	Once daily regularly	44 (36.7)	1
	Twice daily regularly	76 (63.3)	1
	Once daily irregularly	-	
	Sometimes	-	
3.	How often do you change your toothbrush?		
	6 months	24 (20)	1
	3 months	92 (76.7)	2
	1 year	3 (2.5)	
	Till bristles get frayed	1 (0.8)	
4.	Do you use dental floss regularly?		
	Sometimes	49 (40.8)	1
	Yes	11 (9.2)	2
	No, I am not aware of it	60 (50)	
5.	How often do you use mouthwash?		
	Never	56 (46.7)	
	Once in a week	15 (12.5)	1
	Once a day for two weeks	3 (2.5)	1
	As prescribed by the dentist	46 (38.3)	2
6.	How often you visit your dentist for dental check-up?		
	In 3 months	7 (5.8)	1
	In 6 months	34 (28.3)	2
	Once in a year	41 (34.2)	1
	Never visit	38 (31.7)	

Table 3: Gender correlation with knowledge and practice scores.

	Good n (%)	Fair n (%)	Poor n (%)	Total n (%)	p value	Mean $\pm$ S.D.	Mode
Knowledge scores	7 to 9	5 to 6	≤ 4				
Male	16 (13.3)	9 (7.5)	2 (1.7)	27 (22.5)	0.831	6.58 $\pm$ 1.29	7
Female	50 (41.7)	37 (30.8)	6 (5)	93 (77.5)			
Total	66 (55)	46 (38.3)	8 (6.7)	120 (100)			
Practice scores	8 to 10	5 to 7	≤ 4				
Male	7 (5.8)	9 (7.5)	11 (9.2)	27 (22.5)	0.006	6.20 $\pm$ 1.73	7
Female	20 (16.7)	59 (49.2)	14 (11.7)	93 (77.5)			
Total	27 (22.5)	68 (56.7)	25 (20.8)	120 (100)			

DISCUSSION

Periodontal health is essential component of oral health and its significance for systemic health and general well-being has been emphasized time and again.⁵ To achieve good oral as well as periodontal health, toothbrush and oral hygiene aids should be used regularly on a daily basis and in correct manner. Early detection of oral diseases makes them more amenable to treatment and allows better chance of cure.⁶ Dental plaque should be removed at least every 48 hours for good periodontal health.

Dental students are the young adults and future oral health care providers. Their self-awareness regarding periodontal health is vital.⁷ Their knowledge and oral hygiene practices can be useful in promoting the importance of oral and periodontal health for systemic health and general well-being. Periodontal diseases can be prevented by proper tooth brushing, use of interdental aids, dental flossing and timely visits to dentist.⁷

Periodontal health knowledge was good (55%) among the BDS students which is in accordance with studies done by Andhare et al.⁷ It could be attributed to in part to their increased interest as part of their professional education.

However, only 22.5% of the participants followed good oral hygiene practices. It could be because of lack of exposure to clinical environment.⁸

Female students did not show difference in knowledge of periodontal health which differs from the studies of Ahamed et al.,⁸ Sharda et al.⁹ However, it agrees with authors in that oral hygiene practice scores were better in females, similar to Al-Omari et al.¹⁰

The limitation of this study was that it was an observational study for a short period in only one dental college. A comparative study with BDS students exposed to clinical setting⁸ including other dental colleges as well or compared to non-dental undergraduate students⁷ would have given broader glimpse of actual scenario of knowledge and oral hygiene practice in the young adult age group.

CONCLUSION

Despite having good knowledge (55%) of oral and periodontal health, 77.5% of the BDS students did not follow good oral hygiene practices on a regular basis. The dental students must be encouraged to be good role models in practicing as well as promoting oral health for their patients, families, friends and ultimately the society. The authors would like to recommend incorporating some oral health and preventive dentistry topics in the non-clinical BDS curriculum.

ACKNOWLEDGEMENTS

We would like to acknowledge the BDS students of Kantipur Dental College for their enthusiastic participation.

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