

Dental awareness among medical students- A cross sectional study

Praveen Kumar Neela¹, Avinash Tejasvi. M.L.^{2,*}, Vasu Murthy Sesham³, G. Pooja⁴, E. Pooja⁵

^{1,2}Associate Professor, ³Professor and HOD, ^{4,5}Intern, ^{1,3}Dept. of Orthodontics, ²Dept. of Oral Medicine and Radiology, Kamineni Institute of Dental Sciences, Narketpally, Telangana, India

***Corresponding Author: Avinash Tejasvi. M.L**

Email: avinash.omr@gmail.com

Abstract

Context: Awareness of dentistry among medical students.

Aim: To assess the awareness of dentistry among medical students.

Settings and Design: To assess the awareness of dentistry among medical students, a structured questionnaire consisting of 17 closed end questions was prepared and sent to 750 people who included exam going final year MBBS students and interns from various medical colleges in Telangana. This questionnaire was prepared & sent using Google Forms through E-mail and Whatsapp and the participants were asked to submit the response in 15 days. A total of 506 responses were received in 15 days. Google Forms automatically tabulates the submitted responses in pie diagrams.

Statistical Analysis Used: All the submitted responses from the participants were automatically analysed statistically by the Google Forms in the form of Pie diagrams.

Results: The results show some interesting points and highlight some significant findings on awareness of dentistry among medical students.

Conclusions: Majority of the participants do not know about proper brushing technique and were brushing only once daily. Many participants were unaware of consequences of ignoring the dental problems. Many are not aware of preventive dentistry and they lack knowledge about aesthetic dentistry. Majority of the participants know that there is a separate specialist for root canal treatment and for the treatment of irregularly arranged teeth. Most of the participants do not know about the systemic diseases related to dental problems.

Keywords: Dental awareness, Disease, Medical students.

Introduction

Though oral health has an important role in systemic health, it is often neglected. Medical doctors play an important role in promoting oral health care, as there is a relationship between the systemic and oral health. So it is essential for the medical students to be aware of dental problems. Medical doctors should know the treatment for the tooth pain in the emergency cases. Some systemic diseases are related to oral cavity. Hence, the medical doctors should be able to know about the oral manifestations for proper diagnosis for some diseases. They should know about various specialities in dentistry for correct referral of the patient with dental problem and in an emergency to refer to a dental specialist.

It has been observed in dental practice that even the medical doctors do not know much about various common dental problems, consequences of not treating at appropriate time, various specialized branches etc. though they have 2 weeks dental posting during their MBBS curriculum. Literature survey showed that there are no studies which evaluated awareness of dentistry among medical students. Hence, the present study was intended to study and determine the level of awareness of dentistry among medical students because it is the time that they are intended to know.

Subjects and Methods: The study design was a cross-sectional study conducted among exam going final year MBBS students and interns, covering various medical colleges in Telangana. Final year MBBS students and

interns were selected as the participants as they will finish their UG curriculum by the time they go for their exams or finished their exams but not yet completed their internship and thus helping us in assessing our objectives properly.

Questionnaire Design: A structured questionnaire consisting of 17 closed-end questions were framed on three prime areas (sections) which are shown in Table 1.

Five questions were prepared in section-A (Table 2). Ten questions were prepared in section-B (Table 3) and two questions were prepared in section-C (Table 4).

These 17 questions were prepared in Google Forms. Google Forms is a tool that is part of Google Drive for creating surveys, tests, or web input forms and the information is then collected and automatically connected to a spreadsheet and where we can track the results and post it on the web without having to know programming and analyzing the data.¹

The questionnaire was sent to 750 participants (Table 5) who included both exam going final MBBS students & Interns of various Medical colleges in Telangana through E-Mail and Whatsapp. The participants were asked to respond to the questionnaire in 15 days. The participants were insisted not to discuss among their friends while marking the responses, as our objectives was to know the individual responses.

Table 1: Sections on which questions are framed

S. No	Sections
1.	Dental awareness and attitude of medical students towards dentistry.
2.	Respondents' awareness about dentistry and dental specialities.
3.	Respondents' knowledge about systemic and oral health.

Table 2: Closed ended questions on dental awareness and attitude of medical students towards dentistry

S. No	Questions asked	Options
1.	Did you ever visit a dentist?	a) Yes b) No
2.	If yes, what was the purpose?	a) Severe pain in tooth b) Impaction c) Correction of irregular teeth d) Any other
3.	Do you know proper brushing techniques?	a) Yes b) No
4.	How many times do you brush daily?	a) Once daily b) Twice daily
5.	Do you know the consequences if you ignore the dental problems?	a) Yes b) No

Table 3: Questions and options in section B-Respondents' awareness about dentistry and dental specialities

S. No	Questions asked	Options
1.	Do you know that there are 9 branches in dentistry?	a) Yes b) No
2.	Are you aware of etiology of dental caries?	a) Yes b) No
3.	Do you know about effect of excess intake of fluoride on teeth?	a) Yes b) No
4.	Do you know that esthetics can be improved by the dentist?	a) Yes b) No
5.	Do you know that there is specialist for root canal treatment?	a) Yes b) No
6.	Do you know that there is specialist for irregularly arranged teeth?	a) Yes b) No
7.	Do you know about preventive dentist?	a) Yes b) No
08.	Do you know that road traffic accidents cases are treated by the oral surgeons?	a) Yes b) No
9.	Are you aware of TMJ disorders associated with dental problems?	a) Yes b) No
10.	Do you know that negligence of untreated dental caries can lead to facial infections?	a) Yes b) No

Table 4: Questions and options in section C-Respondents' knowledge about systemic and oral health

S. No	Questions asked	Options
1.	Do you know about systemic diseases related to dental problems?	a) Yes b) No
2.	Do you know about signs and symptoms of medical diseases that are manifested in oral cavity?	a) Yes b) No

Table 5: Number of participants from different colleges to whom the questionnaire was sent and the number of responses received

S. No	Name of the college	Questionnaire sent to number of students	Responses received from participants
1.	Kamineni Institute of Medical Sciences, Nalgonda	150	120

2.	Osmania Medical College, Hyderabad	150	91
3.	Gandhi Medical College, Secundrabad	150	97
4.	Mamatha Medical College, Khammam	150	102
5.	Chalmeda Anand Rao Institute Of Medical Sciences, Karimnagar	150	96
	Total	750	506

At the end of 15 days, 506 responses were received in Google forms.

Ethics: The Institutional ethical committee (IEC) has given a waiver for conducting this study.

Statistical Analysis: All the submitted responses from the participants were automatically analyzed statistically by the Google Forms in the form of Pie diagrams.

Results: Results are depicted in pie diagrams.

Section A: Dental Awareness and Attitude of Medical Students towards Dentistry: Fig. 1 shows how much percentage of medical students visited the dental clinic, what was the purpose of visiting the dental clinic, how many of the medical students know proper brushing technique, how many times does medical students brush daily and how many of them know about the consequences if they ignore the dental problems.

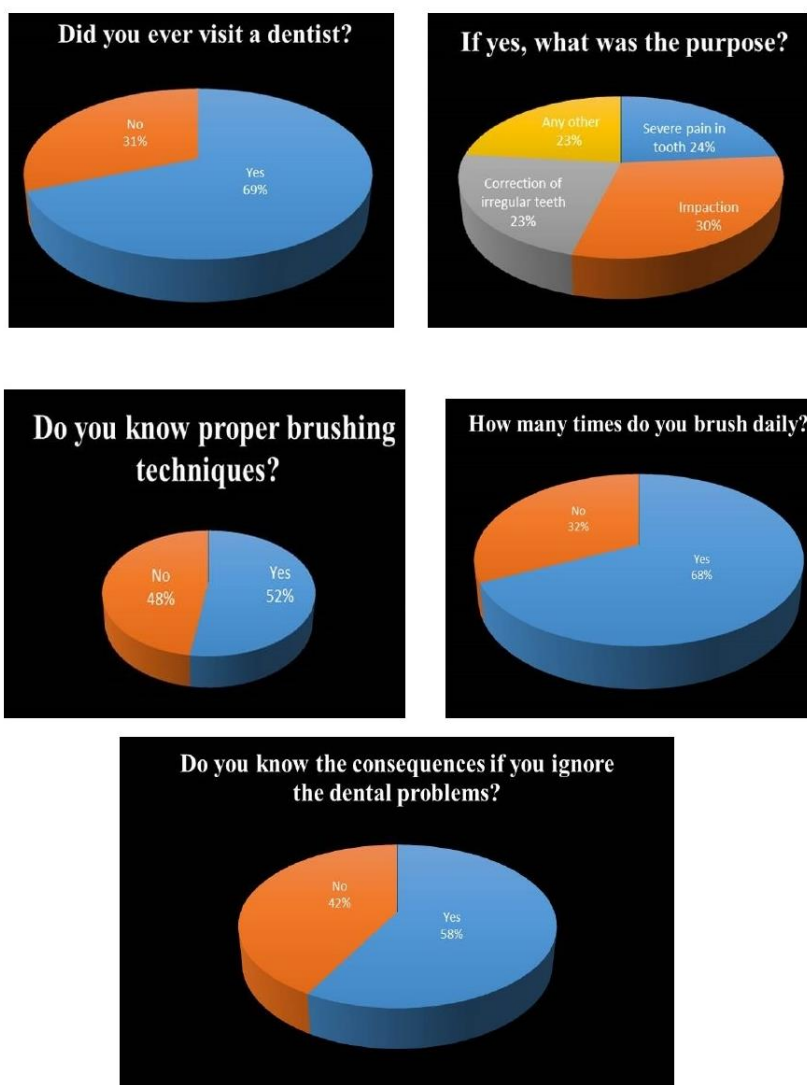


Fig. 1: Dental awareness and attitude of medical students towards dentistry

Section B: Respondents' Awareness about Dentistry and Dental Specialties: Fig. 2 shows how many of

them know that there are nine branches in dentistry, how many are aware of etiology of dental caries, how

many of them know the effect of excess intake of fluoride on teeth, how many of them know that esthetics can be improved by the dentist, how many that there is a specialty for root canal treatment.

Fig. 3 shows how many know that there is a specialty for treatment for irregularly arranged teeth, how many of them are aware of preventive dentistry, how many of them know that road traffic accidents can be treated by the oral surgeons, how many of them know that Temporomandibular Joint disorders are

associated with dental problems, how many of them know that non-treatment of dental caries can lead to facial infections.

Section C: Respondents' Knowledge about Systemic and Oral Health: Fig. 4 shows how many are aware of systemic diseases related to dental problems and how many are aware of signs and symptoms of medical diseases that are manifested in oral cavity.

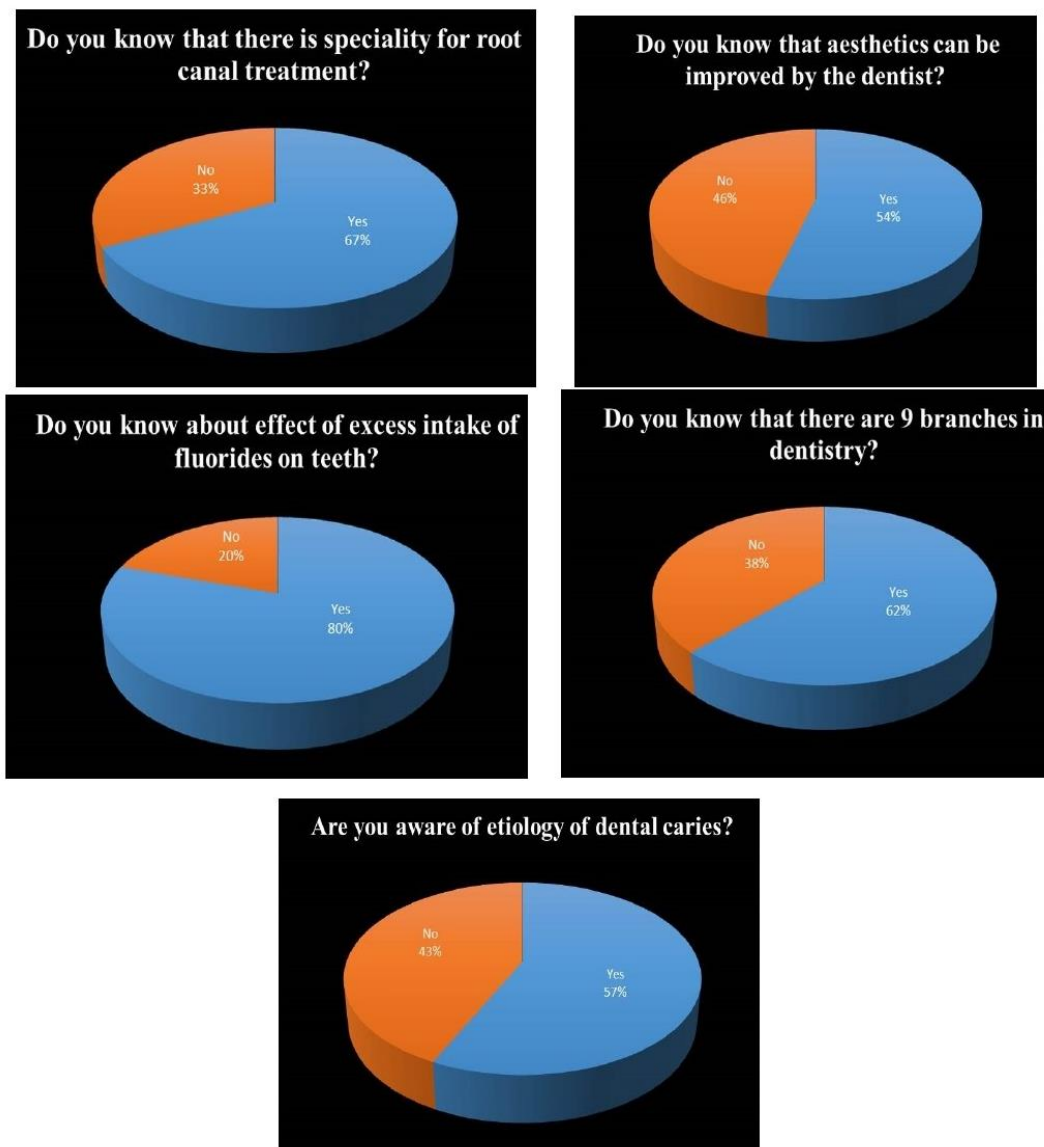


Fig. 2: Respondents' awareness about dentistry and dental specialties

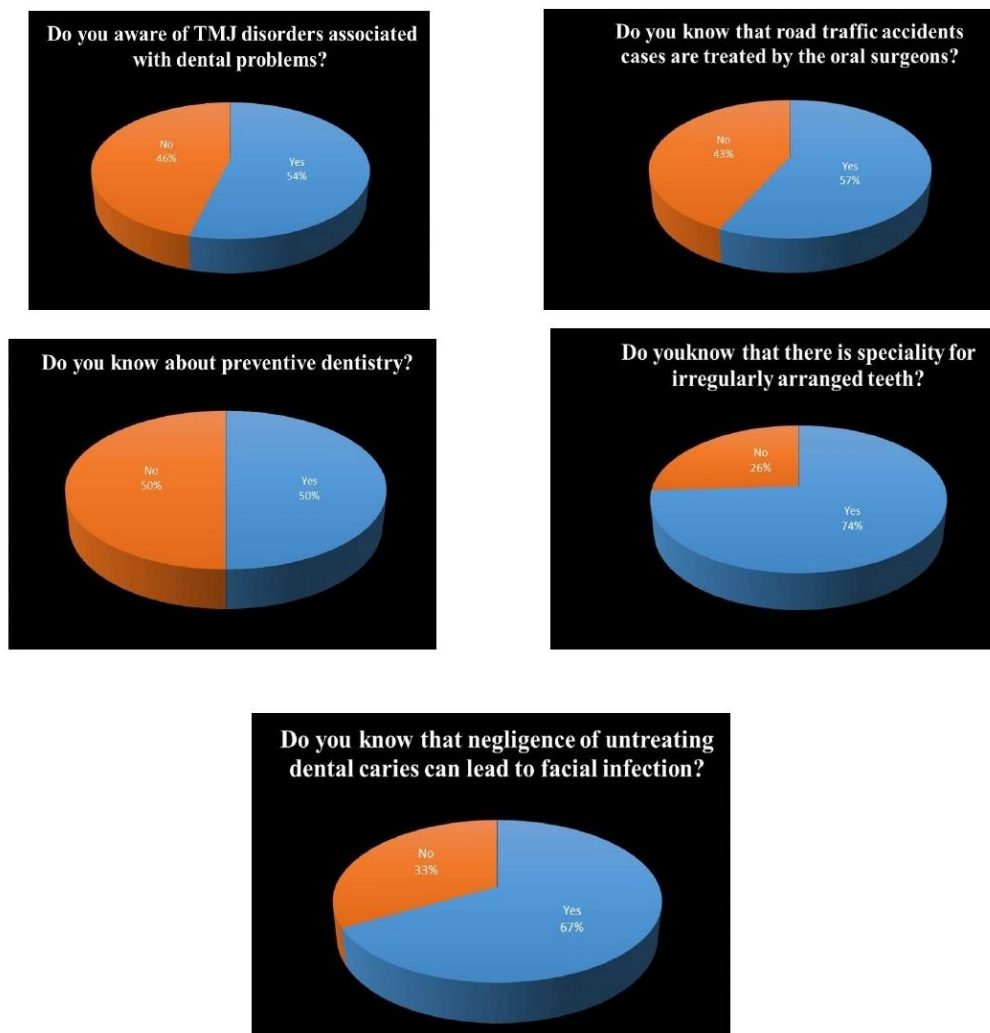


Fig. 3: Respondents' awareness about dentistry and dental specialties- remaining parameters

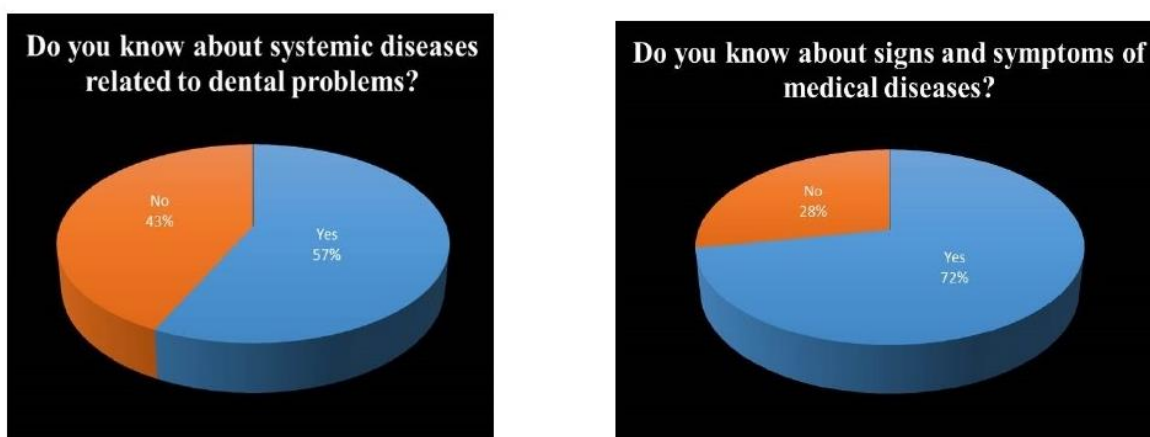


Fig. 4: Respondents' knowledge about systemic and oral health

Discussion

Oral health is an integral part of systemic health. Adequate level of understanding and cooperation is needed between medical and dental health. The present study, designed to determine dental awareness,

knowledge and attitude among medical students becomes relevant, as findings from this study is expected to throw more light into the importance of maintaining close inter-relationship between medical and dental team.

Only 69% of the students visited the dental clinic, whereas 78(38%) participants had ever visited the dentist for dental checkup/treatment, similar to the report of Bashiru et al² who noted that 71.6% of the 360 studied undergraduate students in southern Nigeria never visited a dentist before.³

A Similarly study conducted in Nigeria showed that 205 out of 206 participants were aware of dentistry as a profession, representing 95.5% of the study population.³ These findings are similar to the reports of Chandra et al⁴ where 100% of participants of high socio economic status group claimed they are awareness of dental diseases. But 68.7% of the students visited the dental clinic, 31.3% did not. The reason for visiting the dental clinic is 23.6% for severe pain in the tooth, but the study done by Nabil Al-Beirut⁵ in 1997, where 69.5% of the participants reported visiting a dentist only when they have pain. Overall, 35.4% health professionals said that toothache was the driving factor for visiting the dentist. Sixty percent of medical students and 36% nurses followed by others said that toothache was the driving factor for visiting the dentist in a study by Baseer M A⁶. In contrast with the results of the present study, Al-Omari and Hamasha⁷ reported 50% of the dental students in a Jordanian study and Sharda and Shetty⁸ reported that in 30.3% of the professionals tooth ache was the main reason for dental visit. The main reason for dental visit was also reported to be toothache in a study by Doshi et al.⁹

In the present study, 30.5% of the study population visited for impaction, 22.6% for correction of irregular teeth and 23.3% for other reason. This shows that most of the participants visited the dental clinic for the purpose of impaction. Hence it is important for medical doctors to know more about impaction of third molars, tooth ache and referred pain for tooth ache and its consequences, so that they will let their patients know about the same. Sometimes, the referred pain for tooth ache, third molar impactions is felt as ear ache. Knowledge about these conditions lets them to differentiate ear ache and tooth ache.

The present study reveals that 47.6% of the participants do not know proper brushing technique and only 32% participants brush once daily, only 26% of them brushed twice daily.³ Dhanasekaran et al¹⁰ similarly 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. Some other studies Asif N,¹¹ Radha G,¹² Azodo CC¹³ in the scientific literature had shown 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. The percentage of subjects brushing their teeth twice daily is 23% in a study by Jain V,¹⁴ which is very less as compared with 58% of the Police recruits in a study by Dilip,¹⁵ 67% of the Chinese urban adolescents in a study by Jiang et al,¹⁶ 62% of the Kuwaiti adults in a study by Al-Shammari et al,¹⁷ and

50% of the middle aged and 75% of the elderly Chinese adults in urban areas in a study by Zhu et al.¹⁸ Neeraja et al. reported that 74% of the dental students brushed their teeth twice daily.¹⁹ Based on a study by Ansari et al., 34% of health sciences students brushed twice daily and 45% once a day²⁰ and about 50.5% of participants were unaware of preventive dentistry. This shows that basic dental awareness about proper brushing is lacking among the medical doctors. Lack of proper brushing leads to gingivitis, periodontitis and sometimes systemic consequences. Hence they should be taught during their UG curriculum about the basic dental awareness so that they can follow the same and tell the same to their family members and their patients during their routine practice when they examine their patients.

The present study shows that 41.6% of the participants does not know the consequences of ignoring the dental problems and about less than 50% of the participants are unaware of systemic diseases related to dental problem. WHO defines "Health" as a complete physical, mental and social wellbeing and not merely the absence of disease or infirmity. Hence it is the duty of the medical doctors to not to ignore the dental problems since it leads to lack of health.²¹

Less than 50% of the participants were unaware of the fact that there are nine branches in dentistry, about one-third of the participants did not know the speciality of the dentistry that treats dental abscess and negligence of it leading to facial infections and about 43.4% of participants does not know that there is a specialty known as "Oral Maxillofacial Surgery" that treats facial fractures due to RTA cases. This indicates that they have poor knowledge about specialities of dentistry. Dental knowledge helps the medical doctors for correct and proper referral in times of need for their patients.

It is strange that 43.1% of the respondents do not know the aetiology of dental caries. This finding of poor knowledge about basic dentistry makes the regulatory bodies like MCI to think about modifying the UG curriculum in such a way that students should be taught about the basic dental awareness and knowledge about etiology of dental caries, periodontal problems and about how to maintain proper oral hygiene.

Less than 50% of the participants are unaware that dentist can improve aesthetics. This can be done by orthodontic treatment, smile design, orthognathic surgery in some cases of jaw discrepancies. In today's world aesthetics plays a major role as it improves the confidence of every individual. Hence it is extremely important for medical doctors to know about the improvement of aesthetics by specialist dentist whenever necessary.

Incorporating basic information about oral health in their academic curriculum, by conducting various inter-disciplinary workshops, CDE programs and conferences, increasing the clinical exposure of the students to oral findings as most of the systemic

diseases manifests in the oral cavity, special study modules or electives in oral health and disease should be created by involving the dental faculty, emphasizing the importance of oral health.²²

Majority of the medical students are aware of the dental profession but their knowledge and attitude to dentistry is still poor. Oral health education programs for both undergraduate and postgraduate will increase knowledge, understanding and practices that will improve their oral health. Universities and colleges may include oral health motivation programme as a component of their academic curriculum so that the future generation of professionals are motivated to maintain proper oral health practices. This may be the promising solution to this unnecessary knowledge gap between the medical and dental profession, thereby increasing the knowledge and awareness of dentistry among medical students which in turn leads to maintaining good systemic and oral relationship.

As most of the general physicians are one group of providers who have an opportunity to encourage oral health and to make a significant difference because of their access to family as a family physician. It is also incumbent upon medical practitioners to keep their knowledge updated with time and get actively involved in oral health, as mouth is a mirror of systemic conditions.

Conclusions

Majority of the participants do not know about proper brushing technique and were brushing only once daily. Many participants were unaware of consequences of ignoring the dental problems. Many are not aware of preventive dentistry and they lack knowledge about aesthetic dentistry. Majority of the participants know that there is a separate specialist for root canal treatment and for the treatment of irregularly arranged teeth. Most of the participants do not know about the systemic diseases related to dental problems.

References

1. Internet source: Google Forms.
2. Bashiru B, Anthony I. Oral self-care practices among university students in Port Harcourt, Rivers State. *Niger Med J*. 2014;55(6):486–489.
3. Elijah Olufemi Oyetola, Taiwo Oyewole, Adedotun Adewale. Knowledge and awareness of medical doctors, medical students and nurses about dentistry in Nigeria. *Pan African Medical Journal*. 2016;23:172.
4. Chandra Shekar B, Reddy C, Manjunath B, Suma S. Dental health awareness, attitude, oral health-related habits, and behaviors in relation to socio-economic factors among the municipal employees of Mysore city. *Ann Trop Med Public Health*. 2011;4(2):99–106.
5. Al-Beirut N. Oral health behaviour among a sample of schoolteachers, physicians and Nurses in the Syrian Arab Republic. *East Mediterr Health J*. 1997;3:258–62.
6. 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 (Isfahan)*. 2012;9:386–92.
7. Al-Omari QD, Hamasha AA. Gender-specific oral health attitudes and behavior among dental students in Jordan. *J Contemp Dent Pract*. 2005;6:107–14.
8. Sharda AJ, Shetty S. A comparative study of oral health knowledge, attitude and behaviour of non-medical, Para-medical and medical students in Udaipur city, Rajasthan, India. *Int J Dent Hyg*. 2010;8:101–9.
9. Doshi D, Baldava P, Sequeira PS, Anup N. 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;8:1–8.
10. Dhanasekaran R, Nayar S. Self-perceived need for dental care. *J Pharm Bioallied Sci*. 2015;7(Suppl 1):S98–S100.
11. 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.
12. 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.
13. Azodo CC, Unamatokpa B. Gender difference in oral Health perception and practices among medical house officers. *Russian Open Medical Journal*. 2012;1(2):0208.
14. Jain N, Mitra D, Ashok K, Dundappa J, Soni S, Ahmed S. Oral hygiene-awareness and practice among patients attending OPD at Vyas Dental College and Hospital, Jodhpur. *Journal of Indian Society of Periodontology*. 2012;16(4):524–528.
15. Dilip CL. Health status, treatment requirements, knowledge and attitude towards oral health of police recruits in Karnataka. *J Indian Assoc Public Health Dent*. 2005;5:20–34.
16. Jiang H, Petersen PE, Peng B, Tai B, Bian Z. Self-assessed dental health, oral health practices, and general health behaviors in Chinese urban adolescents. *Acta Odontol Scand*. 2005;63:343–52.
17. Al-Shammari KF, Al-Ansari JM, Al-Khabbaz AK, Dashti A, Honkala EJ. Self-reported oral hygiene habits and oral health problems of Kuwaiti adults. *Med Princ Pract*. 2007;16:15–21.
18. Zhu L, Petersen PE, Wang HY, Bian JY, Zhang BX. Oral health knowledge, attitudes and behaviour of adults in China. *Int Dent J*. 2005;55:231–41.
19. Neeraja R, Kayalvizhi G, Sangeetha P. Oral health attitudes and behaviour among a group of dental students in Bangalore, India. *Eur J Dent*. 2011;5:163–7.
20. Al Ansari J, Honkala E, Honkala S. Oral health knowledge and behaviour among male health sciences college students in Kuwait. *BMC Oral Health*. 2003;3:2.
21. <https://en.wikipedia.org/wiki/Health>
22. Patel A. Awareness of oral health among medical practitioners in Sangamner City – A cross-sectional survey. *Int J Clin Dent Sci*. 2010;1:26–9.