Research Article

Current tobacco use among adults: a community-based study in urban area of Thanlyin township, Yangon region, Myanmar

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ABSTRACT

Background: The identification, prevention and control of the common risk factors are the basic element in prevention and control of NCDs. However, the paucity of information on risk factors is one of the major challenges in the prevention and control of these diseases. The use of tobacco is one of the main risk factors of major NCDs. Therefore, this study was conducted to determine the prevalence, and socioeconomic and demographic determinants of current tobacco use among adults residing in urban area of Thanlyin Township, Yangon Region.
Methods: A cross-sectional study was conducted among 468 adults. Multi-stage random sampling was applied. Data entry and analysis was done using Stata 11.0 statistical package.
Results: The prevalence of current smoking, current use of smokeless tobacco and current tobacco use were 27.6%, 35.7% and 48.1%, respectively. Age, sex, marital status and occupation were significantly associated with both current smoking and current use of smokeless tobacco. There was a significant decreasing trend of current smokeless tobacco use across the levels of education. Besides, age, sex, education and occupation were detected as significant determinants of current tobacco use.
Conclusions: There is an urgent need to curb the use of tobacco in urban area, especially among males and young adults. Tobacco control policy in Myanmar should be strengthened or reinforced to reduce tobacco consumption in the country. Education status of the population should also be improved.

Keywords: Adults, Tobacco use, Urban, Yangon

INTRODUCTION

The epidemiological transition of communicable diseases to non-communicable diseases (NCDs) has been established in the world including the WHO, South-East Asia Region (SEAR). NCDs also become major public health problem in Myanmar.[1] The identification, prevention and control of the common risk factors are the basic element in prevention and control of NCDs.

However, the paucity of information on risk factors of NCDs is one of the major challenges in the prevention and control of these diseases. The use of tobacco is one of the main risk factors of major NCDs.[1,2] In combination with hypertension, the use of tobacco causes more than 1.4 million deaths, annually in the SEAR countries.[3] Globally, tobacco use is responsible for 5.4 million deaths every year, which could rise to 8 million a year by 2030.[4] In the United States of America (USA), smoking is the commonest cause of preventable death and it causes more than 393,000 deaths per year.[5] Therefore, this study was conducted to determine the prevalence, and socioeconomic and demographic determinants of current tobacco use among adults residing in urban area of Thanlyin Township, Yangon Region.

METHODS

A cross sectional analytic study was conducted in 2013 at four randomly selected wards of Thanlyin Township. Multistage random sampling procedure was applied. Four wards (out of ten) were chosen randomly at the first stage. Then households were selected using systematic random sampling procedure. Finally one adult person of a particular household was chosen randomly. Epi-info version 7 statistical package was used in calculating sample size, and estimated prevalence of tobacco use was set at 22%[1] with 95% confidence level and 4% precision. A total of 468 adults were recruited into the study. The necessary data were collected by face-to-face interviews after getting informed written consent. The sufficient time for responses was allowed as well as privacy was observed for accurate and detailed information on household's income and the use of tobacco. Questionnaire used in the study was pretested. The information on the use of tobacco was based on self-report of the participants. If a participant was current smoker and/or current user of smokeless tobacco, he or she was regarded as a current user of tobacco. The reported habit of tobacco use, smoking and utilization of smokeless tobacco were categorized into current user, ex-user and never user for descriptive purposes. However, these habits were regrouped into current user and non-current user in assessing the association with socioeconomic and demographic characteristics. Therefore, non-current user included both ex-user and never user. Age, sex, education, marital status, occupation and household's monthly income were considered as potential socioeconomic and demographic determinants of the current use of tobacco.

Statistical analysis

After checking the survey forms for consistency and completeness, data entry and analysis was done using Stata 11.0 statistical package. Chi-square test was used and multivariate logistic regression analysis with backward deletion procedure was applied in assessing the determinants of current tobacco use.

RESULTS

Altogether 468 adults from urban area of Thanlyin Township were recruited into the study. Socioeconomic and demographic characteristics of the participants are shown in Table 1.

The reported habit of tobacco use, smoking and utilization of smokeless tobacco were categorized into current user, ex-user and never user for descriptive purpose. The prevalence of current smoking, current utilization of smokeless tobacco and current tobacco use among participants were 27.6%, 35.7% and 48.1%, respectively (Table 2).

Table 1: Socioeconomic and demographic characteristics of the participants.

Characteristics	Frequency (n=468)	Percent
Age-group (in completed years)*		
20-40 years	104	22.2
41-60 years	203	43.4
>60 years	161	34.4
Sex		
Male	380	81.8
Female	88	18.2
Marital status		
Single	108	23.1
Married	360	76.9
Level of Education		
Low	118	25.2
Middle	277	59.2
High	73	15.6
Occupation		
Present	383	81.8
Absent	85	18.2
Monthly household's income**		
<20,0000 kyats	198	42.3
≥20,0000 kyats	270	57.7

* Mean (SD) age of the respondents were 53.8 (15.6) years. ** Median (range) household's income was 200,000 (5,000 – 2,000,000) kyats.

Table 2: The habit of smoking, utilization of smokeless tobacco and the use of tobacco among participants.

Variables	Frequency (n=468)	Percent	95% CI
Smoking			
Current smoker	129	27.6	23.6, 31.9
Ex-smoker	52	11.1	8.4, 14.3
Never smoker	287	61.3	56.7, 65.8
Smokeless Tobacco			
Current user	167	35.7	31.3, 40.2
Ex-user	26	5.5	3.7, 8.0
Never user	275	58.8	54.2, 63.3
Use of tobacco			
Current user	225	48.1	43.5, 52.7
Ex-user	16	3.4	2.0, 5.5
Never user	227	48.5	43.9, 53.1

However, these habits were regrouped into current user and non-current user in assessing the association between them, and socioeconomic and demographic characteristics. Age, sex, marital status and occupation of the respondents were significantly related to their habit of current smoking and current utilization of smokeless tobacco.

Table 3: Association between current smoking, current use of smokeless tobacco, and socioeconomic and demographic characteristics (n=468).

Socioeconomic Characteristics	Smoking		Smokeless tobacco	
	Current smoker	Non-current smoker	Current user	Non-current user
Age-group (years) 20-40 (n=104) 41-60 (n=203) >60 (n=161)	33 (31.7%) 63 (31.0%) 33 (20.5%)	71 (68.3%) 140 (69.0%) 128 (79.5%)	48 (46.1%) 86 (42.4%) 33 (20.5%)	56 (53.9%) 117 (57.6%) 128 (79.5%)
	p = 0.046		p < 0.001	
Sex Male (n=380) Female (n=88)	124 (32.6%) 5 (5.7%)	256 (67.4%) 83 (94.3%)	157 (41.3%) 10 (11.4%)	223 (58.7%) 78 (88.6%)
	p < 0.001		p < 0.001	
Marital status Single (n=108) Married (n=360)	11 (10.2%) 118 (32.8%)	97 (89.8%) 242 (67.2%)	19 (17.6%) 148 (41.1%)	89 (82.4%) 212 (58.9%)
	p < 0.001		p < 0.001	
Level of Education Low (n=118) Middle (n=277) High (n=73)	28 (23.7%) 79 (28.5%) 22 (30.1%)	90 (76.3%) 198 (71.5%) 51 (69.9)	47 (39.8%) 103 (37.2%) 17 (23.3%)	71 (60.2%) 174 (62.8%) 56 (76.7%)
	p = 0.538		p = 0.049	
Occupation Present (n=383) Absent (n=85)	116 (30.3%) 13 (15.3%)	267 (69.7%) 72 (84.7%)	144 (37.6%) 23 (27.1%)	239 (62.4%) 62 (72.9%)
	p = 0.005		p = 0.067	
Monthly household's income (kyats) <20,0000 (n=198) ≥20,0000 (n=270)	58 (29.3%) 71 (26.3%)	140 (70.7%) 199 (73.7%)	76 (38.4%) 91 (33.7%)	122 (61.6%) 179 (66.3%)
	p = 0.474		p = 0.296	

Table 4: Results of univariate and multivariate logistic regression analyses in assessing the relationship between current use of tobacco and socioeconomic characteristics.

Socioeconomic characteristics	Univariate analysis		Multivariate analysis	
	OR (95% CI)	p-value	OR (95% CI)	p-value
Age	0.97 (0.96, 0.98)	< 0.001	0.98 (0.96, 0.99)	0.001
Sex Male Female	Reference 0.14 (0.07, 0.26)	< 0.001	Reference 0.11 (0.05, 0.24)	< 0.001
Marital status* Single Married	Reference 4.72 (2.85, 7.83)	< 0.001		
Level of Education Low Middle High	Reference 0.96 (0.63, 1.48) 0.70 (0.39, 1.26)	0.870 0.231	Reference 0.67 (0.41, 1.09) 0.46 (0.24, 0.88)	0.105 0.019
Occupation Absent Present	Reference 1.90 (1.17, 3.10)	0.010	Reference 0.49 (0.24, 1.00)	0.050
Monthly household's income*	0.99 (0.99, 1.00)	0.419		

* Not included in the final model

However, there was no significant association between household's income and these habits. Level of education was significantly associated with the current utilization of smokeless tobacco only (Table 3).

Logistic regression analysis was applied to determine the association of current tobacco use with socioeconomic and demographic characteristics. Age, sex, education and occupation were identified as significant determinants of current tobacco use ($p \leq 0.05$). Although occupation (i.e., having a job for earning) was found to be a significant risk factor in univariate analysis, negative relationship was detected in multivariate analysis (i.e., protective effect). Marital status and household's income did not have significant association with current tobacco use. The results of univariate and multivariate logistic regression analyses are shown in Table 4.

DISCUSSION

The proportions of current smokers, current users of smokeless tobacco and current tobacco users detected in the present study were higher than those found in a nation-wide survey done in Myanmar during 2009[1] (27.6% versus 22% for current smokers, 35.7% versus 29.7% for current users of smokeless tobacco, and 48.1% versus 41.2% for current tobacco users). Another study with larger sample size (n=1367) conducted during 2014 in Myanmar also reported that the prevalence of ever smoking habit among adults was 19.8%.[6] This may be due to difference in study area because the present study was conducted in urban area. Therefore, findings of the present study did not represent the country's situation, or people residing in the study area practices these health risk behaviors more than those living in the rest of the country. Besides, the prevalence of current smoking and, current use of smokeless tobacco and tobacco found in the present study were higher than those of previous studies carried out in regional countries (such as India, Bangladesh, Thailand, Sri Lanka) [7-9] as well as in USA.[10] However, the prevalence of smoking among adults living in urban area of Thanlyin Township was slightly lower than that of British adults[11] (29.8% compared to 27.6% observed in this study). Similarly, the prevalence of smoking among males detected in the present study was lower than that of Indonesia, Timor Leste, Bangladesh, Maldives, India, Nepal and Cambodia.[12] This may be due to differences in study population including age and sex distribution, or study area, or socioeconomic status of the participants.

The reported prevalence of current smoking, current use of smokeless tobacco and tobacco were significantly higher among males and younger age group compared to their reference categories. This finding is consistent with those of other studies done in different countries.[7-9,12,13] Moreover, age; sex, education and occupation were identified as significant determinants of current tobacco use in this study. This result is also supported by findings of previous studies. Aranha et. al (2015) reported that there was significant association between level of education and cardiovascular disease risk factors including smoking.[14] Similarly, studies done in India[8,15] and other South-East Asian countries[11,16] revealed that age, sex, education and socioeconomic status (or) poverty were significantly related to current use of tobacco. A previous study carried out in Myanmar[6] also found out that age and sex were significant determinants of smoking habit.

CONCLUSION

There is an urgent need to curb the use of tobacco in urban area, especially among males and young adults. Smokeless tobacco use should also be given priority in tobacco control efforts. Besides, tobacco control policy in Myanmar needs to be strengthened or reinforced to reduce tobacco consumption in the country. Education status of the population should also be improved and periodical surveys should be conducted to monitor the extent of tobacco use in the community.

REFERENCES

1. World Health Organization, Regional Office for South-East Asia. Noncommunicable disease risk factor survey, Myanmar, 2009. New Delhi: WHO; 2011:17-31.
2. World Health Organization. Risk factors, 2015. Available at: http://www.who.int/gho/ncd/risk_factors/en/. Accessed 2 July 2015.
3. Samb B, Desai N, Nishtar S, Mendis S, Bekedam H, Wright A, Hsu J, Martiniuk A, Celletti F, Patel K, Adshead F, McKee M, Evans T, Alwan A, Etienne C. Prevention and management of chronic disease: a litmus test for health-systems strengthening in low-income and middle-income countries. Lancet. 2010;376(9754):1785-97.
4. World Health Organization. WHO report on the global tobacco epidemic, 2008: The MPOWER package. Geneva: WHO.
5. American Lung Association. Health effects. Available at: http://www.lung.org/stop-

smoking/about-smoking/health-effects/smoking.html. Accessed 22 August 2015.

6. Oo WM, Khaing W, Mya KS, Moh MM. Health literacy - is it useful in prevention of behavioural risk factors of NCDs? Int J Res Med Sci 2015; 3(9):2331-6.

7. National Cancer Institute. Smokeless tobacco use in South-East Asia region. Available at: http://cancercontrol.cancer.gov/brp/tcrb/global-perspective/Chapter_13_SmokelessTobaccoAndPublicHealth.pdf. Accessed 21 August 2015.

8. Rani M, Bonu S, Jha P, Nguyen SN, Jamjoum L. Tobacco use in India: prevalence and predictors of smoking and chewing in a national cross sectional household survey. Tobacco Control 2003; 12:e4. DOI: 10.1136/tc.12.4.e4. Accessed 23 August 2015.

9. Sinha DN, Palipudi KM, Rolle I, Asma S, Rinchen S. Tobacco use among youth and adults in member countries of South-East Asia region: review of findings from surveys under the Global Tobacco Surveillance System. Indian J Public Health 2011; 55(3):169-76.

10. American Lung Association. Asian Americans/Pacific Islanders. Available at: http://www.lung.org/stop-smoking/about-smoking/facts-figures/asian-americans-tobacco.html? Print=t. Accessed 22 August 2015.

11. von Wagner C, Knight K, Steptoe A, Wardle J. Functional health literacy and health-promoting behaviour in a national sample of British adults. J Epidemiol Community Health. 2007;61:1086-90.

12. Sreeramarreddy CT, Pradhan PMS, Mir IA, Sin S. Smoking and smokeless tobacco use in nine South and Southeast Asian countries: prevalence estimates and social determinants from Demographic and Health Surveys. Population Health Metrics 2014; 12:22.

13. Tobacco in Australia. International comparisons of prevalence of smoking. Available at: http://www.tobaccoinaustralia.org.au/chapter-1-prevalence/1-13-internati.Accessed 21 August 2015.

14. Aranha A, Patel P, Panaich S, Cardozo L. Health literacy and cardiovascular disease risk factors among the elderly: a study from a patient-centered medical home. Am J Manag Care. 2015;21(2):140-5.

15. Singh A, Ladusingh L. Prevalence and determinants of tobacco use in India: Evidence from recent global adult tobacco survey data. PLoS ONE; 9(12): e114073. DOI:10.1371/journal.pone.0114073. Accessed 23 August 2015.

16. Sinha DN, Gupta PC, Ray CS, Singh PK. Prevalence of smokeless tobacco use among adults in WHO South-East Asia. Indian J Cancer 2012; 49:342-6.