

## Original Article

Nursing Students Perception and Self-Efficacy  
In Smoking Cessation Control: A Qualitative  
Study

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**Abstract**

**Background:** Smoking is threatening to health and is a major public health concern. Smoking cessation control is an important measure to reduce morbidity and mortality from smoking as well as safeguard the environment by ensuring public health and safety. The Nursing professionals which the student nurses are part of, have an important role in smoking cessation intervention in helping and supporting patients with quitting intention to stop smoking. It is pertinent that student nurses' views and readiness state for smoking cessation interventions is established. The purpose of this study, therefore, is to explore student nurses' perceptions and self-efficacy in smoking cessation control.

**Method:** A qualitative study that adopted a phenomenology design where 6 nursing students of the University of Sunderland were recruited using purposive sampling. A face-to-face tape-recorded semi-structured interview extracted data from participants and the data was transcribed verbatim and coded. Subthemes were formed from the codes and themes were generated in a manual thematic analysis process.

**Results:** Participants were aware of smoking cessation control but 5 out of the 6 participants had insufficient knowledge and understanding of the concept. Participants perceived smoking cessation control as a beneficial endeavour. The deficit in the nursing curricula and training affected their self-efficacy and patient behaviour discouraged participants from participating in cessation intervention whilst improved health strategy would facilitate their involvement. Regardless of any other factors, participants perceived having a sense of responsibility to help smokers quit smoking whilst admitting the need for the effective involvement of those in authorities and policy formulators.

**Conclusion:** Nursing educators and administrators in charge of preparing and designing the nursing curricula require urgent sensitization on the need to formulate and incorporate specialised modules on tobacco cessation control and interventions to improve nursing students' knowledge and self-efficacy.

**Keywords:** Smoking, Smoking Cessation, Intervention, Control, Nursing Students

**Introduction**

The public health burden from tobacco use is worrying and poses a significant risk to health and healthcare [1]. Tobacco use is one of the factors accounting for increased global morbidity and mortality [2]. The consumption of tobacco has killed more people globally than a combination of communicable diseases including HIV/AIDS, tuberculosis, and Malaria amongst others [3]. Globally, an estimated 8 million people die annually from tobacco use whilst about 600,000 non-smokers die due to second

hand-smoking [4]. Smoking accounts for the leading cause of deaths that are preventable in the UK [5]. Approximately 94,900 annual deaths in the UK are smoking-related [5].

According to the Office of National Statistics (ONS) in the United Kingdom (UK), about 14.1% of the population are current smokers which is nearly 6.9 million people [6]. Based on the Opinions and Lifestyle Survey (OPN), an estimated 52.7% of people who are 16 years or above and cur-

rently smoke have quitting intentions [6]. The UK became one of the first countries to adopt the WHO Framework Convention on Tobacco Control (FCTC) showcasing itself as a leading global giant in tobacco control [7]. In addition, the Tobacco Control Plan was initiated in England to control tobacco use at local levels and within communities (Office of Health Improvement and Disparities - OHID, 2021). The UK according to its government policy agenda intends to have a society that is smoke-free by 2030 [8].

The reduction of smoking health risks can be achieved through smoking cessation which inadvertently improves the quality of life [9]. Medical/health advice is useful for helping smokers quit smoking. Consequently, medical and health practitioners have a key role to play in smoking cessation by way of advising smokers and providing health guidance toward quitting smoking [9]. A [3], report enumerated health outcomes that could be achieved if all primary care professionals including nurses participated in the promotion of smoking cessation. It was estimated that 80% of smokers per year would potentially be accessed, about 40% can be prompted on attempted quitting intention, and 2-3% would successfully quit smoking from brief advice received if questions on tobacco use and quitting advice to tobacco users are routinely done by all primary health professionals [3]. A systematic framework of the 5As model which focuses on Ask, Advice, Assess, Assist, and Arrange was advocated for by the WHO for patient interaction by nurses and other healthcare professionals toward helping smokers quit smoking [10].

Nursing professionals are critical players in smoking cessation interventions. More than being critical players, they are important for effective tobacco intervention and control [11]. They perform crucial roles in patients' counselling toward quitting smoking. [12], described nurses as the face of the healthcare profession hence, their role in tobacco control and cessation intervention is pivotal and could be strategic owing to the wide coverage they have across healthcare. Rice and Stead (2008) opined that smoking cessation delivered by nurses is potentially effective owing to the unique professional relationship nurses share with the patient and the public. [13, 18], suggested that nurses who have received training on cessation treatment/intervention had higher chances of engaging in smoking cessation education with the use of appropriate guidelines than those that are untrained in cessation treatment/intervention.

Student nurses are integral to the nursing workforce and also make useful contributions to solving nursing staffing shortages [15]. School education during nursing studies is a good time to optimise cessation training. Having in mind that nursing students who are future nursing practitioners are shaped by their initial education [16], mentioned that the beliefs and perceived lack of self-efficacy of health professional students such as student nurses on effective intervention provision could serve as a barrier to efficient tobacco cessation intervention/treatment in their future role as health professionals. [17], stated that one of the critical periods to influence future health professionals in developing the right ability, knowledge, belief, and attitude toward tobacco use withdrawal and acquiring a good smoking cessation strategy is during their school training. To the best knowledge of the researchers, there is no current qualitative evidence that explored nursing students' perception of smoking cessation control in the UK as well as the role that nursing education plays in preparing them for smoking cessation control; a gap our present study addressed.

## METHODS

**Aim:** To explore nursing students' perception and self-efficacy in smoking cessation control.

**Study Design and Sample:** A qualitative phenomenological study design was adopted. The phenomenological design enabled the ex-

ploration of the perception and self-efficacy of participants on the phenomenon of smoking cessation control. Study purpose, proximity, ease of access, and time management were considered and decided in selecting the study population hence, the University of Sunderland nursing students were the study participants. The library facility of the University of Sunderland provided a conducive environment where each participant was interviewed at varying times within a small conference room space. The sampling selection was purposive. The number of participants used in this qualitative interview was based on the quality predictor concept of saturation. Typically, a qualitative study requires a small sample, and [18], mentioned that the number of participants that satisfactorily provide answers to the research question is the appropriate sample number. In our study, saturation was reached with 6 participants (3 males and 3 females) where no new idea emerged, and replication of ideas was observed.

**Participants' Characteristics and Materials:** For the inclusion criteria of the participants, only the masters or final year nursing students at the University of Sunderland that were posed to qualify for active healthcare practice were included. These nursing students have completed all their nursing modules. Those at lower level were excluded since they are yet to complete their full nursing training/modules. Participants were 18 years and above to meet the provision of consent. Participants' interviews were semi-structured using an interview guide that asked the participants questions on what and how they perceived smoking cessation control and the role their nursing education has played in smoking cessation control in terms of their training, self-efficacy, and confidence to deliver on the smoking intervention. The interview guide was designed by TUO and ETA and was refined by VCO. The interview guide was piloted prior to the participant's face-to-face interview by TUO.

**Data Collection:** Our participants signed off the informed consent form after going through the participant information sheet (PIS). Episodes of the interview were tape-recorded with the participant's permission to aid qualitative analysis. Participants were prompted if and when necessary, and field notes were used to pen down an interviewee's observed body, and facial and non-verbal expressions. Participants were not given cash rewards or any other form of reward to participate and they were assured of measures of confidentiality and anonymity. Participants were informed that withdrawal from the study was allowed, however, as soon as analysis commenced, withdrawal was unlikely. A password-protected personal computer of the researchers was used to store and safeguard data collected from participants to prevent unauthorised access. In case any distress was caused as a result of the interview, the participants were reminded to utilise the University of Sunderland wellbeing services.

**Analysis:** Data collected was analysed using thematic analysis. Thematic analysis is adaptable and allows complex information to be itemized [19]. The analysis was facilitated using [20], thematic analysis framework. The framework consists of six phases including data familiarisation (transcribing the audio-taped interview verbatim), initial coding of data, themes search (interpretative analysis), themes review, defining and naming themes, and reporting (interpretable write-up).

## Ethical approval and consent to participate

Ethical approval with application number 012709 was obtained from the University of Sunderland ethics review committee on 04/07/2022. Study participants were presented with a participant information sheet and filled out the consent form to obtain informed consent.

## RESULTS

Table 1 shows the summary of our participants' characteristics.

**Table 1: Recruited Participants' Details**

Parti- pants	Sex	Age	Education level	Smoking Status
P1	Male	32	MS.c nurs- ing	Non-smok- er
P2	Male	37	MS.c nurs- ing	Non-smok- er
P3	Female	27	BS.c nursing	Non-smok- er
P4	Female	24	BS.c nursing	Non-smok- er
P5	Male	29	BS.c nursing	Smoker
P6	Female	25	BS.c nursing	Non-smok- er

The outcome of the six nursing students' interviews generated four themes which include awareness and knowledge, perceived benefits, barriers and facilitators of smoking cessation, and participatory role. Whilst explaining these themes and the subthemes, the researchers utilised some interview raw citations to offer legitimacy to the themes and drive comprehension for the benefit of the readers.

## Awareness and Knowledge

Awareness in this regard was likened to the student nurses having heard or having not heard of smoking cessation control. This definition of awareness aligns with the definitions of [21], where awareness was defined as a concept of being heard or unheard. Almost all the student nurses seemed to have heard of smoking cessation control however, participant 2 (male) was unsure about his awareness status.

*"Hmm, I'm not sure, I think....[looks up] Yes or maybe now you've asked (responding to awareness about smoking cessation control) but sounds familiar, I think it all has to do with stopping smoking, right?....."* (Participant 2, Male, 37).

All but one participant identified their information sources on smoking cessation and most reported to have heard of smoking cessation during their hospital posting/placement.

*"Where I did my hospital posting. I saw the poster on a wall of the ward I worked in."* (Participant 3, Female, 27).

Amongst our participants, the knowledge of smoking cessation control and effective intervention was not robust and lacked depth. The fundamental idea of participants regarding smoking cessation control was simply a control measure or interventional support to smokers to stop smoking nevertheless they failed to elaborate on this and the effective process this could take including the use of the 5As model.

*"No, I don't know much.... like I said before, it concerns stopping smoking."* (Participant 2, Male 37)

*"Eeh.... [long pause] the only thing I know is smoking cessation is an intervention that we use in the health care profession to support our patients to stop smoking. Nothing more"* (Participant 4, Female, 24).

The use of 5A's (Ask, Advise, Assess, Assist, and Arrange) has been evidenced in literature as an effective mechanism for cessation control that can be employed by health professionals in helping smokers with quitting intention to quit smoking [22]. It had been advocated for by the [23], to be adopted as a systematic framework that has proven to be effective when

engaging patients to cease smoking. In this study, only one participant had a clue about the use of the 5As model.

*"Not really, the 5As? I do not know it seriously, but I know cessation control is a way of putting an end to smoking or bringing up measures which can help an individual to stop smoking."* (Participant 3, Female, 27)

*"You ask a patient whether they want help to stop smoking or not and then, you also advise them on methods and how you can help them. You also assess the patient, assist and arrange the intervention....."* (Participant 5, Female, 24)

## Perceived Benefit

The belief that smoking cessation control was beneficial to both smokers and non-smokers and society, in general, appeared to resonate amongst our participants. Perceived benefit highlights the positive outcome that someone or a group of individuals could derive when based on given beliefs certain actions are undertaken to avoid the threat to life or health from disease or harmful activities [24]. The risk of harm from smoking is well-established in the literature [25, 26]. Participants perceived that smoking cessation control and intervention are strategic to reduce the risk of harm to health and enjoy better health status.

*"The rate of smoking now is becoming threatening to our health as a people. Today there have been several health threats that are emanating every day as a complication of smoking. One of the most dangerous ones is cancer of the lungs. So many people have so many pathologies they suffer presently because of a long or short history of smoking. So smoking has never been helpful for the body.....and I think that smoking cessation control is desirable and beneficial...."* (Participant 1, Male, 32)

*"Yeah, it's a good and beneficial idea [smoking cessation initiatives] to help smokers quit smoking due to the risk involved."* (Participant 6, female, 25)  
Some of the participants perceived smoking to be inimical to increased life expectancy as such cessation initiative would positively improve and raise life expectancy and make for a healthy society.

*"Smoking cessation control is important because smoking is associated with a lot of illnesses leading to decreased life expectancy."* (Participant 4, Female, 24).

The importance of smoking cessation control to the ecosystem was noted by the participants stressing that a smoke-free environment could benefit and improve the ecosystem to profit human health and well-being.

*"For me, smoking cessation control is a good initiative, talking about reducing Green House effect, pollution amongst others....."* (Participant 5, Male, 29)

Despite its perceived benefit, participants hold the belief that smoking is a thing of choice and that quitting smoking for all the benefits it offers is subject to individual choices.

## Barriers and Facilitators of Smoking Cessation

Participants provided insight into the influential factors that could either serve as a barrier or facilitator of their involvement and self-efficacy in smoking cessation control. The barriers are regarded as factors that hinder, impede, and discourage the participants from engaging in cessation whereas the facilitators are the conditions that support and energize cessation control involvement. These factors are described under the subthemes which include nursing programme deficit affecting self-efficacy, smoker's behaviour and other related influences, and Improved health strategy.



**Nursing programme deficit:** Concerns about the nature of the nursing programme were raised by our participants, where curricular and nursing training deficit was mentioned. The participants stressed the absence of smoking cessation classes or modules. The participants admitted that special courses on nursing intervention on smoking were not thought in classes.

*"Presently, it is not included in our curriculum."* (Participant 3, Female, 27)

*"We have not been practically trained or informed about smoking cessation control in class."* (Participant 5, Male, 29)

Although participant 4 was the only dissenting voice saying that smoking cessation has been mentioned in the classroom but not in detail.

*"...I don't know how much I can say about it with regards to education but yes we've touched it somehow."* (Participant 4, Female, 24).

There was a general impression amongst the participants that the absence of smoking cessation training within their educational scheme has slightly affected and made them unsure about their confidence and self-efficacy to deliver cessation advice and counselling.

*"So, I wouldn't say I am quite confident in participating except we are given training and further guidance in smoking cessation control."* (Participant 5, Male, 29)

[16], reported that there is a connection between nursing education and self-efficacy to perform smoking cessation advice using 5As. In our study, the participants who admitted to having a slight capacity to carry out smoking cessation counselling although lacking the knowledge of the 5As model said they had a sense of duty to perform smoking counselling because of professionalism, nevertheless, how well they will perform remains unclear to them.

*"Yeah, I can participate because I know where I stand as a health care professional in regard to supporting smoking patients but can't tell how well."* (Participant 4, Female, 24)

Participant 4 also expressed that because she knows the health implication of smoking, it reinforces her desire to engage in smoking cessation control regardless of training or not.

*"Am not sure to what extent [self-efficacy] I can perform this if at all. I think until I get to do it or trained extensively then I will know to what extent. But at the moment all I know is I'm interested in helping people to stop smoking because I know the consequences."* (Participant 4, Female, 24)

## Smoker's behaviour and other related influences

As much as smokers have to be supported on quitting intention, the decision to initiate quit smoking is entirely their choice. Most of our participants recognised the difficulties faced by smokers in quitting smoking as it is addictive behaviour. Participant 2 believed that regardless of what you do as a healthcare professional, the buck stops with the smoker who has the sole right to decide on quitting. Hence, the extent to which a health professional can offer help depends on how much the smoker can engage and comply with quit smoking directives. Either way, a smoker's behaviour could hinder or facilitate cessation initiation.

*"To be honest, Nooo {Smiles}.....people get offended about discussing their smoking lifestyle, so you cannot do much to stop them. They will stop whenever they choose to. Their behaviour matters a lot"* (Participant 2, Male, 37)

*"What can I say about the barriers? I think it's the patient behaviour and willingness to engage that will be the most challenging.....it's the most probably faced barrier in executing smoking cessation."* (Participant 5, Male 29)

Moreover, despite the dangers of tobacco smoking, smoking is not criminalised nor is it outlawed. Nevertheless, certain restrictions and legislation have been put in place to regulate it including making tobacco a costly commodity in the UK. Our participants also considered other influences that constituted barriers to their engagement in helping smokers quit such as a thing of culture and lifestyle and the right to smoke. Hence some individuals are averse to smoking cessation counselling and health professionals are discouraged from offering help.

*"Yes, there are several barriers, one is the lifestyle, and secondly, cultural beliefs and trends. For example, so many people today believe that they have the right to live the way they want irrespective. They smoke even in an environment that affects others who do not smoke. So, social rights and the right to lifestyle choices are barriers for me to help them."* (Participant 1, Male, 32).

Some of the participants also mentioned that peer influences frustrate their efforts in helping smokers quit because such effort will be futile if a smoker on a journey to quit continues to mix up with peers and friends who smoke and discourages them from staying on quitting path.

## Improved health strategy

The emphasis here is on the strategies that facilitate or enhance performance in smoking cessation control by the nursing students and acceptance by the smoker. Our participants spoke of the need to provide the right support for the student nurses to promote efforts at smoking cessation control. Participants stressed increased awareness of smoking cessation programmes for the students and the smokers for responsive and mutual action and reaction. Participant 1 believes that a good way to facilitate cessation effectiveness is by first creating timely awareness and educating smokers persistently on the dangers of smoking and advancing the available solutions and cessation options for quitting.

*"Smokers can be educated and properly informed on the risk, and they can be seen on time or catching them young to inform them. Give them an awareness of the risk associated with smoking and something in exchange."* (Participant 1, Male, 32)

Most of our participants emphasised the use of quitting strategies such as exercise by smokers to facilitate the process of cessation. Participant 3 specifically expressed the opinion that if awareness of smoking cessation programmes is increased by deploying health strategies that work for both the student nurses and those needing help, it will make achieving a smoke-free environment more realistic.

*"I think more campaigns, jingles, health talks, encouragements and health alternatives measures put in place will help us with this cessation assignment."* (Participant 3, Female, 27).

## Participatory Role

Engaging in smoking cessation control by student nurses is a call to responsibility. Our participants expressed optimism as to their role in smoking cessation from a personal and professional standpoint as well as the perceived role of the government and those in authority. Some of our participants shared a viewpoint that they had a sense of personal responsibility to sensitise people within their immediate environment on the dangers of smoking and the importance of discontinuing.

*"Yes, I do consider myself as being responsible. Number one is, I have to start internally from my immediate friends/ family to reach out to friends to advise them on the risks of smoking....."* (Participant 1, Male, 32).

Professionally, our participants indicated that they are duty-bound to provide smoking cessation services to patients with the desire to quit smoking. They perceive it as an important task orientation of a nurse. Nursing cessation intervention could be the most effective with the right application. *"Because I believe I should do it as a nursing professional, especially for those who seek out for help."* (Participant 3, Female, 27)

*"Yeah, I can actively participate because I know where I stand as a health care professional in regard to supporting patients who want to stop smoking."* (Participant 4, Female, 24)

Some of our participants believe that the government has a pivotal role in the smoking control and protection of non-smokers through policies such as smoking zones and all-around environmental promotion. Four out of the six participants believed that the government should set out more incisive strategies as well as take the lead in the smoking cessation campaign in a show of responsible and responsive governance.

*"I believe that government can create laws that will protect non-smokers and laws that will a kind of restrict indiscriminate smoking or restricting smoking to a particular location (smoking zone)."* (Participant 1, Male, 32).

## DISCUSSION

Previous research by [25, 26], have found that apart from the classical knowledge of the health risk of tobacco and tobacco-related diseases, nursing students lack the knowledge of cessation intervention and barely knew about the evidence-driven 5As model. Our study provides further evidence that although student nurses may be well informed on the health risk of smoking, they lack adequate knowledge and information on smoking cessation interventions. Surprisingly, the only participant that demonstrated sufficient knowledge of smoking cessation nursing intervention and the use of 5As was a smoker. This observation could well support the quantitative research works of [27], that found nurses who were smokers understood smokers' motivation, possesses lived experiences, seemed more informed, and have better use of cessation techniques. Perhaps, smoking status plays a role in smoking cessation knowledge. The knowledge of smoking cessation based on positive smoking status does not determine effectiveness in smoking cessation control according to [12] by demonstrating perceived patients' higher tendency to believe cessation advice from a non-smoking nurse than a smoking nurse. From the aforementioned studies, it appears that the role of the smoking status of a health professional in smoking cessation control is controversial and requires further clarification.

Generally, in clinical practice, knowledge is crucial to attain self-efficacy. As evidenced in the study by [28], it was found that the confidence to deliver cessation brief advice is built on the level of knowledge an individual possessed. From the documented literature, the knowledge of smoking cessation affects the assessment of smoking status, provision of counselling and advice as well as possible referral for smoking treatment and therapy [28]. Also, the presence or absence of smoking cessation knowledge can either act as a barrier or facilitator to nurses' involvement in smoking cessation control based on [25, 26], findings. This was consistent with our study inquiry that observed that insufficient knowledge of smoking cessation intervention accounted for nursing students' reduced confidence in engaging in smoking cessation control.

Whilst nursing practice presents nurses with a variety of opportunities in their daily work to assist patients with quitting intention, the design of the nursing education and curricula is likely not helping them a lot in smoking cessation control endeavours. From available nursing education research on smoking, studies on health-related risk have received much emphasis whereas clinical aspects like smoking cessation techniques and treatment options for nursing students/trainees have enjoyed less attention [29].

Evidently, our study participants confirmed that no part of their nursing curriculum or module specifically talked about smoking cessation control nor was there any assessment that dealt with it. Our study findings reinforced the [25, 26, 30], studies that reported a lack of emphasis in nursing curricula about smoking cessation control and procedure in helping quit patients. Consequently, a barrier to students' self-efficacy and involvement in cessation initiatives.

Self-efficacy in nursing practice has been linked to nursing education and training [31]. According to [17], the period of nursing training is an important point in time when future nurses are molded, built, values, attitudes, and the right belief inculcated for the professional nursing task. It is therefore a moment to help nursing students develop self-efficacy in nursing cessation control for effective future participation. This could explain why our study participants expressed concerns regarding smoking cessation control self-efficacy due to the deficiency in nursing curricula. [32], reported that the self-efficacy of student nurses who were put through educational training on smoking cessation improved significantly more than those who did not participate in the training. Hence, cessation training is necessary for nursing students' competence to provide a sense of security and assurance for self-efficacy to perform smoking cessation intervention. Similarly, patient behaviour and related factors can be a barrier to student nurses' smoking cessation engagement based on our study findings. According to [33], patients' behavioural intentions sometimes predict health professionals' behaviour. [34], opined that quitting smoking is a personal endeavour and regardless of what the health professional does, the failure or success outcome is largely determined by the patient. Our study participants suggested that their effort in helping smokers to quit is usually scuttled by smokers' continued association with peers who pushes them to derail from quitting path thereby frustrating their professional efforts. Apparently, peer influence is a significant element of smokers' motivation and thus to a reasonable extent controls/detects behaviour on sustained smoking. As such, our participants perceived that the show of positive behaviour by a smoker is essential as well as the right motivation, and lifestyle changes required to comply with quitting process.

As a way of facilitating smoking cessation control involvement, our study participant expressed the need for an improved health strategy through integrating smoking-cessation-related content in nursing curricula, greater patient awareness, and other supplementary means, something that was previously highlighted in [35] study that researched the corporate awareness of smoking cessation techniques and options towards a smoke-free environment.

In our study, we found the general perception that smoking cessation control is inexplicably beneficial to the smoker, the non-smokers, and the environment. According to the [23], report, a smoke-free environment not only reduces the rate of global morbidity and mortality but also creates a safe and healthy environment for human lives. A health construct that explains the position of our study participant on perceived benefit, barrier, and self-efficacy is the Health Belief Model (HBM). Particularly for the perceived benefit, it is the third construct of HBM which explains the belief or internal consciousness that resonates with someone when the person recognises that a good outcome could be derived from abstaining or engaging in certain behaviour or action. [30], utilised the HBM in their study to identify the benefit accrued from quitting smoking and also researched extensively on the barrier that challenges the effectiveness of smoking cessation control despite the obvious benefits. In our qualitative study, participants agreed on the importance of implementing smoking cessation control for the health benefits it offers to smokers and non-smokers as well as the environment including reducing the greenhouse effect. We know from [36], research that the tobacco industry accounted for about 84 megatonnes of carbon-dioxide in greenhouse gas resulting in climate change, reduction in climate resilience, destruction of the ecosystem, and resource

wastage, and undermining the pursuit of sustainable development goals. Hence, smoking cessation control remains a good prospect for addressing this menace for the benefit of human life, health, and wealth.

Previous research by [37], mentioned that health professionals are highly esteemed by the public being perceived as role models. Even though our study participants expressed uncertainty regarding effective smoking cessation control participation due to concerns of self-efficacy, they, however, stated that they had a sense of personal and professional responsibility to educate and assist smokers with quitting intention. [38], referred to health professionals as agents of health behaviour change. [39], within the context of the health behaviour agenda in cessation control stressed the nursing role as ultimate. Despite worries of self-efficacy, our participants admitted to a professional burden to perform smoking cessation intervention when demanded. Furthermore, our study found the role of government to be fundamental in smoking cessation control. A previous study by [40], stressed the need for the government and its agencies to seek out innovative ways of controlling tobacco production and consumption through integrative co-design with healthcare professionals to implement an effective workable framework. This opinion was shared by our participants opining that beyond their personal and professional responsibility to smoking cessation control, the participatory role of the government as regulators is pivotal. Importantly, in the creation of awareness of the dangers of smoking and the cessation benefit, policy formulation for smoking rate curb, and implementable measures for more stringent restrictive smoking. In addition, arming health professionals by providing the right support to carry out rigorous and sustained public health education to promote smoking cessation control [41, 42].

## Limitations

Our findings relate directly to the nursing participants from our chosen university and may not be generalised to nursing students from other universities. Our study could have benefitted more from drawing samples of nursing students from more than one university. Furthermore, our sampling approach (purposive), although appropriate could have exposed our study to sampling bias.

## CONCLUSION

### Research Relevance and Future Work

Our study contributed evidence to the body of existing literature as well as provide some interesting evidence for policy considerations. It identified issues of inadequate nursing training strategies for smoking cessation control. For practice improvement, nursing educators and administrators in charge of preparing and designing the nursing curricula require urgent sensitisation on the need to formulate and incorporate modules specialised in tobacco cessation control and interventions. Within this curriculum, educational materials should be used to enlighten student nurses on smoking cessation behaviour, intervention, and techniques. This will increase and improve their knowledge of smoking cessation and the use of the 5As model intervention and other alternative practices. It will also enhance the self-efficacy and confidence of the student nurses to actively and effectively perform interventions, counselling, and brief advice on smoking.

Furthermore, our research provided a pointer for the HBM utilisation in planning smoking cessation interventions as well as in health education and promotion for nursing students. Public and environmental health will improve immensely with smoking control and a reduction in individual tobacco consumption. Health for one is health for all. The nursing group of professionals comprising nursing students/trainees needs the right support to enable them to facilitate smoking cessation intervention. The government should provide funds to enable staffing and expansion of the scope of practice for specialised training on smoking intervention pro-

grams, strategies, and techniques for nurse trainers who will in turn train student nurses.

Future research utilising a mixed method approach will boost our study evidence and address study limitations. Also, further work to understand the role of socio-cultural factors on smoking cessation intervention and self-efficacy amongst nursing students is highly recommended because such evidence would benefit nursing services and practice as well as the body of literature.

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## Authors Contributions

Tessy Ugobueze Okonji (TUO), Emmanuel Tochukwu Anyaehie (ETA), Sandra Chidinma Nwokoroku (SCN) and Vivian Chinonso Osuchukwu (VCO) collaborated in the conceptualising and designing of the study. All authors agreed to take individual responsibility for personal contribution to this study. TUO coined the title, ETA phrase it, while, VCO and Sandra Chidinma Nwokoroku (SCN) screened it. TUO reviewed the literature and ETA drafted the abstract. Material for data collection (interview guide) was developed by TUO which was revised by ETA and VCO and SCN validated it. Primary data collection was done by TUO. Analysis was done by TUO and ETA with substantial contributions from VCO and SCN. The manuscript was drafted by TUO and was revised by ETA, VCO and SCN. All the authors approved the manuscript for publication.

## Competing interest

The authors declare that they have no competing interests.

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