



ISSN: 0976-3031

Available Online at <http://www.recentscientific.com>

CODEN: IJRSFP (USA)

International Journal of Recent Scientific Research
Vol. 10, Issue, 02(A), pp. 30742-30746, February, 2019

**International Journal of
Recent Scientific
Research**

DOI: 10.24327/IJRSR

Research Article

ASSESSMENT OF ORAL HEALTH KNOWLEDGE, ATTITUDE AND PRACTICES AMONG MEDICAL STUDENTS OF MEWAT, HARYANA (INDIA)

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DOI: <http://dx.doi.org/10.24327/ijrsr.2019.1002.3115>

ARTICLE INFO

Article History:

Received 13th November, 2018

Received in revised form 11th

December, 2018

Accepted 8th January, 2018

Published online 28th February, 2019

Key Words:

Oral health, Oral hygiene practice,
Attitude, Questionnaire

ABSTRACT

Aim: The present study was conducted among the medical undergraduate students of Shaheed Hasan Khan Mewati Government Medical College, Nuhto investigate the oral health knowledge, attitude and practices and to compare the difference if any between the first year and final year students.

Materials and methods: A questionnaire study was conducted among 170 medical students of Shaheed Hasan Khan Mewati Government College. A self-administered structured questionnaire consisting of 20 questions on, oral hygiene knowledge, attitude and practices was distributed. The data collected was analyzed using statistical package for social sciences (SPSS) version 18.

Results and conclusion: This study revealed an integral overview of oral health knowledge, attitude and practices among first and final year medical students. Overall, dental knowledge and attitude was good among final year students as compared to first year, while oral health practices were moderate amongst both and further improvements can be encouraged. Improving their knowledge about oral hygiene awareness and oral health practices can ultimately benefit the people they are going to treat in future.

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INTRODUCTION

World Health Organization's definition of health indicates that health should not be considered as the absence of disease alone but in addition the state of complete physical, mental, and social well-being.¹ Oral cavity may give first signs of many systemic diseases. Invaders like bacteria, viruses, parasites and fungi attack the mouth repeatedly as it is the gateway to the body. Many systemic diseases represent themselves as lesions that develop on the oral mucosa, tongue, gingiva, dentition, periodontium, salivary glands, facial skeleton, extraoral skin and other related structures. Thus mouth is considered as mirror of general health and oral cavity an important diagnostic area.² Oral health has its effect on the entire body and hence it cannot be overlooked from the subject of medical health. Dental disease is not just a minor ailment of the gums and teeth but a disease of the body that happens to begin in the mouth and if left unchecked, it can contribute to other more harmful diseases that can seriously affect the quality of life and actually shorten life expectancy.³ Despite its role in systemic health, oral health care is an aspect that is often neglected.⁴ The awareness and

knowledge of dentistry is still grossly inadequate among many patients and health care workers.⁵

Unhealthy habits like smoking, use of tobacco, betelnuts and lack of dental care leads to compromised oral health. Recommended Oral Self-Care (ROSC) are the goals set by the World Health Organization (WHO) for the year 2020. It includes toothbrushing more than once a day, lesser consumption of sugar containing snacks once daily or rarely, and regular use of fluoride-containing toothpaste. In order to achieve this goal, it becomes important for countries to evaluate oral hygiene awareness as well as to identify dental health problems in different populations.⁶

In India, the dentist population ratio is 1:8,000 in urban areas and 1:50,000 in rural areas. For majority of the population that resides in rural area, the only source of health care are primary health centers where majority of the professionals are the medical practitioners. Also, the dental professionals are less accessible to the population as compared to the medical ones in the rural areas. Therefore it is mandatory that medical undergraduate students themselves follow ROSC. So that they

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can implement and create oral hygiene awareness among the public.

NITI Aayog i.e National Institution For Transforming India is a policy think tank of the government of India, established with the aim to achieve sustainable development goals and to enhance cooperative federalism by fostering the involvement of state government of India in the economic policy making process using a bottom up approach.⁷As per the list declared by NITI Aayog in March 2018, Mewat district (now known as NUH) in Haryana has been declared as the most backward region of the country.⁸Shaheed Hasan Khan Government Medical College (SHKM), Nuh is the only government medical institute in this area which along with other primary health care centers organizes many awareness camps in the surrounding locality. This institute works in collaboration with four primary health care centers located at Nuh, Nagina, Ujjina and Tauru in Mewat district of Haryana. The undergraduate medical students during their clinical postings interact with the patients reporting in the hospital OPD. When they become interns, they are the first hand contacts for the patients. Also, in future, after completing their graduation they either serve in various health centers in rural/urban areas or do medical practice later in life. So, it is very important that they themselves have awareness regarding oral health and dental needs, only then they will become a good source of knowledge for the people they are serving. So the present study was undertaken to determine the level of knowledge, attitude and practices of oral health followed by undergraduate medical students and to compare the difference if any between the first year and final year students.

MATERIALS AND METHODS

A cross-sectional study was conducted among 170 undergraduate medical students studying at Shaheed Hasan Khan Government Medical College, Nuh (Haryana) from March 2018 till May 2018. A self-assessment questionnaire was prepared for this study and the internal reliability of questionnaire was confirmed by pilot study on 40 students in the department of Dentistry at SHKM Medical College, Nuh. The value of cronbach was found to be $\alpha = 0.79$ which is good. The questionnaire included the demographic details and the information related to oral health maintenance, oral health problems and their management. Ethical clearance was obtained from the Research and Ethics Committee of the college. Written informed consent were obtained from the students participating in the study after explaining the objectives of the study.

The questionnaire was administered by an investigator at the end of lecture sessions in the lecture hall. Students were given 15 minutes time, they were instructed not to discuss any answers with their friends and approach investigator if they have any doubts pertaining to the questions. The preliminary section was designed to gather demographic data and the privacy of the respondents was assured. The second section was concerned with oral health knowledge, attitude and practice related questions.

Statistical Analysis

The data was entered in to Microsoft Excel and analyzed using SPSS 18 (Statistical Package for Social Sciences) package for relevant statistical comparison. Descriptive statistics and

inferential statistics were used. Pearson's chi-square test was used to find the statistical significance among the medical practitioners for their responses based on dental knowledge, attitude and awareness on systemic conditions related to oral health. Mann-Whitney test was used to evaluate the difference in mean scores between the two groups. The level of significance was set at 0.05.

RESULTS

The present study was an cross-sectional study assessing the knowledge, attitude and practices questionnaire among first and final year medical students in Mewat, Haryana. A total of 170 subjects of age 17- 24 years were recruited for the present study. There were 84.7% (144) males and 15.3% (26) females with the mean age of 11.92 ± 1.06 . (Table 1)

Table 1 Demographic distribution of study subjects

Variable	Frequency	Percentage
Course of study		
First year	85	50%
Final year	85	50%
Total	170	100
Ages (Years)		
17	3	1.7
18	42	24.7
19	32	18.8
20	7	4.1
21	1	0.6
22	53	31.2
23	28	16.45
24	4	2.35
Total	170	100
Gender		
Male	144	84.7
Female	26	15.3
Total	170	100

Considering the knowledge about dentistry among the first and final year medical students there was a highly significant difference between the two ($p \leq 0.00$) and even there was a significant difference in terms of the attitude. (Table 2)

Table 2 The mean percentage scores for knowledge, attitude, and Practices according to the course of study

	MEAN \pm SD	P Value
KNOWLEDGE SCORE		
First Year	21.12 \pm 4.54	0.00
Final Year	18.36 \pm 2.35	
ATTITUDE SCORE		
First Year	7.28 \pm 1.96	0.04
Final Year	6.63 \pm 1.20	
PRACTICE SCORE		
First Year	9.30 \pm 2.05	0.32
Final Year	8.92 \pm 1.56	

$P < 0.05$ (Mann Whitney)

Table 3 Comparison of oral hygiene knowledge among first and final year undergraduate students

Options	First Year	Final Year	Total	Pearson Chi square Value	P value
Q.1 What is total number of deciduous and permanent teeth ?					
A. 10 and 24	3	2	5	4.85	.18

B. 20 and 32	72	80	152		
C. 32 and 32	4	2	6		
D. Don't know	6	1	7		
Q.2 What is the main purpose of brushing teeth?					
A.Prevent tooth decay and gum disease	67	74	141		
B.Achieve cleaner and brighter teeth	4	10	14	14.58	.00
C.To remove stains on teeth	9	0	9		
D.Don't know	5	1	6		
Q.3 What is the meaning of dental Plaque?					
A.Discoloration of teeth	18	23	41		
B.Soft deposits on teeth	34	47	81	10.79	.01
C.White patches on teeth	29	11	40		
D.Don't know	4	4	8		
Q.4 What does bleeding gums indicate?					
A.Inflammation of gums	15	30	45		
B.Infection of tooth	3	4	7	7.42	.06
C.Trauma from brushing	5	3	8		
D.Any/ all of the above	62	48	110		
Q.5 What is the effect of retention of sweets/food on teeth?					
A.Decay of teeth	23	37	60		
B.Discoloration of teeth	1	3	4	5.65	.13
C.Bad breath	2	1	3		
D.Any/all of the above	59	44	103		
Q.6 What is the effect of fluorides on teeth?					
A.Prevention of gum disease	6	8	14		
B.Prevention of tooth decay	58	43	101	13.23	.00
C.Make teeth whiter	8	26	34		
D.Don't know	13	8	21		
Q.7 Does Oral health affects general health?					
A.Yes	76	81	157		
B.No	4	0	4	9.95	.01
C.Sometimes	1	4	5		
D.Don't know	4	0	4		
Q.8 What is the ideal frequency for brushing teeth?					
A. Once a day	6	8	14		
B.Twice a day	66	74	140	8.34	.03
C.More than twice a day	7	3	10		
D.2-3 times in	6	0	6		

a week					
Q.9What is ideal preference for texture of tooth brush bristles?					
A.Soft	48	75	123		
B.Medium	25	9	34	23.02	.000
C.Hard	6	0	6		
D.Any texture	6	1	7		
Q.10 What is ideal time interval for tooth brush change ?					
A.After every 3 months	63	73	136		
B.After every 6 months	9	8	17		
C.Once in a year	5	0	5	7.12	.06
D.When useless, bristles frays	8	4	12		

Table 4 Comparison of oral hygiene attitude among first and final year undergraduate students

Options	First Year	Final Year	Total	Pearson Chi square Value	P value
Q.1 When was your last visit to dentist?					
A.Within last 6 months	39	24	63		
B.More than 6 months	11	15	26	7.41	.06
C.Once in life time	14	12	26		
D.Never visited a dentist	21	34	55		
Q.2What was the reason for visiting dentist?					
A.Toothache	18	34	52		
B.Cleaning of teeth	22	15	37	21.46	.000
C.General Check up	17	3	20		
D.Friend's advice	24	33	57		
Q.3Why you have not visited dentist ever or again?					
A.never had any dental problem	43	68	111		
B.Fear of needle/drill	15	4	19	17.60	.00
C.Lack of time	22	12	34		
D.Cost factor	5	1	6		
Q.4What is your preference for texture of tooth brush bristles?					
A.Soft	53	71	124		
B.Medium	24	12	36	10.21	.01
C.Hard	4	1	5		
D.Any texture	4	1	5		
Q.5What is your frequency of brushing teeth?					
A.Once a day	39	38	77		
B. Twice a day	39	45	84		
C. More than twice a day	2	2	4	5.44	.14
D. 2-3 times in a week	5	0	5		

Table 5 Comparison of oral hygiene practices among first and final year undergraduate students

Options	First Year	Final Year	Total	Pearson Chi square Value	P value
Q.1 When do you change your brush ?					
A. After every 3 months	44	60	104		
B. After every 6 months	22	8	30		
C. When useless, bristles frays	10	6	16	10.19	.01
D. No fixed time	9	11	20		
Q.2 Do you rinse your mouth after every meal?					
A. Yes	72	75	147		
B. No	13	10	23	1.24	.53
Q.3 Do you clean your tongue?					
A. Yes	69	79	148		
B. No	16	6	22	6.36	.04
Q.4 Do you use any other oral hygiene aids like dental floss and mouth wash?					
A. Yes	36	32	68		
B. No	49	53	102	0.39	.53
Q.5 Do you have any tobacco related habits like smoking?					
A. Yes	14	7	21		
B. No	71	78	149	2.66	.10

DISCUSSION

Dental caries is still a major public health problem in many developing countries like India effecting mainly the toddlers and young children. It has engrossed its tentacles deep into the regions where there is lack of public awareness, motivation and devoid resources for dental treatment are present.⁹To create a positive oral health knowledge and behavior in the society is always the main goal of oral health mentors. This knowledge is usually obtained from information which subsequently translates into an action.

The condition of oral cavity itself determines the attitude of a person towards oral health. Oral diseases are clearly related to behavior, and the prevalence of dental caries and periodontal diseases.¹⁰Our study presents a comprehensive overview of oral health knowledge, attitude, and behavior of medical students in Mewat (Haryana).

In the present study, the awareness about oral health was found to be poor among undergraduate medical students. The results of the present study are in agreement with the study conducted by Usman *et al.*,¹¹Doshi *et al.*,¹² where clinical medical and paramedical students showed poor oral health knowledge respectively. The probable reason could be less medical and dental clinical exposure of the undergraduate students to oral health problems. (Table 2)

Final year undergraduate medical students were found to have better oral health awareness compared to first year undergraduate medical students. The reason could be more of general medical clinical exposure as well as the clinical postings in dental department in comparison to first year students who have less of such clinical exposure.(Table 2)

Amongst the study subjects only 35.29% had the knowledge that retention of sweets/food on teeth can lead to dental caries whereas 82.94% answered that brushing teeth prevents dental caries and gum diseases. This result are in contrast with the result of the study conducted by Srinidhi *et al.*¹³ in which 90.3% of medical practitioners favored sugar/sweets contained food as the major cause for the dental caries.(Table 3)

Oral hygiene practices in our country are deeply based on tradition and culture with use of various materials. Regarding oral hygiene measures used by the subjects, maximum students use soft bristle tooth brush. The results of our study shows better response than,Mullaet *al.*¹ where only 26.1% of medical students used soft bristles.

Also, the percentage of students using dental floss in our study by both final year (37.6%)and first year (42.33%) students is in coordinance with the study conducted by Mulla *et al.*¹ where 31.1% of medical students used other interdental aids such as floss and also better than Kakkad *et al.*¹⁴ where only (6.0%) of his sample used dental floss. (Table 5)

Among the study subjects 81 (47%) of the medical students have answered correctly that the meaning of dental plaque is soft deposits on teeth.The remaining stated that dental plaque could be just a discoloration or white patches on the teeth.(Table 3)

Also,considering the knowledge amongst the subjects,94.1% final year and 84.7% first year students are aware that there are 32 permanent teeth and 20 deciduous teeth in the oral cavity. The results are in agreement with Asif *et al.*¹⁵ who also found that 89.9% of their study population knew that there were 32 teeth in the adult cavity. The increased knowledge in this study may be due to the fact that the study was done among the educated students with science subject as a background. (Table 3)

Doshiet *al.*¹² studied medical students and reported that 79.4% of the participants had visited a dentist for checkup at one point or the other in their life. The fear of pain is one of the reasons why people would not want to visit a dentist. However, the present study only reported 49.2% of participants who visited the dentist. Some of the reasons they gave included busy work schedule, absence of dental complaints, fear of needle/drill and cost factor. This might be probably because of oral health campaigns conducted in the community at large, that there has been much of a positive change in attitude and knowledge of people towards dentistry. ¹⁶(Table 4)

Dhanasekaran *et al.*¹⁷ studied 538 people and noted that only 8.6% of those above the age of 30 years brushed their teeth twice a day while 40% brushed once daily. Few other studies [15,18,19] in scientific literature shows that most people brush once daily.This may be due to the poor attitude of people to their oral health, busy schedule and poor dental awareness. Howeverthe present study shows that 45.29% of participants

brushed their teeth once a day while 49.14% of them brushed twice daily. (Table 4)

Among this study subjects 87.05% of them were aware of the harmful effects of tobacco and its products on oral health. This showed a good level of awareness and knowledge among them. Also, the results are in agreement with those of Kiara LS *et al*²⁰ where 95%-98% of nursing students were aware of the tobacco and its harmful effects. (Table 5)

Various factors can be attributed to the better results obtained among final year as compared to the first years about dental knowledge, attitude and practice towards oral health. These include the MBBS curriculum in India that takes account of dental clinical postings, dental lectures and demonstrations in which they have an exposure to oral health aspects which improves their awareness, knowledge and attitude towards dentistry. Also the media exposure, departmental posters display and involvement of medical students in camps / outreach programme organized by dental department plays an important role in improving their knowledge towards oral health.

Limitations of the Study

The limitations of the present study include low number of comparable studies in the literature. The results of the present study depend on self-reported data which may be biased through over or underreporting by the subjects.

CONCLUSION

This study revealed an integral overview of oral health knowledge, attitude and practices among first and final year medical students attending Shaheed Hasan Khan Mewati Government Medical College, Nuh, Mewat. Overall, dental knowledge and attitude was good among final year students as compared to first year, while oral health practices were moderate amongst both. Further research studies can be conducted to evaluate the knowledge, attitude and practice of medical practitioners and allied medical professionals towards the oral health.

References

1. Mulla and Omar. Assessment of Oral Health Knowledge, Attitude and Practices among Medical Students of Taibah University in Madinah, KSA. *BJMMR*, 18(12): 1-10, 2016;
2. Mehrotra V, Garg K, Sharma P, Sajid Z, Singh R. A Study Based on Dental Awareness, Knowledge and Attitudes among the Medical Practitioners in and Around Kanpur City (India). *J Interdiscipl Med Dent Sci* 3: 183. doi:10.4172/2376-032X.1000183
3. Patil A, Chavan S, Baghele O, Patel K, Patil K. Awareness of Oral Health among Medical Practitioners in Sangamner City- A Cross-sectional Survey. *Journal Of Indian Dental Association*, 4(12):534-536, 2010
4. Bradbury-Jones C, Innes N, Evans D, Ballantyne F, Taylor J. Dental neglect as a marker of broader neglect: a qualitative investigation of public health nurses' assessments of oral health in preschool children. *BMC Public Health*. 2013 Apr 19; 13: 370.

5. UmezudikeKa OA, Ayanbadejo PO. Periodontal health knowledge of nonmedical professionals and their oral hygiene behavior in a teaching hospital in Nigeria. *Eur J Gen Dent*. 2015; 4: 48-54.
6. Gopinath V. Oral hygiene practices and habits among dental professionals in Chennai. *Indian J dent Res* 2010;21:195-200
7. https://en.m.wikipedia.org/wiki/NITI_Aayog
8. <http://m.timesofindia.com/india/part-of-ncr-mewat-is-most-backward-district/articleshow/63524304.cms>
9. ShyamR, Manjunath BC, Kumar A, Narang R, Goyal A, Piplani A. Assessment of dental caries spectrum among 11 to 14 year old school going children in India. *J Clin Diagn Res*. 2017;11(6): ZC78-ZC81
10. Bashiru BO, Omotola OE. Oral health knowledge, attitude and behavior of medical, pharmacy and nursing students at the University of Port Harcourt, Nigeria. *J Oral Res Rev* 2016; 8:66-71.
11. Usman S, Bhat SS, Sargod SS. Oral health knowledge and behavior of clinical medical, dental and paramedical students in Mangalore. *J Oral Health Commun Dent* 2007;1:46-8.
12. 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.
13. Srinidhi S, Ingle NA, Chaly PE, Reddy C (2011) Dental Awareness and Attitudes among Medical Practitioners in Chennai. *Journal of Oral Health & Community Dentistry* 5: 73-78.
14. Kakkad N, Murall R, Krishna *et al*. Assessment of oral hygiene knowledge, attitude and practices among engineering students in North Bangalore: A cross-sectional survey. *Int J Sc Study*. 2015;3(1):84-89.
15. Asif N, Asif SM, Babu DBG, Whagrey S. Assessing the Oral Health Awareness Among Final Year the Undergraduate Nursing Students Abha, Saudi Arabia. *World Journal of Dentistry*. 2014; 5(4): 213-217.
16. Elijah OO, Taiwo O, Micheal A, Stephen Tu A, Kehinde U, Adedotun A. Knowledge and awareness of medical doctors, medical students and nurses about dentistry in Nigeria. *Pan African Medical Journal*. 2016
17. Dhanasekaran R, Nayar S. Self-perceived need for dental care. *J Pharm Bioallied Sci*. 2015; 7(Suppl 1): S98-S100. 23:172
18. Radha G, ShaikHyder Ali K, Pushpanjali K. Knowledge and attitude and practice of oral health among nursing staff and nursing students of Bangalore city. *Journal of Indian Association of Public Health Dentistry*. 2008; 11: 17-21.
19. Azodo CC, Unamatokpa B. Gender difference in oral Health perception and practices among medical house officers. *Russian Open Medical Journal*. 2012; 1(2): 0208.
20. 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(1):20-23.
