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Smoking in an urban community: prevalence, associated factors and behavior among adult males in Kyimyintine Township

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Smoking is the single most important preventable cause of diseases and premature death in the world today. It is a major public health problem in developing countries. The objectives of this study were to estimate the prevalence, to find out the associated factors of smoking, and to determine the behavior of adult male smokers in Kyimyintine Township. A cross-sectional survey was conducted among 486 adult males, aged 15 years and above in March 2006. Overall prevalence of current smokers was 46.1%. The factors associated with smoking were presence of paternal smoking (OR=1.52, 95% CI=1.05-2.2), peer smoking (OR=1.86, 95% CI=1.22-2.83) and education. Respondents with college level education were less likely to smoke than those of primary school level (OR=0.55, 95% CI=0.39-0.79). More than half (58.5%) started smoking before 20 years of age, and 74.1% smoked more than 5 years. Twenty-five percent of smokers also used tobacco in other forms. Large numbers smoked at home (70.1%) and at public places (52.2%). It was found that smoking is prevalent among adult males, and most of them begin to smoke rather early in life and continue for many years which may lead to the development of various tobacco-related diseases. Health education and intensive anti-smoking campaigns through media are important to combat smoking and smoking-related health problems in the future.

INTRODUCTION

Tobacco is the single most important preventable cause of diseases and premature death in the world today. Tobacco causes about three and a half million death through the world and kills nearly 10,000 people worldwide everyday. Smoking causes a substantially increased risk of mortality due to lung cancer, upper gastro intestine tract and respiratory tract cancer, several other cancers, ischaemic heart diseases, stroke, chronic respiratory disease and a range of other diseases. Smoking also harms others, with definite health risks from passive smoking [1].

It is estimated that there are about 1100 million smokers worldwide, about one-third of global population aged 15 years and above. Smoking prevalence and cigarette consumption are decreasing in many developed countries. The reverse is unfortunately happening in developing countries, where a large proportion of adult men are dependent on some form of tobacco use. Nearly 73% of smokers live in developing countries where about 48% of males aged 15 years and above are smokers [2].

Unless immediate steps are taken to reduce the number of smokers, the number of deaths each year due to smoking will increase to 10 million within the next 30 years, of which 70% will occur in developing countries [3].

Observation on the difficulty of giving up smoking and the poor success rate of most

smoking cessation programs highlight the need for primary prevention. Knowledge about the distribution, associated factors and behavior of smokers is important because it could help to facilitate preventive actions and to formulate intervention strategies.

Objectives

- To determine the prevalence of smoking among adult males in Kyimyintine Township
- To find out the associated factors of smoking
- To identify the pattern of smoking and behavior of male smokers

MATERIALS AND METHODS

Study area and population

A cross-sectional community-based study was carried out in Kyimyintine Township in Yangon Division during March 2006. Two wards from this township were randomly selected and house-to-house survey was conducted. From each household, an adult male aged 15 years and above was chosen randomly. Information was obtained from male adults 15 years above, who gave consent to participate voluntarily. Of 510 houses, 486 completed the questionnaire.

Data collection

Trained interviewers administered a pre-tested, structured questionnaire. Informed verbal consent was obtained from each study participant. Respondents were assured of the confidentiality of the information, and every effort was made to ensure privacy. Socio-demographic information was obtained regarding age, marital status, educational level, occupational status and household monthly income. Regarding smoking status, respondents were asked: 'Do you smoke?' with possible responses being: 'Yes – current smoker or past smoker and 'Never smoker'. The current smokers were interviewed on their smoking behavior, like age of start smoking, length of time as a smoker, number of cigarettes smoked per day, use of tobacco in other forms, and smoking at home and in public places. Questions were also asked whether they ever attempted to quit or wanted to quit smoking and a paternal history of smoking.

Operational definitions were made for the study. Never-smokers were defined as those who had never smoked, past-smokers were those who had smoked in the past but had stopped for at least the previous six months. Current-smokers were those who are at present were smoking any amount of tobacco, either regularly or occasionally. Due to the small number of past-smokers, we merged this category into the category of never-smokers and termed them as non-smokers for the analysis.

Statistical methods

The data were analyzed using the Statistical Package for Social Sciences (SPSS), version 10. The chi-square test and odds ratio with 95% confidence intervals were calculated using simple logistic regression to find out the factors associated with smoking.

Ethical consideration

This study was approved by the Medical Ethics Committee of the Department of Medical Research (Lower Myanmar).

RESULTS

Background characteristics

Mean age of the study population was 36.1 ± 13.3 years (range, 15-65 years). As shown in Table 1, 52.7 % were married and 14% had no schooling or primary level education only. The majority (67.3 %) had household income of less than 50,000 kyats per month. Regarding the occupation, 51.4% worked in office/business and 29.2 % were manual workers.

Prevalence and associated factors of smoking

Overall prevalence of current smokers in this study was 46.1%. Table 2 shows the factors associated with smoking. Apart from

Table 1. Background characteristics of the study population

Variables	Smokers n= 224	Non-smokers n= 262	Total n= 486
Age (years)			
>45	57(25.4)	81(30.9)	138(28.4)
30-44	82(36.6)	82(31.3)	164(33.7)
15-29	85(38.0)	99(37.8)	184(37.9)
Marital status			
Married	113(50.4)	143(54.6)	256(52.7)
Unmarried	103(46.0)	109(41.6)	212(43.6)
Divorced / separated	8(3.6)	10(3.8)	18(3.7)
Education			
Primary school level	34(15.2)	34(13.0)	68(14.0)
Middle school level	72(32.1)	57(21.7)	129(26.5)
High school level	72(32.1)	88(33.6)	160(33.0)
Graduate	46(20.5)	83(31.7)	129(26.5)
Occupation			
Office	45(20.1)	55(21.0)	100(20.6)
Business	61(27.2)	89(34.0)	150(30.9)
Manual	72(32.1)	70(26.7)	142(29.2)
Student	13(5.8)	18(6.9)	31(6.4)
Others	33(14.7)	30(11.4)	63(12.9)
Household income (kyats)			
<50,000	153(68.3)	174(66.4)	327(67.3)
50,000- 100,000	45(20.1)	63(24.1)	108(22.2)
>100,000	26(11.6)	25(9.5)	51(10.5)

Figures in parenthesis denote percentages

demographic variables, paternal smoking and peer smoking were selected as associated factors of smoking and it was found that education was related with the smoking status. Respondents with university /college level education were less likely to smoke than those of no schooling or primary school level (OR = 0.55, 95% CI = 0.39-0.79). Paternal smoking (OR = 1.52, 95% CI = 1.05-2.2) and peer smoking (OR = 1.86, 95% CI = 1.22-2.83) were also associated with smoking. Other factors such as age, marital status, household income, and occupation were not found to have any significant association with smoking status (Table 2).

Smoker's behaviors

Smoker's behaviors are shown in Table 3. Mean age at start of smoking was 19.3 ± 5.9 years. The youngest age was 10 years and the oldest was 45 years. More than half (58.5%) started smoking before 20 years

Table 2. Associated factors of smoking (Univariate Analysis)

Variables	Smoking prevalence (%)	Odds Ratio	95% Confidence Interval	'p' value
Age (years)				
15-29	46.20	1		
30-44	50.00	1.16	0.75-1.82	0.48
>45	41.30	0.82	0.51-1.31	0.38
Marital status				
Married	44.10	1		
Unmarried	48.60	1.19	0.83-1.72	0.33
Divorced/ separated	44.40	1.01	0.38-2.65	0.98
Education				
Primary school	50.00	1		
Middle school	55.80	1.26	0.69-2.28	0.44
High school	45.00	0.82	0.46-1.45	0.49
Graduate	35.70	0.55	0.39-0.79	0.04
Household income (kyats)				
<50,000	46.80	1		
50,000-100,000	41.70	0.81	0.52-1.26	0.35
>100,000	51.00	1.18	0.65-2.14	0.58
Occupation				
Office	45.00	1		
Business	40.70	0.84	0.50-1.4	0.50
Manual	50.70	1.26	0.75-2.10	0.38
Student	41.90	0.88	0.39-2.00	0.77
Others	52.30	1.34	0.68-2.66	0.36
Paternal smoking				
No	40.00	1		
Yes	50.30	1.52	1.05-2.20	0.02
Peer smoking				
No	35.10	1		
Yes	50.30	1.86	1.22-2.83	0.003

Table 3. Smoking behavior among male smokers in Kyimyintine Township

Smoker's behaviors	Number	Percentages
Age of start smoking		
<20 years	131	58.50
20-40 years	91	40.60
>40 years	2	9.00
Mean ± SD 19.3 ± 5.9 years		
Duration of smoking		
≤5years	58	25.90
>5years	166	74.10
Number of cigarettes smoked		
<5 per day	140	62.50
5-10 per day	46	20.50
>10 per day	38	17.00
Use of tobacco in other form	57	25.40
Smoked at home	157	70.10
Smoked at publics places	117	52.20
Want to quit smoking	142	63.40
Ever tried to quit smoking	136	60.70

and 75% smoked more than 5 years. Of all smokers, only 17% said they smoked more than 5 cigarettes/cheroots per day. About one-fourth (25.4%) of smokers also used tobacco in other forms. Large numbers smoked at home (70.1%) and at public places (52.2%) as well. Majority (63.4%) wanted to quit smoking and 60.7% had ever tried to quit. Sixty-four percent of smokers reported paternal smoking history.

DISCUSSION

The prevalence of smoking in this study was 46%. It was lower than 74% prevalence found in Cardiovascular Diseases Survey in 1993 [4]. But it was more or less comparable to 44.5% prevalence reported in Myanmar sentinel tobacco use prevalence study in 2001 [5] and 49% prevalence in World Health Survey 2003 [6]. Some participants in our study, particularly the young, might have hidden their smoking habit during the interview in the presence of other family members.

The level of education has been associated with smoking in a large number of studies [7, 8]. In these studies, an inverse relationship was seen between level of education and the prevalence of smoking. Our study also showed significantly lower smoking prevalence among educated persons.

Paternal smoking was found to be associated with smoking in this study. Moreover, 64.3% of them gave history of parental smoking. Parents are supposed to be role models for their children. The children, whose parents smoke, are more likely to smoke when they become adults.

It was also found that those with friends who smoke were more likely to smoke. More than half (58.5%) started smoking before 20 years of age (mean 19.3 years) in our study. Peer pressure is one of the key reasons for start of smoking in young age.

In different parts of the world, the highest prevalence of smoking was found in younger age groups and fell steadily in older age [9, 10]. In contrast, age was not related with smoking status in this study. Those in the older age were still the current smokers despite the fact that majority (61%) of smoking subjects had ever tried to quit smoking.

There was a strong association between duration of smoking, the number smoked per day and the development of different diseases [11]. It was also reported that most smokers acquired their habit during their teenage years [12, 13]. In this study, more than half (58.5%) started smoking before 20 years of age, and 75% smoked more than 5 years which may lead to the development of various health problems. But only 17% of smokers said they smoked more than 5 cigarettes/cheroots per day. This figure seemed to be low because we took into account the number of cigarettes and cheroots smoked per day altogether in the analysis.

Use of tobacco in other forms such as chewing with betel (Smokeless Tobacco-ST) has been documented as hazardous and cause oral and esophageal cancer [14]. ST is also associated with ischaemic heart disease and stroke deaths [15]. In our study, twenty-five percent of smokers also used tobacco in other form as well.

There was ample evidence of the health hazards of passive smoking [16, 17]. It was alarming in this study that large numbers smoked at home (70.1%) and at public places (52.2%). This provides a potent risk factor for a large number of chronic and crippling diseases to their family members, workmates and colleagues.

In summary, the prevalence of smoking was high among adult males in the study area. Most of them began to smoke before 20 years and continued for many years which may lead to the development of various tobacco-related diseases. Anti-smoking campaigns need to be intensified to combat smoking and smoking-related health problems in the future. There is also a need to change the smoker’s behavior to avoid the

health hazards of passive smoking. Health education of the public through media is very important in this regard.

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