COMPARISON OF THE CHARACTERISTICS BETWEEN MALE MYANMAR SMOKERS WITH INTENTION TO QUIT SMOKING AND THOSE WITHOUT INTENTION TO QUIT

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ABSTRACT:

Background: Cigarette smoking has been the causes for preventable deaths and various diseases among people for a long time. The purpose of this study was to access the differences between socio-demographic factors, current smoking practice, nicotine dependence, past smoking quit attempts, attitudes, perceived social norms and self-efficacy of Myanmar male smokers with intention to quit smoking and those without intention to quit smoking.

Methods: A cross-sectional study was conducted in four townships of Yangon, Myanmar during May to June, 2016. Total respondents of 339 male smokers, 18 years and above were assessed their intention to quit smoking. Chi-square test was used to assess the association; and the significant variables were analyzed by using multivariate logistic regression.

Results: In the study, it reported that 128 male smokers had no intention to quit smoking. The factors associated with the intention to quit smoking of Myanmar male smokers were highest attitudes male smokers comparing with the lowest ones (OR = 8.369, 95% CI = 3.746 - 18.700); and the male smokers, who were allowed to smoke at workplace 56%, were less likely to have quitting intention (OR = 0.564, 95% CI = 0.342 - 0.930). Although history of quit attempts to smoking was associated with the intention to quit in Chi square analysis (p-value < 0.001), it was not a predictor of quitting intention in logistic regression.

Conclusion: Workplace smoking ban, attitudes and self-efficacy towards smoking cessation may contribute to smoking cessation of male Myanmar smokers. Smoking intervention programs involving these factors should be considered in Myanmar.

Keywords: Behavior intention, Myanmar male smokers, Theory of planned behavior, Intention to quit smoking

INTRODUCTION

Cigarette smoking has been one of the most common risk factors of many diseases among people for a long time. Tobacco use ranked second leading cause of preventable deaths and disabilities [1]. Globally, smoking is responsible for the deaths of 5.6 million people including deaths from second hand smoking. Tobacco smoking is second leading risk factor of DALYs (Disability Adjusted Life Years) in 2010 in Myanmar [2] responsible for the deaths of approximately 0.2 Million Myanmar citizens of age 30 years and above [3].

In Myanmar, there were about 18.3% of smokers among general population of 15 years and above in both sexes in 2015 [4]. Smoking is more common in males than females not only globally but also in Myanmar. There are discrepancies between genders in prevalence of smoking; and smoking related diseases and deaths can also be seen in Myanmar. The prevalence among people of 15 years and older was about 31.4% in males and 6.3% in

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females in 2015 [4]. Furthermore, the mortality related to smoking of age 30 years or older was about 403 deaths/100,000 population in males and about 289 deaths/100,000 population in females which was nearly two times higher in males [3].

Smoking is associated with many negative health outcomes ranging from acute illnesses to chronic conditions and ultimately death. The wide range of smoking related diseases include Cardiovascular Disease (stroke, coronary heart disease, aortic aneurysm, and peripheral vascular diseases), Chronic Obstructive Pulmonary Disease (COPD), many forms of cancers in lung, pharynx, bladder, stomach and cervix and others such as infertility and infant death syndrome [5]. In addition to the health impacts, smoking is also responsible for social and economic burdens. Poverty cycle of the families and social dislocation can be seen as a result of smoking [3].

World Health Organization have developed a package of six tobacco control measures called MPOWER[6]. Government of Myanmar is also trying to control the global tobacco epidemic in accordance with MPOWER measures [7]; but more efforts on the detailed policy making, legislation and reinforcement are required. Although smoking is being regarded as one of the top national priority risk factors of many non-communicable diseases; and the government is encouraging people to quit smoking as a component of MPOWER, there is no research conducted in Myanmar on the intention to quit smoking among current smokers.

Quitting of Smoking is one of the health promoting behaviors; and it is influenced by multiple factors; therefore, context specific researches are required to understand the behaviors. Socio demographic factors, for example, income, marital status and presence of children were proven to be associated with smoking cessation [8,9,10]. Even though smokers attempted to cease smoking, there was significant percentage of smokers who quit smoking relapsed to smoking. According to the study conducted in Turkey, nearly the half of the respondents who quitted smoking relapsed to smoking and the more they are nicotine dependence which is mostly due to the large amount of smoking, the more chance they will be resolved to relapses [11].

According to the theory of planned behavior (TPB), attitudes, perceived social norms and self-efficacy of the individuals are able to influence the intention to practice the behavior of interest, and

hence greatly promoting the individuals' chance to practice the particular behavior [12]. Many researches have been proven that the components of the theory of planned behavior can be applicable in predicting the behavior of various study populations in different scenarios. Theory of Planned Behavior (TPB) was tested in diverse study groups [10], Korean Women [13], Arabic American Men [14] and Iranian Adolescents [15]. However, it has never been used in Myanmar to access the intention of smokers to stop smoking.

The purpose of this study was to compare the differences of socio-demographic factors, current smoking practice, nicotine dependence, past smoking quit attempts, also attitudes, perceived social norms and self-efficacy which are the components of theory of planned behavior between Myanmar male smokers with the intention to quit smoking and those who do not have the intention to quit smoking.

METHODS

The study was a cross-sectional study of 18 years old and above male smokers from four townships (Hlinetharyar, Shwepyithar, North Okkalapa and South Dagon) of Yangon. The study was conducted after having an approval of Research Ethics Review Committee for Research Involving Human Research Participants, Health Sciences Group, Chulalongkorn University with COA Number 110/2016. Two wards from each township were selected by simple random sampling using lottery method. From each ward of the randomly selected wards of 4 townships, the household units were randomly selected by systematic random sampling using computer. Male smokers were recruited if (a) 18 years old and above males living in the four townships (Hlinethayar, South Dagon, Shwepyithar, and North Okkalapa) of Yangon, Myanmar, (b) smokers who smoked at least 5 days per week in previous month, (c) history of smoking for at least 1 years, (d) willing to participate in the study, (e) can read and write and (f) no physically and mentally problems.

The formula used for the sample size calculation was the prevalence of the male smokers [16]. The sample size calculation used the Daniel's formula [17], in which α will be 0.05, prevalence of the smoking in males of 18 years or older is 31.4% [4], and 5% allowance of errors [17]. The calculated sample size was 363 male smokers (330 plus 10% attrition). The total obtained sample size was 339

Table 1 Association between independent variables and intention to quit smoking (n = 339)

Independent variables	Intention to quit smoking		p-value [n]
	Yes (%)	No (%)	
Age (years)			0.089
18 - 24	36 (53.7)	31 (46.3)	
25 - 34	80 (70.8)	33 (29.2)	
35 - 44	42 (57.5)	31 (42.5)	
45 - 54	31 (56.4)	24 (43.6)	
55 year old and above	22 (71.0)	9 (29.0)	
Marital status			0.527
Unmarried	83 (62.4)	50 (37.6)	
Married	128 (62.1)	78 (37.9)	
Children living together at home			0.821
Present	122 (62.9)	72 (37.1)	
Absent	89 (61.4)	56 (38.6)	
Education			0.182
Primary school	25 (64.1)	14 (35.9)	
Middle school	81 (57.0)	61 (43.0)	
High school	63 (62.4)	38 (37.6)	
Graduate/Post graduate	42 (73.7)	15 (26.3)	
Employment			0.395
Unemployed	26(52.0)	24 (48.0)	
Government sector	20 (69.0)	9 (31.0)	
Private sector	87 (63.0)	51 (37.0)	
Self-employed	78 (63.9)	44 (36.1)	
Individual monthly income (Kyats)			0.426
< 108,000	73 (64.0)	41 (36.0)	
108,000 - 540,000	131 (62.4)	79 (37.6)	
> 540,000	7 (46.7)	8 (53.3)	
Age of onset of smoking (years)			0.591
≤ 18	81 (64.3)	45 (35.7)	
19 - 24	109 (59.9)	73 (40.1)	
≥ 25	21 (67.7)	10 (32.3)	
Allowance of smoking at home			0.266
Present	145 (60.2)	96 (39.8)	
Absent	66 (67.3)	32 (32.7)	
Allowance of smoking at workplace			0.033
Present	88 (56.1)	69 (43.9)	
Absent	123 (67.6)	59 (32.4)	
Average amount of cigarettes per day (cigarettes)			0.001
≤ 10	138 (69.3)	61 (30.7)	
11 - 20	49 (47.6)	54 (52.4)	
At least 21	24 (64.9)	13 (35.1)	
Nicotine dependence			0.118
Low nicotine dependence	137 (59.3)	94 (40.7)	
Moderate to high nicotine dependence	74 (68.5)	34 (31.5)	
Smoking quit attempts at least 30 days in the last year			< 0.001
Present	80 (86.0)	13 (14.0)	
Absent	131 (53.3)	115 (46.7)	
Frequency of quit attempts at least 30 days in the last year (times)			< 0.001
0	130 (53.1)	115 (46.9)	
1	37 (86.0)	6 (14.0)	
At least 2	44 (86.3)	7 (13.7)	

Table 1 Association between independent variables and intention to quit smoking (n = 339) (cont.)

Independent variables	Intention to quit smoking		p-value [n]
	Yes (%)	No (%)	
Attitudes			< 0.001
Highest	53 (81.5)	12 (18.5)	
Higher	69 (67.6)	33 (32.4)	
Lower	57 (68.7)	26 (31.3)	
Lowest	32 (36.0)	57 (64.0)	
Perceived social norms			0.016
Highest	49 (73.1)	18 (26.9)	
Higher	67 (68.4)	31 (31.6)	
Lower	47 (58.8)	33 (41.2)	
Lowest	48 (51.1)	46 (48.9)	
Self-efficacy			< 0.001
Highest	67 (82.7)	14 (17.3)	
Higher	47 (65.3)	25 (34.7)	
Lower	56 (58.3)	40 (41.7)	
Lowest	41 (45.6)	49 (54.4)	

[n]Analyzed with Chi - square test

male smokers (135 respondents in Hlinetharyar Township, 70 respondents in Shwepyithar Township, 68 respondents in North Okkalapa Township, and 66 respondents in South Dagon Township).

The data was collected by self-administered questionnaire which contained questions on socio-demographic factors, current smoking practice, nicotine dependence, past smoking quit attempts, and theoretical variables of planned behavior. Nicotine Dependence was accessed by using Fagerstrom Test [18]. The questions on attitudes [19], perceived social norms [20] and self-efficacy [21] were modified from other studies. Validity and reliability of the questionnaires were performed. Cronbach's alpha scoring was 0.82 on attitudes towards smoking cessation, 0.83 on perceived social norms towards smoking cessation and 0.95 on self-efficacy towards smoking cessation.

Scores were added up to arrive at a total scale score. All scales were re-coded into quartiles, for instance, four equally sized groups, since there was no linear relationship between attitude, subjective norm, self-efficacy and intention [22].

Intention to quit smoking was accessed by asking "Do you have intention to quit the smoking?" Since the intensity of the intention to quit was not measured in the study, there were 2 categories respondents with no intention to quit smoking and respondents with intention to quit smoking.

The data was analyzed by using SPSS (Statistical Package for Social Sciences) version 16.

The association between the independent variables and intention to quit smoking was assessed by using Pearson Chi Square test and binary logistic regression. The variables which were found to be associated with the intention to quit smoking (p value less than 0.05) were analyzed in binary logistic regression.

RESULTS

The majority of the respondents were 25 to 34 years old, married, attained middle school education, working in private sectors and having income of 108,000 Kyats to 540,000 Kyats. However, the proportion of respondents who have children living together at home was about the same as those who do not have children living together at home. Most of the respondents in the study started smoking from 24 years or younger; 71% of them were allowed to smoke at home. More than half were not allowed to smoke in their workplaces; and more than half of them were smoking at the maximum of 10 cigarettes per day. More than half of the respondents had low nicotine dependence; and there was only one person with high nicotine dependence involved in the study. Participants from the study reported that majority of them (72.6%) did not have history of quitting smoking for at least a month last year. In this study, 37.8% of the respondents reported not having the intention to quit smoking.

Table 1 shows the association between independent variables and intention to quit smoking of the respondents. Workplace smoking restriction,

Table 2 Association between independent variables and associated with the intention to quit smoking on multivariate logistic regression

Variables	Intention to quit smoking			
	B	OR	95% CI	*p*-value
Allowance of smoking at workplace				0.025
Present	-0.572	0.564	0.342 - 0.930	
Absent (Reference)		1		
Attitudes				< 0.001
Highest	2.125	8.369	3.746 - 18.700	< 0.001
Higher	0.817	2.264	0.945 - 4.792	0.068
Lower	0.755	2.128	1.034 - 4.955	0.041
Lowest (Reference)		1		
Self-efficacy				< 0.001
Highest	1.497	4.471	2.100 - 9.513	< 0.001
Higher	1.226	3.407	1.614 - 7.912	0.001
Lower	0.582	1.789	0.798 - 4.011	0.158
Lowest (Reference)		1		

average amount of cigarette smoked per day, past smoking quit attempts, attitudes, perceived social norms and self-efficacy of the respondents were found to be statically significant with the intention to quit smoking at *p*-value less than 0.05. Table 2 shows the multivariate logistic regression after step by step exclusion of non-significant variables. Respondents who were allowed to smoke in the workplace were less likely to have intention to quit smoking (OR = 0.564, 95% CI = 0.342 – 0.930). The better the attitudes and self-efficacy of the male smokers, the more likely they would have intention to quit smoking. The respondents with the highest attitude group were 8.4 times more likely to have intention to quit comparing those with the lowest attitude group (OR = 8.369, 95% CI = 3.746 – 18.700). The respondents with highest self-efficacy were 4.5 times more likely to quit smoking comparing with respondent who had the lowest self-efficacy (OR = 4.471, 95% CI = 2.100 – 9.513).

DISCUSSION

This study was conducted to find the associated factors for the intention to quit smoking in male smokers in Myanmar. History of quit attempts was no longer predictor of quitting intention, even though it was associated with the intention to quit in Chi square analysis. Even though presence of quit attempts was usually the predictors of quitting intention in other studies [13, 23, 24], it was not a significant factor in this study. It may be due to the fact that the smokers who failed to quit in the last year are less motivated to try to quit again. Nearly half of the Myanmar male smokers are smoking in this study. The workplace smoking restriction was

not associated with intention to quit of the smokers in Bangladesh [23]; but in this study the variable was a predictor of quitting intention. The workplace environment with smoking ban creates professionalism and accountability of individual smokers combining with rules and regulation of workplaces result in the male smokers to stay away from cigarettes.

In general, more favorable positive attitudes towards smoking cessation is the better indicator of having intention to quit; but some studies failed to prove the association [13, 25]. In this study, the attitude was strong predictor of quitting intention. Addiction behavior has been known to be influenced by influence of peers and family members [26]. Although there is association between perceived social norms and intention to quit in Chi square analysis, it was no longer significant predictor for quitting intention unlike some studies [22, 25, 27]. The stronger ones perceived self-efficacy to quit smoking, the more likely the individuals would have the intention to quit and also more likely to actually quit smoking. Although some studies failed to establish the self-efficacy as predictor of quitting intention [13, 22], self-efficacy of Myanmar male smokers were strong predictors for quitting intention in this study.

CONCLUSION

There were some limitations in the present study. The study area was limited to Yangon; and respondents were only focused on literate male smokers. The nature of the study only focused on the cognitive nature of the behavior. The further study using applying more generalizability and using more

resources, for instance, longitudinal studies or in depth interview would reveal the detailed behavior of Myanmar male smokers. The workplace smoking restriction would be direct approach to quit smoking among male smokers. Smoking intervention programs focusing on attitudes of smokers by providing benefits and dangers of smoking should be advised.

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