Research Article

Submitted: Sep 23, 2020
Accepted: Dec 02, 2020
Published: Mar 24, 2021

Oral Health Knowledge, Attitude, and Practice among Medical and Non-Medical Students at a Tertiary Hospital

Dr. Swagat Kumar Mahanta,[1] Dr. Manoj Humagain,[2] Dr. Dilip Prajapati,[3] Dr. Biva Paudial,[4] Dr. Prejina Upadhyay[5]

[1]Department of Community Dentistry, Kathmandu University School of Medical Sciences (KUSMS), Dhulikhel, Kavrepalanchok, Nepal

[2]Department of Periodontics, KUSMS, Dhulikhel, Kavrepalanchok, Nepal

[3]Department of Community Dentistry, KUSMS, Dhulikhel, Kavrepalanchok, Nepal

[4]Dental Surgeon, Civil Service Hospital, Minbhawan, Kathmandu, Nepal

[5]Dental Surgeon, Shining Smile Dental Clinic, New Baneshwor, Kathmandu, Nepal

Correspondence:

Dr. Swagat Kumar Mahanta. Email: swagat123421@gmail.com

ABSTRACT

Introduction: The personal health behaviour is important in individual for the maintenance of general health and this depends to some or more extent on the oral health behaviour. As oral health is linked to systemic health and medical professionals deal with patients on an everyday basis, it is essential for students themselves to know about oral health and its usage in daily life for effective patient management and education.

Objective: To assess and compare the oral health knowledge, attitude, and behaviour among the medical and non-medical students of Kathmandu University School of Medical Sciences (KUSMS).

Materials and Method: This was an analytical cross-sectional study done among 150 medical and 150 non-medical students of KUSMS, conducted from December 2019 to January 2020. A 20-item questionnaire was used. Clinical oral hygiene status was assessed using World Health Organisation Oral Health Assessment Form for Adults 2013. SPSS v.20 was used for data analysis. Unpaired t-test and descriptive statistics were carried out.

Result: Mean knowledge, attitude, and practice scores were significantly higher among BDS students as compared to other disciplines ($P < 0.01$). Overall medical students scored significantly higher in all three domains. On clinical examination, non-medical students had higher DMFT (2.08±1.3) and gingivitis scores (3.9±1.4) as compared to medical students.

Conclusion: The present study showed that medical students scored higher scores than non-medical students. They also showed better caries and gingivitis status. More focus should be placed on oral health education and its importance for all the students.

Keywords: Attitude; knowledge; medical; practice; students.

INTRODUCTION

Oral health may be defined as a standard of health of the oral and related tissues which enables an individual to eat, speak, and socialise without active disease, discomfort or embarrassment, and which contributes to general well-being.[1] As many

Citation
Mahanta SK, Humagain M, Prajapati D, Paudial B, Upadhyay P. Oral health knowledge, attitude, and practice among medical and non-medical students at a tertiary hospital. J Nepal Dent Assoc. 2021 Jan-Jun;21(32):29-33.

systemic diseases are linked to oral conditions, general health requires efforts of both medical and dental health professionals.[2]

In preventive health promotion, it is important that the oral health knowledge, attitude, and practice are adequate among health professionals too.[3] Medical students are more likely to encounter vulnerable populations than dental students.[4] They should have knowledge regarding oral health to provide necessary oral health education and also provide referral. Thus, oral health care needs to be addressed by both dental and medical professionals and should be integrated into health promotion strategies.[5] As today's students will provide health services in the future, it is important to study their oral health knowledge, attitude, and practice.[6]

Hence, present study was carried out to assess and compare the oral health knowledge, attitude, and behaviour among the medical and non-medical students at Kathmandu University School of Medical Sciences (KUSMS) to check for any differences. Secondary objective was to compare the oral hygiene status among both the groups.

MATERIALS AND METHOD

This analytical cross-sectional study was conducted in KUSMS from December 2019 to January 2020. Ethical approval was obtained from the institutional review committee of Kathmandu University, (Ref. 255/19). Undergraduate students of medical, dental, nursing, law, and management were selected for the study. Sample size was determined based on the previous study done by Kumar et al.6

Sample size was determined based on the formula for mean differences of two groups. The formula used was:

$$n = \frac{Z^2_{1-\alpha/2}\,[2S^2_p]}{d^2}$$

Since,

$$S_P^2 = \frac{S_1^2 + S_2^2}{2}$$

Where, standard deviation in the first group, (S1)=16.8; standard deviation in the second group, (S2)=20.3; estimated difference between means, (d)=7.1; and Z=2.58 (at 99% confidence interval and level of significance, α=0.01). Thus, the pooled standard deviation, (Sp2)=347.16 and estimated sample size, n=91.68 ≈ 92 per group.

A sample size of 150 each were selected from medical and non-medical professionals. Convenience sampling technique was employed for the selection of participants. Written informed consent was obtained from all the participants prior to administration of questionnaire. Students from KUSMS who were still studying and were willing to participate were included in the study, students who had oral conditions which could include bias in their response or hamper their oral hygiene practice were excluded. Students with any physical imparities which could hamper oral hygiene maintenance were also excluded. The study was conducted during the lunch hours of the students in their classrooms.

Knowledge, attitude, and behaviour was assessed using a validated questionnaire used by Ahmed et al.2 Oral health knowledge consist of 10 questions, attitude towards oral health consist of seven questions and behaviour or practice of students towards oral health practice consist of 13 questions.

The students were asked to respond to each item according to the survey response provided in the questionnaire. Responses included multiple-choice questions in which the students were asked to choose only one appropriate response from the options. The total completed questionnaires collected from medical and non-medical students were 300 in number which were used for analysis.

The oral health status of all the students were evaluated using World Health Organisation (WHO) Oral Health Assessment Form for Adults 2013. This form consists of various pretested and validated indices required to assess oral health. The questionnaire is made universally available by WHO and does not require special permissions to use the form. Dentition status and modified Community Periodontal Index (CPI) for entire dentition was recorded. Mouth mirror, number 23 explorer, and WHO probe were used for clinical examination.

For data analysis, in each category, the correct answer was given a code of 1 and the wrong

answer was given a score of 0. Mean values for each category were calculated and compared. 'IBM SPSS Statistics for Windows, version 25 (IBM Corp., Armonk, N.Y., USA) was used for data analysis. Tests for normality were conducted using Shapiro Wilk and Kolmogorov-Smirnov (K-S) test. Descriptive statistics and unpaired 't' test were used for comparison of mean scores across the three domains and for comparison of mean decayed, missing, and filled teeth (DMFT) index and gingivitis scores. Significance level was set at P <0.01.

RESULT

A total of 300 students took part in the study. Bachelor of Medicine, Bachelor of Surgery (MBBS), Bachelor of Dental Surgery (BDS) and Nursing students consisted of 150 students. For non-medical participants, 50 students from law and 100 from management college of Kathmandu University were selected (Table 1). Males were 85 (28.33%) and females 215 (71.66%). Mean age of the participants was 19.7±1.6 years.

Mean knowledge, attitude, and practice scores for different branches are depicted in Table 2. In the knowledge category. the maximum knowledge was found among BDS students (9.6±0.7) and least was among management students (5.9±1.6). Attitude towards oral health score was highest among BDS (4.3±0.8) followed by nursing (4.1±0.8), and the least score was found among management students (3.4±1.1). Practice of oral health was compared, and maximum score was among BDS students (9.9±1.4) and least among management (8.05±1.7).

Mean knowledge, attitude, and practice scores were compared among medical and non-medical students. The mean knowledge score was significantly higher among medical students (8.76±1.3) as compared to non-medical students (6.24±1.8). Medical students scored higher attitude scores (4.15±0.8) as compared to non-medical students (3.48±1.06). When oral health practice was compared, medical students scored (8.52±1.5) significantly higher than non-medical (7.47±1.6) students.

Non-medical students had higher DMFT (2.08±1.3) and gingivitis scores (3.9±1.4) as compared to medical students. Although the mean DMFT was higher among non-medical students, the results were not significant. The mean number of students affected by gingivitis was significantly higher among non-medical students (Table 4).

Table 1: Frequency distribution of participants, n (%).

Gender	MBBS	BDS	Nursing	Law	Management
Male	20 (40)	10 (20)	6 (12)	15 (30)	36 (36)
Female	30 (60)	40 (80)	44 (88)	35 (70)	64 (64)
Total	50 (100)	50 (100)	50 (100)	50 (100)	100 (100)

Table 2: Knowledge attitude and practice scores according to profession.

	MBBS	BDS	Nursing	Law	Management
Knowledge	9±0.93	9.6±0.7	7.6±1.3	6.8±1.9	5.9±1.6
Attitude	3.97±0.85	4.3±0.8	4.1±0.8	3.5±1.1	3.4±1.1
Practice	9.06±1.7	9.9±1.4	9.2±1.2	8.6±1.6	8.05±1.7

Table 3: Comparison of knowledge, attitude and behaviour scores of medical and non-medical students.

Questionnaire	Group	Mean±SD	T value	P value
Knowledge	Medical	8.76±1.3	13.57	<0.001
	Non-medical	6.24±1.8		
Attitude	Medical	4.15±0.8	6.05	
	Non-medical	3.48±1.06		
Practice	Medical	8.52±1.5	5.6	
	Non-medical	7.47±1.6		

Table 4: Mean caries and gingivitis scores of medical and non-medical students.

	Medical	Non-medical	P value
DMFT	1.96±1.3	2.08±1.3	0.62
Gingivitis	2.1±1.8	3.9±1.4	<0.01

Unpaired t-test used

DISCUSSION

As the health team comprises of professionals from various fields who provide complete medical care including oral health, the variation in their knowledge, attitude, and behaviour pertaining to oral health during the years of academic study will reflect in their clinical experience.[7,8]

In the knowledge domain, it was striking to note that 11 (21.63%) of law students and 14 (13.32%) of management students did not know the purpose of tooth brushing. Among nursing 5 (10%), 7 (13.74%) of law, and 17 (17.31%) of management students did not know that retention of sweets on teeth can lead to tooth decay. A total of 45 (15%) of all participants did not know that gutkha chewing and smoking can lead to oral cancer.

In the oral health attitude domain, 22 (22.43%) of the management students said that it is not necessary to visit the dentists regularly. South asian ways of dealing with health and disease are different from the western concepts, as most of the health beliefs and practices are learnt and practiced at home, and professional help is sought only when home remedies fail. This practice of self-care may undermine the effectiveness of organised oral health care by delaying dental visits or even make these practices unnecessary.[9] Almost all the students from all specialities said that tobacco chewing and smoking are bad habits. Twenty-two (43.14%) of the law and 43 (43.94%) of the management students and 10 (20.42%), 9 (17.34%) students of the MBBS, and BDS students felt that well cleaning of the teeth can be done without the use of toothpaste. It was surprising to note that majority of the students across all disciplines felt that dentists have a role only in treatment and not prevention.

Coming to the behaviour, majority of medical students brushed twice a day which is opposite to the results shown by Zulfiqar et al.[10] where the tooth brushing frequency was lower among both medical and non-medical students. Al Omari et al.[11] reported lower frequency of brushing among dental students than the present study. Cleaning of tongue which is an important part in maintenance of oral health was not practiced among 10-15% students across all categories.

In the present study, the BDS students had higher scores in all three domains as compared to all other specialities. The least was found among management students. Among the medical students the nursing students scored higher in the attitude and practice domains than the MBBS students. The present study showed that medical students showed higher knowledge, attitude, and practice scores than non-medical students. These findings were in accordance with the studies done by Sharda et al.[7] This shows that even after being in medical field there is a variation towards the maintenance of oral health.

The strength of this study was clinical findings. Along with the questionnaire, gingival health, and dental caries experience was also assessed. It was observed that along with lower scores in the questionnaire domains, there was also significantly poorer gingival health among the non-medical students. These findings are in accordance with Yao et al.[12] This improvement in personal oral health among medical students as compared to other professional fields has been shown to be linked to their dental education experience.[13] One potential form of bias could be information bias where participants would not report accurate answers as to avoid embarrassment. The study combined questionnaire as well as clinical findings which is a strength of the study. The limitation being the sample limited to Kathmandu University which makes generalisability to all students of Nepal, difficult. A multicentre study could be done to further strengthen the findings.

CONCLUSION

The present study showed that medical students scored higher than non-medical students. Dental caries wasn't significantly different among them however gingival health was poorer among non-medical students.

ACKNOWLEDGEMENTS

We would like to thank all the students who participated in the research and to KUSMS for their support in conducting the study.

Conflict of Interest: None.

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