

Assessment of Knowledge and Perception of Dentists toward Nicotine Replacement Therapy in a Dental College of Bareilly City: A Cross-sectional Study

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ABSTRACT

Introduction: Smoking is the prime risk factor for the oral cancer and other diseases. Dentists plays an important role in preventing the habit of smoking by motivating tobacco cessation. The unexplored level of knowledge about nicotine replacement therapy has developed our interest to assess the knowledge and perception of dentists toward nicotine replacement therapy (NRT) by using a self-administered questionnaire.

Materials and methods: The study is conducted among dentists in a dental college and they were randomly selected by using convenient random sampling. Their knowledge and perception were assessed using a questionnaire.

Results: Of the 100 subjects, 66% were females and 34% were males and the mean age was 26.14 ± 4.55 . The knowledge of term NRT (92%) was good. Nearly 43% know about the forms of NRT (gums, lozenges, tablets, nasal spray, and patches). Approximately 58% were aware of the effectiveness of NRT to help smokers quit.

Conclusion: The superficial knowledge of dentists is good, but they are somewhere lacking a deep knowledge of NRT. Therefore, there is a need to inculcate a topic of NRT in the academic schedule and some professional training programs should be carried out.

Keywords: Dentist, Knowledge, Nicotine replacement therapy, Perception, Tobacco cessation.

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INTRODUCTION

Inhalation of the smoke from burning tobacco encased in cigarettes, pipes, and cigars is known as smoking.¹ Smoking is the leading cause of preventable death worldwide² and it represents a significant public health concern. Over 400,000 people die each year from tobacco-related disease.³ Patients who smoke cigarettes are at an increased risk for the development of complications both during and after surgical procedures, including respiratory, cardiac, and healing-related complications.⁴ Most chronic obstructive pulmonary disease (COPD) in the United States can be attributed to smoking, and smoking cessation should be the first step for treating the disease.⁵

An overwhelming majority of the smokers start using tobacco before the age of 19 years.⁶ Tobacco cessation counseling (TCC) in dentistry is critical to reduce the effect of a major risk factor for both oral and systematic diseases.⁷ Nicotine is the main active ingredient in tobacco products that reinforces an individual to a tobacco-addiction behavior.

The aim of nicotine replacement therapy (NRT) is to motivate the patients to reduce the consumption of tobacco using the psychomotor and physiological withdrawal features through delivery of nicotine.⁸ Nicotine replacement therapy (NRT) includes nicotine gum, patches, lozenges, nasal spray, and inhalers. In a 2012 review of clinical trials ($n = 150$), Stead et al. concluded that NRT use increases the rate of quitting by 60%.⁹

A long-term NRT use would prevent smoking relapse, and the risks would be limited to maintaining nicotine addiction, but without the adverse consequences of continued smoking, such as increased lung cancer risk.¹⁰ The use of NRT is a safe intervention to the general population and high-risk groups, including pregnant and breastfeeding women, adolescents, and smokers with cardiovascular disease.¹¹

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However, the NICE (2008) guidance regarding stop-smoking services recommends that healthcare professionals prescribe only one of the three medicines (NRT, bupropion, and varenicline) for people who want to stop smoking, in addition to providing advice, encouragement, support, and referring them to a smoking cessation service.¹²

A thorough literature search revealed only limited studies reported on the assessment of knowledge and perception of institution-based faculty, postgraduate students, and interns toward NRT. Hence, the aim of the present study was to assess the knowledge and perception of dentists toward nicotine replacement therapy (NRT).¹³

MATERIALS AND METHODS

A questionnaire-based study was conducted from 20 March 2019 to 20 April in 2019, at Institute of Dental Sciences, Bareilly, Uttar

Pradesh, India. The ethical approval for the study was obtained from the Institutional Ethical Board. The sample size was calculated by G power. A total number of 100 subjects were randomly selected from the dental college. Those who have given written consent were included in the study, whereas those who refuse to give written consent and failed to return questionnaire or those who gave an incomplete questionnaire were excluded from the study.

A self-administered questionnaire used in English language to record the knowledge and perception of dentists. The questionnaire was divided into two sections: the first section included demographic information such as age and sex, and the second section included information on forms in which NRTs are supplied, effectiveness of NRTs, side effects of NRTs, success rate of NRTs, electronic cigars (e-cigars), and recommendations of NRTs. The internal reliability (Cronbach's alpha) of the questionnaire was tested in a pilot study done before the final study, and it was found to be acceptable (0.62). A statistical analysis was done using frequency distribution of responses (SPSS version 24).

RESULTS

Out of the 100 subjects, 66% were females and 34% were males and the mean age was 26.14 ± 4.55 . Interns were 58%, 36% were postgraduates, and 6% were faculty (Table 1). Most of the subjects (92%) were aware about the term NRT. Almost 43% of the subjects know about the forms of NRT (gums, lozenges, tablets, nasal spray, and patches). Approximately 58% were aware of the effectiveness of NRTs to help smokers quit. An estimated 62% subjects felt that chewing gum is the most effective way to quit smoking. Approximately 42% subjects do not know the side effects of chewing gum and transdermal patch, whereas 27% felt that the usage of these products can lead to side effects.

About 49% subjects felt that tapering of NRT is needed and 28% subjects know that the adhesive transdermal patches can be applied to the upper arm. However, 69% subjects believe that both NRT and counseling have a higher rate of success. Around

Table 1: Frequency distribution of respondents according to gender, age, and qualification

<i>Socio demographic characteristics</i>	<i>No. (%)</i>
Gender	
Male	34 (34)
Female	66 (66)
Age	
≤ 25 years	59 (59)
> 25 years	41 (41)
Mean age (in years)	26.14 ± 4.55
Qualification	
Interns	58 (58)
PG 1st year	14 (14)
PG final year	15 (15)
PG 2nd year	7 (7)
Periodontics	1 (1)
Prosthodontics	1 (1)
Endodontics	1 (1)
Oral medicine and radiology	3 (3)

69% subjects heard about the term e-cigar although most of the subject found unaware about the term e-cigar. More than half of them (52%) felt that NRT is not recommended for occasional smokers. An estimated 52% do not know whether NRT can be given to pregnant women or not; a majority of the students (88%) felt that the study of NRT should be included in the present academic curriculum (Tables 2 to 4).

Table 2: Responses of the respondents to the questions related to NRT

<i>Questions</i>	<i>No. (%)</i>
Q1. Have you heard about the term NRT?	
(a) Yes	92 (92)
(b) No	8 (8)
Q2. Currently, what forms of NRTs are available?	
(a) Patch gums	6 (6)
(b) Lozenges	0 (0)
(c) Inhalator	0 (0)
(d) Nasal spray	0 (0)
(e) Tablets	8 (8)
(f) Both a and b	27 (27)
(g) Do not know	16 (16)
(h) All a, b, c, d, e	43 (43)
Q3. Do you think NRTs are effective enough to help smokers quit?	
(a) Yes	58 (58)
(b) No	21 (21)
(c) Do not know	21 (21)
Q4. Do you know what forms of NRTs are supplied?	
(a) Yes	36 (36)
(b) No	32 (32)
(c) Do not know	32 (32)

Table 3: Responses of the respondents to the questions related to NRT

<i>Questions</i>	<i>No. (%)</i>
Q5. Which among these do you think is the most effective way for smokers to quit?	
(a) Chewing gums	62 (62)
(b) Transdermal patch	11 (11)
(c) Nasal spray	4 (4)
(d) Do not know	23 (23)
Q6. Do you think NRTs like chewing gums and transdermal patch lead to side-effects?	
(a) Yes	27 (27)
(b) No	31 (31)
(c) Do not know	42 (42)
Q7. Do you think tapering of NRTs is needed?	
(a) Yes	49 (49)
(b) No	14 (14)
(c) Do not know	37 (37)
Q8. Adhesive transdermal patches can be applied to	
(a) Trunk	1 (1)
(b) Upper arm	28 (28)
(c) Both	17 (17)
(d) Do not know	54 (54)

Table 4: Responses of the respondents to the questions related to NRT

Questions	No. (%)
Q9. Which among the following do you think has a higher rate of success?	
(a) NRTs	9 (9)
(b) Counseling	9 (9)
(c) Both	69 (69)
(d) Do not know	13 (13)
Q10. Have you heard about e-cigarettes?	
(a) Yes	69 (69)
(b) No	31 (31)
Q11. Can e-cigar be effective for the individual who failed to quit smoking with the aid of NRTs?	
(a) Yes	42 (42)
(b) No	15 (15)
(c) Do not know	43 (43)
Q12. Are NRTs recommended for occasional smokers?	
(a) Yes	27 (27)
(b) No	52 (52)
(c) Do not know	21 (21)
Q13. Do you think the study of NRTs should be included in the present academic curriculum?	
(a) Yes	88 (88)
(b) No	12 (12)
Q14. Pregnant smokers can be given NRTs	
(a) Yes	23 (23)
(b) No	25 (25)
(c) Do not know	52 (52)

DISCUSSION

Use of tobacco has a devastating effect on the health and well-being of the public. To our knowledge, very few studies have reported on tobacco cessation and NRT-related practices and beliefs. Extensive experience with NRT in a clinical trial and observational study settings demonstrates that nicotine is a very safe drug.¹⁴

NRT is found to be a beneficial remedy to decrease the craving for smoking.¹⁵ In the present study, the younger dentists (59%) were more than the 30 years old. The ratio of females (66%) were more than that of the males (34%). Similar findings were found in the studies reported by Ajagannanavar et al.¹⁵ and Shah et al.¹³

The present study showed that a majority of dentists (92%) have a good knowledge about the term NRT but only a few (36%) have a deep knowledge about the forms of NRT supplied. More than half (58%) felt that NRTs are effective enough to help smokers quit. About the higher rate of success, 69% dentists felt that both NRT and counseling will be beneficial for the smokers to quit.

An estimated 52% of dentists felt that NRT cannot be recommended for occasional smokers. Similarly, 52% don't know whether NRT can be given to pregnant women or not. Moreover, 88% felt that the topic of NRT should be included in the present academic schedule. The similar results were found in the study reported by Ajagannanavar et al.,¹⁵ whereas 43% subjects know the currently available forms of NRT.

Only 11% dentists felt that transdermal patches are the most effective way. An estimated 42% dentist knew about the side effect of chewing gum and transdermal patches. About 49% felt that tapering of NRT is needed; 54% do not know at which

portion of the body the adhesive transdermal patches should be applied; 69% heard about the term e-cigar but 43% do not know whether e-cigar might help individuals with strong dependence to quit smoking.

Dissimilar results were reported in the study carried out by Ajagannanavar et al.¹⁵ A study was conducted in one dental college, which restricts the generalizability of the results. The sample size of the study is small.

CONCLUSION

The respondents of this dental college were aware about the terms NRT and e-cigar. They have a superficial knowledge but not a complete knowledge of NRT forms, its side effects, whether it can be given to the pregnant smokers, and the role of e-cigarettes. Therefore, comprehensive efforts should be taken by the health professionals. Professional training programs and tobacco cessation counseling are required to increase the knowledge practice and perception of dentists toward NRT.

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