Barriers to Providing Smoking Cessation Intervention by Nursing Students: What is the Solution in Nursing Education?

Khaldoun M. Aldiabat1, Catherine Aquino-Russell2, Enam Alsrayheen3, Mohammad Al Qadire4

1Cape Breton University, School of Nursing, Nova Scotia Canada
2Faculty of Nursing, University of New Brunswick, New Brunswick, Canada
3Independent Researcher, Nova Scotia, Canada
4Adult and Critical Care Department, Sultan Qaboos University, College of Nursing, Muscat, Oman

ORCID iDs of the authors: K.M.A. 0000-0002-4417-6337, C.A.-R. 0000-0002-2228-052X, E.A. 0000-0002-2168-948X, M.A.Q. 0000-0001-7004-6782.

Cite this article as: Aldiabat, K. M., Aquino-Russell, C., Alsrayheen, E., & Al Qadire, M. (2022). Barriers to providing smoking cessation intervention by nursing students: What is the solution in nursing education? Florence Nightingale Journal of Nursing, 30(1), 83-91.

Abstract

AIM: This study aimed to explore the barriers that hinder nursing students from providing comprehensive smoking cessation interventions for their clients.

METHOD: A mixed method study combining a self-administered questionnaire and one open-ended question were used to collect data from 152 nursing students at the university in Canada. Data were analyzed using descriptive statistics and thematic analysis. The Health Belief Model was the theoretical underpinning for this study.

RESULTS: Participants showed positive attitudes toward smoking cessation interventions as being a part of their future work. However, students faced many barriers that hindered them from providing smoking cessation interventions to their clients. The participants identified the following seven themes/barriers: the lack of knowledge, training, resources, and time; the willingness of patients to quit; lack of students’ self-confidence; students’ level of comfort; smoking cessation being covered by other members of the health care team; patients already being knowledgeable about smoking cessation; and protecting therapeutic relationships with patients.

CONCLUSION: There is a need for empowering nursing students and enhancing their self-confidence in smoking cessation interventions by incorporating theory-based educational materials and strategies regarding smoking cessation interventions in their curricula.

Keywords: Disease prevention, health belief model, health promotion, nursing education, smoking cessation interventions

Introduction

Smoking is an addictive behavior, and it is ranked as one of the most prioritized health issues all around the world (World Health Organization, 2013). It is well known that smoking is not only a highly addictive behavior but also leads to many adverse health outcomes and death (Baliunas et al., 2007; Canadian Nurses Association, 2001; World Health Organization, 2013; Wong & Stokes, 2011). Nurses are the largest group of professional healthcare workers and, therefore, are more likely to encounter clients who smoke tobacco daily (Smith, 2010). They occupy an essential role in tobacco education and cessation by influencing the community’s tobacco control and reduction (Jones & Hamilton, 2011; Smith, 2010). Despite this fact, nurses may not be adequately prepared to facilitate smoking cessation. Previous studies showed that when nurses are inadequately prepared to prevent and address smoking behavior, they do not possess the confidence and ability to assist their patients to live healthier lives by promoting their health (Merrill et al., 2010a; Patelarou et al., 2011; Wong & Stokes, 2011).

Nurses and nursing students can be health educators when addressing smoking cessation with clients (Phillips, 2012). The importance of nursing students to be confident and capable in supporting and facilitating smoking cessation with clients will soon be at the forefront of health promotion and education (Krainuwat, 2005; Merrill et al., 2010a, b). A study by Merrill et al. (2010b) found that nurses who lacked counseling skills reported that training was a barrier to counseling clients regarding tobacco use and cessation. Therefore, nursing students need to be secured in their abilities to counsel clients to implement effective smoking cessation. When in school, nursing students should be provided with education regarding smoking prevention, smoking policies, and addiction to tobacco because when this information is presented in the curriculum, students are more likely to acknowledge their accountability as role models and health educators (Patelarou et al., 2011). Because smoking is a risky behavior, nursing students need to understand and apply health behavior theories (i.e., the health belief model) (Becker, 1974; Rosenstock, 1974) to facilitate and implement holistic and comprehensive smoking cessation interventions.
to their clients to change their smoking behavior (Ryan, 2009). Ryan (2009) recommended nurses not only to understand health promotion but also to know, understand, and incorporate health behavior theories in their practice. Therefore, it is crucial to integrate theories in nursing curricula to ensure theory-based practice and promote affirmative beliefs toward smoking cessation interventions.

When in practice, “self-efficacy,” which is one of the Health Belief Model’s (HBM) (Becker, 1974) constructs that guided this study, is a significant barrier for nursing students providing interventions to clients who use tobacco (Patelarou et al., 2011). For example, nurses with previous education regarding smoking cessation and training-related issues were more likely to enhance their self-efficacy and support the idea that nurses do have a consultative and educational role in counseling clients and should promote smoking cessation and prevention (Patelarou et al., 2011). The research literature demonstrates that there is an increased need for appropriate health promotion and role modeling by healthcare professionals and nursing programs need to implement more specific and effective smoking cessation education (Boccoli et al., 1997; Clark & McCann, 2008; Martin et al., 2011; Smith, 2010). The focus of exploration in this study was one construct of the HBM (Becker, 1974; Rosenstock, 1974), which were the perceived actual and potential barriers to providing smoking cessation care by nursing students.

Assessing and comprehensively intervening are the expected roles from nursing students in Canada when it comes to smoking cessation. According to the Canadian Association of Schools of Nursing (2015), in their framework for nursing education, it is expected from nursing students in all nursing programs to demonstrate “holistic and comprehensive assessment of diverse clients, to plan and provide competent, ethical, safe, and compassionate nursing care”. Therefore, integrating smoking cessation material into nursing curricula will contribute to achieving this expected outcome from nursing students in Canada or worldwide. With the absence of education regarding tobacco in nursing programs, there are adverse health outcomes not only to clients but also to nursing students who use tobacco (Boccoli et al., 1997). Clark and McCann (2008) conducted a study in Australia to examine the smoking prevalence among undergraduate nursing students. They found that the smoking rate among nursing students was about 24%, with no supporting materials in their curriculum to help them change their smoking behavior. A significant barrier to healthcare professionals and nursing students in applying tobacco education to themselves and their clients was inadequate training and knowledge (Boccoli et al. 1997). With inadequate knowledge regarding smoking cessation, nurses and nursing students who smoke may not have the means to apply interventions to their addiction to nicotine and help their patients who wish to quit smoking. Martin et al. (2011) recommended that specific smoking cessation programs are required to reduce tobacco use among nursing students, as this can decrease the smoking rate amongst health care professionals who use tobacco. Nurses who use tobacco are less likely to participate in health promotion counseling with clients, which is a barrier to clients who may wish to quit (Lenz, 2008; Merrill et al., 2010b). In conclusion, although it is expected that healthcare professionals, specifically nurses, need to be trained in assisting clients in abstaining from tobacco use, without proper training in nursing programs, they cannot help clients or even themselves (Boccoli et al., 1997; Clark & McCann, 2008; Martin et al., 2011).

There is a dearth of knowledge and gaps in the literature about the nursing students’ role in smoking cessation and prevention in Canada, their attitudes and beliefs about smoking and smoking cessation interventions, and their barriers to providing comprehensive smoking cessation and prevention interventions. Therefore, the purpose of this study was to explore the barriers that hinder nursing students from providing comprehensive nursing care for smoking cessation and prevention interventions to their clients who smoke in their clinical practice. This study was theoretically guided by the HBM.

**Research Question**

What barriers hinder nursing students at the University of New Brunswick from providing a comprehensive smoking cessation intervention to their clients in their clinical practice?

**Conceptual Framework Health Belief Model**

The construct of barriers, which was retrieved from the HBM (Glanz et al., 1997; Becker, 1974; Rosenstock, 1974), has been used in many nursing research studies. The different definitions of this construct indicate it means “something that blocks... prevents... hinders... impedes or separates” (Mariam Webster’s Dictionary, n.d.). For this study, the idea of barriers was defined as any real or perceived contextual factor that restrains, obstructs, or hinders nursing students from providing a comprehensive smoking cessation intervention in their clinical practice. This definition is compatible with the HBM’s definition of barriers, which is defined as “one’s opinion of the tangible and psychological costs of advised action” (Glanz et al., 1997, p. 52). Nursing students may face real or perceived barriers that hinder them from providing smoking cessation to clients in their clinical practice. The investigators of this study hypothesized that a wide range of actual and perceived barriers hinder university-level nursing students in different nursing programs from integrating smoking cessation and prevention interventions within their clinical practice. Although these barriers can be examined using different health behavior theories (e.g., social cognitive theory), the HBM affords a clear explanation to better understanding what factors deter participating nursing students from providing smoking cessation interventions in their clinical practice.

Further, providing comprehensive smoking cessation interventions by nursing students in clinical practice is considered a health promotion strategy. According to the HBM, nursing students would implement this behavior, or avoid it, based on balancing the perceived risks associated with the following beliefs:

1. Perceived susceptibility (one’s opinion of the chances of getting a condition),
2. Perceived severity (one’s opinion of how serious a condition and its consequences are),
3. Perceived benefits (one’s belief in the efficacy of the advised action to reduce risk or seriousness of impact),
4. Perceived barriers (one’s opinion of the tangible and psychological costs of the advised action),
5. Self-efficacy (confidence in one’s ability to take action), and
6. Cues of action (strategies to activate one’s “readiness”) (Glanz et al., 1997; Janz et al., 2002; Rosenstock, 1974).

For this study, the perceived barriers construct (number 4 above) was the only aspect of the HBM utilized to guide this study.

Methods

Study Design
A mixed-method study combining a quantitative and qualitative method was used.

Sample
The sample consisted of all undergraduate nursing students in their final year (of the regular four years bachelor of the nursing program) or in the final study term (for the advanced standing program [ASP]—a two-year [22 months] program) at University of New Brunswick to explore the barriers that hinder them from providing comprehensive smoking cessation interventions for the clients who smoke in their various clinical practice settings. Because the target population was small (152 was the total number of nursing students in the University of New Brunswick), the questionnaires were distributed to all members of the target population. The response rate was 63% (69 participants).

Data Collection
The quantitative and qualitative (responding in writing to one open-ended question) data were collected from all respondents. Data were collected between October and December 2018. Before distributing and collecting the questionnaires, persons from outside the research team gave a brief classroom presentation (15 minutes) to nursing students in their final year during one of their courses (following permission of the course instructor) about the study. Thirty minutes were given to the participants to fill the questionnaire and answer the open-ended questions. The completed questionnaires were dropped in a sealed box that was located outside the classrooms. Participants were advised that completing and returning the questionnaire would be considered as implied consent. The Tobacco prevention in primary healthcare questionnaire [TPPHCQ] developed by Helgason and Lund (2002) was used to collect data from nursing students in order to investigate the barriers involved in providing comprehensive smoking cessation interventions for their clients who smoke. The original TPPHCQ is a self-report, valid (face validity) questionnaire consisting of 23 questions designed to investigate the barriers that general practitioners (i.e., primary health physicians) face to prevent tobacco use in primary healthcare. Reliability was not measured for this instrument, neither by the current authors nor by the original authors. The current authors concurred with Fink (2006) that “a valid survey is always a reliable one, but a reliable one is not always valid” (p. 38). Permission to use and modify this questionnaire was obtained from the authors of the instrument. Six questions were excluded from the original questionnaire because they were not related directly to nursing students’ role in smoking cessation.

Participants were asked to answer 17 questions in seeking information about 20 intervention barriers, 6 smoking cessation treatment methods, and 7 possible barriers for nursing students to ask adult patients/clients if they smoke. An example of barriers was: “Discussions or asking regarding smoking tend to be time-consuming.” Seven possible barriers for nursing students when it comes to informing adult patients/clients about the health benefits of smoking cessation. An example of barriers was: “I feel that I lack knowledge on the subject.” Six possible treatment methods for nursing students for supporting adult patients/clients to quit smoking. An example of treatment methods was: “Provide self-help material.” As well as six possible barriers for nursing students when it comes to discussing with families the potential hazards of passive smoking for children. An example of barriers was that “I do not perceive supporting people to quit smoking as part of my future job.” All these barriers were measured using a four-point Likert scale, ranging between strongly agree and strongly disagree. The questionnaire also included a question seeking information about how nursing students support smokers to quit smoking consisting of seven methods using a four-point Likert scale ranging between often and never. In addition, an open-ended question “What in your own words, do you consider to be barriers for you to engage with your clients on the subject of their smoking?” was included for participants to describe and write in their own words what they saw as barriers to providing smoking cessation interventions to their clients. Demographic questions related to age, gender, the location of their nursing program, and the type of their nursing program were added to the questionnaire.

Statistical Analysis
The completed questionnaires were analyzed using the Social Package of Social Sciences software version 24 (IBM SPSS Corp., Armonk, NY, USA). Descriptive statistics were used to analyze the quantitative data, and thematic analysis was used to analyze the responses to the open-ended qualitative question.

Ethical Considerations
Ethical approvals were granted from the Faculty of Nursing Ethics Review Committee and the Research Ethics Board at the University of Research Ethics Board at the University of New Brunswick (REB #2017-087). The participants were informed that their participation was voluntary, and they had the right to withdraw from the study at any point before submitting the answered questionnaire without penalty, not to answer any question they wish, and to ask any questions related to the study. There were no financial or academic incentives or compensation for participation in this study. Participants were assured of their confidentiality and anonymity and were informed that their academic performance would not be jeopardized in any form whether they chose to participate in this study or not.

Results

Summary of the Quantitative Findings
Out of 152 questionnaires distributed to all nursing students on three campuses, 69 (63.3%) questionnaires were returned. Sixty-three participants were female (91.3%) and 6 (8.7%) participants were male, with the average age for all participants being 21.6 (± SD 3.2) years. Sixty participants (86.95%) were students in the regular 4-year nursing program, and
nine students (13.05%) were in the ASP. Eleven participants (15.9 %) have smoked regularly for more than 1 year (daily or occasionally), and seven participants (10.1%) used smokeless tobacco (snus/snuff/electronic cigarettes) regularly for more than 1 year (daily or occasionally). All respondents answered the open-ended question, which was designed for collecting qualitative data.

**Barriers for asking clients if they smoke**
In their clinical nursing practice, if clients demonstrated no signs or symptoms related to smoking, 58% of participants do not ask them about their smoking status, while 75.4% asked clients about their smoking status only if the clients showed signs and symptoms related to smoking. Also, 68.1% of participants (n = 47) disagreed/strongly disagreed that discussion regarding smoking behavior does not tend to be time-consuming, 92.7% (n = 64) of them perceived this discussion with clients as part of their future role as nurses, and 97.1% of participants (n = 67) believed that smoking is a major health problem; however, 53.7% of participants (n = 37) indicated that they lacked knowledge related to smoking behavior, and 65.2% of participants (n = 45) did not perceive asking clients about their smoking status as an obstacle (Table 1).

**Barriers for informing clients about the health benefits of smoking cessation**
Almost half of the participants (n = 35; 50.7%) indicated that they inform clients who smoke tobacco about the health benefits that they are likely to gain if they quit smoking. Also, 92.7% of participants (n = 64) perceived that informing adult clients of the health benefits related to smoking behavior would be a part of their future role as nurses while almost all of the participants 98.5% (n = 68) believed that smoking is a major health issue which must be discussed with clients who smoke. However, although 59.4% (n = 41) of participants indicated that they felt comfortable discussing smoking behavior with clients who smoke, 53.6% (n = 37) indicated their lack of knowledge regarding smoking behavior limited them in discussing this issue with clients who smoke (Table 2).

**Table 1.**
**Barriers to Asking Clients If They Smoke**

| Possible Barriers to Asking Clients If They Smoke | Strongly Agree/Agree % (n) | Disagree/Strongly Disagree % (n) |
|--------------------------------------------------|-----------------------------|----------------------------------|
| Discussions regarding smoking tend to be time-consuming. | 31.9 (22) | 68.1 (47) |
| I feel that I lack knowledge on the subject. | 53.7 (37) | 46.3 (32) |
| I do not perceive discussing peoples smoking habits as a part of my future job. | 7.3 (5) | 92.7 (64) |
| I am not convinced that this is a major health issue. | 2.9 (2) | 97.1 (67) |
| I feel uncomfortable asking people about their smoking habits. | 34.8 (24) | 65.2 (45) |

**Table 2.**
**Barriers to Informing Clients About the Health Benefits of Smoking Cessation**

| Possible Barriers to Informing Clients About the Health Benefits of Smoking Cessation | Strongly Agree/Agree % (n) | Disagree/Strongly Disagree % (n) |
|-------------------------------------------------------------------------------------|-----------------------------|----------------------------------|
| Discussions regarding smoking tend to be time-consuming. | 31.9 (22) | 68.1 (47) |
| I feel that I lack knowledge on the subject. | 53.7 (37) | 46.3 (32) |
| I do not perceive discussing peoples smoking habits as a part of my future job. | 7.3 (5) | 92.7 (64) |
| I am not convinced that this is a major health issue. | 1.5 (1) | 98.5 (68) |
| I feel uncomfortable informing people about their smoking habits. | 40.6 (28) | 59.4 (41) |
clients to quit smoking, while 36.2% (n=25) of participants engaged themselves in helping their clients to quit smoking on an individual basis during their clinical nursing education.

**Barriers for discussing with families the potential hazards of passive smoking for children**
Over half of the participants (n=40; 58%) do not advise parents to avoid exposing their children to passive smoking (Table 5), while 36 participants (52.2%) discuss smoking hazards of passive smoking for children if they know there is a smoker in the household (Table 6). Interestingly, 76.8% (n=53) of participants do not discuss with clients the hazards of passive smoking for children independent of whether or not there is a smoker in the household. Although 98.5% of participants (n=68) are convinced that exposing children to passive smoking is a relevant health problem and that it does not take time to discuss it with their clients (65.2%, n=45), 52.2% (n=36) indicate that they lacked knowledge on the subject of how hazardous the exposure to environmental tobacco smoke is for children.

**Although 75.3% (n=52) of participants perceived that they should try to get their clients to change their smoking behavior because of their children, just over half of the participants (52.2%, n=36) felt uncomfortable with discussing the possible impact of parents’ smoking on their children (Tables 5 and 6).**

### Summary of the Qualitative Findings
In addition to the above quantitative data, seven themes emerged from analyzing the qualitative data. These themes (Table 7, Appendix A) are considered as barriers from the participants’ perspectives that hinder them from providing smoking cessation interventions to their clients in healthcare settings. These themes are: lack of knowledge, training, resources, and...

| Table 3. Methods of Supporting Patients to Quit Smoking |
|--------------------------------------------------------|
| Possible Smoking Cessation Methods                      |
| Never % (n)                                            |
| Often % (n)                                            |
| Sometimes/Seldom % (n)                                 |
| Provide Self-Help Material                             | 17.4 (12) | 0 | 82.6 (57) |
| Offer individual follow-up support at the clinic        | 56.5 (39) | 0 | 43.5 (30) |
| Offer smoking cessation group treatment at the clinic   | 18.8 (13) | 55.1 (38) | 26.1 (18) |
| Refer to an external smoking cessation expert           | 50.7 (35) | 7.2 (5) | 42.1 (29) |
| Discuss a quit date with the patient                    | 62.3 (43) | 0 | 37.7 (26) |
| Advice nicotine replacement therapy                     | 13 (9) | 87 (60) | 0 |

| Table 4. Possible Obstacles to Supporting Adult Clients to Quit Smoking |
|------------------------------------------------------------------------------------------------|
| Possible Obstacles to Support Adult Client to Quit Smoking                                    |
| Strongly Agree % (n)                                                                          |
| Strongly Disagree/Disagree % (n)                                                             |
| This kind of work is not worth the effort since too few people manage to give up smoking despite support. | 11.6 (8) | 88.4 (61) |
| Discussions regarding smoking cessation tend to be too time-consuming.                        | 31.9 (22) | 68.1 (47) |
| I would prefer to be able to refer smokers to therapists who are specialized in helping smokers to quit smoking. | 98.5 (68) | 1.5 (1) |
| I feel that I lack knowledge on the subject.                                                  | 55.1% (38) | 44.9% (31) |
| I do not perceive supporting people to quit smoking to be a part of my future job.           | 2.9% (2) | 97.1% (67) |

| Table 5. Attitudes Toward Discussing with Families the Potential Hazards of Passive Smoking for Children |
|--------------------------------------------------------------------------------------------------------|
| Environment Tobacco Smoking [ETS] and Children                                                         |
| Items                                                                                                  |
| No % (n)                                                                                               |
| Yes % (n)                                                                                               |
| If you are providing care to a child (0–12 years old) who has symptoms (like asthma or chronic inner ear inflammation), that may be related to passive smoking (environmental tobacco smoke), do you advice the parents to avoid exposing their child to smoke? | 58 (40) | 42 (19) |
| If you know that your clients have children at home (0–12 years old), do you discuss the possible hazards of passive smoking for the child/children, if you know that there is a smoker in the household? | 47.8 (33) | 52.2 (36) |
| If you know that your clients have children at home (0–12 years old), do you discuss the possible hazards of passive smoking for the child/children independent of whether or not there is a smoker in the household? | 76.8 (53) | 23.2 (16) |
| If you know that there is a smoker in the household as well as children (aged 0–12), are you more likely to take up the subject of passive smoking and children the younger the child is? | 58 (40) | 42 (19) |
**Table 6.**

Possible Obstacles to Discussing the Potential Hazards of Passive Smoking for Children

| Possible obstacles to Discussing the Potential Hazards of Passive Smoking for Children | Strongly Agree/Agree % (n) | Disagree/Strongly Disagree % (n) |
|---|---|---|
| These kinds of discussions tend to be time-consuming. | 34.8 (24) | 65.2 (45) |
| I feel that I lack knowledge on the subject of how hazardous the exposure to environmental tobacco smoke is for children. | 52.2 (36) | 47.8 (33) |
| I am not convinced that this is a relevant health problem. | 1.5 (1) | 98.5 (68) |
| I do not feel that I have the right to try to get my clients to change their smoking habits because of their children. | 24.7 (17) | 75.3 (52) |
| I feel uncomfortable with discussing the possible impact of peoples smoking on their children. | 52.2 (36) | 47.8 (33) |

**Table 7.**

Appendix A: Themes Analyzed from Responses to the Qualitative Question: What in Your Own Words, Do You Consider to be Barriers for You to Engage with Your Clients on the Subject of Their Smoking?

| Themes | Direct Quotations from Participants |
|---|---|
| Lack of knowledge, training, resources, and time | “Lacking knowledge on how to help with smoking habits...I feel smoking material is not reinforced enough in class/clinical courses...It should be part of the health assessment class and to be discussed more through the nursing program. Because it is not discussed in our nursing program a lot, I do not think about it.” “Smoking cessation interventions were not explained to students well. We [students] do not know what to say and how to say it...Students need more time to prepare to have a conversation with patients who smoke, but there is no time for this during clinical training.” “Lack of the appropriate resources in the hospital. If they [patients who wish to quit] want more info and support where do I go, I do not know where to lead them for support if they would like to quit.” |
| Perceived barriers | |
| The willingness of patients to quit | “The only time I discuss the benefits of quitting if I get the feeling they [patients] are trying to quit. I can only give info when people want it...If it was not affecting children, and I do not think they are considering quitting, I am not going to bug them about it.” “People are not always open to quitting. Patients who smoke [have] heard the info before and do not want to quit...there is a resistance from patients to quit or talk about smoking. They are unwilling to quit smoking. For example, many patients say they smoked for 30+ and will continue.” “Most people know the health benefits of quitting as they have already been told. When I tell people, they say, “I know, I know.” They [patients who smoke] are not even interested in discussions.” |
| Perceived barriers | |
| Could also be inattention to cues to action | |
| Lack of students’ self-confidence | “I do not have the self-confidence to do such [an] intervention...as you know, the age difference between me as a very young nursing student and the older patients who smoke hinders me from providing them with smoking cessation advice, ...the unwillingness of patients who smoke to discuss smoking cessation interventions impacts my confidence in talking about quitting smoking...moreover, who am I to tell someone how to live their life?” |
| Lack of self-efficacy contributes to barrier | |
| Students’ level of comfort | “I am not comfortable discussing my patients’ smoking habits, I feel like it is not my place to approach the topic...smoking is a personal choice and I feel hesitant to discuss it with people who smoke.” |
| Related to lack of self-efficacy | |
| Smoking cessation has been covered by other members of the health care team | “It is awkward to tell them [patients] about smoking cessation because smoking assessment and intervention [is] already discussed with them on admission. It is already taken care of by the smoking cessation program before I meet them...” |
| Perceived barrier may also be related to inattention to cues | |
| Patients are already knowledgeable about smoking cessation | “I feel people are aware and have made a choice not to quit. They [patients who smoke] have already heard the song and dance before. Sometimes clients know the risks and do not want to hear repetitive information. Patients who smoke are generally hardened to the topic of quitting.” |
| Protected therapeutic relationships with patients | |
| Perceived barriers, and lack of self-efficacy | “I feel as though I am bothering them [patients who smoke] with the information they have already heard before. I do not want them to feel harassed and get annoyed with me because bugging them with known information will only damage the rapport I am trying to build with them. I do not want my patients to feel like I am dictating to them what to do with their lives/health, and I do not want them to get upset/offended.” |

Discussion

Smoking is prevalent in the province of New Brunswick, Canada, which also has limited resources and smoking cessation programs available. In this context, nursing
students in the University of New Brunswick are expected to consider the smoking behavior of their clients by assessing, planning, and implementing smoking cessation information and strategies to help their clients to quit smoking and prevent the influence of second-hand smoke on children and others. In this study, only 42% of the participants discussed with or asked their clients regularly about their smoking status and whether patients/clients demonstrated signs and symptoms related to smoking or not. This result is still lower than what Poreddi et al. (2015) reported in their study (which was conducted in India with participants from the third and fourth year of their nursing program). While 68.5% of nursing students were routinely asking their clients about their smoking habits, 78.1% advised their patients about the health effects of smoking and 66% about passive smoking, and 70.7% of nursing students provided smoking cessation consultations to their patients. Poreddi et al. (2015) indicated that nursing students in India “are expected to assess the use of tobacco and tobacco products as part of history-taking during their clinical placement” (p. 1124).

From the HBM perspective, Lenz (2008) used the HBM and identified that perceiving barriers hindered nursing students from using their smoking cessation skills to discuss, ask, and intervene with their patients. Participants reported they feel moderately comfortable (mean 3–4) to assess their patients’, who smoke, readiness to quit smoking in the next 2 weeks, assist their patients who are ready to stop smoking set a quit date in the next 2 weeks, assist their patients by providing smoking cessation literature, and assist their patients who want to quit smoking by using nicotine patches, lozenges, or gum. The results of the current study are similar to Lenz’s (2008) results. That is, 82.6% of nursing students in this current study indicated that they sometimes/seldom provided clients who smoke with self-help material. In the current study, 88.4% of participants believed that supporting clients to quit smoking is a worthy work, and 87% of participants advised their clients who smoke to use nicotine replacement therapy. Rice and Stead (2008) concluded that smoking cessation advice or counseling provided by nurses to their patients to quit smoking is still worthwhile and beneficial; however, smoking cessation interventions have minimal influence when interventions are brief or provided by nurses who are not specialized in smoking cessation or health promotion.

In the current study, 64 participants (92.7%) perceived that smoking discussions with clients were part of their future role as nurses. They believed that smoking is a major health issue (97.1%) and that discussing this issue with clients is not time-consuming (68.1%). Also, 97.1% of participants perceived supporting clients through their quitting process as part of their future role as nurses. These positive beliefs are compatible with the reported results from previous studies. For example, participants in Lenz’s (2008) study believed that helping patients to quit smoking is a nursing role. Moreover, 96.6% of dental students, 93.5% of medical students, and 92.3% of nursing students in Nigeria believed that providing smoking cessation advice to their patients who smoke will be part of their future role as healthcare providers (Awojobi & Croucher, 2012).

Participants in this current study also have a higher positive attitude toward smoking cessation interventions than participants in Sabra’s (2007) study who found that only 59.1% of primary healthcare personnel in Egypt had positive smoking cessation attitudes toward their patients. In contrast to these findings, Su and Chen (2009) concluded that health professionals believed that providing no advice for smoking cessation was indeed related to the low perception of the importance of patients’ smoking cessation.

One of the significant barriers that hindered the participants in this study from providing smoking cessation interventions was their lack of knowledge related to smoking behavior (53.7%) and how to support clients throughout the smoking cessation process (55.1%), while 27.5% of participants indicated that they had no training on how to support clients to quit smoking. Participants (52.2%) indicated that they lacked knowledge on the subject of how hazardous the exposure to environmental tobacco smoke is for children, and 52.2% felt uncomfortable discussing the possible impact of parents’ smoking on their children. Other barriers included the following themes: lack of knowledge, training, resources, and time; uncertainty related to the willingness of patients to quit and that patients are already knowledgeable about smoking cessation; lack of students’ self-confidence, their level of discomfort; the idea that smoking cessation has been covered by other members of the health care team; and students’ desire to protect the therapeutic relationships with their patients. These results are compatible with smoking cessation intervention barriers that were reported in previous studies. For example, Poreddi et al. (2015) found that nursing students in India perceived the following as the main barriers for providing smoking cessation intervention to their patients: 1) patients’ lack of motivation (89.3%), students’ lack of training/knowledge (88.2%), participants’ lack of communication skills (77.5%), their lack of time (77%), and the fact that patients do not understand the importance of stopping smoking (75.3%). Su and Chen (2009) found that the significant obstacles faced by healthcare professionals in Taiwan to provide smoking cessation advice to their patients were: smoking needs of patients have to be respected, lack of training on providing smoking cessation interventions, and that health professionals were too busy to provide smoking cessation interventions. Joshi et al. (2010) reported that the decision to quit smoking is very personal and has to be taken by the patients themselves, which may form a barrier for healthcare professionals to provide smoking cessation advice. Self-efficacy and feelings of comfort to assess tobacco status are considered as two factors that may hinder or facilitate nursing students in assessing and treating smoking behaviors of their clients (Lenz, 2008). Nursing students in the current study indicated that they did not want to provide smoking cessation interventions in order to protect the therapeutic relationships with patients. This result could be interpreted because students demonstrated a lack of knowledge about smoking behaviors and interventions, they did not feel comfortable discussing smoking cessation interventions with their clients, and because they did not have the self-confidence to assess and intervene in smoking behaviors. In the context of the HBM, participants perceived no benefits (one constructs of the HBM) of providing the smoking cessation
intervention to patients who smoke, in contrast, they thought this action would threaten their therapeutic relationship with their patients. In addition, lack of knowledge and self-efficacy were also considered barriers that hindered the participants from assessing and intervening smoking behaviors of their patients.

Although the open-ended question aimed to enhance knowledge about more barriers that hinder nursing students from providing comprehensive smoking cessation interventions, the thematic analysis showed a clear linkage to other constructs of the HBM. That is, students indicated that their level of comfort and their therapeutic relationship with their patients could be jeopardized if they discuss smoking cessation intervention with their patients who smoke. Moreover, students indicated that patients were not willing to cease their smoking behavior, patients are knowledgeable about smoking cessation, and other healthcare providers perform smoking cessation care to their patients. These are examples of how students perceive severity (one of HBM constructs) of their interventions and how this perception hinders them from providing smoking cessation interventions. Students also indicated that their self-confidence (self-efficacy as one of the HBM constructs) was not high enough to provide smoking cessation interventions.

Study Limitations
Some limitations of this study influenced the external validity. Therefore, the results of this study cannot be generalized to all nursing students in University of New Brunswick province or in Canada because of the small sample size that was selected from only English-speaking university campuses in University of New Brunswick and where students practice in English health settings only. Data were collected using a questionnaire that measured the items using a four-point scale, which might not have echoed the accurate participants’ responses. Moreover, the questionnaire was initially designed to collect data from primary healthcare physicians but was modified to be suitable for nursing students without measuring the reliability and validity following the modification and before collecting data from the participants for this study. For future studies, it is recommended that a larger sample size involving students from English- and French-speaking universities be engaged, using different valid and reliable instruments for collecting quantitative data and conducting qualitative research. Measuring the reliability of the instrument is recommended for future studies. Despite these limitations, the results of this study are still significant as the barriers that hindered and facilitated nursing students to provide smoking cessation intervention for their clients were identified.

Conclusion and Recommendations
Nursing students had a positive attitude toward providing smoking cessation interventions as part of their professional responsibility in the future. Based on the results of this study, incorporating smoking cessation material to enhance students’ knowledge and skills in understanding smoking behavior and cessation and enhancing students’ self-confidence/efficacy to implement these interventions are recommended for undergraduate nursing curricula early in their nursing program. More advanced material about smoking cessation interventions for nursing students can be provided in community health nursing courses late in their program when they understand in depth their health promotion and disease prevention role. The health belief model also can be used hand in hand with other smoking cessation materials in nursing curricula to change students’ behaviors and beliefs and empower them to provide comprehensive smoking cessation interventions for their clients who smoke.

Therefore, it is recommended that nursing programs include smoking behavior and smoking cessation interventions (knowledge and strategies) in the undergraduate nursing curricula. Nursing students’ self-confidence/efficacy in applying smoking cessation interventions may be enhanced by providing them with the required knowledge and skills in assessing, treating, and counseling smoking behaviors of their clients (Lenz, 2008).

References
Awojobi, O., & Croucher, R. (2012). Tobacco control education, attitudes and beliefs of Nigerian health profession students. International Journal of Medical Education, 3, 159–165. [CrossRef]
Balduin, D., Patra, J., Rehm, J., Popova, S., & Taylor, B. (2007). Smoking-attributable morbidity: Acute care hospital diagnoses and days of treatment in Canada, 2002. BMC Public Health, 7, 247. [CrossRef]
Becker, M. H. (Ed.). (1974). The health belief model and personal health behavior. New Jersey: Charles B. Slac. Inc.
Boccoli, E., Federici, A., Trianni, G. L., & Melani, A. S. (1997). Changes in smoking habits and beliefs during nurse training: A longitudinal study. European Journal of Epidemiology, 13(8), 899–902. [CrossRef]
Canadian Association of Schools of Nursing. (2019). National education nursing framework [Final report]. Retrieved from https://www.can.n.ca/wp-content/uploads/2014/12/Framework-FINAL-SB-Nov-30-20151.pdf.
Canadian Nurses Association. (2001). Position statement: Tobacco: The role of health professionals in smoking cessation joint statement. Retrieved from http://www.saskatoonhealthregion.ca/about_us/documents/TheRoleofHealthProfessionals.pdf.
Clark, E., & McCann, T. V. (2008). The influence of friends on smoking commencement and cessation in undergraduate nursing students: A survey. *Contemporary Nurse*, 27(2), 185–193. [CrossRef]

Fink, A. (2006). *How to conduct surveys: A step by step guide* (3rd ed.). Thousand Oaks, CA: SAGE Publications Inc.

Glanz, K., Marcus Lewis, F., & Rimer, B. K. (1997). *Theory at a glance: A guide for health promotion practice*. Bethesda, MD: National Institute of Health.

Helgason, A. R., & Lund, K. E. (2002). General practitioners’ perceived barriers to smoking cessation: Results from four Nordic countries. *Scandinavian Journal of Public Health, 30*(2), 141–147. [CrossRef]

Janz, N. K., Champion, V. L., & Strecher, V. J. (2002). The health belief model. In K. Glanz, B. K. Rimer & F. M. Lewis (Eds.), *Health behaviour and health education: Theory, research, and practice* (3rd ed) (pp. 45–66). San Francisco: Jossey-Bass.

Jones, S., & Hamilton, S. (2011). Smoking cessation: Implementing hospital-based services. *British Journal of Nursing, 20*(18), 1210–1215. [CrossRef]

Joshi, V., Suchin, V., & Lim, J. (2010). Smoking cessation: Barriers, motivators and the role of physicians—A survey of physicians and patients. *Proceedings of Singapore Healthcare, 10*(2), 145–153. [CrossRef]

Krainuwat, K. (2005). Smoking initiation prevention among youths: Implications for community health nursing practice. *Journal of Community Health Nursing, 22*(4), 195–204. [CrossRef]

Lenz, B. K. (2008). Beliefs, knowledge, and self-efficacy of nursing students regarding tobacco cessation. *American Journal of Preventive Medicine, 35*(Suppl. 6), S494–S500. [CrossRef]

Mariam Webster’s Dictionary. (n.d.). *Merriam-Webster’s Collegiate Dictionary*. Retrieved from https://www.merriam-webster.com/dictionary/barrier.

Martin, V., Molina, A. J., Fernández, D., Fernández, T., de Abajo, S., & Delgado, M. (2011). Effectiveness of a course on the prevention and control of the smoking habit on its prevalence and incidence among students of health sciences. *Journal of Advanced Nursing, 67*(4), 747–755. [CrossRef]

Merrill, R. M., Gagon, H., Harmon, T., & Milovic, I. (2010a). The importance of tobacco cessation training for nurses in Serbia. *Journal of Continuing Education in Nursing, 41*(2), 89–96. [CrossRef]