Knowledge and Attitudes on Tobacco Smoking Cessation Among Medical Residents in Vicente Sotto Memorial Medical Center: A Cross-sectional Study

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Introduction: Smoking is one of the biggest global public health problems. It is known that the use of tobacco can have detrimental effects on a person's overall health.Thus, this study is geared towards determining the knowledge and attitude of medical residents about tobacco cessation.

Objectives: The study determined the knowledge and attitudes of smoking cessation among VSMMC residents and assessed their understanding of the risks associated with tobacco use.

Methods: A descriptive cross-sectional research design was used employing an online survey of 171 medical residents from December 2022 to March 2023. An in-depth analysis of categorical variables related to demographic factors using chi-square and Fisher's exact tests was subsequently done.

Results: Most have average knowledge and a good knowledge foundation about tobacco cessation. The majority, primarily aged 25 to 34, single are more knowledgeable about quitting smoking and its benefits as well as the women, although statistically not significant in proportion of the knowledge base. Approximately 69% were nonsmokers, and 87.7% lacked training in tobacco cessation. Only 8.2% demonstrated poor knowledge of smoking cessation, while 91.8% had average to good knowledge. Knowledge levels did not significantly differ based on demographics, smoking status, or training, except for residency type. Generally, they have a positive attitude towards tobacco cessation and agreed that it is part of their responsibility to assist and motivate patients. They recognized the positive impact on healthcare provider-patient relationships, and the minority felt discomfort counseling patients. Most believed in the availability of time to provide advice, and some acknowledged potential patient resistance or viewed quitting smoking as an individual choice.

Conclusion: The significant difference in knowledge based on residency type emphasizes the necessity for interventions to fill knowledge gaps and suggest areas for targeted educational interventions. The findings also underscore the importance of early education, as evidenced by the majority obtaining training during medical school.

Key words: Smoking, tobacco cessation, public health challenge, quitting technique

Introduction

Tobacco use is one of the main preventable causes of death worldwide. The WHO estimates that tobacco use causes more than 8 million deaths annually.[1] Annual tobacco mortality will reach 10 million by 2030 if present smoking habits continue.[2] Nearly 10 million people die every year, with developing countries accounting for over 70% of all deaths.[1] Nicotine dependence is the addictive behavior caused by smoking.[3] One of the goals of the Global Action Plan for the Prevention and Control of Noncommunicable Diseases is to continue to reduce tobacco usage[4], by the 2030 Agenda for Sustainable Development of the United Nations[5], which encourages countries to continue to increase tobacco control by implementing MPOWER. A set of six high-impact, well-proven policies to assist countries in reducing their tobacco demand. This includes M: monitoring tobacco consumption and the implementation of tobacco control policies; P: protecting people from being exposed to tobacco smoke; O: offering people who want to stop

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smoking; W: warn the risks of cigarette use; E: enforcing bans on tobacco advertising, promotion, and sponsorship; R: increase tobacco taxes.[6]

According to a study, receiving guidance from a doctor and a nurse about quitting smoking is successful.[7] Healthcare providers can be crucial in supporting people who want to stop smoking.[8,9] Since they are regarded in the community as reliable providers of health-related information, healthcare practitioners constitute an important mediator in the fight against smoking.[10] However, aside from being a role model, some physicians continue to smoke. Participants in a research study believed physicians were responsible for helping them quit smoking, so it's crucial to know how physicians perceive their involvement in smoking cessation.[11] Individuals' levels of knowledge and attitude were associated with the effectiveness of illness management, medical treatment response, and health promotion outcomes. The participants of the study included residents of Vicente Sotto Memorial Medical Center. In an Indian study on the agreement between doctors and patients regarding the reporting of tobacco cessation interventions in primary care; doctors' compliance with the 5As intervention was evaluated, and the agreement between doctors and patients over the report of the 5As intervention for quitting smoking was assessed. According to the study, it is urgently necessary to update current tactics in order to strengthen the "Advise," "Assess," and "Assist" interventions for quitting smoking in primary care settings. For large-scale behavioral health programs, regular patient surveys should be conducted to evaluate fidelity and provider adherence.[12] Table 1 shows a survey question to capture data on the 5As .

The smoking cessation clinic was established in Vicente Sotto Memorial Medical Center last 2020 under the Public Health Unit in collaboration with pulmonology chest physicians. Hence, the researcher thought it would be good to conduct a survey of residents' knowledge and attitudes on tobacco smoking since there was a brief tobacco intervention launch at Vicente Sotto Memorial Medical. The study would be useful in determining smoking cessation encountered in a local setting by evaluating the knowledge and attitude of medical residents towards intervention and effectiveness of smoking cessation on their patients, as well as why tobacco addiction remains such a tough problem to overcome. The study also would help the improvement of the smoking cessation program in the institution by the inclusion of tobacco-related education and strategies that need to be implemented here in the Philippines.

The study determined the knowledge of smoking cessation among VSMMC residents and assessed the attitudes of residents on their understanding of the risks associated with tobacco use and on smoking cessation.

Methods

The research utilized a descriptive cross-sectional research design, employing a questionnaire survey method to collect data. The focus was on observing variables to establish statistically significant links between them. Stratified random sampling was used to determine the sample size for the study involving medical residents at Vicente Sotto Memorial Medical Center (VSMMC) conducted from December 2022 to March 2023 through an online survey via Google Forms. The study conducted an in-depth analysis of categorical variables related to demographic factors using chi-square and Fisher's exact tests. Additionally, the smoking status was described using basic descriptive statistics, and the information and attitude of doctors regarding smoking cessation were summarized through mean and standard deviation. These analyses provide a comprehensive understanding of the variables and contribute valuable insights to the study.

The study took place at the Vicente Sotto Memorial Medical Center (VSMMC), a government-owned facility in Cebu City, Philippines, with a capacity of 1200 beds. As a tertiary training medical hospital, the majority of patients are attended to by medical resident physicians across its 15 departments The smoking cessation services provided encompass brief tobacco intervention, pharmacotherapy, and counseling.

The participants included medical residents employed at VSMMC from December 2022 to March 2023 who consented to participate in the study. Excluded were those in pre-residency training and those who had already graduated during the data-gathering process. The target respondents were informed through text or call before sending a consent form to their official email addresses for their acceptance or rejection to participate in the study.

The survey instrument for this study was adapted from Gichuki et al.'s research on healthcare provider knowledge, attitudes, and practices regarding smoking cessation interventions in Kenya. The questionnaire focused specifically on knowledge and attitudes and was modified for use with male and female medical residents at VSMMC who consented to participate. The questionnaire consisted of two parts: Part I; collected demographic information, including age, gender, civil status, year level, type of residency, training in smoking cessation, smoking status, frequency of smoking cigars/cigarettes, last smoking occurrence, the perceived importance of quitting smoking, and attempts to quit smoking. Part II; gathered data on tobacco-related knowledge and attitudes, with questions adapted from Gichuki et al. The reliability of the questionnaire was assessed using Cronbach's alpha scores for various Knowledge, Attitude, and Practice (KAP) components. Scores of 0.7 or higher were deemed acceptable for questionnaire reliability. Knowledge scores were calculated based on 20 knowledge-based questions, with a maximum possible score of 20. Scores of 15 or more indicated good knowledge, 10 to 14 represented average knowledge, and 9 or less signified poor knowledge. Attitude scores were derived from nine questions, assessing practitioners' stances toward smoking cessation. Positive attitudes were defined as a total score of six or above, while negative attitudes scored five or below. The overall study questionnaire demonstrated a high level of internal consistency with a Cronbach's alpha of 0.8 and a 95 percent confidence interval ranging from 0.76 to 0.82.

Having established the validity and reliability of the questionnaire, the researcher proceeded to the actual data-gathering phase. A permit to conduct the study was obtained from the VSMMC Ethics Committee and the VSMMC PETRU Research Office. Once the respondent consented; a survey questionnaire was already set up, and a link was sent through the e-mail of the participating medical residents. Follow-up for non-responses was carried out through email or text. The study ensured the collection of non-sensitive information, limited to the email addresses and contact numbers of the respondents. The completed questionnaires

were retrieved from Google Forms after a period of three (3) days, allowing sufficient time for the respondents to provide their answers. If respondents had questions, the survey questionnaire also included the researcher's phone number. The survey forms that were completed underwent a review, and in cases where items were not answered or missed by respondents, the researcher conducted follow-ups with the respective individuals. Subsequently, the collected data from the answered questionnaires were analyzed.

The sample size for the study was determined using a stratified random sampling method. This approach involved dividing the total population of 313 clinical medical residents at VSMMC (from December 2022 to March 2023) into sub-populations, and then applying an online random number generator to each subpopulation. This method ensures equal opportunities for every member of the population to be selected as a respondent. The names of each medical resident were assigned corresponding numbers, and the randomly generated numbers constituted the final sample for the study. The study aimed to investigate the knowledge and attitudes of male and female medical residents at VSMMC regarding tobacco cessation efforts. The sample size estimation was conducted using Cochran's formula, based on a total population of 313 medical residents. The study referenced a previous work by Gichuki et al., indicating an expected value of 41% for poor knowledge and 85.2% for positive attitude.[15] The calculated minimum sample size for the investigation was determined as 171 residents for knowledge-related aspects and 120 residents for attitudes, both with a confidence interval of 95% and a margin of error at -/+5%. Therefore, the distribution of sample respondents in VSMMC for the study was set at a minimum of 171 residents.

The paper was submitted to the Research Ethics Committee of VSMMC. The participants of the study were informed through text or call before sending consent. Information provided was kept confidential and not subjected to disclosure. Personal identifiers were removed from the summary data. Medical residents of all ages who consented to the study were included. The participation of the medical residents was entirely voluntary. and whole data obtained was strictly confidential. There was a control number assigned to each participant. A new email address and Google Drive were made and were not shared with anyone except to the author, co-author, and the research analyst. All the data transcribed for the study were kept and disposed of 6 months after the finished research. The processed data and write-up were forwarded to the research committee and the department. The outcome of the study would benefit the community and the institution in the improvement of the smoking cessation program by examining the knowledge of medical residents regarding intervention effectiveness and attitudes toward aiding patients in quitting smoking.

Results

A total of 313 clinical medical residents in VSMMC from December 2022 to March 2023 participated in the study. A stratified random sampling method was used to select the 171 medical residents and consented participation in the study.

Table 1 provides the demographic characteristics, smoking status, and knowledge level on smoking cessation of 171 resident physicians who participated in this survey. Majority of the respondents were 25 to 34 years old (91.8%), females (55.6%), single (80.7%), mostly in their second year in the residency program (33.3%), and from the Department of Internal Medicine (26.3%). Sixty-nine percent (n=171) of the respondents reported that they are nonsmokers and most of them (87.7%) do not have any training on tobacco cessation.

Findings showed that only a few number of physicians had poor knowledge (8.2%) on smoking cessation. Majority of the them have average to good knowledge (91.8%) on the subject of interest. It was noted that the percentage of physician with good knowledge was higher among females (46.3%) compared to their male counterparts (38.2%). Good knowledge on smoking cessation was observed among single individuals compared to married counterparts. No physician noted with poor knowledge among those who had training on smoking cessation. Among those without training, majority of them have average (48.7%) to good knowledge (42.0%) which is relatively similar to those with training, 52.4% and 47.6%, respectively. There was no large difference observed in the level of knowledge among smokers and non-smokers.

The demographic differences in terms of age group (p=0.174), gender (p=0.555), civil status (p=0.39), residency level (p=0.221), with smoking cessation training (p=0.342), and smoking status (p=0.605) observed among the physicians with varying level of knowledge on smoking cessation were not statistically significant. On the other hand, there was significant difference in the level of knowledge according to type of residency (p=0.034).

Training received on smoking cessation intervention

From the total of 21 physicians who had training on smoking cessation, most of them obtained it during their stay in medical school (52.4%) while 42.9% obtained it during their residency training as shown in Table 1.

Smoking status of respondents

Among the 53 physicians who self-reported their smoking status, majority of them were not a frequent smoker. Only two physicians (3.8%) declared that they smoke 11-20 cigars/cigarette per day. Most of the physicians utilize cigarillos/cigarettes (45.3%) and cigars (32.1%). Some of them (18.9%) did not disclose the smoking products that they use in (Table 1).

Physician's knowledge on smoking cessation intervention

Knowledge on behavioral cessation interventions

A significant 81% of the respondents accurately recognized advice from a healthcare provider as a recommended behavioral intervention for smoking cessation. Additionally, 69.6% of the respondents correctly indicated that hypnosis was not a recommended behavioral intervention. Furthermore, 69% of respondents correctly identified the 5As method of tobacco use as a recommended behavioral intervention for smoking cessation.

Table 1. Physicians' demographic profile, smoking status, and level of knowledge on smoking cessation.

Demographic Profile	Level of Knowledge			Total	Chi-square Statistic	p
	poor (n=14)	average (n=84)	good (n=73)			
Age group						
25-34	11(7.0)	79 (50.3)	67 (42.7)	157 (91.8)	7.446[b]	0.174
35-44	3 (25.0)	4 (33.3)	5 (41.7)	12 (7.0)		
45-54	0 (0)	1 (100)	0 (0)	1 (0.6)		
55+	0 (0)	0 (0)	1 (100)	1 (0.6)		
Gender						
male	7 (9.2)	40 (52.6)	29 (38.2)	76 (44.4)	1.176[a]	0.555
female	7 (7.4)	44 (46.3)	44 (46.3)	95 (55.6)		
Civil status						
single	10 (7.2)	71 (51.4)	57 (41.3)	138 (80.7)	1.883[a]	0.390
married	4 (12.1)	13 (39.4)	16 (48.5)	33 (19.3)		
Residency level						
1st yr	3 (6.5)	21 (45.7)	22 (47.8)	46 (26.9)	13.932[b]	0.221
2nd yr	4 (7)	32 (56.1)	21 (36.8)	57 (33.3)		
3rd yr	6 (12.8)	17 (36.2)	24 (51.1)	47 (27.5)		
4th yr	0 (0)	11 (68.8)	5 (31.3)	16 (9.4)		
5th yr	0 (0)	2 (66.7)	1 (33.3)	3 (1.8)		
6th yr	1 (50)	1 (50)	0 (0)	2 (1.2)		
Type of residency						
Anesthesiology	1 (11.1)	8 (88.9)	0 (0)	9 (5.3)	38.002[b]	0.034*
ENT	0 (0)	3 (75)	1 (25)	4 (2.3)		
Emergency Medicine	1 (33.3)	1 (33.3)	1 (33.3)	3 (1.8)		
Family Medicine	0 (0)	3 (25)	9 (75)	12 (7.0)		
General Surgery	1 (7.1)	6 (42.9)	7 (50)	14 (8.2)		
Internal Medicine	3 (6.7)	18 (40)	24 (53.3)	45 (26.3)		
Neurosurgery	1 (20)	1 (20)	3 (60)	5 (2.9)		
Obstretrics and Gynecology	2 (10)	9 (45)	9 (45)	20 (11.7)		
Ophthalmology	0 (0)	3 (100)	0 (0)	3 (1.8)		
Orthopedics	2 (33.3)	4 (66.7)	0 (0)	6 (3.5)		
Pathology	0 (0)	3 (50)	3 (50)	6 (3.5)		
Pediatrics	1 (5.9)	9 (52.9)	7 (41.2)	17 (9.9)		
Psychiatry	0 (0)	4 (44.4)	5 (55.6)	9 (5.3)		
Radiology	1 (7.1)	9 (64.3)	4 (28.6)	14 (8.2)		
Urology	1 (25)	3 (75)	0 (0)	4 (2.3)		
Received training in smoking cessation						
no	14 (9.3)	73 (48.7)	63 (42.0)	150 (87.7)	2.148[a]	0.342
yes	0 (0)	11 (52.4)	10 (47.6)	21 (12.3)		
Smoking status						
non-smoker	8 (6.8)	59 (50)	51 (43.2)	118 (69.0)	1.006[a]	0.605
smoker	6 (11.3)	25 (47.2)	22 (41.5)	53 (31.0)		

Note: % was obtained based on row total except for total column which was based on the grand total
a- Chi-square test; b- Fisher's exact test; * significant at 0.05 level

Knowledge on advantages of offering interventions for cessation

The majority of respondents, accounting for 82.5%, accurately acknowledged that most smokers are unlikely to quit smoking successfully without assistance. In contrast, 22% of the respondents were unaware of the benefits associated with offering smoking cessation interventions, such as cessation advice from a healthcare provider, which enhances the likelihood of a patient quitting.

Knowledge on methods of behavioral intervention

Of the study participants, 23 percent did not know that it is necessary to assist a smoking patient in setting a quit date, and 91.2% knew that it is necessary to schedule a follow-up appointment in order to evaluate the patient's progress towards quitting.

Knowledge on symptoms of withdrawal and nicotine dependence

Sixty-two percent of respondents accurately stated that weight loss was not a common withdrawal symptom, and eighty-eight percent correctly stated that smoking was a chronic disorder linked to relapse. About half of the respondents falsely stated that patients who smoked within 30 minutes of waking up were less dependent on nicotine than patients who smoked their first cigarette much later in the day. Only 39.8% of the respondents correctly stated that most withdrawal symptoms disappear within four weeks of quitting.

Knowledge on recommended cessation medications

Over 50% of the participants were unable to accurately identify different types of medications used to help quit smoking. Ninety-two percent of respondents correctly identified nicotine patches, whereas eighty-one percent correctly identified nicotine gum. Only 33.3% of respondents correctly stated that nicotine syrup and carbamezapine were not smoking cessation medications, while only 57.3% and 48% of respondents, respectively, correctly identified nicotine lozenges and bupropion as such (Table 2).

Attitude of physician to provision of smoking cessation intervention

The majority of respondents expressed a favorable outlook on their role in delivering smoking cessation interventions. A significant 95.3% of respondents concurred that aiding and motivating patients

Table 2. Physician's knowledge on smoking cessation interventions.

Knowledge Item	Answered correctly		Answered incorrectly	
	n	%	n	%
Knowledge of recommended behavior cessation interventions				
Advice from a health care provider on smoking cessation	140	81.9	31	18.1
Hypnosis	119	69.6	52	30.4
5A's method of assessment of tobacco use	118	69.0	53	31.0
Knowledge on benefits of providing cessation interventions				
Smoking cessation advice given by a health professional to a patient increases the patient's chances of quitting.	132	77.2	39	22.8
Most smokers will successfully quit smoking on their own without assistance.	141	82.5	30	17.5
There is no need of advising elderly patients who smoke (those above 60 years) to quit as the damage from smoking is already present and cannot be reversed	138	80.7	33	19.3
Knowledge on behavioral intervention techniques				
Patients should only be asked about their smoking history if they have a smoking related disease/ illness.	148	86.5	23	13.5
When advising patients to stop smoking, the advice should never be linked to the patient's current health/illness.	129	75.4	42	24.6
Counseling patients on smoking cessation includes assisting the patient to set a quit date	131	76.6	40	23.4
Follow-up appointments should be made for the patients who are willing to stop smoking within the first week after quitting.	156	91.2	15	8.8
Knowledge on nicotine dependence and withdrawal symptoms				
Patients who have their first cigarette within half an hour of waking are likely to be less dependent on nicotine than patients who have it much later in the day.	103	60.2	68	39.8
Smoking is a chronic disorder associated with relapse	151	88.3	20	11.7
A common withdrawal symptom that occurs after quitting smoking is weight loss	73	42.7	98	57.3
Most of the withdrawal symptoms from smoking cessation disappear within 4 weeks of abstinence.	68	39.8	103	60.2
Knowledge of recommended cessation medications				
a) Nicotine gum	140	81.9	31	18.1
b) Nicotine patch	158	92.4	13	7.6
c) Nicotine syrup	63	36.8	108	63.2
d) Nicotine lozenges	98	57.3	73	42.7
e) Bupropion tablets	82	48.0	89	52.0
f) Carbamezapine tablets	57	33.3	114	66.7

Table 3. Physician's attitudes towards provision of cessation.

Attitude Items	Agree	Disagree
Attitude towards role of HCP in provision of intervention		
16. It is my responsibility to assist patients to stop smoking	163(95.3)	8(4.7)
17. It's not worth discussing benefits of smoking cessation with patients as patients already know they should quit.	21(12.3)	150(87.7)
18.It is my responsibility to motivate patients to stop smoking	165(96.5)	6(3.5)
Effect of interventions on HCP and patient relationship		
21. Smoking Cessation counseling improves my relationship with patients	154(90.1)	17(9.9)
25. It is uncomfortable to counsel my smoking patients on quitting smoking	23(13.5)	148(86.5)
Attitude towards time factor and competing priorities		
23. I do not have sufficient time to provide advice and counseling to all my patients who smoke during routine consultations	32(18.7)	139(81.3)
19. My patients' acute health problems take precedence over smoking cessation.	124(72.5)	47(27.5)
Attitudes towards acceptance of interventions by patients		
20. Patients are not receptive to receiving smoking cessation assistance from healthcare providers.	49(28.7)	122(71.3)
22. Quitting smoking is an individual choice. It's not up me to advice a patient to quit smoking	49(28.7)	122(71.3)

to quit smoking was a part of the healthcare provider's responsibility. Similarly, a large proportion (87.7%) disagreed with the notion that advising patients to quit was unnecessary, given that patients were already aware of the need to quit. Additionally, respondents exhibited a positive attitude towards the impact of smoking cessation interventions on the healthcare provider-patient relationship, with 90.1% agreeing that providing smoking cessation advice or counseling enhances this relationship. Only 13.5% of respondents perceived counseling patients on smoking cessation as uncomfortable.

Nevertheless, study participants demonstrated positive attitudes regarding the availability of time to advise patients who smoke. The majority of respondents (81.3%) disagreed with the notion that they lack sufficient time to offer advice to all smoking patients, and 72.5% agreed that patients' other health issues took priority over smoking cessation advice. Regarding the acceptance of interventions by patients, 28% of respondents perceived that patients were unreceptive to smoking cessation advice, while another 28% believed that quitting smoking was an individual choice (Table 3).

Discussion

The survey of medical residents' knowledge and attitude toward tobacco cessation has shown that knowledgeable about the benefits of quitting smoking are associated. Most have average knowledge and a good knowledge foundation about tobacco cessation and how to deal with it. The younger generation is more knowledgeable about quitting smoking and its benefits as well as women, although statistically speaking, their proportion in terms of the knowledge base is not significant. Interestingly, a high percentage of respondents lacked formal training on tobacco cessation despite expressing mostly average to good knowledge levels on the subject. This could be a result of poor training in smoking cessation strategies after graduation and a lack of attention to smoking education in medical schools.[13] This raises questions about the sources and adequacy of their knowledge outside formal training.

The study found no statistically significant differences in knowledge across various demographic variables, except for the type of residency, where a significant difference was observed. This highlights the potential impact of the residency program or specialization on physicians' knowledge regarding smoking cessation. However, there were no statistically significant variations in the knowledge levels of other demographic characteristics, including age, gender, civil status, residency level, smoking status, and previous training. This points to a consistent knowledge gap that exists across a range of demographic groups, highlighting the necessity of a uniform approach to address the gap. The smoking status of the respondents also provided valuable insights, with the majority reporting non-frequent smoking and a preference for cigarillos/cigarettes and cigars. These results show that the smoking habits of medical residents affect their willingness to offer advice or to prohibit the patients from smoking. In comparison to doctors who smoke, those who don't smoke are far more likely to encourage patients to quit.[14] Despite these knowledge gaps, the attitudes of the physicians towards smoking cessation interventions were generally positive. Majority agreed that it is part of their responsibility to assist and motivate patients to stop smoking, and it is worth discussing with these patients the benefits of quitting smoking, highlighting a potential willingness to engage in such interventions. However, concerns about time constraints and patient receptivity indicate practical challenges that need to be addressed to ensure the effective implementation of smoking cessation interventions in a clinical setting.

While the study provides valuable insights into medical residents' knowledge and attitudes regarding smoking cessation, it is imperative to recognize numerous limitations and potential sources of bias. The exclusive focus on medical residents at VSMMC raises concerns about the applicability of the findings to broader populations, including practicing physicians in different contexts. The use of stratified random sampling introduces the possibility of selection bias, given the exclusion of those who did not consent, potentially compromising the representativeness of the sample. The study's acknowledgment of not assessing actual smoking cessation practices underscores an unexplored

gap between knowledge and behavior, limiting a comprehensive understanding. Additionally, the cross-sectional design impedes the ability to track changes over time or establish causal relationships. Demographic differences in knowledge levels, though identified, may be influenced by other unexplored confounding factors. While the study prompts questions about knowledge sources outside formal training, it does not thoroughly investigate these aspects.

Conclusion and Recommendation

The study offers crucial insights into the demographic profiles, smoking habits, and knowledge levels of clinical medical residents at VSMMC concerning smoking cessation. Overall, a majority of participants demonstrated good knowledge and positive attitudes toward their involvement in smoking cessation efforts. Identified knowledge gaps, particularly related to withdrawal symptoms and cessation medications, indicate areas for focused educational interventions. The statistically significant difference in knowledge based on the type of residency highlights the necessity for tailored educational programs within specific medical specialties. The findings underscore the importance of early education, with a majority receiving training during medical school. Emphasizing the need for targeted educational interventions in areas with knowledge gaps, the study suggests that physicians' positive attitudes create a receptive environment for training programs, addressing practical concerns like time constraints and patient receptivity for the effective implementation of smoking cessation interventions.

To enhance smoking cessation efforts among medical residents, the study recommends the establishment of a standardized curriculum on smoking cessation interventions, ensuring comprehensive training for all residents irrespective of demographic factors. Early education during medical school is emphasized to build a solid foundation of knowledge and skills among future healthcare providers. Collaboration with residency programs is recommended to integrate smoking cessation training, especially in specialties where knowledge gaps were identified. The study advocates for interdisciplinary collaboration involving not only physicians but also other healthcare professionals to enhance the effectiveness of smoking cessation interventions. Continuous professional development is encouraged to keep medical residents updated on the latest advancements in smoking cessation interventions. Strategies addressing patient unreceptiveness, emphasizing a patient-centered approach to smoking cessation counseling, should be developed. In conclusion, while the study reveals positive attitudes and overall good knowledge levels among medical residents, targeted educational interventions and a holistic approach to smoking cessation training are recommended for improvement.

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