Knowledge, attitude, and perception of Nicotine Replacement Therapy among Bangladeshi physicians

ABSTRACT

Background

Smoking is a major public health concern worldwide, with significant morbidity and mortality. Nicotine Replacement Therapy (NRT) is an effective intervention for smoking cessation. However, in Bangladesh, the adoption of NRT has been limited, partly due to insufficient knowledge and varying attitudes among healthcare providers. This study aims to assess the knowledge, attitudes, and perceptions of Bangladeshi physicians regarding NRT.

Methodology

A cross-sectional survey was conducted among 59 physicians in Bangladesh using a structured questionnaire. The survey evaluated demographic information, knowledge of NRT products, attitudes and perceptions towards NRT as a smoking cessation tool. Data were analyzed using descriptive statistics to summarize responses.

Results

The majority of respondents were male (71.2%) and aged 31-40 years (67.8%). Most had practiced for 5-10 years (88.1%) and held advanced qualifications (MBBS + MD/MS: 79.7%). The average knowledge score was found to be 7.59 out of 15 (50.6%), indicating a moderate level of knowledge regarding NRT among the surveyed physicians. Support for NRT as a first-line treatment was high (77.9%), and 84.7% perceived NRT as safer than smoking. However, there was uncertainty about societal views on smoking cessation without NRT, with 39% unsure.

Implications

This study highlights a strong foundation of knowledge and positive attitudes towards NRT among Bangladeshi physicians, yet underscores the need for further education to address specific knowledge gaps and uncertainties. Furthermore, ensuring the availability of NRT in Bangladesh is crucial for supporting these efforts.

Key words: Nicotine replacement therapy, smoking cessation, physician knowledge, attitudes, perceptions, Bangladesh.

INTRODUCTION

Smoking is a leading cause of preventable morbidity and mortality worldwide, contributing to a wide range of chronic diseases, including cardiovascular disease, respiratory illnesses, and various cancers (World Health Organization, 2020; U.S. Department of Health and Human Services, 2014). Nicotine Replacement Therapy (NRT) is widely recognized as an effective tool to help individuals quit smoking by reducing withdrawal symptoms and cravings associated with nicotine dependence (Cahill et al., 2013; Stead et al., 2012). NRT includes products such as nicotine patches, gums, lozenges, inhalers, and nasal sprays, which provide a controlled dose of nicotine to ease the quitting process (Fiore et al., 2008).

Despite the global recognition of NRT's efficacy, its adoption and utilization in Bangladesh remain limited. Previous studies have primarily focused on Western countries, where NRT is more readily available and widely accepted (Stead et al., 2012; Hajek et al., 2013). In Bangladesh, smoking cessation programs and the availability of NRT products are less developed, and there is a paucity of research on the knowledge, attitudes, and perceptions of healthcare providers regarding NRT. This gap is significant because physicians play a crucial role in advocating for and administering smoking cessation treatments. Understanding their perspectives is essential for designing effective interventions tailored to the Bangladeshi context.

This study is significant as it addresses the critical need to understand how Bangladeshi physicians perceive NRT, their level of knowledge about its use, and their attitudes towards recommending it to patients. By examining these factors, the study aims to identify potential barriers to the adoption of NRT and provide insights that could inform the development of targeted training programs and policy initiatives. Enhancing physicians' knowledge and positively shaping their attitudes towards NRT could significantly improve smoking cessation efforts in Bangladesh, ultimately reducing the health burden associated with smoking-related

diseases. The primary objective of this study was to assess the knowledge, attitudes, and perceptions of Bangladeshi physicians towards NRT.

METHODS

A descriptive cross-sectional study was conducted on a sample of 59 Bangladeshi physicians to examine the knowledge, attitude, and perception of NRT among Bangladeshi physicians. Utilizing a Google Form survey instrument, participants underwent a comprehensive assessment comprising a knowledge test, attitude evaluation, and perception analysis regarding NRT. The knowledge test aimed to gauge participants' understanding of NRT's goals, mechanisms of action, product specifics, adverse effects, contraindications, and factors influencing successful cessation. Attitude questions explored participants' beliefs about NRT as a primary treatment, opinions on its accessibility and promotion, confidence in recommending it, and the influence of media on their decision-making. Perception inquiries delved into the perceived impact of NRT availability on cessation efforts, societal views, safety comparisons with smoking, confidence in discussing NRT with patients, and comparisons of its use between Bangladesh and Western countries. The knowledge test comprised 15 questions, while each of the attitude and perception domains included 5 questions. To calculate the average knowledge score, each correct answer was given 1 point, and each incorrect answer received 0 points. Scores from 0 to 5 were considered low, 6 to 10 were moderate, and 11 to 15 were high knowledge on NRT.

This survey was conducted from January to March 2024, targeting physicians practicing in Bangladesh. The survey was disseminated through professional networks and Bangladeshi medical professional social media (Facebook) groups to ensure a diverse representation of participants. Informed consent was obtained from all participants, and measures such as data encryption, secure password protected storage of the data, restricted access to identifiable information, and anonymization of participant identifiers were taken to ensure the confidentiality and anonymity of respondents' data.

Utilizing descriptive statistics in SPSS, the collected data will be analyzed to provide a comprehensive overview of the knowledge, attitudes, and perceptions of Bangladeshi physicians regarding NRT. Descriptive statistics such as means, frequencies, and percentages was used to

summarize the responses to individual survey items and demographic characteristics of the participants.

RESULTS & DISCUSSIONS

The majority of the respondents were male (71.2%) and between the ages of 31 and 40 years (67.8%). A significant proportion had practiced for 5 to 10 years (88.1%) and held advanced qualifications (MBBS + MD/MS: 79.7%). These demographics suggest that the surveyed group is experienced and well-qualified, which may contribute to their overall understanding and application of NRT in clinical practice. Prior studies have indicated that physician demographics can influence attitudes towards smoking cessation interventions, with more experienced and specialized physicians likely being more supportive of such measures (West Malik et al., 2019).

Regarding the knowledge test about NRT, Across the 59 respondents, a total of 448 answers were correct, while 437 answers were incorrect. The total score achieved by all respondents was 448 out of the maximum possible score of 885. By dividing the total score of 448 by the number of respondents (N=59), the average knowledge score was found to be 7.59 (50.6%) out of 15; suggesting a moderate level of knowledge regarding NRT among the surveyed physicians, with room for improvement through further education and training. This aligns with the findings of Zhong et al. (2024), which emphasize that comprehensive knowledge of NRT mechanisms and adjunctive support significantly enhances the effectiveness of smoking cessation efforts.

The attitude findings suggest a positive inclination towards NRT. The majority of respondents (77.9%) agreed that NRT should be a first-line treatment for smoking cessation and 52.5% agreed that access to NRT should be improved in Bangladesh for effective smoking cessation. This support is critical, as physician endorsement has been shown to increase patient uptake and adherence to NRT (Fiore et al., 2008). In the absence of NRT availability, respondents believed social media intervention (42.4%) and health education/awareness campaigns (20.3%) should be promoted as alternative methods for smoking cessation in Bangladesh, highlighting the need for a multifaceted approach to smoking cessation. The strong support for NRT aligns with evidence suggesting that NRT, combined with behavioral interventions, is among the most effective smoking cessation strategies (Stead et al., 2012).

Around one-third of respondents (33.9%) were very confident in recommending NRT as a primary smoking cessation aid to their patients, assuming NRT availability in Bangladesh. Among respondents, 28.8% stated that videos, social media posts, or literature about NRT significantly influenced their decision to consider using NRT for smoking cessation in Bangladesh.

The perception findings highlight concerns about the detrimental impact of NRT unavailability on smoking cessation efforts in Bangladesh. The majority of respondents (42.4%) perceived the unavailability of NRT as moderately detrimental to smoking cessation efforts in Bangladesh. Total 39% of respondents were unsure about the current societal view of smoking cessation in Bangladesh without access to NRT, while 22% perceived it as indifferent. An overwhelming 84.7% of respondents perceived NRT as safer compared to continued smoking. Nearly half of the respondents (49.2%) were moderately confident in discussing NRT with patients seeking smoking cessation options if NRT were available in Bangladesh. Total 66.1% of respondents perceived NRT as more successful and widely accepted in Western countries like the United States and United Kingdom compared to its potential use in Bangladesh.

Strengths and limitations

A strength of this study is its focus on a diverse group of physicians with varying levels of experience and qualifications, providing insights into the knowledge, attitudes, and perceptions across different healthcare professionals in Bangladesh. However, the study has limitations, including the relatively small sample size and the potential for response bias, as the survey was self-reported. The study was limited to physicians in Bangladesh, which may limit the generalizability of the findings to other countries with different healthcare systems and cultural contexts. Comparative studies across different countries would be beneficial to understand the global applicability of these findings.

Implications

The findings of this study have important implications for smoking cessation efforts in Bangladesh. The moderate level of knowledge about NRT among physicians highlights the need for comprehensive training and educational programs to enhance their understanding of NRT products, their mechanisms of action, and their appropriate use. Additionally, the positive

attitudes towards NRT and the recognition of its potential benefits suggest that initiatives to improve access to NRT in Bangladesh could be well-received by healthcare professionals. Given the detrimental impact of NRT unavailability on smoking cessation efforts, Bangladesh should consider including NRT treatment as an available option to support smokers in their cessation journey. Providing access to NRT, along with educational campaigns and healthcare professional training, could significantly strengthen smoking cessation programs in the country.

Future research scope

Given the high prevalence of smoking in Bangladesh, it is crucial to conduct further research to identify effective strategies for promoting smoking cessation, including the potential role of NRT as a viable cessation aid. Additionally, examining the barriers to the implementation of NRT from both the physician's and the patient's perspectives and addressing these barriers is crucial for improving the uptake and success of NRT. Such research could also inform the development of comprehensive smoking cessation programs tailored to the specific needs and cultural context of the Bangladeshi population.

CONCLUSION

This study highlights the critical role of Bangladeshi physicians in promoting smoking cessation through NRT. The findings indicate a strong foundation of knowledge and positive attitudes towards NRT among physicians, but also reveal areas of uncertainty that need to be addressed. By building on these insights, future interventions can be better tailored to support physicians in their efforts to reduce smoking prevalence and improve public health outcomes in Bangladesh. Ongoing education and support for healthcare providers are essential to ensure the successful adoption and implementation of NRT in clinical practice, ultimately leading to better health outcomes for patients.

Data availability statement

Available upon request from the corresponding author via email.

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