



KNOWLEDGE, ATTITUDES AND PRACTICES ABOUT NICOTINE AND NICOTINE REPLACEMENT THERAPY.

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ABSTRACT

Nicotine replacement therapies (NRTs) represent an effective means of promoting smoking cessation, but they remain underutilized. Negative attitudes and false beliefs about nicotine and nicotine replacement may cause NRT underutilization. In a clinical study of nicotine gum, total 255 smokers patients were assessed out of which 201 completed the study on their attitudes and knowledge about nicotine, nicotine replacement, and smoking cessation therapy.

KEYWORDS: NRT, nicotine gum.

INTRODUCTION

Tobacco is one of the leading yet preventable causes of noncommunicable diseases and is the second major cause of death globally.^[1-3] In spite of the increasing awareness regarding the health hazards associated with tobacco consumption, a large number of tobacco users are still existing only due to addiction to the tobacco products. Addiction is a factor condition of being addicted to a particular substance or activity.^[4]

Nicotine 1-methyl-2-(3-pyridyl) pyrrolidine, a highly addictive psychoactive drug found in tobacco plants, is mainly responsible for the withdrawal symptoms among habitual tobacco users attempting to quit after successful psychological counseling. Hence, the combination of psychological counseling and pharmacologic therapies can produce higher quit rates than either one alone. Pharmacotherapy like nicotine replacement therapy (NRT) aims to reduce the symptoms of nicotine withdrawal, thereby making quitting easier.^[5,6]

NRT eases withdrawal symptoms by providing an alternative source of nicotine. The attempt to quit is broken into two stages. Initially, the tobacco user continues with a reduced dose and speed of nicotine supply while overcoming the loss of the behavioral side of the dependence. Subsequently, it breaks the nicotine dependence by stopping the use of NRT product.^[7] A meta-analysis conducted for the "Treating Tobacco Use and Dependence: Clinical Practice Guidelines" further confirmed that all forms of NRT are superior to placebo in increasing cessation rates.^[8]

Several recent publications have highlighted the role and need for the dental professional to get involved with tobacco intervention. They are in a better position to find this addiction and habits as oral changes occur earlier than systemic changes.^[9-11]

A thorough literature search reveals that there is no study reported regarding the assessment and comparison of knowledge, attitude, and practice of the general population toward NRT. Hence, this study aimed at assessing and comparing the knowledge, attitude, and practice of the general population of Mangalore, India toward NRT.

MATERIAL AND METHODS

The present study was conducted in dental clinic in Mangalore, India. The total period to complete the study was 6 month and total patients 255 patients participated, but 201 completed the study. The level of education in the given sample was (students- 94 and graduate-107).

A self-structured 30-item questionnaire was developed and checked for its content validity using Aikens Index from two subject experts, one statistician and one psychiatrist. After appropriate changes, it was pilot tested. The final version of the questionnaire had 28 questions, subdivided into four categories: demographic details, estimation of self-assessed knowledge about NRT (21-item), assessment of attitude (5-item), practice (1-item with 4 subgroup questions), and 1-item assessing barriers. Knowledge was assessed with 12-item rated on a 3-point Likert scale (0 = no, 1 = not completely, 2= yes), attitude was assessed using 5-item on a 5-point

scale (1 - strongly disagree to 5 - strongly agree), practice was assessed with one question with only two options, barriers were assessed with one question with seven options where multiple responses were allowed.

A brief introduction was given to all the patients about the study and its objectives before obtaining written consent. After clarifying all the queries, a questionnaire was handed over during clinical hours and were collected within an hour.

The statistical analysis was performed using Statistical Package for Social Sciences version 16, IBM Corporation, (SPSS Inc., Chicago, IL, USA). Chi-square test was used for comparison of categorical data, and independent *t*-test was used for comparison of continuous data. Responses for both knowledge and attitude domains are analyzed both as categorical as well as continuous data. Practice domain was analyzed as categorical data. Univariate logistic regression was performed considering all the demographic variables, total knowledge score, and total attitude score. Then, multiple logistic regression analysis was performed to determine the strongest predictors of practice after adjusting for confounders. For all the statistical inferences, value of $P < 0.05$ was considered to be statistically significant.

RESULTS

Overall response rate was 72.6% as out of the total number of the study participants 201 (Students, class 9 to class 12 = 94 Group -A, Graduate = 107, Group-B) responded.

In Group A 45 (47.9%) were males in comparison to 64 (59.8%) among Group-B. Among Group-A, 76 (80.9%) were never smoker, whereas among Group-B, 93 (86.9%) had never smoked. Only 42 (44.7%) Group-A and 45 (42.1%) Group-B had attended tobacco cessation workshop. There were no statistical differences in demographic characteristics between students and faculties except for age.

The mean knowledge score of all the respondents was 21.5 ± 8.2 which is around 50% of the maximum knowledge score of 42. There was no statistically significant difference between the two study groups.

The term NRT was familiar to 86 (91.5%) students and 98 (91.6%) graduate group. Around 90% of participants were aware of the uses of NRT to some extent. More than 90% of participants knew the types of NRT. Around 90% knew about chewing gums while around 50% knew about patches and lozenges. A quarter of participants knew about nasal spray and inhalers. Surprisingly, almost half of the participants reported being unaware of dosage, duration of prescription, cost, and contraindications for the prescription. About one-third of the participants expressed complete ignorance about the brand names, forms, and availability of NRT.

As far as the pharmacology of NRT is concerned, one-third of participants agreed that they do not know the mechanism of action as well as the pharmacology of the product. Almost 50% of participants expressed their complete ignorance about the existence of any tobacco counseling cell prescribing NRT. Acquaintance with Centers for Disease Control and Prevention guidelines for treating nicotine dependence was claimed by only one-fourth participants.

Attitude

The mean attitude score for all the 5-item of the respondents was 21.5 ± 2.5 which is 84% of the highest possible attitude score (25), and the difference was not statistically significant between the groups. For each of the 5-item assessing attitude, the mean score in both the groups was more than 2.5, indicating the positive attitude of all the respondents toward NR

Practice

Among all the students, 34 (36.2%) claimed to practice NRT in comparison to 61 (57.0%) graduate and the difference was statistically significant ($P=0.004$).

There was no significant difference found in the time taken to complete the questionnaire, mostly the participants reported to spend less than 15 min. Although two-third of the students group A participants who claimed to practice take NRT for future, 50% in group B was agree with adverse effects of smoking and understand the role of NRT. Only 10% group-B of the respondents practicing NRT was confident enough to practice it without facing any problem.

DISCUSSION

The findings of the present study shows that in spite of having a positive attitude toward NRT, only 34% of the students and 57% of the graduate patients claim to practice NRT along with their tobacco cessation counseling. This might be attributed to their lack of detailed knowledge regarding the therapy as their self-assessed knowledge score was only 50% of the highest possible score. Most commonly reported possible barriers were a lack of awareness. The total knowledge score was found to be the strongest predictor of the practicing NRT. The response rate in this survey was around 70%. The low response rate inspite of the direct approach of the investigator might be due to poor attitude of the graduate and the students toward participation in any research or because of no incentive awarded.

Mere familiarity cannot help anyone practice NRT without psychological counseling. To ensure adequate knowledge of the participants toward effective NRT practice, questions were asked regarding the detailed aspect of this pharmacotherapy. Although 90% of participants knew about nicotine gums, mean total knowledge score obtained was 50% of the highest expected score with no statistical difference between

the postgraduate students and the faculty members. This indicates knowledge being a barrier toward effective NRT practice across the study groups.

It was also observed that around 40% of the participants had previously attended tobacco cessation workshop. This is highly surprising to find many participants who were lacking detailed knowledge about NRT even after attending the workshop. Hence, most of the participants were aware of the nicotine gum as the only form of NRT available as there are few brands of nicotine gums readily available in the market, but the detailed knowledge required for the prescription of the same was also lacking among the participants. This finding is also very much similar to the study conducted among undergraduate students of Karnataka.^[12]

In group A there is no practical increase of the knowledge regarding NRT. This self-reported insufficient knowledge might be attributed to practical non implementation of the tobacco cessation counseling in clinical patient management as well as undergraduate training.

It is well expected that with increase in knowledge, confidence increases which may influence the practicing behavior and attitude. Hence, the undergraduate (group-B) reported significantly more practicing behavior than the students (group-A). However, there is a disparity between the detailed knowledge of NRT and practice of NRT. Although very few participants claimed to have the proper knowledge of NRT, including the brand names and availability nearby, 50% claimed to practice it. Hence, their practice might be confined to prescription of nicotine gum as and when required, because 90% of participants knew about it or the result might be the outcome of social desirability bias.

There can be several limitations of this investigation. Though we tried to take a universal sample, the lower response rate (50%) might reduce the generalizability of the findings. The present study assessed self-reported knowledge of participants, rather than exact knowledge toward NRT, so chances of introduction of social desirability bias cannot be ruled out.

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