

To assess the Knowledge, Attitude and Practices towards Preventive dental care among Dental students in Kanpur, India

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Abstract

Aim: To assess the Knowledge, Attitude and Practices towards Preventive dental care among dental students in Kanpur, India.

Materials and Methods: A cross-sectional, questionnaire-based survey was conducted among 120 internship students of the dental colleges of Kanpur city. The participants were asked to provide demographic information, to respond to statements about their attitudes towards preventive dentistry, and to answer questions regarding their perceived competence in applying preventive dentistry procedures.

Results: Data from 120 dental internship students of Kanpur were analysed for this study, of which 65% were males and 35% of them were females. The most acknowledged aspects of preventive dentistry were being useful and essential to the community (100%). The percentage of participants expressing a proficiency in providing dietary counselling and oral hygiene instructions was the highest (88.3% & 83.3% respectively).

Conclusion: This study highlighted that the currently implemented undergraduate education programme in dental colleges in Kanpur does not provide dentists with the required attitude and skills to fulfil their role in providing preventive-oriented health services.

Keywords: Knowledge, Attitude, Practices, Preventive, Dental Students

Introduction

Dental caries is one of the most common childhood diseases which can have a great impact on the quality of life. However, the progression and consequences of dental caries can be reduced or eliminated by applying preventive dental practices and early intervention strategies at public and individual levels. Epidemiological data has shown that the widespread use of fluorides has accounted for the declining trends of dental caries in developed countries at the end of the 20th century [1-3].

On the other hand, the prevalence of dental caries in developing countries remained high which might be explained by less preventive oriented dental services and adoption of a modernized life style. Preventive dentistry is recognized as an integral part of modern dental services and an essential component of dental curriculum [4-6].

Effectiveness and successfulness of oral health promotion programs requires existence of knowledgeable and positively oriented dental workforce. Promoting professional responsibility and positive attitudes to serve the community has been

emphasized widely in dental undergraduate programs.⁴⁶ this has been one of the central themes of curricula revisions [7-10].

An attitude can be defined as “a mixture of beliefs, thoughts and feelings that predispose a person to respond in a positive or negative way to objects, people, processes or institutions. [11]

Dentists’ attitudes towards care options influence their clinical decision making and vary according to their background and professional factors. [12, 13]

Moreover, the relationship between knowledge, attitude and practice seems to be stronger among professionals than among the lay population, supporting the potential to train a prevention-oriented workforce. Thus, the aim of the present study was to assess the knowledge, attitudes and practices of dental internship students towards preventive dentistry based on their self-perceived competency in providing preventive care.

Materials and Methods

Study design and Sample selection: A cross-sectional, questionnaire-based survey was conducted

among internship students of the dental colleges in Kanpur city. A total of 120 internship students were invited to participate in this survey, of which all the participants had completed information on all the variables selected for analysis (100%).

Ethical Approval and Informed Consent: The study protocol was reviewed and approved by the Institutional Review Board of Rama Dental College Hospital and Research Center, Kanpur. The purpose of the study was explained to the participants and informed consent was obtained.

Pre-testing of Questionnaire: Questionnaire were administered to a panel of three academicians and a convenience sample of 15 dental students twice on successive days who were interviewed to gain feedback on the overall acceptability of the questionnaire in terms of length, language clarity, time, and feasibility of dentists completing and returning it. Based on the opinions expressed a mean Content Validity Ratio (CVR) of 0.81 among academicians and Cronbach's coefficient of 0.72 in dentists was found. Face validity was also assessed and it was observed that 92% of the participants found the questionnaire to be easy.

Methodology: A self-administrated questionnaire was used to collect data, which was distributed in-person and collected the next day. The participants were asked to provide information on their demographics (sex and age). Information that could identify the participant's identity was not requested, so that participants are encouraged to provide truthful information. The qualities of preventive dentistry were: scientific, valuable, essential, useful, reputable, attractive, easy, and beneficial. Yes or No questions were used to assess the perceived competence of providing preventive dental care. The interns were asked whether or not they felt themselves competent in performing the following preventive dental practices: dietary counselling, topical application of fluoride, placement of sealant in the molars, oral hygiene instructions and caries risk assessment. The questionnaire was piloted for clearance and understanding among a group of 15 internship students. As no modifications were needed, these questionnaires were included in the final analysis.

Statistical analysis: Data were analyzed using the statistical software SPSS, version 17.0. Frequencies and percentages were used to participants' responses to attitude statements and perceived competence questions.

Results

The present study was conducted to assess the Knowledge, Attitudes and Practices towards Preventive dental care among dental students in Kanpur, India. The study population comprised of 120 internship students. The results are as follows:

Table 1: Distribution of the study population according to Socio-demographics

Table 1 reveals distribution of the study population according to socio-demographics. Out of 120 subjects, the study population consisted predominantly of males (65%) compared with females (35%) with age ranging from 23-26 years with mean age 25.06 ± 0.87 years.

Table 2: Distribution of responses of the participants according to Caries related knowledge

Table 2 reveals distribution of responses of the participants according to Caries related knowledge. Q1 was regarding role of frequency of sugar consumption in producing caries than does total amount of sugar consumed, Q2 was regarding effectiveness of the sealant in the prevention of pit and fissure caries in newly-erupted molars and Q3 was regarding carious tooth is more likely to be lost than is a restored one, which all the participants answered correctly. 40.8% and 45% of the participants answered questions 4 & 5 correctly.

Table 3: Distribution of responses of the participants according to knowledge regarding Fluoride and Relations of dental and general health

Table 3 reveals distribution of responses of the participants according to knowledge regarding Fluoride and Relations of dental and general health 54.2 % of the participants correctly answered the question regarding rinsing teeth with less water after tooth brushing will increase the effect of fluoride that is in the toothpaste whereas only 36.7 % of the participants correctly answered the question regarding the use of fluoride toothpaste is more important than brushing technique in preventing caries.

Table 4: Distribution of responses of the participants according to their Attitude

Table 4 reveals distribution of responses of the participants according to their Attitude. Only 40% of the participants found preventive dentistry attractive

while a majority of them satisfactorily answered the questions regarding attitude.

Table 5: Distribution of responses of the participants according to their Practices

Table 5 reveals distribution of responses of the participants according to their Practices. Only 55.8% of the participants practiced fluoride application in the patients whereas 1.7% said that they apply pit and fissure sealants. Only 31.7% did caries risk assessment.

Table 1: Distribution of the study population according to Socio-demographics

Social demographic variables	n(%)
Sex	
Males	78(65)
Females	42(35)
Age	
23 years	01 (8)
24 years	39 (32.5)
25 years	32 (26.7)
26 years	48 (40)

Table 2: Distribution of responses of the participants according to Caries related knowledge

Caries Related Knowledge Questions	Responses Frequency (%)	
	Yes	No
Q1.Frequency Of Sugar Consumption Plays A Greater Role In Producing Caries Than Does Total Amount Of Sugar Consumed.	120(100)	0
Q2. Sealant Is Effective In The Prevention Of Pit And Fissure Caries In Newly-Erupted Molars.	120(100)	0
Q3.A Carious Tooth Is More Likely To Be Lost Than Is A Restored One.	120(100)	0
Q4. Examining A Newly-Erupted Tooth With A Sharp Explorer Will Damage Enamel Rods And Predispose The Tooth To Caries.	49(40.8)	71(59.2)
Q5. A White- Or Brown-Spot Lesion That Is Visible On A Wet Tooth Surface Has Penetrated All The Way Through The Enamel.	54(45)	66(55)

Table 3: Distribution of responses of the participants according to knowledge regarding Fluoride and Relations of dental and general health

Knowledge Questions Regarding Fluoride And Relations Of Dental And General Health	Responses Frequency (%)	
	YES	NO
Q6. Fluoridation of drinking water in regions with low fluoride is an effective, safe, and efficient way to prevent dental caries.	91(75.8)	29(24.2)
0.7. Rinsing teeth with less water after tooth brushing will increase the effect of fluoride that is in the toothpaste.	65(54.2)	55(45.8)
0.8. The use of fluoride toothpaste is more important than brushing technique in preventing caries.	44(36.7)	76(63.3)
Q9.Having dental problems can lead to general health problems	98(81.7)	22(18.3)

Table 4: Distribution of responses of the participants according to their Attitude

Questions On Attitudes	Responses Frequency (%)	
	Yes	No
Community related attitudes		
Q10. Is preventive dentistry useful to the community?	109 (90.8)	11(9.2)
Q11. Valuable to the community?	120 (100)	0
Q12. Essential to the community?	120 (100)	0
Dentist-related attitudes		
Q13. Is it a scientific subject?	97 (80.8)	23(19.2)
0.14. Is it a efficient practice for dentists?	120 (100)	0
Q15. Is it easy for dentists?	100 (83.3)	20 (16.7)
0.16. Is it attractive for dentists?	48 (40)	72(60)
0.17. Is it beneficial for dentists?	98 (81.7)	22(18.3)
0.18. Is it reputable for dentists?	60 (50)	60(50)

Table 5: Distribution of responses of the participants according to their Practices

Types of oral prophylactic activities performed for the patients	Responses Frequency (%)	
	Yes	No
Topical fluoride application	67 (55.8)	53 (44.2)
Pit and fissure sealant	62 (51.7)	58(48.3)
Dietary counselling	106 (88.3)	14 (11.7)
Oral hygiene instructions	100 (83.3)	20 (16.7)
Preventive resin restoration	80 (66.7)	40 (33.3)
Diagnosis of initial dental caries	72 (60)	48 (40)
Caries risk assessment	38 (31.7)	82 (68.3)

Discussion

This study shows that the currently implemented training programme in Public Health Dentistry in Dental colleges does not adequately prepare dentists to fulfil their role in providing prevention oriented dental service. The majority of participants declared

incompetence in mastering the practical skills of preventive dentistry. In addition, they do not conceive preventive dentistry as beneficial to dentists. The findings of this study are in accordance with other studies regarding the role of dental education in preventive dentistry, all of which have blamed undergraduate curricula for inadequate preparation of dentists.

The attitude of dental practitioners towards preventive dentistry is an important factor that can influence their decision to apply preventive dental care[12] and may potentially affect their ability to motivate patients to receive preventive care measures.[13] In our study, although the majority of dental graduates appreciated the merits of preventive dentistry at the community level, it was considered less reputable, attractive, and beneficial to the dentists. These results mirror previous finding among Iranian senior dental students and dental practitioners.[14] There are several possible explanations for this result. They might be attributed to the low monetary income from the provision of preventive dental care which may reduce the practitioners' interest in providing such care. Previous research has shown that dentists refrain from providing preventive care because of insufficient payment.[14-15]

Apart from oral hygiene instructions, the majority of the participants in this study do not feel themselves competent in applying preventive dental care. These findings are inconsistent with previous reports in this field. According to American Dental Education Association (ADEA) in 2008, most of the senior students consider themselves prepared to provide preventive dental care. Holmes et al. surveyed the graduated alumina and found them particularly competent in treatment and prevention of dental caries Another study among Mongolian dental students has reported that 68-94% were at least quite competent in practicing preventive dentistry.[16]

Further research is needed to explore in depth opinions of dental students regarding the facilitators and barriers of training in preventive dentistry as well as their view of future careers. A qualitative approach using observation of clinical training as well as content analysis of dental curriculum and its goals and structure could inform stakeholders to develop appropriate action plans to implement preventive strategies.

Conclusion

To conclude, the currently implemented undergraduate education programme in dental colleges does not provide dentists with the required attitude and skills to fulfil their role in providing preventive oriented health services. More efforts are required to tackle this problem and to provide more effective undergraduate education, as well as continuing dental education programmes.

- Oral health education and fluoride programs should be a part of the national oral health policy on lines of national vaccination program.
- School-based dental health educational programs should be conscientiously implemented throughout the country to raise oral health awareness, inculcate good dietary practices, reinforce and encourage good oral hygiene practices among the children.
- Parent awareness programs should be organized to increase the awareness on the importance of oral health and people should be encouraged to make more preventive dental visits.
- Health authorities should enforce monitoring and surveillance system of dentists' working in private and public sector in order to collect data on dentists' preventive dentistry practice patterns.

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