

Original Article

Nurses' Smoking Cessation E-Learning Program: Pre- and Post-Training Outcomes

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Abstract

Background: Healthcare workers' attitudes and behaviors have proven to be key determinants of the effectiveness of workplace smoking policies. Several studies have demonstrated the importance of educating healthcare professionals in preventing and treating smoking habits to provide care and counseling to their patients.

Objective: This study aimed to assess the efficacy of a training program for nurses in General and Psychiatric hospitals in Attica.

Methods: A total of 100 nurses participated from two Psychiatric and two General Hospitals in Attica. The meetings with the trainers were every week, online. The study and training material and the trainees' evaluation questionnaires were available on the e-class platform of KEDIVIM of EKPA.

Results: The 52% of the participants have never smoked, while 40% currently smoke. The vast majority (72%) consider it is extremely important for nurses to provide smoking cessation counseling. Also, 40% have never counseled patients on smoking cessation, mainly due to insufficient education (28%). After the educational program, 68% of participants report that they are very satisfied with the smoking cessation education material. All respondents report that after their training they feel confident to counsel their patients to reduce or stop smoking, while, 90% reported that they were affected in terms of their personal smoking habits.

Conclusions: This study highlights the need of investing in training healthcare personnel to carry out smoking cessation therapies.

Key words: smoking cessation, training programs, health care workers, nurses, attitudes, perceptions

Introduction

Smoking remains a major public health issue, killing 8 million people, including 1.3 million non-smokers exposed to second-hand smoke (Global Health Data Exchange, 2019). According to the World Health Organization, in 2020, 22.3% of the world's population, aged over 15, were active smokers (36.7% men and 7.8% women) (WHO, 2021).

Despite all these documented negative consequences, smoking rates worldwide remain high. The total global economic impact of smoking is \$2 trillion annually (The Tobacco Atlas, 2022).

One of the primary goals of healthcare professionals is to prevent and reduce smoking rates, as well as address its effects through their role as a role model for

promoting healthy behaviours at primary and secondary levels of care (La Torre G et al., 2014). The European Network for Smoking and Tobacco Prevention 2020 recommends that all healthcare professionals investigate tobacco use in their patients and provide them with at least brief support and smoking cessation counselling following the 5A rule (Ask, Advise, Assess, Assist, Arrange) (ENSP, 2020).

The prevalence of smoking behaviour among healthcare professionals is a noteworthy issue for public health, for themselves and their patients (Tong et al. 2020). According to research, healthcare professionals who smoke are less likely to encourage their patients to quit smoking (Mostafa and Momen, 2017). Systematic reviews and meta-analyses of the literature record the prevalence of smoking habits among doctors at about 21%, a percentage that does not seem to show significant variations between specialties or geographical areas (Besson et al., 2021). Correspondingly, the prevalence among nursing students is estimated at 26.6% (Zeng et al., 2020).

Causative factors seem to include heavy workload, working overtime, working stress, exposure to traumatic occurrences and night shifts. Specifically, during night shifts, the disruption of the circadian rhythm seems to increase smoking behaviour (Nabe -Nielse et al., 2011; Lillard and Christopoulou, 2015; Mostafa and Momen, 2017). Other factors influencing smoking are education, the influence of friends who smoke, previous smoking experience, and addiction and its consequences (Sheals et al., 2016; Juranic et al., 2017; Hamadeh et al., 2018).

Other studies have highlighted the prevalence of smoking behaviour among healthcare professionals from 4.6 to 44%, with nurses having the highest smoking rate among professionals (Chang et al., 2016). According to a study in Jordan, smoking rates among primary healthcare workers were 40.2% for nurses, 11.8% for doctors, 13.7% for dentists, 10.8% for pharmacists and 23.5% for other health workers (Alkhatatbeh, Alefan and Alzghool, 2017). Smoking behaviour among doctors is recorded as lower than that of

nurses, but this is changed by cross-cultural factors (Chambers, 2016).

Study results from Greece concerning the smoking habits of healthcare professionals during the COVID - 19 pandemic, showed that out of 1057 participants, 25% increased their smoking habits and only 7% quit smoking (Pataka et al., 2022). Similarly, another study in Greece measuring perceptions and practices of mental health nurses who were smokers about their patients' smoking habits, showed that the majority of them (96%) seemed to be aware of smoking's health effects, but only 37.4% believed that they were responsible for helping patients quit smoking (Koukia et al., 2016).

It has also been documented that smoking behaviour among male healthcare professionals was higher than that of women (Rahman and Huriah, 2021). The average age of smoking healthcare professionals was recorded at 22-55 years (Chambers, 2016). The number of cigarettes per day among healthcare professionals is estimated at 1–10 cigarettes (42.9%) or 10–20 cigarettes (66.7%) (Rahman and Huriah, 2021).

Inefficient implementation of prevention measures and poor education and training on the effects of smoking and smoking cessation techniques seem to lead to a high incidence of smokers among healthcare professionals (Sreeramareddy et al., 2018).

Healthcare workers' attitudes and behaviours have proven to be key determinants of the effectiveness of workplace smoking policies. Several studies have demonstrated the importance of educating healthcare professionals in preventing and treating smoking habits to provide care and counselling to their patients (Chandrakumar and Adams, 2015; Alkhatatbeh, Alefan and Alzghool, 2017; Lowy et al., 2022; Sarna et al. 2022). Healthcare professionals who are current smokers are less likely to provide smoking counselling to their patients than non-smokers (Sharma et al. 2018). Other obstacles include the lack of training programs in smoking prevention counselling or smoking cessation techniques (Rahman and Huriah, 2021).

In Greece, the significant knowledge deficit on nicotine, nicotine replacement therapies, and e-cigarettes among healthcare professionals is expected to have a negative impact on the provision of reliable counselling to smokers (Moysidou et al. 2016). In Greek psychiatric hospitals, the majority of nurses believe that the mentally ill should be excluded from smoking cessation and that quitting can significantly worsen their psychiatric symptoms (Koukia et al., 2016). There seems to be an urgent need to educate all healthcare professionals, but especially mental health professionals, about smoking, its effects, and cessation.

Compared to untrained healthcare workers, educated healthcare professionals can change smokers' attitudes and increase the number of people quitting smoking (Carson et al. 2012; AlMulla, Kouyoumjian and Nakib, 2023). Additionally, in a community setting, educated healthcare professionals said they feel more comfortable counselling others about smoking cessation concerns (Villacis Alvarez et al., 2023). Patients were more likely to get education from doctors who had received training in smoking cessation methods (Martinez et al. 2019). Therefore, it is crucial to have training in brief patient counselling on smoking cessation approaches (Grech et al., 2020). According to several research studies, teaching nurses smoking cessation strategies improved patient counselling (Alkhatatbeh, Alefan and Alzghool, 2017).

Providing patients with smoking cessation counselling is seen by medical experts as an essential aspect of their work. Numerous studies in the literature attest to the role's significance in helping people quit smoking and in treating addiction (Martinez et al. 2018; Al-Qashoti et al. 2022).

Aim: This study aimed to assess the efficacy of a training program for nurses in General and Psychiatric hospitals in Attica regarding the impacts of active and passive smoking, enhancing their awareness of personal smoking behaviours, and instructing them in smoking cessation techniques.

Methods

The program included 100 nurses from one psychiatric hospital and two general hospitals

in Attica: Dafni Hospital, Evangelismos Hospital, and Gennimata General Hospital, with an average age of 38.02 years. Among the participants, 80 were women and 20 were men. The program lasted 3 months, with 60 hours of synchronous and asynchronous remote learning.

The program's instructional material included the book "Smoking – Nursing Approach," tailored presentations for each module, clinical case vignettes, audiovisual resources, and knowledge evaluation tests at the conclusion of each module. The aforementioned content was made accessible both in the weekly online meetings with the trainers and on the K.E.D.I.V.I.M. educational platform (eclass). In total, there were thirteen modules:

- 1st module: Nicotine Dependence
- 2nd module: Heart disease and smoking
- 3rd module: Respiratory diseases and smoking
- 4th module: Smoking-related epidemiology
- 5th module: Second-hand smoking in childhood
- 6th module: Smoking and adolescents
- 7th module: Smoking and children
- 8th module: Smoking and women: Diseases related to fertility and pregnancy
- 9th module: Smoking and psychiatric disorders
- 10th module: Mental ill patients and smoking
- 11th module: Smoking and nursing staff
- 12th module: The cost of smoking and policies to tackle it
- 13th module: Smoking cessation techniques

Population of the Study

The study utilized a convenience sample of nurses from four hospitals in Attica — two psychiatric and two general — who participated in a training program on smoking cessation approaches. Participation invitations were open to nurses in these hospitals for a period of 10 days. No disqualification criteria were applied regarding age, gender, employment experience, or academic credentials. Participants who did not complete the knowledge exams for all modules, as well as those who had not filled out the pre-training questionnaires, were excluded from the sample. All participants were informed about the study's purpose and methodology and completed a consent form. This form ensured

their voluntary participation, ability to withdraw from the study at any time, and the anonymity of their questionnaires.

Data collection: All participants submitted questionnaires before and after the training to assess the training's success in terms of information, knowledge, and practical application learned during the program about the effects of smoking habits and smoking cessation approaches. In addition, a questionnaire was distributed to evaluate the educational process and the overall arrangement of the program.

Ethical issues: At the commencement of the training program, a participant information sheet was distributed, detailing access to the survey link, addressing anonymity and consent, and providing contact information for the research team. At the conclusion of the survey, pertinent support information for participants and a questionnaire for program evaluation were supplied.

Statistical analysis

To determine nurses' pre- and post – educational knowledge, attitudes, and beliefs on smoking and smoking cessation methods, we employed a descriptive analysis. The Statistical Package for Social Sciences (SPSS, version 28) was used to analyse the data.

Results

Sample characteristics

The training curriculum involved 100 nurses from three hospitals (2 general and 1 psychiatric) in Attica, whose mean age was 38.02 years and mean length of hospital service was 13.44 years. The majority of participants were female (80%), single (56%), and childless (56%), with 52% working in psychiatric sector (hospital or department) and 48% in other general hospital departments. The 24% were head nurses and 44% held an MSc. The demographic characteristics of the sample are presented in Table 1.

Table 2 presents tobacco use habits and views on smoking. Fifty-two participants (52%) have never smoked, while 40% currently smoke. The mean age of smoking initiation is 19.02 years. The 90% of smokers want to quit smoking, 50% declare they need help to quit, while 30% think that a combination of smoking cessation sessions and nicotine

substitutes is preferable and 50% smoke at work. In terms of their beliefs about smoking in the workplace, the majority say it should not be allowed in hospital (44%), nor should staff (88%) and visitors (80%) smoking with patients. Their views are divided on whether smoking rules are right in their workplace, with the majority believing that health professionals should encourage people to stop or reduce smoking (92%) and set a good example by their own abstinence (88%).

Attitudes and views on smoking before education

Only 24 participants said that the hospital where they work provides a smoking cessation service by nurses (12%) or doctors (12%). Most participants (52%) consider that these services are provided to 20% of patients, while 48% consider that 60% of patients could use these services. In fact, the vast majority (72%) consider it is extremely important for nurses to provide smoking cessation counselling. All respondents believe that the hospital could help patients quit smoking, and 40% have never counselled patients on smoking cessation, mainly due to insufficient education (28%). Overall, the mean time spent counselling patients on smoking cessation is 5.84 minutes. Results are shown in Table 3.

Attitudes and views on smoking after education

As shown in Table 4, 68% of participants report that they are very satisfied with the smoking cessation education material and 60% have a full understanding of the information. The 76% feel that it is extremely important that smoking cessation services are provided by the hospital. All respondents report that after their training they will try to help patients to reduce or stop smoking, and indeed that they feel confident about providing the counselling (76% fairly or greatly confident). Lack of time was seen by 12% as a potential barrier to this effort. Of the smokers (n=40), 90% reported that they were affected in terms of their personal smoking habits and specifically were thinking about quitting (30%) or contracting a stop smoking service (30%), and 20% had already reduced the number of cigarettes per day.

Trainee satisfaction with the program

In the context of trainees' satisfaction with the overall organization of the program, 64% reported complete satisfaction, while 36% indicated an important level of satisfaction. Concerning the duration of the program, 59% expressed complete satisfaction, whereas 41% reported being very satisfied. In relation

to the frequency of training meetings, 68% of respondents were completely satisfied, while 32% expressed a significant degree of satisfaction. Finally, 68% of the respondents indicated complete satisfaction with the educational materials provided in the program, with 32% reporting a prominent level of satisfaction.

Table 1. Demographic characteristics (N=100)

N (%)		
Sex		
Males / Females	20 (20%) / 80(80%)	
Place of birth/ Place of living		
Village	8 (8%) / 4 (4%)	
City	44 (44%) / 28 (28%)	
Big city	48 (48%) / 68 (68%)	
Marital status		
Married	8 (32%)	
Single	14 (56%)	
Divorced	3 (12%)	
Children		
Yes / No	44 (44%) / 56 (56%)	
Educational level		
Bachelor	32 (32%)	
Nursing Specialty	8 (8%)	
MSc	44 (44%)	
PhD	16 (16%)	
Position of responsibility		
Yes / No	24 (24%) /76 (76%)	
Working department		
Psychiatric hospital/department	52 (52%)	
General hospital department	48 (48%)	
	M±SD	Min-Max
Age	38.20±9.35	23-51
Years of experience	13.44±8.98	1-25

Table 2. Tobacco use habits and views on smoking among the total sample (N=100) and among smokers (N=40)

	N(%)		
	Yes	No	
Have you ever smoked?	48 (48%)	52 (52%)	
	Daily/ Sometimes	Not at all/ I haven't ever smoke	
Do you smoke today?	20 (20%)/20 (20%)	8 (8%)/52 (52%)	
	Yes	No	
Would you consider giving up smoking? (n=40)	36 (90%)	8 (10%)	
Have you ever tried to quit smoking? (n=40)	32 (80%)	2 (20%)	
Do you think you need help to stop smoking? (n=40)	20 (50%)	20 (50%)	
	Nicotine substitutes/ Electronic cigarette	Smoking cessation sessions and nicotine substitutes	Nothing
What will help you most? (n=40)	4 (10%)/4 (10%)	12 (30%)	20 (50%)
	Yes	No	
	20 (50%)	20 (50%)	
Do you smoke at work? (n=40)			
	Smokehouse	Outside	No to work
Where do you smoke at work? (n=40)	4 (10%)	16 (40%)	20 (50%)
	I totally disagree/ I disagree	I have no opinion	I agree/ I totally agree
Should smoking be allowed at work?	24 (24%)/20 (20%)	16 (16%)	24 (24%)/ 16 (16%)
Should staff smoke with patients?	64 (64%)/24 (24%)	12 (12%)	0 (0%)/ 0 (0%)
Do visitors have to smoke with the patients?	64 (64%)/16 (16%)	8 (8%)	8 (8%)/ 4 (4%)
Are the rules about smoking in the department, correct?	8 (8%)/20 (20%)	24 (24%)	28 (28%)/ 20 (20%)
Do the staff encourage people to stop or reduce smoking?		8 (8%)	32 (32%)/ 60 (60%)
Staff to set a good example by avoiding smoking?		12 (12%)	32 (32%)/ 56 (56%)
	M±SD	Min-Max	
Age of starting smoking	19.17±2.36	15-24	

Table 3. Attitudes and views on smoking before education (N=100)

	N(%)		
	Yes	No	
Does your hospital provide a systematic smoking cessation session (medication, individual or group therapy)?	24 (24%)	76 (76%)	
	Nurses	Doctors	No smoking cessation service is provided
Who provides these services?	12 (12%)	12 (12%)	76 (76%)
	0%/20%	40%	I do not know/ I don't answer
What percentage of patients do you consider to be offered these services?	28 (28%)/ 52 (52%)	8 (8%)	12 (12%)
	20%/40%	60%/80%	
What proportion of patients do you think could use smoking cessation services?	20 (20%)/ 28 (28%)	48 (48%)/ 4 (4%)	
	Yes	No	
Do you think your hospital should do more to help smokers/patients to quit smoking?	100 (100%)	0 (0%)	
Do you offer individual counseling to patients to help them quit smoking?	60 (60%)	40 (40%)	
	Inadequate training/ Insufficient time	It is not my duty	I offer individual counseling
If no, please indicate the reasons	28 (28%)/ 4 (4%)	8 (8%)	60(60%)
	Advice to stop smoking	Individual counselling for smoking cessation	Nothing
If yes, which technique do you personally provide?	56 (56%)	4 (4%)	40 (40%)
	Extremely important	Very important	Quite important
How important is it to offer smoking cessation services in the hospital?	72 (72%)	16 (16%)	12 (12%)
How important is it for nurses to offer smoking cessation counselling to patients?	72 (72%)	12 (12%)	16 (16%)
	M±SD	Min-Max	
How many minutes a day do you spend advising a patient to stop smoking?	5.84±12	0-60	

Table 4. Attitudes and views on smoking after education among the total sample (N=100) and among smokers (N=40)

	N(%)		
	Very satisfied	Quite satisfied	Relatively satisfied
How satisfied are you with the smoking cessation material you were given?	68 (68%)	28 (28%)	4 (4%)
	I totally agree	I quite agree	I agree
Do you think you have a good understanding of the information given to you?	60 (60%)	32 (32%)	8 (8%)
	Extremely important	Very important	Quite important
How important do you think it is to offer smoking cessation techniques in hospital?	76 (76%)	20 (20%)	4 (4%)
	Very confident/ Confident enough	Confident/ Almost confident	
How confident do you feel about offering smoking cessation techniques to your patients after the training?	36 (36%)/40 (40%)	20 (20%)/4 (4%)	
	Yes	No	
Before the training, were you trying to help your patients quit or reduce smoking?	36 (36%)	64 (64%)	
After your training, are you considering helping your patients to stop or reduce smoking?	100 (100%)		
	lack of confidence in my skills and knowledge/ Insufficient time	I don't know/I don't answer	I offer individual counseling
If no, please indicate the reasons	8 (8%)/12 (12%)	80 (80%)	60 (60%)
	Yes	No	
The information I received influenced my own smoking habits (n=40)	36 (90%)	4 (10%)	
	I reduced the number of cigarettes per day/ I'm thinking about quitting smoking	I am considering contacting a stop smoking service	I don't know/I don't answer
If YES, in what way did they affect them? (n=40)	8 (20%)/12 (30%)	12 (30%)	8 (20%)

Discussion

Currently, one out of every four nurses smoke. This rate is consistent with that found in earlier research. A 2009 study on personnel perspectives and smoking behaviors in Greek hospitals indicated that 57.8% of nursing personnel and 34.5% of medical staff were current smokers (Vardavas et al., 2009). Despite the enactment of Greece's new anti-smoking law (Law 4633/2019), smoking rates among health professionals appear to be relatively stable over time.

Among trainees who were smokers, 90% expressed a desire to quit smoking, utilizing either medication, counseling, or a combination of both. A substantial body of research indicates that the prevalence of smoking among hospital doctors in developed countries is experiencing a dramatic decline (Michopoulos et al., 2015; Juranic et al., 2017). A similar cross-sectional study conducted in 2015 at Vietnamese hospitals, following the implementation of a smoke-free hospital model, revealed a decrease in smoking habits among healthcare professionals' post-intervention (An et al. 2015). A systematic review and meta-analysis demonstrated that the majority of educational intervention studies positively influenced the smoking behaviors of healthcare professionals, indicating significant rates of both reduction and cessation (La Torre et al. 2020). The aforementioned findings, along with the notable smoking cessation rates, suggest a correlation with the substantial motivation of participants in these programs to quit smoking.

Among smokers, approximately 50% reported smoking at their workplace. Factors contributing to workplace smoking among nurses include prominent levels of stress in clinical settings, psychological burdens, exposure to traumatic events, lack of support, and irregular working hours (Perdikaris et al., 2010). Existing literature suggests that the absence of a smoking ban in hospitals, or non-compliance with such regulations, undermines efforts to encourage both healthcare professionals and patients to abstain from smoking.

Additionally, studies have documented that, despite an ardent desire to quit smoking, there

is a lack of access to information and support regarding the cessation process (Nilan et al. 2019). Although the provision of smoking cessation assistance to health professionals is recommended by the World Health Organization and supported by numerous studies, a recent investigation across 142 countries found that only 44% of healthcare professionals received such assistance (La Torre et al., 2020).

The majority of participants indicated that smoking should be prohibited in clinical settings (44%) for both healthcare professionals and visitors or escorts of patients. Regardless of their smoking habits, the nurse participants appeared receptive to the detrimental effects of smoking in any form on hospital grounds. The prohibition of smoking in the workplace, coupled with the provision of cessation assistance, has been shown to positively influence changes in the smoking behaviors and habits of healthcare professionals (Perdikaris et al., 2010).

A considerable proportion of nurses (92%) acknowledged the importance of healthcare professionals encouraging patients to reduce or cease smoking, irrespective of their own smoking habits. The literature indicates that while the role of nurses is pivotal in implementing smoking cessation strategies for patients, their personal smoking behaviors can impact the effectiveness of these interventions. In contrast, smoking physicians are less inclined to counsel their patients but are more likely to refer them to smoking cessation programs (Nilan et al., 2017). Nevertheless, there are also studies indicating that 1 in 2 nurses did not offer counseling to their patients regardless of their individual smoking profiles. Overall, consistent with the findings of the present study, even smoking nurses are not less likely to motivate patients to quit smoking (Martinez et al., 2014; Nilan et al., 2019). These findings may vary depending on the legislative framework and regulations regarding smoking within different countries. Increased vigilance and information aimed at reducing smoking appear to bolster the motivation and sensitization of nurses and healthcare professionals, as evidenced in recent years in Greece, where legislation and campaigns to limit smoking have been enhanced.

Eighty-eight percent of the nurses in the study believe that they can set a positive example for their patients through their own abstinence from smoking. The attitudes and behaviors of nurses, in particular, and healthcare professionals, in general, appear to serve as indicators of credibility for their patients. A study conducted in England found that 37% of the general population surveyed reported that they would not accept health advice from health professionals who maintained an unhealthy lifestyle (Duaso et al., 2014; Duaso et al., 2017). The World Health Organization Framework Convention on Tobacco Control (FCTC).

Only approximately one in five nurses reported that the hospital where they are employed offers smoking cessation clinics, which provide cessation services delivered by both nursing and medical staff. The prevalence of smoking cessation services in Greece, as well as the training of healthcare professionals, remains notably low. Similar low percentages have been observed in studies conducted across various health systems in Europe and the Middle East (Edwards et al., 2018). In addition to the deficiency of educational programs, the absence of protocols and services appears to be a significant barrier to the implementation of smoking cessation techniques by healthcare professionals (Martinez et al., 2017).

Participants who reported having engaged in smoking cessation counseling utilized an average of 5.84 minutes for this process. Several studies have indicated that the time allocated to recording patients' smoking habits or providing counseling was either non-existent or minimal (Binnal et al., 2018; Andres et al. 2019; Muza et al. 2024). In contrast to these findings, some studies, such as one conducted in Finland, revealed that 60% of patients with chronic diseases had been inquired about their smoking habits, while 49% reported that healthcare professionals had discussed these habits with them (Mahoto, Mitonga and Oladimeji, 2023). Other literature indicates that one in two healthcare professionals provides counseling regarding the benefits of smoking cessation to their patients (de Frel et al., 2022; Mahoto, Mitonga and Oladimeji, 2023). In

studies conducted in developing countries, one in three nurses reported that they address their patients' smoking habits during hospitalization (Nilan et al., 2019; WHO,2020).

Approximately 75% of participants expressed high levels of satisfaction with the training program on smoking cessation techniques and the accompanying materials. In a related study conducted in Malta, participants in smoking cessation education programs reported that the training and its associated materials were deemed useful (20.6%) and very useful (79.4%) for their clinical practice. Furthermore, 84.1% of participants reported utilizing the materials provided to assist their patients (Garies et al., 2020). Distance learning has also demonstrated benefits by mitigating barriers to training health professionals who work irregular hours and are on-call (Frehywot et al., 2013). Additionally, a systematic review and meta-analysis revealed significant findings regarding the effectiveness and satisfaction of health professionals or students from health sciences programs engaged in distance learning initiatives focused on smoking cessation techniques (Semwal et al., 2019).

A study conducted in Korea found that nursing staff trained in smoking cessation techniques tended to take both their own health and that of their patients more seriously than those who were untrained (Jradi, 2017). A study in Helsinki found that nurses working in hospitals believed they played a critical role in delivering smoking cessation services, and their attitudes towards education for providing such services were positive (Park et al., 2020). Additionally, a study involving distance training for nurses in smoking cessation techniques reported that 89% of participants prioritized counseling in their daily practice following the training (Chase et al., 2020).

The training provided participants with essential materials, information, and confidence to deliver smoking cessation counseling, with 76% reporting enhanced capabilities. Existing literature indicates that nurses and midwives demonstrate an increased frequency of smoking cessation counseling following their training (Garies et

al., 2020). Healthcare workers possessing a robust understanding of smoking cessation interventions were more inclined to implement these practices compared to their colleagues (Malin et al., 2020). Research conducted in South Africa revealed that health professionals exhibited a low level of knowledge regarding smoking cessation techniques, a situation exacerbated by the absence of established protocols and training (Binnal et al., 2018; Lee et al., 2021). Moreover, recent studies have documented a notable increase in the self-confidence and self-sufficiency of health professionals in delivering counseling after receiving training in smoking cessation techniques (Chase et al., 2020; Papadakis et al., 2020).

Nevertheless, time constraints during shifts emerge as a substantial and significant barrier to effective counseling. While some studies identify it as a critical concern, aligning with the findings of the present study, others do not regard it as a significant obstacle to counseling (Binnal et al., 2018; Malin et al., 2020). Notably, recent studies involving health professionals, other than physicians, who received adequate training in cessation techniques reported a lower incidence of time constraints as a barrier to counseling (Jradi, 2017; Martinez et al., 2019). In addition to time limitations, challenges such as high workloads, insufficient nursing staff, and a lack of prioritization within the nursing role represent significant obstacles to providing counseling to patients (Chase et al., 2020; Tamirat, 2021; Fitzpatrick et al., 2023).

Finally, 90% of respondents indicated that their training in smoking cessation techniques positively influenced their own smoking behaviors. In summary, training in smoking cessation techniques not only enhances health professionals' knowledge regarding the detrimental effects of smoking but also encourages increased confidence in counseling their patients (Ganz et al., 2015; Gichuki et al., 2015; Nilan et al., 2017).

Conclusions: Implementing preventive steps to reduce smoking and its impact must begin with health workers, particularly nurses who spend critical time with patients. Educating nurses on the impacts and procedures of smoking cessation appears to be highly

beneficial to both them and their patients. Workload, lack of training, time, and personnel are frequently significant hurdles to patient counseling. This study highlights the need to invest in training healthcare personnel to carry out smoking cessation therapies. More research is needed in other categories of health professionals, as well as a long-term examination of educational outcomes.

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