



UNIVERSITI PUTRA MALAYSIA

***WILLINGESS TO QUIT SMOKING AND ITS ASSOCIATED FACTORS
AMONG UNDERGRADUATE STUDENT SMOKERS IN A MALAYSIAN
PUBLIC UNIVERSITY***

IMANDOJEMU WILSON JUNIOR

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By

IMANDOJEMU WILSON JUNIOR

**Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia,
in Fulfillment of the Requirement for the Degree of Master of Science**

February 2017

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DEDICATION

Dedicated To

My Father

Mr. Imandojemu O. Wilson

(For giving me the drive to achieve more)

My Mother

Mrs. Imandojemu Regina

(For her relentless prayers, love and support)

My Siblings

Miss Imandojemu O. Faithfulness

Miss Imandojemu O. Blessing

Ms. Imandojemu O. Testimony

Miss. Imandojemu E. Mary

(For their support, love and encouragement).

Abstract of this thesis presented to the senate of Universiti Putra Malaysia in fulfilment of the requirement for the degree of Master of Science.

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IMANDOJEMU WILSON JUNIOR

February 2017

Chairman : Rosliza Abdul Manaf, PhD
Faculty : Medicine and Health Sciences

Background of study: Tobacco smoking has shown to be the largest preventable cause of death in the world, whereby each day 13000 people die prematurely because of tobacco use and 3 to 6 million people die every year, with current trend of cigarette use, it will cause 8 million deaths annually by 2030 (CDC, 2016). In Malaysia smoking-related diseases are considered important public health issues where they were the main cause of mortality with 10,000 deaths reported annually. This study is aimed at assessing the willingness of young student smokers to quit smoking and the associated factors, which may inform policy makers to devise measures and policies to assist the successful quitting of smokers.

Methods: The study design is a cross-sectional study design. Sampling of the study population was done through cluster sampling with proportion to size, the sampling in the Faculty of Engineering and Agricultural Science of Universiti Putra Malaysia. Information concerning socio-demography, socio-economic as well as willingness to quit smoking, level of awareness, quit attempt, smoking behavior and living environment were collected using a pretested self-administered questionnaire. Data was analyzed using IBM SPSS version 22. Descriptive analysis was done for all variables where frequencies, measure of central tendency and dispersion are presented. The dependent variable, willingness to quit smoking was categorized using a median score of ≥ 17 for willing and otherwise was scored as not willing. Chi square was used to determine the association between the dependent variable and independent variables. All variable with significant association with the dependent variable were then further analyzed for predictors of willingness to quit smoking using multiple logistic regression analysis.

Results: Out of 316 respondents our result showed that 42.4% were willing to quit smoking. The independent predictors of willingness were amount spent on cigarette per week (AOR = 3.073, 95% CI = 1.673 – 5.643, p=0.001), Hindus (AOR = 6.622, 95% CI = 2.461 – 17.818, p<0.001), females (AOR = 3.951, 95% CI = 1.990 – 7.847, p<0.001), living in the campus hostel (AOR = 3.950, 95% CI = 1.610-9.689, p=0.003), Indians (AOR = 7.357, 95% CI = 1.117 - 48.459, p=0.038) and internationals (AOR = 0.075, 95% CI = 0.025-0.224, p<0.001), those whose source of income was from inheritance (AOR = 9.599, 95% CI = 1.796 – 51.398, p=0.008) and those who mentioned starting smoking at other places apart from school (AOR = 145.395, 95% CI = 30.051 – 703.452, p<0.001).

Conclusions: The result show that less than half of the respondents reported willingness to quit smoking and therefore, the need to improve awareness of quit smoking. An intervention study can be carried out to help quit smoking among smoking students to make more impact to the body of knowledge and the life of the young undergraduate students.

Key words: willingness to quit smoking, quit smoking, quit attempt, Undergraduate students.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Master Sains

**KESEDIAAN UNTUK BERHENTI MEROKOK DAN FAKTOR-FAKTOR
BERKAITAN DI KALANGAN PELAJAR SARJANA MUDA DI
UNIVERSITI AWAM MALAYSIA**

Oleh

IMANDOJEMU WILSON JUNIOR

Februari 2017

Pengerusi : Rosliza Abdul Manaf, PhD
Fakulti : Perubatan dan Sains Kesihatan

Latar belakang kajian: Merokok tembakau adalah punca kematian tertinggi di dunia, di mana setiap hari 13.000 kematian awal dilaporkan akibat penggunaan tembakau dan ianya juga menyebabkan 3 hingga 6 juta orang mati setiap tahun. Di Malaysia penyakit berkaitan merokok adalah dianggap isu kesihatan awam yang penting di mana ianya adalah punca utama kematian dengan 10,000 kematian dilaporkan setiap tahun. Kajian ini bertujuan untuk menilai kesediaan perokok dalam kalangan pelajar muda untuk berhenti merokok dan faktor-faktor berkaitan, yang boleh memaklumkan pembuat dasar dalam merangka langkah-langkah untuk program berhenti merokok dan memastikan program ini berjaya.

Kaedah: Reka bentuk kajian adalah kajian keratan rentas. Pensampelan populasi kajian dilakukan melalui pensampelan berkelompok di Fakulti Kejuruteraan dan Sains Pertanian. Maklumat mengenai sosio-demografi, sosio-ekonomi serta kesediaan untuk berhenti merokok, tahap kesedaran, percubaan berhenti, tingkah laku merokok dan persekitaran hidup telah dikumpulkan menggunakan soal selidik yang diisi sendiri oleh responden. Data dianalisis menggunakan program IBM SPSS versi 22. Analisis deskriptif telah dilakukan untuk semua pembolehubah di mana frekuensi, ukuran kecenderungan memusat dan serakan dikemukakan. Kesediaan untuk berhenti merokok dikategorikan menggunakan skor median ≥ 17 untuk bersedia dan sebaliknya dikategorikan sbagai tidak sanggup dan khi kuasa dua telah digunakan untuk menentukan perkaitan antara pembolehubah bersandar dan pembolehubah bebas. Semua pembolehubah dengan hubungan signifikan dengan pembolehubah bersandar kemudiannya dianalisis untuk peramal menggunakan analisis regresi logistik pada 95% selang keyakinan.

Hasil: Hasil menunjukkan bahawa 42.4% responden ingin berhenti merokok. Peramal tidak bersandar kesediaan adalah jumlah rokok dihabiskan setiap minggu (AOR = 3.073, 95% CI = 1.673 – 5.643, p=0.001), beragama Hindu (AOR = 6.622, 95% CI = 2.461 – 17.818, p = <0.001), dan perempuan (AOR = 3.951, 95% CI = 1.990 – 7.847, p = <0.001), tinggal di asrama (AOR = 3.950, 95% CI = 1.610-9.689, p=0.003), berbangsan India (AOR = 7.357, 95% CI = 1.117 - 48.459, p=0.038) pelajar antarabangsa (AOR = 0.075, 95% CI = 0.025-0.224, p = <0.001), mereka yang sumber kewangannya melalui pewarisan (AOR = 9.599, 95% CI = 1.796 – 51.398, p = 0.008) dan mereka yang menyatakan mula merokok di tempat lain selain sekolah (AOR = 145.395, 95% CI = 30.051 – 703.452, p= <0.001).

Kesimpulan: Hasil menunjukkan bahawa kesediaan masih untuk berhenti merokok lemah dimana kurang dari separuh bersedia untuk berhenti. Oleh itu, lebih banyak kajian diperlukan dalam bidang ini untuk meningkatkan kesedaran dan kesediaan berhenti merokok. Terdapat lebih banyak peramal sosio-demografi signifikan merentasi semua pembolehubah tidak bersandar, yang menunjukkan kerelevanannya. Pemahaman yang lebih terperinci terhadap peramal dan penggunaan faktor-faktor berkaitan ini akan membantu mewujudkan langkah untuk meningkatkan tahap kesediaan dalam kalangan populasi utama ini.

Kata kunci: kesediaan untuk berhenti merokok, berhenti merokok, percubaan berhenti, pelajar prasiswazah.

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Imandojemu O.Wilson Jnr.

I certify that a Thesis Examination Committee has met on 2 February 2017 to conduct the final examination of Imandjemu Wilson Junior on his thesis entitled "Willingness to Quit Smoking and its Associated Factors among Undergraduate Student Smokers in a Malaysian Public University" in accordance with the Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the Master of Science.

Members of the Thesis Examination Committee were as follows:

Nor Afiah binti Mohd Zulkefli, PhD
Associate Professor
Faculty of Medicine and Health Science
Universiti Putra Malaysia
(Chairman)

Huda binti Zainuddin, PhD
Senior Lecturer
Faculty of Medicine and Health Science
Universiti Putra Malaysia
(Internal Examiner)

Zaliha Ismail, PhD
Senior Lecturer
Universiti Teknologi MARA
Malaysia
(External Examiner)



NOR AINI AB. SHUKOR, PhD
Professor and Deputy Dean
School of Graduate Studies
Universiti Putra Malaysia

Date: 2 June 2017

This thesis was submitted to the Senate of Universiti Putra Malaysia and has been accepted as fulfilment of the requirement for the degree of Master of Science. The members of the Supervisory Committee were as follows:

Rosliza Abdul Manaf, MBBS, M Comm Med, PhD

Senior Medical Lecturer
Faculty of Medicine and Public Health
Universiti Putra Malaysia
(Chairman)

Suriani Ismail, MD, MPH, PhD

Senior Medical Lecturer
Faculty of Medicine and Public Health
Universiti Putra Malaysia
(Member)

ROBIAH BINTI YUNUS, PhD

Professor and Dean
School of Graduate Studies
Universiti Putra Malaysia

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Name and Matric No: Imandojemu Wilson Junior, GS43390

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Signature: _____

Name of
Chairman of
Supervisory
Committee:

Dr. Rosliza Abdul Manaf

Signature: _____

Name of
Member of
Supervisory
Committee:

Dr. Suriani Ismail

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LIST OF ABBREVIATIONS

CDC	Center for Disease control
COPD	Chronic obstructive pulmonary disease
MRI	Magnetic resonance imaging
MOH	Ministry of Health
nNRT	non-Nictine replacement therapy
NRT	Nicotine replacement therapy
NHMS	National Health Morbidity Survey
UPM	Universiti Putra Malaysia
WHO	World Health Organisation
FPSK	Fakulti Perubatan Dan Sains Kesihatan
IQR	Interquartile Range
SSC	Stop Smoking Clinics
SPSS	Statistical Package for Social Science
SD	Standard Difference
TTM	Trans-theoretical model of behavior change
OR	Odds Ratio
df	Degree of Freedom
χ^2	Chi square
x	Times/multiplication
<	Less than
>	Greater than
\geq	Greater than or equal to
\leq	Less than or equal to
=	Equal to
%	Percentages

CHAPTER 1

INTRODUCTION

1.1 Study Background

Quit smoking is the process of discontinuing tobacco smoking. Smoking is a habit that when established is difficult to break (Towns, DiFranza, Jayasuriya, Marshall, & Shah, 2015). This is because of the high addictive effect of nicotine in cigarettes, thereby making smokers nicotine dependent. It has become not only a local problem but a complex global health challenge with millions of people dying yearly from around the world as a result of diseases caused by smoking. It is a major health risk factor linked with the development of cancer, heart diseases, chronic respiratory diseases and diabetics (WHO 2004).

In Malaysia, smoking-related diseases are considered important public health issues where they were the main cause of mortality with 10,000 deaths reported annually (Yasin, Masilamani, Ming, & Koh, 2011). In addition, smoking prevention is also an important measure in curbing drug abuses in the population. The national drug agency of Malaysia reported that 100% of drug addicts were smokers (Yasin et al., 2011). This finding is in line with the 'Gateway Drug Theory' which postulates that use of illicit drugs such as cannabis and other narcotics begin with the use of "soft" drugs such as tobacco (Lim et al., 2006) According to the National Health and Morbidity Survey (NHMS) in Malaysia, the prevalence of smoking among young adults aged 18 years and above was 24.8% in 1996 (NHMS II) and 21.5% in 2006 NHMS III, (Ministry of Health Malaysia, 2006). The most recent tobacco survey conducted in 2011 showed that 23.1% or 4.75 million Malaysian adults aged 15 years and above were current smokers of tobacco, the majority (4.64 million) were men. The highest prevalence of smoking was reported among those in the 25 to 44 age groups (Ministry of Health Malaysia, 2011).

There are two major types of quit smoking therapy, the nicotine replacement therapy (NRT) and the non-nicotine replacement therapy (nNRT). These therapies are available to assist in quitting smoking which has shown to be more effective than trying to quit on one's own. The most studied and prescribed therapy is the NRT with six different products. They come in a range of delivery devices such as gum, lozenges and patches. In some countries they come as nasal and mouth sprays. Unlike tobacco, the nicotine within these products is just enough to reduce craving and urge for tobacco not to provide a sense of reward. Unlike tobacco smoke which contains two dangerous compounds which are tar and polycyclic aromatic hydrocarbons, nicotine in the NRT on its own is safe (Hiscock et al., 2013).

There are currently around 300 Ministry of Health initiated quit smoking clinics in Malaysia. They are well-represented in the Peninsular Malaysia, Sabah and Sarawak. For example, in Sabah alone there are 30 such clinics (Zarihah, 2007). The government

has put a lot of policies in place to control smoking in Malaysia such as high tobacco tax, ban of tobacco adverts and ban of tobacco smoking in public. However, the implementation of such policies were not very successful and being conflicted by the struggling of the tobacco farmers and subsidy placed for tobacco plantations in the country (Kaur & Jain, 2011).

Diverse psychological factors have been implicated in the use of cigarette by young people and these include peer pressure, smoking parents or siblings, tobacco adverts, absence of restriction at home, stress and unemployment (Babatunde et al., 2012). In addition, low-income earners; people with unstable source of income or unemployed have high tendencies to smoke (Babatunde et al., 2012). Parental smoking behaviors have also been found to play a key role not only on youth initiation but also in the escalation of their smoking habits. In addition, the adoption of smoking behavior is greatly influenced by the smoking status of friends and peer groups (Morgenstern, Sargent, Engels, Florek, & Hanewinkel, 2013). Exposure to smoking in private and public places may also influence tobacco use initiation, addiction and quitting (Awaisu et al., 2010). It was found that many students do not associate future respiratory and cardiac disease to smoking (Song, Glantz, & Halpern-Felsher, 2009). Moreover larger percentage still smoke despite their level of knowledge of the harmful effects (Al-Naggar, Al-Dubai, Al-Naggar, Chen, & Al-Jashamy, 2011), for reasons like pleasure, addiction, stress and pressure control (Babatunde et al., 2012). Young adults are less likely to succeed at quitting smoking compared to older adults even though they are more likely to attempt to quit (Audrain-McGovern, Rodriguez, Cuevas, & Sass, 2013). The likelihood of quitting among undergraduate students is strongly dependent on the extent of smoking among their peers (Agaku, Ayo-Yusuf, Vardavas, & Connolly, 2014). In terms of parental influence, a study conducted previously found that young people quit less if their parents smoke but in another study, parental smoking was unrelated to both quit attempts and cessation (Babatunde et al., 2012).

Over the years, there has been a great deal of research on quit smoking and successful quit attempts. However, given that intention to quit smoking is shown to be one of the key steps in the process towards smoking cessation, it is important to study all quit attempts even those that are not successful, in order to adequately address all barriers to smoking cessation among young student smokers and increase the proportion of successful quit attempts. It is also important to understand the characteristics of smokers who have unsuccessfully tried to quit smoking (Babatunde et al., 2012). Smoking among young adults is a challenge to both public health practice and cancer control that will need to be addressed to prevent another generation of smoking attributable morbidity and mortality (Audrain-McGovern et al., 2013).

1.2 Problem Statement

Tobacco smoking has shown to be the largest preventable cause of death in the world, it has been reported that each day 13,000 people die prematurely because of tobacco use and 3-5million people die every year (CDC 2000). In the next 12 months from now 4 million people would have died from ailment involving the use to tobacco and smoking, and by 2020, it will kill 10 million people a year which is more than any

other single cause of death, smoking is hazardous and the only remedy is quitting (Agaku et al., 2014).

The future of the nation and the hope of a free tobacco smoking environment is dependent on these undergraduate students and as a matter of fact they should be a good example to the general populace. Though a few related studies have been done on smoking, this study is deemed necessary as studies show that the willingness of young smokers to quit smoking and take up any form of quit smoking programs is extremely low among different study populations and undergraduate smokers (Babatunde et al., 2012). Furthermore, quit smoking at an early age will help improve the survival of these young students and minimize future health complications which may arise from tobacco smoking (Chen & Millar, 1998).

1.3 Significance of Study

This study is among the few of its kind to be conducted, that estimate the willingness of undergraduate smokers to quit smoking. Findings from this current study can help to devise measures to improve young smoker's willingness to quit, thereby reducing the number of undergraduate smokers and protecting the students and Malaysians in general.

The success rate of quit smoking is higher when these young student smokers adhere and adopt the quit smoking programs which are geared towards achieving a healthy and tobacco free environment. This study may also inform policy makers of the university in improving quit smoking initiatives in the campus, therefore, this study is necessary because, willingness to quit is the most important step in fight for a free tobacco environment and the smoking cessation campaign.

1.4 Research Question

- a) What is the proportion of student smokers who are willing to quit smoking?
- b) What are the factors that influence their willingness to quit smoking?
- c) What are the predictors of willingness to quit smoking?

1.5 Research Objective

1.5.1 General

The general objective of this study is to determine the willingness to quit smoking and its associated factors among undergraduate student smokers in a Public University.

1.5.2 Specific

The specific objectives of this research are;

- a) To determine the proportion of undergraduate student smokers who are willing to quit smoking.
- b) To describe the socio-demographic (age, gender, ethnicity, year of study, marital status, living arrangement, and religion), socio-economic factors (source of income, amount spent on cigarette weekly and part-time jobs), smoking behaviors, level of awareness and quit attempts among undergraduate student's smokers in Univeristi Putra Malaysia.
- c) To determine the association between undergraduate student's willingness to quit smoking and their social-demographic (age, gender, ethnicity, year of study, marital status, living arrangement, and religion), social economic factors (source of income, amount spent on cigarette weekly and part-time jobs) and level of awareness of quit smoking program.
- d) To determine the association between students willingness to quit smoking and smoking behavior (numbers of cigarette smoked per day, first place started smoking, parents smoking status, first person to give you a stick of cigarette, feeling when you do not smoke)
- e) To determine the predictors of willingness to quit smoking among undergraduate students in Universiti Putra Malaysia.

1.6 Research Hypothesis

- a) There is a significant relationship between socio-demographic and socio-economic factors and students' willingness to quit smoking.
- b) There is a significant relationship between level of awareness and willingness to quit smoking.
- c) There is a significant relationship between the smoking behaviors and numbers of quit attempt and student's willingness to quit smoking.

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