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PERSONAL AND BEHAVIOURAL OUTCOMES OF SMOKING CESSATION COUNSELLING AMONG MALAYSIAN PHARMACY STUDENTS

BY

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ABSTRACT

The provision of smoking cessation service by Malaysian pharmacists is suboptimal at present despite it being a component of pharmaceutical care. The main aim of this research was to explore the relationship between personal and behavioural factors pertaining to providing smoking cessation counselling among the pharmacy students. There were four related phases in this research; environmental scan, survey of faculty members, pilot and formative studies, and the main study involving Malaysian pharmacy students. From the environmental scan, a gap was identified in the tobacco-related curricula, particularly in smoking cessation counselling skills and behavioural therapy. The survey of faculty members revealed significant differences between the groups of faculty members who had previously received training on providing smoking cessation counselling and those who had not received such training in terms of knowledge, practice, and self efficacy in providing as well as teaching smoking cessation counselling. The pilot and formative studies involved the development and validation of questionnaires used for the main study. The main study involved implementation and evaluation of intervention training for the third- and final-year pharmacy students. Significant improvements, in behavioural performance and personal outcomes including intention, attitude, self efficacy and knowledge for within group (pre-test vs. post-test) and between groups (intervention vs. comparison), were found among the students who participated in this training. It is expected that the intervention would have some influence in terms of smoking cessation counselling practice among these future pharmacists. The findings from this study add to the body of knowledge on tobacco education curricula available in Malaysian pharmacy schools, therefore providing insight for further actions in this area.

ملخص البحث

إن مراجعة خدمات الإقلاع عن التدخين من قبل الصيادلة بماليزيا يظهر أنها دون المستوى الأمثل في الوقت الحاضر على الرغم من كونها عنصرا من عناصر الرعاية الصيدلانية. كان الهدف الرئيس من البحث هو استكشاف العلاقة بين عامل الشخصية والسلوك المتعلق بتقديم المشورة للإقلاع عن التدخين بين طلاب الصيدلة. وكانت هناك أربع مراحل ذات صلة في هذا المسح البيئي ومسح أعضاء هيئة التدريس. دراسة استطلاعية وتكوينية والدراسة الرئيسية. من النتائج التي توصل إليها المسح البيئي: تم تحديد الفجوة فى التدريب على مشورة الإقلاع عن التدخين في المناهج الدراسية ذات الصلة بالتبغ، وخاصة في مهارات الإرشاد والعلاج السلوكي. كشفت الدراسة المسحية لأعضاء هيئة التدريس اختلافات كبيرة من حيث المعرفة والممارسة والكفاءة الذاتية في توفير وكذلك فى تدريس مشورة الإقلاع عن التدخين بين مجموعة من أعضاء هيئة التدريس الذين تلقوا التدريب سابقا على تقديم مشورة الإقلاع عن التدخين والذين لم يتلقوا مثل هذا التدريب. تم استخدام الدراسة الاستطلاعية والتكوينية لتطوير والتحقق من الاستبيان المستخدم في الدراسة الرئيسية. وشملت الدراسة الرئيسية تنفيذ وتقييم التدريب التداخلي لطلاب الصيدلة في السنة الثالثة والسنة النهائية. وقد تمت تحسينات كبيرة لسلوك الأداء، والنية، والموقف، والكفاءة الذاتية والمعرفة لداخل المجموعة (ما قبل الاختبار مقابل بعد الاختبار) وبين مجموعة (التدخل مقابل المقارنة)، من حيث توفير الإقلاع عن التدخين لوحظ بين الطلاب الذين شاركوا في هذا التدريب. ومن المتوقع أن التدخل له بعض التأثير على الرعاية الصيدلانية بين صيادلة المستقبل من حيث مشورة الإقلاع عن التدخين. وبعد فهذا الاكتشاف يضيف إلى مجموعة المعارف في تعليم الامور المتعلقة بالتبغ المتاحة في كليات الصيدلة بماليزيا، وبالتالي تقديم رؤية للعمل في هذا المجال.

APPROVAL PAGE

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CHAPTER ONE

INTRODUCTION TO THE STUDY

1.1 BACKGROUND

Pharmacists, one of the most accessible healthcare providers as well as knowledgeable in pharmacotherapy, are uniquely positioned to assist smokers to quit for good (Hudmon, Hemberger, Corelli, Kroon, & Prokhorov, 2003). Smoking cessation services have profound effects in reducing smoking-attributed morbidity, mortality and the economic burden of a developing nation (Abdullah & Husten, 2004). In a number of countries, community pharmacists provide smoking cessation counselling services and are recognised as leaders in this area (Brock, Taylor, & Wuliji, 2007; Goniewicz et al., 2010). However, provision of smoking cessation services by Malaysian pharmacists is suboptimal at present (Awaisu et al., 2010; Brock et al., 2007; Taha & Tee, 2014) despite these services being component of pharmaceutical care.

Tobacco use, though preventable, is a cause of premature death in 10,000 Malaysians annually (Disease Control Division, Ministry of Health [MOH], 2003). It accounts for 35% of in-hospital deaths, primarily from cancer, heart disease and stroke. Intensive approaches to changing smoking patterns are imperative, taking into account that there are about 5 million smokers in Malaysia currently (Global Adult Tobacco Survey Malaysia [GATS], 2012). Nearly 44% of adult Malaysian men are smoking, with the highest prevalence of 54.9% being in the age group of 25-44. Moreover, around 40% of teenage boys and at least 11% of teenage girls in Malaysia were reported as smokers recently ("Higher allowance factor in teen smoking rise,"

New Straits Times, May 31, 2012) as compared to the reported prevalence of 8% for teenage girls in 2008 (Foong & Tan). The high prevalence of smoking among adult males and teenage boys, as well as the escalating trend among teenage girls is explicable as a majority of Malaysians perceived that smoking was 'socially acceptable' (Foong & Tan, 2008; W. B. Lee et al., 2009). However, the International Tobacco Control (ITC) Policy Evaluation Project (2012) recently reported that both adult and youth smokers had strong negative opinions about their smoking with a majority regretting taking up smoking, and perceived that their 'significant others' (injunctive norm) as well as Malaysian society, in general, disapprove of their smoking (ITC Project, 2012). Approximately three-quarters (72%) of the smokers felt that anti-smoking campaigns succeeded in making smoking less desirable socially.

Since Malaysia ratified the Framework Convention on Tobacco Control (FCTC) in 2005, more comprehensive tobacco control strategies such as legislation, taxation and health promotion for the general public as well as specially-targeted populations were implemented (Zarihah, 2007). One of the main aims of National Quit Smoking Programme, a subdivision of Malaysian Tobacco Control Programme, is to provide comprehensive support in helping smokers to quit.

Healthcare providers, including pharmacists, are well positioned to assist nation's tobacco control efforts. However, it was reported that most of the Malaysian healthcare providers were inadequately trained for such a task (Awaisu et al., 2010; Planning and Development Division, MOH). Lack of comprehensive tobacco-related courses and training in most local universities curricula was cited as the major contributing factor in addition to lack of in-service training and Continuing Professional Development (CPD) programs focusing on smoking cessation training for the healthcare providers in Malaysia (Awaisu et al., 2010; Rigotti et al., 2009).

The latter issue was addressed through the initiation of the Certified Smoking Cessation Service Provider (CSCSP) program in 2004. In August 2010, the online CSCSP course was launched to enable participation from the busy practitioners as the training is made available at their convenience (Malaysian Academy of Pharmacy, Malaysian Pharmaceutical Society [MPS], n.d.). Despite encouraging participation from the pharmacists in the CSCSP program, the majority of these certified pharmacists were yet to provide smoking cessation services proactively (Brock et al., 2007).

The importance of smoking cessation training for healthcare professional students has been emphasised by many international health authorities including the United States Public Health Service, Global Health Professional Student Survey and World Health Organization (Fiore et al., 2000; Warren, Sinha, Lee, Lea, & Jones, 2013; World Health Organization [WHO], 2001). In Malaysia, the National Quit Smoking Programme advocates integration of smoking cessation training into all relevant health profession curricula to develop the necessary skills among the future healthcare providers (Zarihah, 2007).

From the environmental scan conducted, a curriculum devoted to smoking cessation training was found lacking for pharmacy undergraduate students in Malaysia (Simansalam & Mohamed, 2011). Lack of such curriculum in pharmacy schools, being an optimal avenue for training the future pharmacists, may result in loss of opportunities to assist smokers with quitting. To bridge the existing gap, it is essential to integrate smoking cessation training as a component in Malaysian pharmacy curricula to equip students with the necessary knowledge and skills to provide smoking cessation counselling which will positively influence provision of pharmaceutical care by helping smokers in their future.

1.2 TOBACCO CURRICULA

This section attempts to provide an outline of the content areas for an ideal tobacco curriculum and highlights the difficulty in terms of competency in teaching as well as providing smoking cessation counselling which form the rationale for an intervention focusing on the training to promote smoking cessation counselling proficiency among Malaysian pharmacy undergraduates.

1.2.1 Content Areas

Ferry, Grissino, and Runfola (1999) selected 12 tobacco-curricula content areas and broadly categorised them into 'basic' and 'clinical' sciences. The six 'basic' science content areas which are to be introduced, ideally, during the first and second years of healthcare profession undergraduate training include 'Cancer risk from tobacco', 'Health effects; tobacco-related diseases', 'Effects of passive smoking', 'Cigarette smoke contents', 'Nicotine withdrawal symptoms' and 'High-risk with most difficulty quitting' (Ferry, Grissino, & Runfola, 1999). The remaining six 'clinical' science topics which can be strategically introduced in the third or fourth year, include 'Clinical intervention', 'Relapse prevention', 'Pharmacologic agents; nicotine replacement or antidepressant therapy', 'Smoking cessation techniques in artificial setting (without actual patients)', 'Smoking cessation techniques in clinical setting with patients' and 'Smoking cessation techniques in clinical setting with patients and evaluation of performance' (Ferry et al., 1999). Although the content areas recommended were intended for medical students, the list is applicable to pharmacy students as the latter group is also exposed to pharmacology and pathology, as well as patient care which is usually incorporated during their clinical year, that is, in the third and fourth year of the pharmacy program.

1.2.2 Learning Outcomes and Competency

In general, competency defined as "the set of abilities, skills, knowledge and attitudes needed to conduct the tasks and functions in a particular job" (Centers for Disease Control & Prevention, Association of Schools of Public Health [ASHP], 2012) provides standards against which individuals can assess their own level of competency. During a course or training, these standards also serve as the learning outcomes for a particular task.

In a complex task such as providing smoking cessation counselling, many learning outcomes are to be mastered. For example, the National Institute for Health and Clinical Excellence (NICE), U.K., in outlining the standards for training in smoking cessation treatments, recognised 19 key learning outcomes for brief interventions and an additional 33 key learning outcomes for individual counselling, that is, a total of 52 learning outcomes are to be met before one can actually provide a successful counselling session (NICE, n.d.).

The majority of the pharmacy faculty members are well-equipped with the pharmacotherapy component of smoking cessation counselling though their competency in behavioural modification techniques was lacking (Brewster & Ashley, 2005). Teaching and learning of smoking cessation counselling can be an overwhelming task for both lecturers as well as students, respectively. However, the changes these future pharmacists can introduce in improving public health by providing smoking cessation counselling services should not be undermined by the difficulties they may face during the initial process. Besides teaching the pharmacy students smoking cessation counselling, faculty members themselves should also provide these services to smokers they encounter, either in clinical or non-clinical settings which may involve family members and friends in the latter situation.

1.3 RATIONALE FOR THE STUDY

From the environmental scan conducted, many pharmacy schools in Malaysia lack comprehensive smoking cessation counselling curricula. This adds to the body of knowledge on tobacco education curricula available in Malaysian pharmacy schools and provides insight for further action to bridge the tobacco-related topics and smoking cessation training gaps identified in the curricula.

In the attempt to understand the interplay of environmental, personal and behavioural factors, and taking into account that theory-based intervention studies are more pragmatic, Social Cognitive Theory (Bandura, 1989) was adopted to provide the main theoretical framework for this research.

The students' immediate social environmental factors in terms of faculty members' competency in teaching and providing smoking cessation counselling in Malaysian pharmacy schools was explored. This provides insight for further action to bridge the faculty members' gap in their competency.

Given the high prevalence of smokers in Malaysia, it is important that pharmacy students, as future healthcare providers, are trained appropriately to enable them to deliver smoking cessation counselling services. In this study, training devoted to promote smoking cessation counselling proficiency was provided to the students from the schools which agreed to integrate the proposed training. The students' personal and behavioural outcomes were evaluated, using an instrument which was designed based on Integrated Behaviour Model (Fishbein, 2008).

The findings from these studies which are guided by two main theories should facilitate the implementation of future strategies related to teaching and learning of tobacco-related topics and smoking cessation counselling among Malaysian pharmacy faculty members and students.

The main motivation for this research project was to generate future pharmacists who are well equipped to provide smoking cessation counselling, which in turn will assist to reduce the number of smokers, smoking-attributed morbidity and mortality as well as the burden of healthcare cost in Malaysia.

The main aim of this research project was to explore the personal and behavioural factors of Malaysian pharmacy students pertaining to smoking cessation counselling, guided by Social Cognitive Theory and Integrated Behaviour Model.

1.3.1 Research Objectives

1. To identify the gaps in smoking cessation training in Malaysian pharmacy curricula.
2. To explore Malaysian pharmacy faculty members' competency level in providing smoking cessation counselling to smokers as well as teaching pharmacy students the necessary skill and knowledge for smoking cessation counselling.
3. To evaluate and examine the personal and behavioural changes pertaining to smoking cessation counselling among pharmacy students following the intervention.

1.3.2 Research Questions

1. What was the current curriculum content in Malaysian pharmacy schools on pharmacist's roles in smoking cessation counselling?
2. What were the faculty members' competency levels in providing as well as teaching smoking cessation counselling?

3. What were the barriers and other factors influencing the faculty members' intentions to integrate the proposed smoking cessation training into the current curricula?
4. What were the findings of the pilot study and changes made following these findings?
5. Were there changes in students' outcome measures following the intervention? What were the factors associated with the observed changes if there was any?

1.3.3 Hypotheses

1. The scores for the facilitating factors are positively correlated with the scores of intention among the faculty members to integrate the proposed training.
2. The scores for the perceived barriers are negatively correlated with the scores of intention among the faculty members to integrate the proposed training.
3. Improvement in students' behavioural performance and personal outcomes including intention, attitudes, normative and self efficacy beliefs as well as knowledge scores would take place following the intervention.

Data collection for the study was conducted in four phases as outlined below.

- In the phase one, the environmental scan to identify the gap in smoking cessation training in Malaysian pharmacy schools was conducted in attempt to answer the research question 1 (presented in chapter 3 of this thesis).

- Phase two included the survey of faculty members' competency and survey to determine the key pharmacy faculty members' intention to integrate the proposed training, in attempt to answer the research questions 2 and 3, respectively (presented in chapter 3 of this thesis).
- Phase three involved a pilot study to test the feasibility of the proposed intervention and to validate the questionnaire developed (presented as chapter 4). From the findings of the pilot study, a formative study was carried out for the purpose of developing theory-guided instrument for the students' survey, in response to research question 4 (presented as chapter 5).
- Phase four involved the main study which included students' surveys and intervention, in attempt to answer the research question 5 (presented in chapter 6, 7 and 8 of this thesis).

1.4 CONCEPTUAL FRAMEWORKS

Conceptual frameworks for the faculty members and students were developed based on Social Cognitive Theory (SCT). According to this theory, personal, behavioural, and environmental factors are important factors of an individual's motivation and action; and these triadic factors are dynamic and reciprocal in nature (Bandura, 1989). Therefore, either improving personal factors or altering the environmental factors may result in behavioural change. The conceptual framework of the whole research project is represented in Figure 1.1. In this research, the effect of behavioural changes on the personal and environmental factors, however, was not studied. Likewise, the effect of students' personal factors on environmental was not also studied. The main determinants for the personal factors were derived from the Integrated Behaviour