Assessment of Oral Health Awareness among Undergraduate Medical Students in Raichur District: A Survey

Prakash Nidawani, Arjita Dutta, Girish P Galagali, Srinivas Reddy E, Saba Anjum

ABSTRACT

Background: Early detection of oral diseases makes them more amenable to treatment and allows the greatest chance of cure. Delay in presentation and/or referral has a significant effect on the associated morbidity and mortality. Lack of general medical practitioner’s knowledge of oral disease has been shown to contribute to delays in referral and treatment.

Aim: The present study was undertaken to assess knowledge, attitude and practice of dental awareness among undergraduate medical students in Raichur District, Karnataka, India. The present study is cross-sectional survey conducted among the medical students in Raichur District, Karnataka, India. 140 undergraduate medical students from 4 different years were selected for the present study. The data pertaining to their knowledge, attitude and practice about oral health was gathered using a self-administered questionnaire. The data was analyzed using descriptive statistics.

Results: Majority of the undergraduate medical students were aware about the inter-relation between oral health and general health.

Clinical relevance statement: The present study aims at evaluating the awareness among undergraduate medical students about the oral health. It also focuses on the need of incorporation of basic knowledge about dentistry in medical syllabi.

Keywords: Attitude, Knowledge, Oral health.

Journal of Oral Health and Community Dentistry (2021): 10.5005/jp-journals-10062-0120

INTRODUCTION

Oral health is essential to general health and well-being at every stage of life. A healthy mouth enables nutrition of the physical body and enhances social interaction, and promotes self-esteem and feelings of well-being. Research has also suggested that oral and systemic health are closely associated with each other, and oral diseases if left untreated may exaggerate certain systemic diseases. This makes maintenance of optimum oral health important in one’s life.

Oral health is compromised by unhealthy habits like the use of tobacco and lack of dental specialist care. The World Health Organization set the goals for the year 2020 as recommended oral self-care (ROSC), which includes tooth brushing more than once a day, lesser consumption of sugar-containing snacks once daily or rarely, and regular use of fluoride-containing toothpaste.

India is a country of diverse ethnic groups, geographic characters, culture, and religion, with a population of 1.22 billion. About 68.84% of the population resides in rural areas where only 10% of manpower resources are available and vice versa in urban areas.

The dentist population ratio is 1:10,000 in urban areas and 1:250,000 in rural areas. For such a major part of the population residing in rural areas, health care is delivered through primary health centers mainly, where the majority of health providers are medical practitioners.

The demand for faculty and facilitation is tremendous, and the supply most often cannot meet the needs.

Medical practitioners should play an active role in oral health promotion. Proper knowledge of oral diseases is crucial in medical practice due to the following reasons: (a) periodontal diseases are associated with multiple systemic conditions of medical interest; (b) a large number of systemic diseases have oral manifestations; (c) many drugs are associated with oral adverse drug reactions, and (d) the majority of the population approaches medical practitioners for their oral health problems. Hence, early screening and proper referral by these professionals may benefit from improving access to oral health problems and reduce the associated morbidity and mortality. The need of the hour is for general practitioners to have adequate knowledge about oral health as they are the ones whom the majority of the population approach.

MATERIALS AND METHODS

Study Design

The study is an observational, descriptive, and cross-sectional survey. A self-structured, pretested questionnaire was used for the survey. All the questions were multiple choice and close-ended.

Sample Size and Sampling Method

The undergraduate students studying in the first, second, third, fourth years and interns of Navodaya Medical College and Raichur Institute of Medical Sciences were included in the study.

© The Author(s). 2021 Open Access This article is distributed under the terms of the Creative Commons Attribution 4.0 International License (http://creativecommons.org/licenses/by-nc/4.0/), which permits unrestricted use, distribution, and non-commercial reproduction in any medium, provided you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license, and indicate if changes were made. The Creative Commons Public Domain Dedication waiver (http://creativecommons.org/publicdomain/zero/1.0/) applies to the data made available in this article, unless otherwise stated.
Assessment of Oral Health Awareness among Undergraduate Medical Students in Raichur District: A Survey

Ethical Consideration and Consent
The study protocol was approved by the institutional review board. The required permission was obtained from the concerned authorities of both the medical institutions. Written informed consent was obtained from the students participating in the study after explaining the objectives, and also the pros and cons of the study.

Collection of Data
Data were collected using a self-structured, pretested questionnaire. The questionnaire included the demographic details and the information related to oral health maintenance, the relationship of oral diseases with systemic diseases, and oral health problems and their management. The questionnaire was administered by an investigator during students’ free hours—in the library, college campus, and hostel. Students were instructed not to discuss any of the answers with their friends. Students were also instructed to approach the investigator if they had any doubts pertaining to the questionnaire. Students answered all the questions in the questionnaire in 30 minutes. There were no missing data. The study was completed within a period of 4 months.

Statistical Analysis
The Chi-squared test was used to test the significant difference in oral health awareness among undergraduate medical students.

Results
Based on the interquartile range, all the students were grouped according to their oral health awareness as follows: ≤11 = poor oral health awareness; 12–16 = fair oral health awareness; and ≥17 = good oral health awareness.

Out of 140 students, only 88 (63%) were found to have good oral health awareness, 45 (32%) students were found to have fair oral health awareness, and 7 students (5%) were found to have poor oral health awareness.

Interns were found to have better oral health awareness (33.6%) when compared to final-year (10.7%), second-year (8.6%) and third-year (5%), and first-year (5%) undergraduate medical students at p >0.05.

Interns were found to have 13.6% fair knowledge when compared to 5.7% of the fourth-year and 4.3% of the third-year, 4.3% of the second-year, and 4.3% of the first-year undergraduate students. The fourth-year undergraduate students were found to have 2.1% poor knowledge when compared to 1.4% of the first year and 0.7% of interns and 0.7% of the second year and 0.0% of the third-year undergraduate students. All their results were found to be significant at $p>0.05$.

Limitations
Geographical areas of samples covered is limited; hence larger sample size with different geographic location needs to be analyzed.

Discussion
In the present study, the awareness about oral health was found to be good among undergraduate medical students in Raichur district. Intern medical students were found to have better oral health awareness compared to another year undergraduate medical students. The probable reasons could be more clinical exposure, more experience, and knowledge. The majority of the first-year undergraduate medical students were found to have average oral health awareness when compared to the other undergraduate medical students, in which most of them had poor oral health awareness. The probable reason could be medical students are exposed to dental subjects in their second academic year. It is recommended that oral health awareness of the undergraduate medical students can be improved by incorporating basic information about oral health in their academic curriculum, conducting various interdisciplinary workshops, continuing dental education programs and conferences, and increasing the clinical exposure of the students to oral findings as most of the systemic diseases manifest 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. As prospective doctors, they should have sufficient awareness about oral health as oral health problems are cumulative by nature, more amenable to prevention, and difficult to treat. Early identification of the oral diseases and referral to a specialist not only prevents a patient from pain, agony, and functional and esthetic problems but also from death in some conditions. The present survey shows good oral health awareness among undergraduate medical students, and interns were found to have better knowledge compared to the remaining undergraduate students. Further studies have to be conducted to explore the reasons (Figs 1 and 2).

| Oral health awareness | No. of cases | Percentage (%) |
|-----------------------|-------------|----------------|
| Fair                  | 45          | 32             |
| Good                  | 88          | 63             |
| Poor                  | 7           | 5              |
| Total                 | 140         | 100            |

Fig. 1: Oral health awareness among undergraduate medical students

| Class            | Poor | Fair | Good | Total |
|------------------|------|------|------|-------|
| First year       | 2    | 1.4  | 6    | 4.3   | 7    | 5.0  | 15   | 10.7  |
| Second year      | 1    | 0.7  | 6    | 4.3   | 12   | 8.6  | 19   | 13.6  |
| Third year       | 0    | 0.0  | 6    | 4.3   | 7    | 5.0  | 13   | 9.3   |
| Fourth year      | 3    | 2.1  | 8    | 5.7   | 15   | 10.7 | 26   | 18.6  |
| Internship       | 1    | 0.7  | 19   | 13.6  | 47   | 33.6 | 67   | 47.9  |
| Total            | 7    | 5.0  | 45   | 32.1  | 88   | 62.9 | 140  | 100.0 |

$x^2=9.476, p = 0.034 > 0.05$; not significant
Fig. 2: Graphical representation of oral health awareness among undergraduate students

References

1. Rhodus NL. Oral health and systemic health. Minn Med 2005;88(8):46–48. PMID: 16225336.
2. Gundala R, Chava VK. Effect of lifestyle, education, and socioeconomic status on periodontal health. Contemp Clin Dent 2010;1(1):23–26. DOI: 10.4103/0976-237X.62516.
3. Gopinath V. Oral hygiene practices and habits among dental professionals in Chennai. Indian J Dent Res 2010;21(2):195–200. DOI: 10.4103/0970-9290.66636.
4. Available from: http://www.indiaonlinepages.com/population/india-current-population.html. [Last accessed on January 14, 2012].
5. Available from: http://www.censusindia.gov.in/2011-Documents/Houselisting%20English.pdf. [Last accessed on January 14, 2012].
6. Kishor KM. Public health implications of oral health–inequity in India. J Adv Dent Res 2010;1:1–10.
7. Available from: http://www.dentistryindia.net/article.php?id=1010. [Last accessed on January 14, 2012].
8. Patel A. Awareness of oral health among medical practitioners in Sangamner city: A cross-sectional survey. Int J Clin Dent Sci 2010;1:26–29.
9. Ramirez JH, Arce R, Contreras A. Why must physicians know about oral diseases? Teach Learn Med 2010;22:148–155.
**Questionnaire**

**Assessment of Oral Health Awareness among Undergraduate Medical Students in Raichur District: A Survey**

NAME:
AGE:                                         GENDER:
ADDRESS:
COLLEGE NAME:
YEAR: (1st/2nd/3rd/4th/Internship)
PHONE NUMBER:
EMAIL ADDRESS:

1. Oral health is an integral part of general health.
   a. Agree
   b. Disagree
   c. Neither agree nor disagree

2. Certain systemic diseases can manifest in the oral cavity.
   a. Agree
   b. Disagree
   c. Neither agree nor disagrees

3. Proper maintenance of deciduous dentition is as important as permanent dentition.
   a. Agree
   b. Disagree
   c. Neither agree nor disagree

4. Saliva can be used in the diagnosis of oral as well as certain systemic diseases.
   a. Agree
   b. Disagree
   c. Neither agree nor disagree

5. Dental caries and periodontal disease are plaque-mediated diseases.
   a. Agree
   b. Disagree
   c. Neither agree nor disagree

6. Dental caries is a complex disease but can be prevented by adopting proper oral health behavior.
   a. Agree
   b. Disagree
   c. Neither agree nor disagree

7. Proper brushing of teeth and flossing will enable the prevention of both dental caries and gingival diseases.
   a. Agree
   b. Disagree
   c. Neither agree nor disagree

8. Alignment of teeth is done both for functional and esthetic purpose.
   a. Agree
   b. Disagree
   c. Neither agree nor disagree

9. Dental care should be started even before the birth of a child/prenatal care.
   a. Agree
   b. Disagree
   c. Neither agree nor disagree

10. Microorganisms that cause dental caries are transmitted mainly from the mother to the child.
    a. Agree
    b. Disagree
    c. Neither agree nor disagree

11. Frequent consumption of sugar-containing food is more detrimental than the quantity of sugar consumed.
    a. Agree
    b. Disagree
    c. Neither agree nor disagree

12. Tobacco is one of the risk factors for causing oral cancer.
    a. Agree
    b. Disagree
    c. Neither agree nor disagree

13. All precancerous lesions of the oral cavity invariably lead to oral cancer even if the predisposing factors are removed.
    a. Agree
    b. Disagree
    c. Neither agree nor disagree

14. Parafunctional habits like thumb-sucking, lip-biting, lip-sucking, and nail-biting are very common among children. These habits need to be curbed as they affect orofacial structures.
    a. Agree
    b. Disagree
    c. Neither agree nor disagree
15. Fluorides have a protective role against dental caries.
   a. Agree
   b. Disagree
   c. Neither agree nor disagree

16. Mouthguards are useful in preventing sport-related injuries/trauma.
   a. Agree
   b. Disagree
   c. Neither agree nor disagree

17. A tooth avulsed due to trauma can be reimplanted into the tooth socket within a stipulated time period.
   a. Agree
   b. Disagree
   c. Neither agree nor disagree

18. Bruxism (grinding of teeth) and worn-out teeth can cause temporomandibular joint problems and pain in the orofacial region.
   a. Agree
   b. Disagree
   c. Neither agree nor disagree

19. Loss of teeth during old age is a natural phenomenon. Neither the dentist nor the patient can prevent tooth loss.
   a. Agree
   b. Disagree
   c. Neither agree nor disagree

20. Artificial teeth can perfectly replace the function of natural teeth. Hence, too much care for natural teeth is unwarranted.
   a. Agree
   b. Disagree
   c. Neither agree nor disagree

21. Soft drinks can cause erosion of dental enamel, which is the hardest tissue in the human body.
   a. Agree
   b. Disagree
   c. Neither agree nor disagree

22. Cleft palate and cleft lip are developmental defects. Proper surgical and prosthetic treatments are available that will enable patients with cleft lip/cleft palate to lead a normal life.
   a. Agree
   b. Disagree
   c. Neither agree nor disagree

23. Health education has an important role to play in creating awareness about oral health among the public.
   a. Agree
   b. Disagree
   c. Neither agree nor disagree

24. Oral diseases have an implication on certain systemic diseases/conditions like cardiovascular diseases, pregnancy, low-birthweight babies, etc.
   a. Agree
   b. Disagree
   c. Neither agree nor disagree

25. Oral health has an influence on the overall quality of life.
   a. Agree
   b. Disagree
   c. Neither agree nor disagree

26. Which are the following specialties in the field of dentistry you are aware of? Tick them.
   a. Oral medicine and radiology
   b. Oral and maxillofacial surgery
   c. Conservative dentistry and endodontics
   d. Orthodontics
   e. Periodontics
   f. Prosthodontics
   g. Pedodontics
   h. Community and Preventive Dentistry
   i. Implantology
   j. Oral Pathology
   k. Forensic Odontology