

RISK BEHAVIOURS AND ASSOCIATED FACTORS AMONG MEDICAL STUDENTS AND COMMUNITY YOUTHS IN MYANMAR

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ABSTRACT

We conducted a cross-sectional study of the risk behaviours inherent in tobacco smoking, alcohol consumption and premarital sex, among 400 medical students (186 males) from a medical university, Yangon, and 410 community youths (244 males) 15 to 24 years of age from selected townships in Myanmar. As a result, we found that 12.8% smoked, 34.5% consumed alcohol and 10.1% engaged in premarital sex, among medical students, whereas among community youths, the corresponding rates were 28.8%, 32.1% and 11.9%. There was a significant difference in the prevalence of all risk behaviours between male and female respondents. Such risk behaviours were more dominant among males, while being very low among females. Among male respondents, the smoking rate was significantly higher among community youths (46.7%) than among medical students (26.9%); however, student alcohol consumption (58.5%) was greater than that of community youths (47.1%). Premarital sexual experience did not differ significantly between the two groups. These risk behaviours were correlated with one another. Having close friends who engaged in similar behaviours was found to be the major contributing factor for those kinds of risk among both groups. Our results highlighted the fact that, despite their relatively sophisticated knowledge of risks, the prevalence of risky behaviour among the medical students was no less frequent than among community youths. To diminish those risks, evaluations of actual conditions, behaviour modifications and specific preventive measures compatible with existing culture and changing lifestyles should be undertaken. Effective adolescent health programs at schools, colleges and universities should be revised and emphasized.

Key Words: Risk behaviours, Adolescents and youths, Medical students, Community youths, Myanmar

INTRODUCTION

Adolescence is considered one of the most crucial phases in an individual's life, during which biological and psychosocial changes together with many eventful transitions occur. The problems and issues arising from such changes can lead to a deleterious situation if they are not dealt with wisely. Therefore, adolescent health has become a growing worldwide concern. Adolescents and youths ranging in age from 10 to 24 years constitute approximately 30.0% of the total population of Myanmar.¹⁾ i.e., age levels from middle school to university. Any negative impact on such a

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significant portion of the general population is bound to seriously affect national development.

In Myanmar culture, smoking has been socially accepted since ancient times.²⁾ Such ingrained social and cultural acceptance of tobacco use could pose a major challenge to any tobacco control program. Consequently, widespread educational and information activities to promote community awareness of the dangers of tobacco are issues of national importance.²⁾ One study has found that 23.4% of the urban and 25.3% of the rural population of Myanmar were tobacco users in 2004.^{2,3)} Among state high school students, about one-fourth had tried tobacco, and one-third were currently using some form of tobacco at the time of a survey.⁴⁾ Exposure to second-hand smoke also remains high both at home and in public places.⁵⁾

Alcohol abuse and dependence are not problems restricted only to adults, but also affect a significant number of adolescents and young adults in their most vulnerable years. People who start drinking at such an early age risk developing alcohol dependency as well as negative developmental impacts on brain function⁶⁾ and behavioural problems.⁷⁾ Currently, frequently imbibing alcohol, including beer and wine, is a popular lifestyle choice among adolescents and youths in Myanmar.

Because of the strong culture norm against premarital sex in Myanmar and the equally strong expectation of the older generation that young people must remain sexually inactive until they are married,^{8,9)} it is generally believed that premarital sex and its consequences do not constitute a widespread problem. There is also a cultural taboo against sex education and education about use of contraception among adolescents and youths, resulting in limited availability of such information among them. Nevertheless, nowadays formerly objectionable lifestyles are gradually giving way due to the impact of western culture and globalization. Therefore, premarital sex has become fairly common among young people, giving rise to reproductive health problems including an increase in sexually transmitted diseases (STD). These factors pose a challenge to the implementation of relevant adolescent programs in Myanmar. Recently, the Ministry of Health has begun strengthening the reproductive health component of school health programs as a part of a national health plan.^{1,10)}

Very few studies done on risk behaviours among adolescents and youths in Myanmar have revealed a particularly alarming prevalence of health problems. One such study of behaviour and reproductive health issues among out-of-school adolescents and youths, has observed that 21.0% of them have smoked and 17.0% have drunk alcohol.⁸⁾

So far, what is lacking is a study specifically focused on the risk behaviours and reproductive health issues among adolescents and youths attending colleges and universities. Medical students are the potential future of the nation and can promote healthy life models for communities nationwide. Our study aimed to examine the current situation of three health related behaviours (tobacco, alcohol consumption and premarital sex) and their associated factors among medical students and community youths.

MATERIALS AND METHODS

Ours was a cross-sectional study. Data were collected during June and July of 2008 from students of the Medical University, Yangon, with 3,010 medical students (1,488 males and 1,522 females) enrolled at data collection time. For a community survey, we first selected three townships each from upper, middle and lower regions of Myanmar to obtain representatives from all over Myanmar, and then selected wards to collect data using a multistage clustered sampling technique.

Respondents included both males and females 15 to 24 years of age. Our sample size was 400

from each group according to a sample size calculation formula of different proportions. Medical students who attended class during the date and time of data collection were specifically selected. For the community, after choosing a starting point in a selected ward of each chosen township, we conducted a house-to-house data collection. Data were collected using self-administered questionnaires. However, for illiterate or semi-literate respondents in a community, face-to-face interviews were conducted using that same questionnaire. The questionnaire was developed and pre-tested before data collection. Questionnaires included four main components: personal characteristics of respondents, their tobacco smoking and alcohol consumption status and that of their parents and friends, and their premarital sexual behaviour. Consent was obtained from the respondents after explaining the objectives and purpose of the study. Complete confidentiality and anonymity of the information was ascertained. Moreover, the study protocol was approved by the Ethics Committee of the Medical University prior to data collection.

Statistical methods

Age of the respondents, age at first smoking, first drinking and initial sexual activity were analyzed as continuous variables. Mean and standard deviations (SDs) were used to summarize the continuous variables. The risk behaviours of the respondents, their friends and parents were analyzed as categorical variables and described in term of frequency and percentage. Binary logistic regression was performed to explore the association of related factors. Age- and sex-adjusted odds ratios (ORs) and 95% confidence intervals (CI) were used to express the associations. Prevalence of risk behaviours among medical students and community youths were compared using age adjusted ORs and p-values. All tests were two tailed, with a p-value of <0.05 considered significant. Data entry was done using Epi-data software. The data were then checked, edited and analyzed using the Stata 8.0 and version 17 of the Statistical Package for Social Science (SPSS).

RESULTS

General characteristics of respondents

Respondents consisted of 400 medical students (186 males, 214 females) and 410 community youths (244 males, 166 females), all of whom were adolescents and youths in the 15–24 age group. Mean age was 20.0 years for the students and 20.2 for the community youths. The majority of the respondents were Burmese and Buddhist in religion. Naturally, medical students were at a relatively higher educational level than community youths, 21.7% of whom were married compared to only one percent of the medical students.

Risk behaviours among medical students and their associated factors

In this study, 12.8% of medical students had smoked at some point, while 8.3% were currently smokers. 26.9% of all male students had smoked, whereas only a negligible number (0.5%) of female students had done so, as shown in Table 1. Student smokers started smoking as early as 10 years of age, while the mean starting age was 17.2 years. 45.6% used to smoke daily, and 28.2% only occasionally. 37.0% started smoking out of curiosity, 21.0% for relaxation, and 12.0% were social smokers. Responding to the question ‘why do you smoke?’, 47.0% ‘like the taste’ and 43.0% smoked ‘for relaxation’. 47.6% of male students had at least one friend who was a smoker. 7.7% of male smokers had experienced peer pressure from friends to smoke, and about 37.3% had parents who smoked.

34.5% of medical students (58.5% of males and 13.8% of females) had consumed alcohol at

Table 1 Frequency of risk behaviours and factors among medical students

Risk behaviours and factors	Medical students			p-value
	Male (186) Number (%)	Female (214) Number (%)	Total (400) Number (%)	
Smoking tobacco				
Smoking prevalence (ever)	50 (26.9)	1 (0.5)	51 (12.8)	<0.001
Exposure to parents' smoking	63 (37.3)	76 (39.6)	139 (38.5)	0.487
Close friends who smoke	80 (47.6)	40 (20.3)	120 (32.9)	<0.001
Peer pressure to smoke	12 (7.7)	2 (1.1)	14 (4.1)	0.002
Mean age (year) of starting smoking (Min. – Max.)	17.2, SD ^a =2.4 (10–20)	19.0 (19)	17.3, SD=2.8 (10–20)	0.394
Drinking alcohol				
Drinking prevalence (ever)	107 (58.5)	29 (13.8)	136 (34.5)	<0.001
Exposure to parents' drinking	52 (31.5)	64 (33.9)	116 (32.8)	0.243
Close friends who drink	116 (71.2)	56 (29.0)	172 (48.3)	<0.001
Peer pressure to drink	42 (27.6)	15 (8.5)	57 (17.4)	<0.001
Mean age (year) of starting alcohol (Min. – Max.)	16.9, SD=2.3 (7–20)	17.2, SD=3.5 (7–20)	17.0, SD=2.4 (7–20)	0.674
Premarital sex				
Experience of premarital sex	33 (19.8)	4 (2.0)	37 (10.1)	<0.001
Acceptance of that concept	53 (35.1)	9 (4.6)	62 (17.8)	<0.001
Friends with sexual experience	86 (57.0)	29 (15.5)	115 (34.0)	<0.001
Consistent condom use	16 (61.5)		NA ^b	
Mean age (year) of first sex (Min. – Max.)	17.8, SD=1.9 (12–20)	19.3, SD=0.6 (19–20)	17.6, SD=2.4 (12–20)	0.165

^a SD: Standard deviation ; ^b NA: Not applicable

some point. Among males, daily drinkers were only 1.0%, while 50.0% were occasional drinkers. The mean starting age of alcohol consumption was 17.0 years, and the minimum age was 7 years. About 31.5% of male students had exposure to drinking habits of their parents, 71.2% had friends who drank, and 27.6% experienced peer pressure to drink. Although alcohol consumption among girls is a cultural taboo, 13.8% admitted to drinking beer and/or wine.

Table 1 also illustrates the finding that, despite strong cultural norms and values against premarital sex in Myanmar, 35.1% of male and 4.6% of female medical students had no problem accepting the concept of premarital sex. 57.0% of male students admitted having close friends who had experienced premarital sex. Although nearly all of the respondents were unmarried, an alarming 10.1% of students (19.8% of males and 2.0% of females) confessed to having engaged in premarital sex, while 8.5% of students declined to respond. The mean age of first sex was 17.6 years. Even though they were well aware of the danger of contracting STD and HIV infections from unsafe sex, only 61.5% of the students who had sexual relations consistently used condoms, 26.9% used them occasionally and 11.4% never used them.

We found that those risk behaviours studied were more dominant among male students in contrast to the very low prevalence of all risk behaviours among females. There was significantly different ($p<0.001$) prevalence of such behaviours between male and female students, as usual. Table 2 summarizes various persuasive factors and their association with risk behaviours among medical students. The presence of friends who were smokers ($p<0.001$, OR=10.7, 95% CI=4.5–25.2) as well as peer pressure ($p=0.008$, OR=5.4, 95% CI=1.6–18.9) were the significant

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Table 2 Age and sex adjusted odds ratios (OR) and 95% confidence intervals (CI) of listed factors for risk behaviours (smoking, drinking and premarital sex) among medical students

Factors	Risk behaviours		<i>p</i> -value	OR	95% CI
	Present Number (%)	Absent Number (%)			
Smoking tobacco					
Parents' smoking	No	27 (55.1)	195 (62.5)		1 (Reference)
	Yes	22 (44.9)	117 (37.5)	0.218	1.5 0.8–3.1
Close friends who smoke	No	8 (15.7)	237 (75.5)		1 (Reference)
	Yes	43 (84.3)	77 (24.5)	<0.001	10.7 4.5–25.2
Peer pressure to smoke	No	37 (82.2)	108 (75.0)		1 (Reference)
	Yes	8 (17.8)	6 (25.0)	0.008	5.4 1.6–18.9
Have experienced drinking alcohol	No	6 (12.0)	252 (73.3)		1 (Reference)
	Yes	44 (88.0)	92 (26.7)	<0.001	8.5 3.4–21.3
Pocket money/day ^a	Low	14 (31.1)	135 (43.4)		1 (Reference)
	High	31 (68.9)	176 (56.6)	0.16	1.7 0.8–3.5
Drinking alcohol					
Parents' drinking	No	73 (57.0)	163 (73.1)		1 (Reference)
	Yes	55 (43.0)	60 (26.9)	<0.001	2.9 1.6–5.0
Close friends who drink	No	15 (12.0)	167 (73.2)		1 (Reference)
	Yes	110 (88.0)	61 (26.8)	<0.001	13.5 7.1–25.7
Peer pressure to drink	No	72 (61.0)	197 (94.7)		1 (Reference)
	Yes	46 (39.0)	11 (5.3)	<0.001	9.1 4.2–19.8
Have experienced smoking tobacco	No	92 (67.6)	252 (97.7)		1 (Reference)
	Yes	44 (32.4)	6 (2.3)	<0.001	8.5 3.4–21.3
Pocket money/day ^a	Low	38 (31.7)	108 (47.0)		1 (Reference)
	High	82 (68.3)	122 (53.0)	0.011	1.9 1.2–3.3
Premarital sex					
Acceptance of that concept	No	9 (26.5)	259 (88.7)		1 (Reference)
	Yes	25 (73.5)	33 (11.3)	<0.001	12.9 5.1–32.1
Close friends with sexual experience	No	1 (2.9)	208 (73.5)		1 (Reference)
	Yes	33 (97.1)	75 (26.5)	<0.001	50.0 6.7–387.1
Have experienced drinking alcohol	No	6 (16.7)	234 (72.0)		1 (Reference)
	Yes	30 (83.3)	91 (28.0)	<0.001	6.2 2.4–16.3
Have experienced smoking tobacco	No	19 (51.4)	302 (91.8)		1 (Reference)
	Yes	18 (48.6)	27 (8.3)	<0.001	4.4 2.0–10.0

^a Pocket money/day: In kyat (Myanmar money); low - <2,000 kyats/day, high - ≥2,000 kyats/day. 2,000 kyats is the current median of pocket money as well as reasonable daily expense for a medical student in Myanmar.

contributing factors to smoking. Similarly, a high risk of habitual alcohol consumption was observed by exposure to a close friend who drank (OR=13.5, 95% CI=7.1–25.7), by peer pressure (OR=9.1, 95% CI=4.2–19.8) and by their parents' drinking (OR=2.9, 95% CI=1.6–5.0) with *p*-values of <0.001. Smoking and alcohol were correlated (*p*<0.001, OR=8.5, 95% CI=3.3–21.3), and encouraged some to have premarital sex with an OR of 4.4 (95% CI=2.0–10.0) and 6.2 (95% CI=2.4–16.3), respectively.

Table 3 Frequency of risk behaviours and factors among community youths

Risk behaviours and factors	Community youths			p-value
	Male (244) Number (%)	Female (166) Number (%)	Total (410) Number (%)	
Smoking tobacco				
Smoking prevalence (ever)	114 (46.7)	4 (2.4)	118 (28.8)	<0.001
Exposure to parents' smoking	116 (48.9)	69 (43.9)	185 (47.0)	0.510
Close friends who smoke	165 (71.1)	60 (37.7)	225 (57.5)	<0.001
Peer pressure to smoke	73 (31.9)	7 (4.4)	80 (20.7)	<0.001
Mean age (year) of starting smoking (Min. – Max.)	16.3, SD ^a =2.4 (12–24)	15.3, SD=2.2 (13–18)	16.7, SD=2.3 (12–24)	0.292
Drinking alcohol				
Drinking prevalence (ever)	114 (47.1)	17 (10.2)	131 (32.1)	<0.001
Exposure to parents' drinking	72 (30.8)	50 (32.5)	122 (31.4)	0.342
Close friends who drink	155 (66.5)	51 (32.9)	206 (53.1)	<0.001
Peer pressure to drink	77 (34.8)	17 (11.1)	94 (25.1)	<0.001
Mean age (year) of starting alcohol (Min. – Max.)	17.7, SD=2.2 (12–23)	17.4, SD=2.6 (12–22)	17.6, SD=2.1 (12–23)	0.690
Premarital sex				
Experience of premarital sex	37 (15.9)	9 (5.9)	46 (11.9)	0.012
Acceptance of that concept	44 (19.1)	10 (6.4)	54 (14.0)	0.002
Friends with sexual experience	73 (31.2)	23 (14.7)	96 (24.6)	<0.001
Consistent condom use	12 (36.6)		NA ^b	
Mean age (year) of first sex (Min. – Max.)	19.7, SD=2.1 (16–24)	19.6, SD=2.2 (16–24)	18.8, SD=1.7 (16–24)	0.961

^a SD: Standard deviation; ^b NA: Not applicable

Risk behaviours among community youths and their associated factors

As shown in Table 3, among 410 community youths, the rates of smoking, alcohol consumption and premarital sex were 28.8%, 32.1% and 11.9%, respectively. 46.7% of males and 2.4% of females smoked at some point. The mean starting age of smoking was 16.7 years. Among males, 48.9% had exposure to their parents' smoking, 71.1% had at least one friend who had smoked, and 31.9% of smokers experienced peer pressure. 47.1% of males and 10.2% of females had consumed alcohol, including beer and/or wine. Among males, 30.8% had parents who drank, 66.5% had close friends who did, and 34.8% felt peer pressure to do so. 15.9% of males and 5.9% of females had some experience of premarital sex, whereas 6.0% declined to respond. Among male respondents who had sexual relations, only 36.6% consistently used the condoms, while 23.0% never took such precautions.

Exposure to parents' behaviour, having close friends with similar behaviour patterns, and peer pressure were also significant influencing factors for smoking and drinking among community youths, as mentioned in Table 4. Likewise, smoking, alcohol consumption and friends with sexual experience were the significant contributing factors for engaging in premarital sex.

Table 5 showed that smoking among male students was lower than among community youths ($p < 0.001$), whereas alcohol consumption was higher among medical students ($p = 0.020$). As for premarital sex, we found no significant difference between the two groups.

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Table 4 Age and sex adjusted odds ratios (OR) and 95% confidence intervals (CI) of listed factors for risk behaviours (smoking, drinking and premarital sex) among community youths

Factors		Risk behaviours		<i>p</i> -value	OR	95% CI
		Present Number (%)	Absent Number (%)			
Smoking tobacco						
Parents' smoking	No	41 (34.7)	168 (60.9)		1	(Reference)
	Yes	77 (65.3)	108 (39.1)	<0.001	4.1	2.3–7.1
Close friends who smoke	No	8 (7.1)	158 (56.8)		1	(Reference)
	Yes	105 (92.9)	120 (43.2)	<0.001	11.7	5.2–26.5
Peer pressure to smoke	No	58 (53.7)	249 (89.2)		1	(Reference)
	Yes	50 (46.3)	30 (10.8)	<0.001	4.1	2.2–7.5
Have experienced drinking alcohol	No	31 (26.3)	246 (84.8)		1	(Reference)
	Yes	87 (73.7)	44 (15.2)	<0.001	9.0	5.0–16.2
Pocket money/day ^a	Low	55 (46.6)	174 (59.6)		1	(Reference)
	High	63 (53.4)	118 (40.4)	0.582	0.8	0.5–1.3
Drinking alcohol						
Parents' drinking	No	78 (61.9)	188 (72.3)		1	(Reference)
	Yes	48 (38.1)	72 (27.7)	0.014	1.9	1.1–3.2
Close friends who drink	No	14 (10.9)	166 (64.3)		1	(Reference)
	Yes	114 (89.1)	92 (35.7)	<0.001	10.4	5.5–19.6
Peer pressure to drink	No	59 (48.8)	221 (87.4)		1	(Reference)
	Yes	62 (51.2)	32 (12.6)	<0.001	5.2	2.9–8.9
Have experienced smoking tobacco	No	44 (33.6)	246 (88.8)		1	(Reference)
	Yes	87 (66.4)	31 (11.2)	<0.001	9.2	5.1–16.4
Pocket money/day ^a	Low	63 (48.1)	165 (59.6)		1	(Reference)
	High	68 (51.9)	112 (40.4)	0.385	0.8	0.5–1.3
Premarital sex						
Acceptance of that concept	No	19 (41.3)	300 (91.7)		1	(Reference)
	Yes	27 (58.7)	27 (8.3)	<0.001	15.5	7.2–33.3
Close friends with sexual experience	No	13 (28.9)	268 (81.0)		1	(Reference)
	Yes	32 (71.1)	63 (19.0)	<0.001	8.6	4.1–17.6
Have experienced drinking alcohol	No	17 (37.0)	238 (70.6)		1	(Reference)
	Yes	29 (63.0)	99 (29.4)	0.003	2.9	1.4–5.9
Have experienced smoking tobacco	No	17 (37.0)	252 (74.3)		1	(Reference)
	Yes	29 (63.0)	87 (25.7)	0.002	3.5	1.6–7.9

^a Pocket money/day: In kyat (Myanmar money); low - <1,000 kyats/day, high - ≥1,000 kyats/day. 1,000 kyats was the current median of pocket money as well as reasonable daily expense for a community youths in Myanmar.

Table 5 Comparisons of male risk behaviours between medical students and community youths

Risk behaviours and factors	Medical students	Community youths	<i>p</i> -value	OR ^a	95% CI ^b
	Number (%)	Number (%)			
Smoking tobacco					
Smoking prevalence (ever)	50 (26.9)	114 (46.7)	<0.001	0.4	0.3–0.6
Parents' smoking	63 (37.3)	116 (48.9)	0.020	0.6	0.4–0.9
Friends' smoking	80 (47.6)	165 (71.1)	<0.001	0.3	0.2–0.5
Peer pressure to smoke	12 (7.7)	73 (31.9)	<0.001	0.2	0.1–0.3
Mean age (year) of starting smoking (Min. – Max.)	17.2, SD ^c =2.4 (10–20)	16.5, SD ^c =2.4 (12–24)	0.090		
Drinking alcohol					
Drinking prevalence (ever)	107 (58.5)	114 (47.1)	0.026	1.6	1.1–2.3
Parents' drinking	52 (31.5)	72 (30.7)	0.874	1.0	0.7–1.6
Friend's drinking	116 (71.2)	155 (66.5)	0.424	1.2	0.8–1.9
Peer pressure	42 (27.6)	77 (34.8)	0.140	0.7	0.5–1.1
Mean age (year) of starting alcohol (Min. – Max.)	16.9, SD ^c =2.3 (10–20)	17.7, SD ^c =2.2 (12–23)	0.017		
Premarital sex					
Premarital sex experience	33 (19.8)	37 (15.9)	0.201	1.4	0.8–2.4
Acceptance of that concept	53 (35.1)	44 (19.1)	<0.001	2.3	1.4–3.6
Friends with sexual experience	86 (57.0)	73(29.9)	<0.001	3.0	1.9–4.6
Consistent condom use	16 (61.5)	12 (36.6)			
Mean age (year) of starting sex (Min. – Max.)	17.8, SD ^c =1.9 (12–20)	19.7, SD ^c =2.1 (16–24)	<0.001		

^a OR: Age-adjusted odds ratio; ^b CI: Confidence intervals; ^c SD: Standard deviation

DISCUSSION

Currently, 1.3 billion persons use tobacco worldwide. Tobacco is a common risk factor for non-communicable diseases and is the second major cause of death around the world. The tobacco epidemic now threatens to afflict poor developing countries.¹¹⁾ In Southeast Asian countries, among adolescents (13–15 years) current cigarette smoking ranges from less than 5.0% to nearly 30.0%. Boys are significantly more likely than girls to smoke cigarettes or use other tobacco products.¹²⁾

The smoking prevalence among medical students by gender distribution was quite similar to the findings of a health professional survey in Myanmar where 12.6% were currently smoking cigarettes (24.8% of males and 1.4% of females).¹³⁾ In that study, although university authorities had officially banned smoking on campus since 2002,¹⁾ among the medical students who confessed to being smokers, about one in three had ignored that ban. Smoking prevalence among Myanmar medical students differed little from current and past use of tobacco (13.0%) among Chinese university students.¹⁴⁾ Our study found the 28.8% smoking and 32.1% drinking rates among community youths to be higher than the findings of a nationwide Myanmar survey of risk behaviours among out-of-school youths 15 to 24 years old.⁸⁾ This disparity may be due to geographical differences and/or rising trends in risk behaviours. Smoking prevalence among university students in our study was considerably lower compared with the prevalence among United State (US) college students.¹⁵⁾ That may be due to the very low smoking rate among our

female students, which was similar to the findings of other studies in Myanmar.^{2,4,5)}

University students might have adopted such risk behaviours due to a number of factors. Adolescent-peer relationships have been identified as a primary factor involved in smoking.¹⁶⁾ Some Japanese studies have reported that smoking among junior and high school students was influenced by the smoking of friends, family members¹⁷⁾ and marketing strategies.¹⁸⁾ Attendance at promotional events in bars, nightclubs, or at a campus party was associated with a higher prevalence of smoking and may encourage tobacco use among college students who did not smoke regularly before entering college.¹⁹⁾

Nowadays, social smoking, i.e., smoking mainly with others rather than alone, has become common among college students.²⁰⁾ One US study reported that college appears to be a time when many students make experiment with a range of tobacco products.¹⁵⁾ College students who were only occasional smokers in high school were more likely to increase their smoking frequency while in college. University environments might become critical locales for risk-taking behaviours, especially those involving social smoking and drinking.

Since alcohol consumption is a traditionally male habit, female drinkers are socially and culturally frowned upon in Myanmar; however, our study found that alcohol drinking among female students was not all that uncommon. We have to consider the consequences of such risky behaviour and establish appropriate control measures. The rate of alcohol consumption among male medical students exceeded that of community youths, which may be due to their social environment, the ready availability of alcohol, their modern lifestyles, peer pressure, and more pocket money. We found strong correlations among smoking, drinking, and sexual risk behaviours in our study. Similar correlations were also observed in the US national survey that found tobacco use to be significantly higher among alcohol users.¹⁵⁾ Four social environmental factors (family, peers, school, and neighbourhood) were found to play a critical role in whether or not teenagers misused alcohol.²¹⁾ The adolescents generally were more likely to misuse alcohol the more they were exposed to its use by others in their social environments.

In Myanmar, adolescent reproductive issues are new and information is scarce.¹⁰⁾ Sexuality among adolescent and young people is a sensitive issue. There is a cultural taboo that prohibits the dissemination of any information about sex in the community. As a consequence, there are many indications that the majority of adolescents lack accurate knowledge about reproductive health and other sex related issues. There has been some evidence that 39.4% of reported STD cases occurred among young persons between 15 and 24 years of age.⁸⁾ By the end of 2003, 80.0% of reported AIDS cases were in the 20 to 39 age group.²²⁾ One foreign study showed that medical university students were prone to many risk factors during their medical education.²³⁾

This study revealed that one-third of students and one-fifth of community youths accepted the concept of premarital sex and one-tenth had engaged in sex before marriage. Such findings may be a reflection of increasing western acculturation as well as some gradual shift in norms and values among Myanmar youths. Whatever the reason, it seems to be a forecast of harm about to befall this potential future generation in Myanmar. To protect them, we should prioritize and study these issues among both university students and community youths. A proper strategy must be developed to equip them with the necessary information about reproductive health and other risky behaviours.

In conclusion, these findings have highlighted the fact that the risks inherent in tobacco smoking, alcohol consumption and premarital sex among adolescents and youths of both groups are steadily on the rise. Among others, close friends and peer pressure were significant influencing factors of risky behaviour. Countermeasures such as a major approach to reduce risk among our young people should be addressed without delay. Current specific preventive measures and adolescent health programs targeting these groups should be revised and more effectively

emphasized. In addition, evaluation and behaviour modification should be undertaken along with changing lifestyles and existing cultural norms.

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