

Knowledge, Attitude and Practice (KAP) on Oral Health among students of Nepalese Army Institute of Health Sciences

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ABSTRACT

Introduction: Oral health plays an important role in the overall health of the individual. The aim of the study is to assess and compare Knowledge, Attitude and Practice (KAP) on oral health among students of NAIHS.

Methods: This is a cross sectional questionnaire based study conducted at Nepalese Army Institute of Health Sciences from 2020.10.15 to 2021.04.15. A total of 14 standard structured close ended questionnaire was sent to all the medical and nursing students in g- mail to assess and compare KAP on oral health.

Results: Among 200 MBBS students, 157, 184 and 200 had knowledge about sugar, bacteria and not brushing respectively which causes dental caries and 163 had knowledge about benefits of fluoride on dental health. Out of 200 nursing students 147, 178 and 200 had knowledge about sugar, bacteria and not brushing respectively which causes dental caries and 152 had knowledge about benefits of fluoride. 88.0% MBBS and 84.62% nursing students had good knowledge about dental caries. 143 (71.5%) MBBS students and 152 (76.0%) nursing students were found brushing twice daily. 104 (52.0%) MBBS students and 116 (58.0%) nursing students brushed for 2 min.

Conclusions: Knowledge on dental caries was found to be significantly higher in MBBS students than nursing students. Nursing students had more positive attitude towards oral health. Oral health practice of nursing students was also found to be comparatively better than MBBS students.

Keywords: Attitude; Dental caries; Knowledge; Medical Student; Nursing students; Oral hygiene; Practice

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INTRODUCTION

Sir William Osler has rightly said that Mouth is the mirror of general health.¹ Poor oral conditions may adversely affect general health. According to WHO health has been defined as ‘a state of complete physical, mental and social well being and not merely the absence of disease.’² Likewise in dentistry a good oral health is not only absence of dental caries or periodontal disease but a patient’s mental and social well being should be considered as well.³ Medical and nursing personal play a vital role in oral health care and promotion and it is very important that their own oral health knowledge, attitude and practice should be good.⁴ Nepalese people have low level of health awareness and practice as compared to their western counterparts due to geo-socio-political, economic factors and inadequate health care resources.⁵ Very little is known about the oral health knowledge, attitude and practice of students from developing countries like Nepal.

Oral health is the standard of health which enables an individual to eat, speak and socialize without active disease and discomfort which contributes to general well-being. Poor oral conditions may adversely affect general health and certain medical conditions may have a negative impact on oral health.⁶ Due to the educational level and the professional role of the doctors and nurses it is expected that they are to be more knowledgeable in the community about oral health and diseases. A study by Kumar et al on dental health behavior in relation to caries status among medical and dental undergraduate students of Udaipur district, India showed that caries status was significantly influenced by the oral hygiene behavior.⁷ The knowledge of oral health provider and their attitude and practice towards oral health could affect their capacity to deliver and thus might affect the oral health of their patients.

In our scenario, there is the dearth of literacy regarding the knowledge of healthcare providers about the oral health. Hence, this study was planned to study the knowledge of medical and nursing students regarding oral health.

METHODS

The present study was conducted from 2020.10.15 to 2021.04.15 at Nepalese Army Institute of Health Sciences (NAIHS), Kathmandu, Nepal. A cross sectional questionnaire based study was conducted to investigate

and compare the oral health knowledge, attitude and practice between the medical and the nursing students. Verbal informed consent was taken and the purpose of the study was explained to the participants with the assurance of confidentiality. Ethical clearance was taken from the institutional ethical committee. A total of 14 standard structured close ended questionnaire was sent to all the medical and nursing students in email. The questionnaire was adapted from a study conducted by Yadav K et al.⁸ The questionnaire consisted of four items on knowledge about dental caries (including sugar causes dental caries, bacteria causes caries, not brushing causes caries and fluoride prevents dental caries), five items for attitude (including frequency of dental visit, last dental visit, reason and treatment done in dental visit and reason if not visited a dentist) and five items for practice (including frequency on brushing, brushing time, tooth paste type, brushing methods and materials). Answers of the first 200 questionnaires from the MBBS students and from the nursing students were collected and statistical analysis was carried out using SPSS 16.0 version statistical software and Microsoft excel. The p-value 0.05 was considered statistically significant.

RESULTS

The study population age ranged between 19 - 30 years in MBBS and 17 - 30 in nursing students. Among MBBS students 122 (61.0%) were males and 78 (39.0%) were females whereas nursing students were all females. Results regarding the knowledge about dental caries and benefits of fluoride on dental health is shown in table 1. The knowledge on dental caries was found to be slightly higher in MBBS students than nursing students. The result was statistically significant at 5% level of significance.

Among 200 MBBS students, 12 (6.0%) visit dental clinic in every three months, 13 (6.5%) in every six months, 22 (11.0%) in every one year, 102 (51.0%) visits only when there is dental pain and 51 (25.5%) never visited a dentist. Also 32 (16.0%) of MBBS student visited dentist in last 12 months and 22 (11.0%) visited dentist in last 1-2 years. Reason for a visit to the dentist was dental pain for 95 (47.5%), as an advice from a family / friend 31 (15.5%), as an advice from a dentist 23 (11.5%) of MBBS students. Dental treatment on last visit was 24 (12.0%) scaling, 44 (22.0%) filling, 14 (7.0%) root canal treatments, 10 (5.0%) crown, 24 (12.0%) ortho treatments and 33 (16.5%) extractions.

Table 1. Comparison of knowledge regarding dental caries among MBBS and Nursing students

	True		False		Total	
	MBBS	Nursing	MBBS	Nursing	MBBS	Nursing
Causes	No (%)	No (%)	No (%)	No (%)	200	200
Sugar causes DC	157 (78.5)	147 (73.5)	43 (21.5)	53 (26.5)		
Bacteria causes DC	184 (92)	178 (89)	16 (8)	22 (11)		
Not brushing causes DC	200 (100)	200 (100)				
Fluoride prevents DC	163 (81.5)	152 (76)	37 (18.5)	48 (24)		

Reasons for not visiting dentist was no dental pain for most of the MBBS students 169 (84.5%) whereas no visit due to high treatment cost was for 18 (9.0%) students and no visit due to no dental clinics nearby was for 13 (6.5%) students.

Among 200 nursing students, 16 (8.0%) visit dental clinic in every three months, 19 (9.5%) in every six months, 29 (14.5%) in every one year, 95 (47.5%) visit only when there is dental pain and 41 (20.5%) never visited a dentist. Also 39 (19.5%) of nursing students visited dentist in last 12 months and 52 (26.0%) visited dentist in last 1-2 years. Reason for a visit to the dentist was dental pain for 86 (43.0%), as an advice from a family/friend 44 (22.0%), as an advice from a dentist 29 (14.5%) of nursing students. Dental treatment on last visit was 37 (18.5%) scaling, 47 (23.5%) filling, 10 (5.0%) root canal treatments, 8 (4.0%) crown, 23 (11.5%) ortho treatments and 34 (17.0%) extractions. Reason for not visiting dentist was no dental pain for most of the nursing students 159 (79.5%) whereas no visit due to high treatment cost was for 23 (11.5%) students and no visit due to no dental clinics nearby was for 18 (9.0%) students.

Among 200 MBBS students, 53 (26.5%) were found as brushing their teeth once daily, 143 (71.5%) were found brushing twice daily, four (2.0%) brushing more than twice daily and none were brushing occasionally. Also 29 (14.5%) brushes every morning, 22 (11.0%) brushes in the afternoon, 121 (60.5%) brushes after every meal (i.e morning and night) and 28 (14.0%) brushes at night. As for the material for brushing all 200 students use brush and a tooth paste for brushing. As for the brushing method, 13 (6.5%) MBBS students followed horizontal, 35 (17.5%) followed vertical and 152 (76.0%) followed mixed / circular tooth brushing technique. Nineteen (9.5%) MBBS students brushed for less than 1 minute, 41 (20.5%) brushed for 1 minute, 104 (52.0%) brushed

for 2 min and 36 (18.0%) brushed for more than 2 minutes. Among nursing students, 43 (21.5%) were brushing their teeth once daily, 152 (76.0%) were brushing twice daily, five (2.5%) brushing more than twice daily and none were brushing occasionally. Also 33 (16.5%) brushed every morning, 132 (66.0%) brushed after every meal (i.e morning and night) and 35 (17.5%) brushed at night. As for the material for brushing just like the medical students all 200 nursing students also use brush and a tooth paste for brushing. Nine (4.5%) nursing students followed horizontal, 43 (21.5%) followed vertical and 148 (74.0%) followed mixed / circular tooth brushing technique. Seventeen (8.5%) nursing students brushed for less than 1 minute, 28 (14.0%) brushed for 1 minute, 116 (58.0%) brushed for 2 min and 39 (19.5%) brushed for more than 2 minutes.

DISCUSSION

Fluoride has an anti-cariogenic effect that prevents caries and can even reverse the earliest stages of tooth damage. The cause of dental caries includes three factors: host, bacteria and diet. Dental caries occurs when a susceptible tooth surface is colonized with cariogenic bacteria and dietary source of sucrose or refined sugar is present. Bacterial pathogens produce lactic acid from fermentation of carbohydrates and this acid dissolves the hydroxyapatite crystal structure of the tooth which causes caries.^{9,10} In this study, knowledge on dental caries was found to be slightly higher in MBBS students than nursing students which was found to be statistically significant. Similar type of study done among dental and pharmacy students at Riyadh Elm University showed that oral health knowledge among dental students was significantly higher than pharmacy students.¹¹ This could be attributed to their specialized courses on oral health

which is lacking in the pharmacy program. Pharmacy students had positive attitude and practice despite having poor knowledge regarding oral health. Many studies have suggested the prevalence of poor knowledge and negative attitude toward oral health among the nursing students.¹²⁻¹⁴

People have a wide variety of attitude toward dental care and dentists, reflecting their own experiences, cultural perceptions, familial beliefs, and other life situations.^{15,16} The present study showed the highest number of students had attitude of visiting dentist only when there is pain which indicates the negative attitude towards dental care. In this study, it was reflected that more nursing students had more frequent attitude of visiting dentists than MBBS students. So the number of nurses who has not visited a dentist so far is also less than their MBBS counterpart. The reason for visiting dental clinic was mostly for dental pain for both the groups however visiting dentist due to family / friend's advice and also due to dentist's advice was definitely more in nursing students than MBBS students. Also more number of nursing students have found to visit dentist for scaling purpose as compared to MBBS students. This attributes to more awareness and definitely a positive attitude towards oral health of nursing students. This is in contrast with studies conducted by Farsi JMA et al and Al-Omiri et al in which almost half of the respondents were reluctant to visit a dentist due to the fear of pain.^{17,18}

As for practice, in present study more number of MBBS students had once per day brushing habit than nursing students. A similar finding was also obtained in study conducted by Baral et al.¹⁹ Brushing twice a day is good for maintaining the proper oral hygiene. Also more number of nursing students had habit of brushing after every meal or brushing twice daily as compared to MBBS students. Similar study was done by Yadav O P et al²⁰ to assess oral health related KAP among the nursing students in Rajasthan, India where over 50% students used toothbrush and toothpaste twice a day to maintain their oral hygiene. Present study showed

that all study participants used tooth brush and tooth paste. This is in contrast to other studies done in the past, where mixed methods of brushing was found.^{4,19,21} Another study was done by Ke Yao et al²² to assess the oral health knowledge, behavior and status of dental and medical undergraduate students where the dental students showed highly significant improvement than their counterparts, mainly about frequency of brushing teeth and brushing methods. Thus oral health practice of nursing students in terms of frequency of brushing, times, method and duration of brushing is comparatively better than MBBS students. Similar study on nurses by Kaira LS et al⁴ showed that a majority of the nurses of Rohilkhand Medical College, India were practicing healthy oral hygiene practices that included brushing twice a day with toothbrush and toothpaste for adequate duration of 2 to 3 minutes. Another study was done by Sharda AJ and Shetty S²³ was done to assess and compare the oral health knowledge, attitude and behaviour of the non-medical, para-medical and medical students. The study showed that the knowledge scores were significantly higher for the medical students compared with those of non-medical students.

CONCLUSIONS

Based on the present study the total knowledge on dental caries was found to be significantly higher in MBBS students than nursing students however nursing students had more positive attitudes towards oral health. Oral health practice of nursing students in terms of frequency of brushing, times, method and duration of brushing was also found to be comparatively better than MBBS students.

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