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Assess the knowledge on nicotine replacement therapy among smokers

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Abstract

Background: Tobacco consumption was significantly higher in poor, less educated, scheduled castes and scheduled tribe populations. The prevalence of tobacco consumption increased up to the age of 50 years and then levelled or declined. The prevalence of smoking and chewing also varied widely between different states and had a strong association with individual's sociocultural characteristics.

Objectives

- To assess the existing level of Knowledge of Nicotine Replacement Therapy to quit smoking among smokers.
- To find the association between the Knowledge of Nicotine Replacement Therapy with the socio demographic variable.

Methodology: A Quasi-experimental research design with a purposive sampling technique was adopted to conduct a study among smokers of age 25 to 50 years. Data was gathered by using a structured questionnaire. Confidentiality was maintained throughout the procedure. Collected data were analyzed by using descriptive and inferential statistics.

Result: The analysis revealed that most of the smoker 34(68%) had moderate knowledge and 16(32%) had adequate knowledge of E-cigarettes and Nicotine Replacement Therapy among smokers. The mean score of knowledge of E-cigarettes and Nicotine Replacement Therapy scores among workers was 9.48 with standard deviation 2.35 with minimum score of 5.0 and maximum score of 15.0.

Conclusion: The finding revealed that the demographic variables age and education had shown statistically significant association with level of knowledge of E-Cigarettes and Nicotine Replacement Therapy among smokers at $p < 0.05$ level and the other demographic variables had not shown statistically significant association with level of knowledge of E-Cigarettes and Nicotine Replacement Therapy among smokers.

Keywords: assess, nicotine replacement therapy, existing, knowledge, smoking, smokers

Introduction

A wide range of ailments caused by tobacco are one of the substantial threats the general population is facing. It continues to be the substance causing maximum health damage globally. The tobacco plant refers to any of various members of the genus *Nicotiana* in the nightshade (*Solanaceae*) family. Tobacco regulation has existed since at least 1500. Growing scientific evidence based on tobacco-related mortality and morbidity, notably since the early 20th century, and public health interventions in place since the mid-20th century, led to a decrease in tobacco use amongst better-off, industrialized, western population [1]. Proven strategies include structured methods of advising cigarette smokers to quit and guidance to facilitate their efforts, as well as the use of various pharmacotherapies [2]. Tobacco contains nicotine as the main alkaloid, which is the principal modulator of the psychopharmacological effects associated with its addiction. It is used in various nicotine delivery methods to replace the nicotine obtained from smoking or any other tobacco usage. NRT reduces the withdrawal symptoms and helps to quit smoke cigarettes [3]. The prevention and control of tobacco use is one of the rising issues globally. Surprisingly, smokers who made unplanned quit attempts were more likely still not to be smoking at the time of the interview than those who planned their attempts in advance [4].

At present, cigarette smoking causes more than 480,000 deaths annually in the US, accounting for about one in five deaths, with an estimated 41,000 of these deaths resulting from second hand smoke. Smoking is the leading cause of death in the US among the preventable risk factors, which include smoking, unhealthy diet, physical inactivity and sexual behavior; smoking kills more people than AIDS, alcohol, illegal drug abuse, homicides, car accidents, and suicide combined.

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We excluded trials which did not report cessation rates, and those with follow up of less than six months^[5]. The issue is even more acute in Asia. Over 300 million smokers reside in China representing more than a third of the smokers worldwide. Men account for 96% of the smokers in China with 52.9% of men and 2.4% of women identified as smokers. Nicotine replacement therapy (NRT) replaces much of the nicotine from tobacco, which is mixed with harmful chemicals, with clean nicotine, thus reducing motivation to consume tobacco and also lessening nicotine withdrawal symptoms, thus easing the transition from cigarette smoking to complete abstinence^[6].

One million deaths in China are attributable to cigarettes yearly and this is projected to increase three-fold by 2050 if smoking rates do not change. Forms of delivery for NRT include the following: nicotine chewing gum, nicotine lozenge, transdermal patch, nicotine inhaler, nicotine nasal spray, and nicotine sublingual tablets^[7]. A Canadian general practitioner recently reported that more than half of the smokers and ex-smokers she interviewed who had made attempts to stop smoking had done so without any preplanning. Worldwide, tobacco use causes nearly 6 million deaths/y. Several pharmacotherapies are available to assist smoking intervention strategies. One of the established pharmacotherapies for smoking cessation is nicotine-replacement therapy (NRT). EC are increasingly popular among smokers, but to date there is no evidence of regular use by never-smokers or by non-smoking children. EC enable some users to reduce or quit smoking^[8]. Current trends show that tobacco will cause more than 8 million deaths annually on a worldwide basis by 2030.

NRT aims to replace the nicotine obtained from cigarettes, thereby reducing withdrawal symptoms when stopping smoking. Worldwide, NRT is available in a variety of formulations, such as chewing gum, transdermal patches, a nasal spray, an inhaler, sublingual tablets and lozenges^[9]. NRT was shown to be effective for smoking cessation with or without additional counselling, although heavy smokers may require higher doses of NRT than smokers who smoke fewer cigarettes. The dose of nicotine replacement required by the individual smoker depends on the usual nicotine consumption (amount of tobacco or number of cigarettes), and the 'form' and strength of nicotine content. 5, 10 it is recommend that the initial dose be sufficiently high to allow complete suppression of nicotine withdrawal symptoms and gradually reduced as tobacco abstinence is established^[10].

Nicotine patches differ from the other products in that they deliver the nicotine dose slowly and passively. They do not replace any of the behavioural activities of smoking. In contrast the other types of NRT are faster-acting, but require more effort on the part of the user. Transdermal patches are available in several different doses, and deliver between 5 mg and 52.5 mg of nicotine over a 24-hour period, resulting in plasma levels similar to the trough levels seen in heavy smokers. Some brands of patch are designed to be worn for 24 hours whilst others are to be worn for 16 hours each day. With the exception of unchanged plans grandfathered in before March 2010, health insurance providers are required to cover at least two tobacco cessation attempts annually, including four counseling sessions and 90 days of Food and Drug Administration (FDA)-approved smoking cessation medications^[11]. Various aids of achieving cessation have been studied, including education of the ill effects of tobacco to the patient, behavioral, counselling, and

pharmacotherapy various pharmacological interventions are available these days. Nicotine replacement therapy (NRT) is most widely used. Nicotine has been recognized as the main substance responsible for tobacco dependence. The inability of or difficulty for many smokers to stop smoking is mainly due to the addictive properties of nicotine^[12]. Randomized trials in which NRT was compared to placebo or to no treatment, or where different doses of NRT were compared. The review aims to summarize literature on various modes of nicotine replacement therapy methods currently used to treat nicotine dependence, and to give an overview about future possible approaches to treat tobacco use disorder^[13]. Quitting the habit can be difficult to the person and is usually associated with withdrawal symptoms^[14].

Materials and Methods

A Quasi-experimental descriptive research design was used to assess the knowledge on nicotine replacement therapy among smokers. The study was conducted in Arumbakkam, Chennai District. The sample size comprised 50 smoker, those who fulfill the inclusion criteria. The purposive sampling technique was used to collect the data from the sample. The inclusion criteria were age between 25 to 50 years. Those who are willing to participate and available during the data collection. Those who are not willing to participate in the study were excluded. Explained about the study and informed consent was obtained. Data were collected by structured questionnaires. Confidentiality was maintained throughout the study. Then the investigator distributed the structured questionnaire and asked the samples to give their responses by reading carefully. Each sample took 15 – 20 minutes to complete the questionnaire. Then the data collected was coded and entered in Excel for further analysis.

Results and Discussion

Section A: Description of Sample Characteristics

The major finding that, out of 50 smokers most of the smokers 18(36%) were aged between 40 – 45 years, rest of the smokers were 16(32%) each aged between 20-30 years and 30-40 years. With a maximum of 45(90%) male and 5(10%) female, Out of which 34(68%) were Hindus, 9 (18%) were Christian and 7(14%) were Muslim. Maximum of 20(40%) had secondary education, 19(38%) had primary education and 11(22%) has completed graduation. The maximum of 30(60%) were residing in urban area and 20(40%) were residing in rural area. Out of all, 27(54%) were non-vegetarian, 21(42%) were both and 2(4%) were vegetarian.

Section B: Assessment of level of knowledge of e-cigarettes and nicotine replacement therapy among smokers.

Table 1: Frequency and percentage distribution of level of knowledge of E-Cigarettes and Nicotine Replacement Therapy among smokers. N = 50

Level of Knowledge	No.	%
Inadequate (≤ 10)	0	0
Moderate (11 – 15)	34	68.0
Adequate (16 – 20)	16	32.0

The study result show that 34(68%) had moderate knowledge and 16(32%) had adequate knowledge of E-

cigarettes and Nicotine Replacement Therapy among smokers. The mean score of knowledge of E-cigarettes and Nicotine Replacement Therapy scores among workers was 9.48 with standard deviation 2.35 with minimum score of 5.0 and maximum score of 15.0.

The present study finding is supported by Vidushi Gupta, *et al.*, (2020) conducted a study to assess the prevalence of the habit of smoking e-cigarette and the awareness of its harmful effects among adults aged 18–23 years. All had knowledge about e-cigarette, and majority of them got to

know about them through the family or friends (36.8%) followed by Internet search engines (20.5%), TV/radio/newspaper (17.6%) and websites (11.7%). Majority of the individuals (of the 710 individuals) were regular smokers <1 year (mean of 0.874 years) and used 1–2 cigarettes per day. The mean age of the participants was 20.65 ± 1.7 years. An average of 1.57 ± 16.56 cigarettes were smoked among the 710 interviewed individuals with an average duration of 0.874 ± 4.69 years.

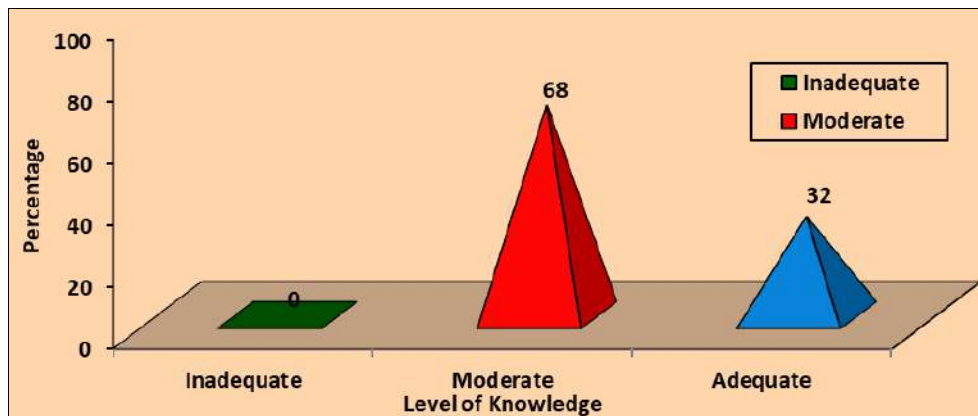


Fig 1: Frequency and percentage distribution of level of knowledge of E-Cigarettes and Nicotine Replacement Therapy among smokers

Table 2: Assessment of knowledge of E-Cigarettes and Nicotine Replacement Therapy scores among smokers. N = 50

Knowledge	Mean
Minimum Score	5.0
Maximum Score	15.0
Mean	9.48
Standard Deviation	2.35

The table depicts out of 50 smokers, the mean score of knowledge of E-cigarettes and Nicotine Replacement Therapy scores among workers was 9.48 with standard deviation 2.35 with minimum score of 5.0 and maximum score of 15.0

Section C: Association of level of impact of knowledge with selected demographic variables.

Table 3: Association of level of impact of knowledge of E-cigarettes and Nicotine Replacement therapy among smokers with selected demographic variables. N = 50

Demographic Variables	Inadequate		Moderate		Adequate		Chi-Square value
	No.	%	No.	%	No.	%	
Age							$\chi^2=7.172$ d.f=2 p=0.028 S*
20 – 30 years	9	18.0	7	14.0	-	-	
30 – 40 years	15	30.0	1	2.0	-	-	
40 – 45 years	10	20.0	8	16.0	-	-	
Education							$\chi^2=7.321$ d.f=2 p=0.026 S*
Primary	10	20.0	9	18.0	-	-	
Secondary	13	26.0	7	14.0	-	-	
Graduate	11	22.0	0	0	-	-	

* $p < 0.05$, S – Significant, N.S – Not Significant

The table shows that the demographic variables age and education had shown statistically significant association with level of knowledge of E-Cigarettes and Nicotine Replacement Therapy among smokers at $p < 0.05$ level and the other demographic variables had not shown statistically significant association with level of knowledge of E-Cigarettes and Nicotine Replacement Therapy among smokers.

These findings are consistent with the following study done by Stephanie L. Hsia, *et al.* (2017) conducted several studies and meta-analyses have demonstrated the efficacy of combination nicotine replacement therapy (NRT) for patients who wish to quit smoking. The tapering regimen should be individualized per patient and should be adjusted

based on the patient's progress. Providers should educate patients on the incorporation of behavioral strategies with combination NRT to reduce their nicotine dependence over time.

Conclusion

The analysis revealed that majority of the smokers had moderate knowledge regarding E-cigarettes and Nicotine Replacement Therapy. The finding revealed that the demographic variables age and education had shown statistically significant association with level of knowledge of E-Cigarettes and Nicotine Replacement Therapy among smokers at $p < 0.05$ level and the other demographic variables had not shown statistically significant association

with level of knowledge of E-Cigarettes and Nicotine Replacement Therapy among smokers.

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Authors contribution

All the authors actively participate in the work of study. All the authors read and approved the final manuscript.

Conflict of interest

The authors declare no conflict of interest.

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