Knowledge, Attitude and Practice Regarding Tobacco Cessation Methods among the Dental Professionals: A Cross-sectional Study

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ABSTRACT

Introduction: In India, the proportion of death that can be attributed to tobacco use is expected to increase from 1.4% in 1990 to 13.3% in 2020. Health care professionals have made their best attempt by their integrated work to motivate and advise users to quit the habit.

Aims and objectives: Assessment of the attitude and practice of the dental students towards tobacco cessation methods and to gather the influence of knowledge in its promotion.

Materials and methods: This cross-sectional survey was carried out at the College of Dental Sciences in Davangere among the dental professionals, i.e. final year, interns, postgraduates students. The questionnaire was designed to test the knowledge, attitude, and practice of dental students regarding tobacco use. The self-administered survey included a set of questions. Descriptive statistics and Chi-square test had been used to test associations between their responses among age, qualification, and academic year using statistical package for social sciences (SPSS) version 22.

Results: A total of 300 questionnaires were distributed, with a response rate of 96.39%. Out of the 250 participants, 54% were females, and 46% were males. About 68% of students were in the age group between 20 to 23 years. About 32.4% were pursuing MDS and 67.6% pursuing BDS in the present study. Almost 50% preferred to recommend nicotine replacement therapies (NRT) as a tobacco cessation advises to the patients, 48% with self quitting practice and 1.2% with pharmacological methods.

Discussion: More than half of the respondents had an average level of knowledge on smoking cessation interventions while a majority possessed a positive attitude towards the provision of smoking cessation interventions. Hence it's a need of the hour to influence the students for generating interest in attaining knowledge about tobacco cessation methods.

Keywords: Dental students, Nicotine replacement therapies, Tobacco cessation.

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INTRODUCTION

Tobacco use has become one of the most leading causes of preventable illness, disability and premature death worldwide. It kills nearly 6 million people each year in the world. India's tobacco issues are very complex due to the excessive consumption of a variety of smoking products and various smokeless tobacco forms. Mostly the products are manufactured as cottage and small-scale industries using varying mixtures with the mass difference in the processes of manufacturing.¹

In addition of being associated with a number of cancer and coronary conditions, tobacco has always played a key role in the attribute of a number of serious oral conditions; it is a risk factor for oral cancer, precancerous conditions, and periodontitis.² Health care providers always play a vital role in motivating their patients to attempt and encourage measures towards tobacco cessation. The 2000 Public Health Service clinical guideline presents that "brief physician advice significantly increases long-term smoking abstinence rates." However, according to the above guideline, vigorous interventions are always more effective than less intensive interventions and should be priorly used whenever possible.³

Information regarding the association of tobacco use and oral diseases⁴ has been majorly prioritized by the Journal of the Candian Dental Association to segregate among the health institutes and as well recapitulate the obligations of the dental health care providers to promote smoking cessation.⁵

Many western countries like the USA are being captured accountable for quality, safety, and cost-effectiveness of health programmes and services.⁶

Recommended interventions and evidence-based guidelines⁷ regarding smoking cessation treatment are, yet there is minimal

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effort required to ensure rigid compliance among the programmes and providers.⁸

In India, the rate of deaths that can be attributed to tobacco use is expected to rise from 1.4% in 1990 to 13.3% in 2020.⁹ Physicians advice is well-accepted and would be taken seriously on practice and thoroughly accepted by users.

Therefore, physicians should actively utilize the window of opportunity to offer tobacco cessation interventions in their routine clinical sessions with patients.¹⁰ Dental surgeons are most actively consulted by tobacco-using patients, so their responsibility is more crucial towards making patients aware about the hazards and ill effects.¹¹ A positive attitude is essential for being an encouraging counselor.

Dental treatment requires multiple visits, so initiation, reinforcement, and support on tobacco cessation activities among the patients

will become a mechanism in relation to visible changes in oral status. Nicotine replacement therapies have profusely caused increased in the cessation rate with simultaneous year counseling. The awareness regarding tobacco cessation measures such as nicotine replacement therapy (NRT) and counseling schedules among the dentist is a prerequisite in this current global status of tobacco consumption. The reasons for not providing education to the patients includes time and reimbursement issues, poor education, lack of further postgraduate training and poor coordination of dental and smoking cessation services.¹²

The aim of the present study is to assess the dental student's attitude towards tobacco cessation measures in the dental setting and to radiate the influence of knowledge, its effectiveness, gender and curriculum of cessation programmes.

This study provides evidence that dental undergraduates are willing to give smoking cessation counseling to their patients but perceive barriers of knowledge. We, therefore, have attempted to carry out a survey on the knowledge, attitude, and practices of dental health professionals regarding tobacco use.

MATERIALS AND METHODS

This cross-sectional survey was carried out at the College of Dental Sciences in Davangere among the undergraduates, i.e., final year, interns and postgraduates students.

A questionnaire was constructed to test the knowledge, attitude, and practice of dental surgeons regarding tobacco use and then checked for comprehensibility. Appropriate changes were done to layout and style. A self-administered survey instrument included 18 questions as (1) personal data; (2) Knowledge of the hazards of smoking and tobacco control policies; (3) smoking cessation interventions provided to patients; and (4) dental surgeons receiving training in smoking cessation methods.

All questionnaires were assessed for completion, and incomplete questionnaires were discarded. The data were analyzed using SPSS version 22.

All clinical and postgraduate students of a dental college in Davangere, who were present on the day of distribution of the questionnaire, were included in the study. The questionnaire was distributed to a sample of 15 students attending public health dentistry clinical posting who were interviewed to gain feedback on the overall acceptability, validity, and reliability of the questionnaire, a cronbach alpha value of 0.85 was found. After obtaining

the consent from each participant, the questionnaire was self-administered by a single investigator. Each one was asked to fill the provided questionnaire in front of the investigator with adequate time to avoid any malpractice while answering. Confidentiality was maintained throughout the process. Incomplete response sheets were excluded from data capturing and analysis.

The answer keys for the core questions on knowledge of nicotine replacement treatment were generated using the guidelines of tobacco cessation measures which have been written in parallel with the guidance on smoking cessation interventions produced by the Centre for Health Economics at the University of York.¹³

DATA ANALYSIS

The data from 250 clinical dental students so obtained were entered in an Excel sheet, and descriptive and inferential statistical analysis was made. SPSS software version 22 was used for analysis. The Chi-squared test was used to test associations of the responses among the age, qualification, and academic year. A critical p value of 0.05 was regarded as significant.

RESULTS

A total of 300 questionnaires were distributed, out of 260 were returned, with a response rate of 96.39%. Out of the 250 participants, 54% were females and 46% were males (Graph 1). About 68% of students were in the age group between 20 to 23 years (Graph 2). The sample consisted of three groups according to the different academic levels: IV year Bachelor of Dental Surgery (BDS; 28.4%), interns (39.2%), and postgraduates (32.4%) (Graph 3). About 32.4% of the students were pursuing Master of Dental Surgery (MDS) and the majority (67.6%) were pursuing BDS in the present study (Graph 4).

Knowledge of Treatment Methods

About 11.2% of the respondents were aware of the usage of NRTs; only 26% of the students knew that nicotine nasal spray is absorbed faster. 49.6% were unaware of nicotine patches and about 49.2% were unaware of nicotine gums. Only 42% were aware of the acute lethal dose of nicotine. Only 94% of the students had knowledge about tobacco cessation education programmes, but the majority were unaware of the available pharmacological methods (such as nicotex, nasal sprays, nicotine patch, etc.) and their dosage. (Graph 5)

Graph 1: Gender distribution

Graph 2: Percentage distribution of students based on their age

Attitudes of Dental Professionals Regarding Tobacco Cessation

Almost 53.2% keep a record of patients with habits, and about 79.2% believe that nicotine replacement therapy can double the chance of quitting the habit of smoking. Yet, there is hesitation towards recommending NRTs for smoking cessation to patients is due to lack of knowledge about its uses and side effects. Nearly (88%) believed that there should be strict legislation against public use of tobacco, media were highly influential in promoting tobacco and the warning labels on tobacco products should be increased in size. The majority of 41.2% also supported the ban on public use of tobacco is an effective method of tobacco control. Due to the unawareness of such smoking cessation methods among the clinicians, almost 97.6% believed that smoking cessation education should be a part of the core curriculum of the basic training of all health professionals (Graph 6).

Practice of Dental Surgeons regarding Tobacco users among their Patients

About 97.2% has come across patients with tobacco use and 94.8% advocated tobacco cessation practices actively. Nearly

46.8% did not follow-up on their patients using tobacco nor maintained a record and 50% preferred to recommend NRT as

Graph 3: Percentage distribution of students based on their academic level

Graph 4 : Percentage distribution of students based on their qualification

Graph 5: percentage distribution of students knowledge about tobacco cessation methods

Graph 6: percentage distribution of students attitude towards tobacco cessation measures

a tobacco cessation advise to the patients, in which 48% would counsel self quitting practice and 1.2% with pharmacological methods. Hence, there is a felt need to be aware of all the methods to promote better treatment for the people with a thought of quitting their habit.

Response Rate of the Questions and Significance-associated Age, Qualification and Academic Level

There was a significant association seen in response to the smoking cessation education programme to be a part of the core curriculum. Only 8% of the students believed that 4 mg of nicotine gum should be given to a heavy smoker and there was a significant association seen. Nearly 11.2% aware that about NRT can be used for 4 weeks and 24.8% knew that nicotine skin patch could be used for 16 to 24 hours, as well as there was a highly significant association seen in respect to age, qualification, and academic level (Table 1).

DISCUSSION

The Dental office and institutes are considered as a broad setting for counseling tobacco cessation intervention services for willing patients. Dental patients are highly comprehensible to health messages during every dental visit which provides strong motivation to quit tobacco. Hence every dentist should prepare to intervene in patients who visit their dental office. There are five major steps (the "5 As") for intervention in the primary care setting. Priorly the Dental care provider would "ask" the patient if he or she uses tobacco then "Advice" him or her to quit the habit and later "assess" willingness to make an attempt to quit, "Assist" the patient and "arrange" for follow-up contacts for preventing relapse.¹⁴

A study on counseling among dental professionals had believed that giving information about tobacco cessation was the responsibility of the dentist in order to convince patients to quit tobacco and majority were also persuaded to receive formal training towards tobacco cessation strategies. The present survey, however,

Table 1 : $p \leq 0.05$ significant, $p \leq 0.01$ highly significant

Questions	Response	n	%	p value
Do you come across patients with tobacco habits.	(A) Yes	243	97.2	0.25
	(B) No	7	2.8	
Are you aware of tobacco cessation education programme?	(A) Yes	235	94.0	0.589
	(B) No	15	0.6	
Do you provide patient with tobacco cessation advise?	(A) Yes	237	94.8	0.553
	(B) No	13	5.2	
Which tobacco cessation method do you prefer to recommend?	(A) Nicotine replacement therapies	125	50	0.225
	(B) Self quitting method	122	48	
	(C) Pharmacological methods	3	1.2	
Do you follow up or keep a record of these patients?	(A) Yes	133	53.2	0.963
	(B) No	117	46.8	
Can nicotine replacement therapies (NRTs) double the chance of success in quitting the habit of smoking?	(A) Yes	198	79.2	0.482
	(B) No	52	20.8	
Do you have adequate knowledge about NRTs?	(A) Yes	89	35.6	0.318
	(B) No	161	67.4	
Nicotine replacement therapy (NRT) is designed to use for?	(A) 12 weeks	46	18.4	0.001
	(B) 4 weeks	28	11.2	
	(C) Do not know	135	54.0	
	(D) 16 weeks	41	16.4	
Which product is absorbed faster?	(A) Nicotine skin patch	60	24.0	0.229
	(B) Nicotine gum	41	16.0	
	(C) Nicotine nasal spray	66	26.0	
	(D) Do not know	83	33.0	
How much dose of nicotine gum should be advised to a heavy smoker?	(A) 4 mg	28	8.0	0.006
	(B) 6 mg	58	23.2	
	(C) 8 mg	49	19.6	
	(D) Do not know	123	49.2	
Nicotine skin patch should be worn for?	(A) 24-48 Hours	19	7.6	0.000
	(B) 16- 24 Hours	62	24.8	
	(C) 8-10 Hours	45	8.0	
	(D) Do not know	124	49.6	
Nicotine patch and inhaler are not recommended upto which age group?	(A) <18Years	51	20.4	0.009
	(B) <10 Years	54	21.6	
	(C) <15 Years	42	16.8	
	(D) Do not know	103	41.2	

(Contd...)

(Contd...)

Questions	Response	n	%	p value
Acute Lethal dose of nicotine is?	(A) 20–30 mg (B) 40–60 mg (C) 80–100 mg (D) 30–50 mg	27 105 65 53	10.8 42.0 26.0 21.2	0.093
NRTs have the potential to increase the blood pressure by?	(A) 0–5 mm hg (B) 5–10 mm hg (C) 10–15 mm hg (D) Do not know	28 60 52 110	11.2 24 20.8 44.0	0.000
Hesitation towards recommending NRTs for smoking cessation to patients is due to?	(A) Lack of knowledge about NRTs (B) NRTs are not helpful to quit smoking (C) NRTs have hazardous side effects (D) All of the above	193 20 21 16	77.2 8.0 8.4 6.4	0.211
Would you recommend a strict legislation on tobacco use in the public?	(A) Yes (B) No	220 30	88.0 12.0	0.147
If Yes,	(A) If no (B) Ban on public use of tobacco (C) Increase price of tobacco products (D) Increase the size of warning labels on the tobacco products (E) All of the above	28 103 4 4 111	11.2 41.2 1.6 1.6 44.4	0.043
Should smoking cessation education be a part of the core curriculum of the basic training of all health professionals?	(A) Yes (B) No	244 6	97.6 2.4	0.044

found that only half of them inquire about the tobacco use of their clients. Globally data were gathered suggested that up to half of all dental surgeons advise their patients and suggest methods to quit tobacco consumption.¹⁵

Similarly, in line with other studies, only 53.2% of respondents in our study practice maintaining records or advocated tobacco cessation practices among clients similar to Severson et al.¹⁶

In this present study, dental professionals were aware of behavioral methods of tobacco cessation, and only about 35.6% had an insight into different forms of nicotine replacement therapy. Concerning medications, only a 1.2% was aware of pharmacotherapy, reflecting the urgent need to sensitize health professionals on the other modalities of tobacco cessation similar to Murthy et al., 2010.¹⁷ It would certainly profit patients by improving cessation rates among them.

Almost 16% of them think that nicotine replacement therapy is not helpful in quitting smoking along with 6.40% believes in the adverse effects of using nicotine gums contradictory to Omolara et al. study (Graph 7).

The low perception of the effectiveness of intervention strategies follows the general trend reported in different literature. Many students believe cessation counseling sessions are not much effective in encouraging patients to cease the habit. Moreover, more than 80% of the respondents believed their time could be better utilized on other things.

Graph 7: Percentage distribution of students hesitation towards recommending NRT

About 94.8% respondents advise patients with tobacco cessation activities similar to Omolara et al. The results of this study indicate that many dental students participating in the survey did not have prior training of treatment modalities regarding nicotine replacement therapy. In addition, patient expectations do not create a demand for these services. The inclusion of training in the

dental curriculum also becomes paramount if smoking cessation behavior in dental practice is to be improved and almost 250 (97.2%) respondents also felt that cessation training is an important part of Dental curriculum similar to Karbhari et al. study.

Ehizele et al. reported the inadequacy of training as a barrier to promote cessation services among dental students. Inclusion of cessation in the dental colleges' curriculum and availability of continuing dental education in tobacco intervention are very important to have current information and equip dental professionals with an effective role in the overall smoking cessation and prevention drive. Therefore, a need to provide such training of the health care professionals is mandatory. Didactic and practical training is within the context of the dentist's day-to-day running of the practice.

CONCLUSION

Our study demanded the establishment of a tobacco documentation center within the institutes, for proper training provisions regarding the cessation techniques. Researchers have proposed the requirement for implementing guidance and training services for health care professionals in tobacco-cessation counseling techniques.

It also suggested that a positive attitude towards smoking cessation among professionals does not always lead to good practice. This may be due to certain barriers faced while implementing the available knowledge and translating the positive attitude towards actual practice in the clinical scenario. Further studies include multiple institutes will provide more insight on the organizational practice of tobacco cessation interventions in India. As future role models, it is essential that smoking cessation counseling is embedded in the dental curriculum, for broadening the vision of tobacco-free areas in the country.

Recommendations

The foremost planning for better healthcare is to organize a national programme in training and certification. Firstly, experts in the area of treating tobacco dependence, need to embrace the concept. Secondly, financial assistance is needed for proper implementation.

The prevalence of current tobacco use should be reduced by 15% by 2020 and 30% by 2025, which has been targeted by the national health policy. Hence such tobacco cessation interventions can create a huge difference for improving the health care in India.

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