

Drinking Behavior among Female High School Students in Central Thailand

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Objective: To study the drinking behavior and factors associated with drinking among female High School students in central Thailand.

Material and Method: A cross-sectional study was conducted with 6,176 female students from central Thailand, who were classified into 2 groups according to their alcohol drinking practices in the past year (yes = 612, no = 5,564). Information was collected by an anonymous self-reporting questionnaire which consisted of 2 parts: socio-demographic factors, and alcohol drinking behavior during the past year from December 2007 to February 2008. Descriptive statistics, a chi-square test and multiple logistic regression were used to analyze the data.

Results: Of all these respondents 9.91% admitted to drinking alcohol. Most of the students were 15 years old or younger (61.80%). Univariate analysis revealed that socio-demographic factors such as age, educational level, residence, grade point average (GPA), having a job for earning money, and having family members with alcohol or drug problems were significantly associated with the student alcohol drinking ($p < 0.05$). Multiple logistic regression analysis, after adjusting for age, showed that only four factors were associated with alcohol consumption: the educational level (OR mathayomsuksa 5 = 3.39, 95% CI = 1.55-7.41; OR mathayomsuksa 3 = 2.29, 95% CI = 1.71-3.09), residence in a private dormitory (OR = 3.32, 95% CI = 1.01-10.27) and family members with alcohol or drug problems (OR = 1.72, 95% CI = 1.43-2.08), and a GPA greater than 3 (OR = 0.71, 95% CI = 0.58-0.86) ($p < 0.05$). The following for drinking practices were considered as inappropriate drinking behavior (20% drank over 2 times a month, 40% drank greater than 2 standard drinks each time, nearly 47% had experienced binge drinking, and one third had experienced drunkenness).

Conclusion: The results suggested that preventive measures for alcohol abuse among female high school students should consider the educational level, residence within a private dormitory and family members with alcohol or drug problems. Continuous insistence regarding the disadvantages of alcohol to risk groups would reduce the proportion of new and current drinkers.

Keywords: Drinking behavior, Female high school students, Central Thailand

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The World Health Organization (WHO) estimates that there are about 2 billion people world wide who consume alcoholic beverages and 76.3 million people have a diagnosable alcohol abuse problem⁽¹⁾. Alcohol consumption is related to a large number of adverse consequences such as harm to physical and mental health, the erosion of traffic

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safety, consumption which leads to violence, and a reduction in labor productivity.

Alcohol consumption, although still associated with low mortality in developing countries, must be now considered a significant public health problem. In developed countries it is the third largest risk factor for death. Alcohol consumption is widespread within nearly all age groups. Surveys and anecdotal data from countries around the world suggests that a culture of sporadic heavy or "binge" drinking among

young people may be spreading from developed to developing countries. Results from a WHO report show that a higher proportion of young people are at a higher risk of becoming drug and alcohol dependent when they become adults⁽³⁾.

In 2007, the National Statistical Office of Thailand found that 29.3% of Thais ≥ 15 years old consume alcohol. The proportion of alcohol consumption in the 25-59 age group was 34.4%, 15-24 21.9%, and over 60 years 15.6%⁽³⁾. In females, the proportion of drinkers in the age 25-59 years was 11.2%, 15-24 years 3.9% and over 60 years 4.6%⁽³⁾. It was found that the proportion of female drinkers increased from 8.1% in 1996 to 14.5% in 2003, but dropped to 9.1% in 2006 and 8.8% in 2007^(3,4). It is noteworthy that during the ten-year period (1996-2006), the proportion of female drinkers has risen in all age groups, particularly those aged 15-19 years increasing from 1.0% to 2.9%⁽⁴⁾. The major alcoholic risk groups are the working group and young people. Youngsters who drink have a greater risk of becoming alcoholics when they become adults. In order to control alcohol use among adolescents, it is useful to know their drinking behavior and the factors related to their alcohol consumption in order to organize preventive activities, such as information and education campaigns.

The aim of this study was to study the drinking behavior and factors associated with drinking among female High School students in central Thailand.

Material and Method

Study population and data collection techniques

A cross-sectional study was conducted from December 2007 to February 2008 in order to study the drinking behavior and to determine the risk factors which contribute to alcohol consumption among female High School students in central Thailand. The proposal was reviewed and approved by the Ethics Committee for Research in Human Subjects of Mahidol University (Ref. No. Mu 2007-243). A multistage sampling technique was used for selecting students from 10 provinces of central Thailand. These provinces were randomly selected and represented the socio-demographic characteristics of female adolescents in central Thailand. The selection of schools was based on a list of schools obtained from the Provincial Education Offices. All together 6,176 students from Mathayomsuksa School (MS) 1, 3 and 5 participated in the study. In each school, 3 or less classes of each of these 3 educational levels were recruited of the same grade level. If there were more than three classes, three

classes with students of mixed academic performance were randomly selected by teachers. The study subjects were classified into 2 groups according to their alcohol intake in the past year (yes = 612, no = 5,564). Each subject signed a written consent form stating they were willing to participate in the study. The anonymous self-reporting questionnaire which consisted of 2 parts, socio-demographics and alcohol drinking behavior within 12 months was performed by trained health staff. The details of the study including the right to refuse to participate without any effect on their student status was explained and informed consent was obtained from all participants. Socio-demographic factors were given as a percentage, crude odds ratio, 95% CI of OR and p-value. Univariate analysis was performed using Chi-square tests to differentiate proportional exposures between the drinkers and the non-drinkers. Categorical variables were used to determine suitable variables. A multiple logistic regression was used to estimate the adjusted odds ratios and the 95% CI of OR as measures of associations, including identification and adjustment for confounding variables. Statistical significance was set at p-value < 0.05 .

Results

Of a total of 6,176 female High School students a total of 9.91% consumed alcohol. Most of the girls (61.80%) were 15 years old or younger. Their educational level ranged from 31% in MS 1 to 37% in MS 5. The majority of study subjects had a Grade Point Average (GPA) of 3.0 or higher (56.06%) and 2.0-3.0 (39.77%).

Using a univariate analysis, the factors significantly associated with alcohol drinking assessed by a Pearson Chi-square test ($p < 0.05$) were age groups (OR = 1.76; 95% CI = 1.48-2.09), educational level (OR MS 3 = 2.53, 95% CI = 1.96-3.28; OR MS 5 = 3.01, 95% CI = 2.35-3.85), and residence (OR school dormitory = 2.48, 95% CI = 1.04-5.69; OR private dormitory = 7.34, 95% CI = 3.53-15.23), as well as GPA (OR < 2.0 = 1.48, 95% CI = 1.01-2.17; OR > 3.0 = 0.66; 95% CI = 0.55-0.80), having a job for earning money (OR = 1.28, 95% CI = 1.04-1.57) and having family members with alcohol or drug problems (OR = 1.76, 95% CI = 1.46-2.11) (Table 1).

After adjusting for age, five factors were included in the multivariate analysis model, educational level, residence, GPA, job for earning money, and family members with alcohol or drug problems. Upon adjusting for potential confounders, only four variables were significantly associated with drinking.

Table 1. Factors associated with the alcohol consumption of female High School students

Variables	No. drinker/total	% drinker	Crude OR	95%CI	p-value
Age group (yrs) (n = 6, 176)					
≤ 15	302/3,817	7.91	1		
> 15	310/2,359	13.14	1.76	1.48-2.09	<0.001 ^a
Educational level (n = 6, 176)					
MS 1	94/1,964	4.79	1		
MS 3	217/1,921	11.29	2.53	1.96-3.28	<0.001 ^a
MS 5	301/2,291	13.14	3.01	2.35-3.85	<0.001 ^a
Religion (n = 6,158)					
Buddhist	593/6,051	9.80	1		
Islam	4/44	9.09	0.92	0.28-2.70	1.000 ^b
Others	4/63	6.35	0.62	0.19-1.79	0.359 ^a
Residence (n = 5,559)					
House/Apartment of family	534/5,502	9.71	1		
School dormitory	8/38	21.05	2.48	1.04-5.69	0.028 ^b
Private dormitory	15/19	78.95	7.34	3.53-15.23	<0.001 ^b
Cohabitants (n = 5,931)	484/5,049	9.59	1		
Parent					
Relative	83/820	10.12	1.06	0.82-1.37	0.629 ^a
Friend	4/30	13.33	1.45	0.43-4.39	0.526 ^b
Alone	5/32	15.63	1.75	0.59-4.79	0.228 ^b
Grade point average (n = 5,371)					
< 2.0	39/224	17.41	1.48	1.01-2.17	0.035 ^a
2.0-3.0	266/2,136	12.45	1		
> 3.0	260/3,011	8.64	0.66	0.55-0.80	<0.001 ^a
Job for earning money (n = 6,087)					
No	459/4,896	9.38	1		
Yes	139/1,191	11.67	1.28	1.04-1.57	0.017 ^a
Family members with alcohol or drug problems (n = 5,561)					
No	241/3,165	7.61	1		
Yes	303/2,396	12.65	1.76	1.46-2.11	<0.001 ^a

^a Pearson Chi-square test, ^b Fisher exact test, OR = odds ratio, CI = confidence interval

MS 1 = the first year of secondary school (equivalent to grade 7), MS 3 = the third year of secondary school (equivalent to grade 9), MS 5 = the fifth year of secondary school (equivalent to grade 11)

Females with a grade level of MS 5 or MS 3 were 3.39 (95% CI = 1.55-7.41) times and 2.29 times (95% CI = 1.71-3.09) respectively more at risk of drinking alcohol than females of MS 1 level. Girls residing in a private dormitory were 3.32 times more likely to drink (95% CI = 1.01-10.27) than girls who lived at home or in a school dormitory. Girls with family members with alcohol or drug problems were 1.72 times more likely to drink (95% CI = 1.43-2.08) than girls whose relatives didn't have addiction problems. A GPA greater than 3.0 was found to be a protective factor (OR = 0.71; 95% CI = 0.58-0.86), as shown in Table 2.

The majority of girls drank alcohol less than 3 times a month (81.92%) and they each consumed

less than 3 standard drinks in the past 30 days (57.63%). Approximately 20% of girls drank more often than twice a month and 40% of them drank more than 2 standard drinks each time. Alcohol consumption was more common when joining a party (49.44%) but a high proportion of girls also drank at home/dormitory (40.82%). Nearly 47% of respondents experienced binge drinking and one third admitted to being intoxicated during the 30 days prior to participating in this study, as shown in Table 3.

Discussion

The majority of girls were 15 years old or younger (61.80%). The proportion of these drinking

Table 2. Multivariate analysis of factors associated with alcohol consumption among female High School students

Variables	Crude OR	Adjusted OR*	95% CI	p-value
Educational level				
MS 1	1	1		
MS 3	2.53	2.29	1.71-3.09	<0.001
MS 5	3.01	3.39	1.55-7.41	0.002
Residence				
House/Apartment of family	1	1		
School dormitory	2.48	2.25	0.94-5.42	0.070
Private dormitory	7.34	3.32	1.01-10.27	0.042
Grade point average				
< 2.0	1.48	1.32	0.87-1.99	0.192
2.0-3.0	1	1		
> 3.0	0.66	0.71	0.58-0.86	0.001
Job for earning money				
No	1	1		
Yes	1.28	1.09	0.87-1.37	0.446
Family members with alcohol or drug problems				
No	1	1		
Yes	1.76	1.72	1.43-2.08	<0.001

*Adjusted for age group, factors of educational level, residence, GPA, job for earning money and family members with alcohol or drug problems were entered into the model

alcohol was 9.91%. This result may be an underestimate of alcohol consumption by these girls since they probably don't always admit to the extent of their habits. One of the reasons may be that they were afraid of punitive consequences from their parents or caregivers, despite the fact that they had been assured that personalized information would not be reported. This study confirmed that elder girls drank more than younger ones⁽⁵⁻¹⁰⁾. This study also confirms that higher educational levels are associated with higher levels of alcohol consumption. This finding corresponds with the results of the study by Miller et al⁽⁷⁾. Living in a private dormitory, free of both parental control and also in the absence of an adult role model, provided the youngsters with a good opportunity to drink. The results found in this study were easy to explain and had also been found by Harford et al⁽¹¹⁾. Higher intellectual ability as indicated by higher GPA scores should prevent alcohol drinking and this theory was found to be in accordance with quite a number of similar investigations^(5,7,12,13). Only one study concluded otherwise⁽¹⁴⁾. Families who had a member with an alcohol or drug problem, obviously did not set a very good example for younger people as the youngsters were then at greater risk of starting drinking too. This particular finding is easy to interpret and has also been observed else-

where^(15,16). It has also been argued that alcohol drinking is a causal factor of substance use⁽⁷⁾. This doesn't seem to be entirely true for the group of young females investigated here since only 20% of them drank over 2 times a month, 40% had more than 2 standard drinks each time they drank, and although nearly 47% admitted to binge drinking, only one third had been drunk.

In conclusion, the results suggested that preventive measures for alcohol abuse among female High School students should consider educational level, residence within a private dormitory and family members with alcohol or drug problems. In addition, parents and caregivers should also be a good example for youngsters. Continuous insistence in regards to the disadvantages of drinking especially to the risk groups, would reduce the proportion of new and current drinkers.

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Table 3. Alcohol drinking within 12 months

Characteristics	No.	%
Frequency of drinking in the past 30 days (n = 459)		
1-2	376	81.92
3-5	61	13.29
6-9	7	1.53
10-19	12	2.61
≥ 20	3	0.65
Quantities for one drink in the past 30 days (standard drink*) (n = 472)		
1-2	272	57.63
3-4	94	19.92
5-6	63	13.35
7-8	15	3.17
≥ 9	28	5.93
Place of drinking (n = 534)		
Party	264	49.44
House/dormitory	218	40.82
Shop around school	48	8.99
Garden/field	4	0.75
Frequency of drinking within one time ≥ 5 standard drinks within 2 weeks (n = 579)		
No	312	53.88
1-2	199	34.37
3-5	40	6.91
6-9	14	2.42
≥ 10	14	2.42
Frequency of drinking until intoxicated in the past 30 days (n = 584)		
No	392	67.12
1-2	167	28.59
3-5	19	3.25
6-9	3	0.52
10-19	3	0.52

* 1 standard drink is equal to an 8-13 gram quantity of ethanol

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พฤติกรรมการบริโภคเครื่องดื่มแอลกอฮอล์ของนักเรียนหญิงระดับมัธยมศึกษาในภาคกลางของประเทศไทย

วิศิษฎ์ ฉวีพจน์กำจร, ญัฐจาพร พิชัยณรงค์

วัตถุประสงค์: เพื่อศึกษาพฤติกรรมการบริโภคเครื่องดื่มแอลกอฮอล์ และปัจจัยที่สัมพันธ์กับการดื่มเครื่องดื่มแอลกอฮอล์ในกลุ่มนักเรียนหญิงระดับมัธยมศึกษา ในภาคกลางของประเทศไทย

วัสดุและวิธีการ: การศึกษาภาคตัดขวางในนักเรียนหญิงระดับมัธยมศึกษา จำนวน 6,176 คน ในภาคกลางของประเทศไทย ซึ่งจำแนกเป็นกลุ่มที่บริโภคเครื่องดื่มแอลกอฮอล์ จำนวน 612 ราย และกลุ่มที่ไม่บริโภคเครื่องดื่มแอลกอฮอล์ จำนวน 5,564 ราย เก็บรวบรวมข้อมูลจากกลุ่มตัวอย่างโดยใช้แบบสอบถามให้ตอบเองและไม่ระบุชื่อระหว่างเดือนธันวาคม พ.ศ. 2550 ถึงเดือนกุมภาพันธ์ พ.ศ. 2551 ซึ่งประกอบด้วย ส่วนที่ 1 ข้อมูลทั่วไป ส่วนที่ 2 พฤติกรรมการบริโภคเครื่องดื่มแอลกอฮอล์ภายในปีที่ผ่านมา รวบรวม วิเคราะห์ข้อมูลด้วยสถิติเชิงพรรณนาและสถิติเชิงวิเคราะห์ได้แก่ Chi-square test และ multiple logistic regression

ผลการศึกษา: ร้อยละของการบริโภคเครื่องดื่มแอลกอฮอล์ในกลุ่มตัวอย่าง เท่ากับ 9.91 ส่วนมากมีอายุน้อยกว่าหรือเท่ากับ 15 ปี ร้อยละ 61.80 การวิเคราะห์ตัวแปรเชิงเดียว พบปัจจัยที่สัมพันธ์กับการดื่ม ได้แก่ กลุ่มอายุ ระดับชั้นปีที่พักอาศัย เกรดเฉลี่ย ทำงานหารายได้ และบุคคลในครอบครัวมีปัญหาจากสุรา/ยาเสพติด ($p < 0.05$) การวิเคราะห์แบบ multiple logistic regression โดยควบคุมปัจจัยด้านอายุ พบปัจจัยที่สัมพันธ์กับการบริโภคเครื่องดื่มแอลกอฮอล์ได้แก่ ระดับชั้นปี (OR มัธยมศึกษา 5 = 3.39, 95% CI = 1.55-7.41; OR มัธยมศึกษา 3 = 2.29, 95% CI = 1.71-3.09) ที่พักอาศัยในหอพักเอกชน (OR = 3.32, 95% CI = 1.01-10.27) สมาชิกในครอบครัวมีปัญหาด้านการติดเครื่องดื่มแอลกอฮอล์/สารเสพติด (OR = 1.72, 95% CI = 1.43-2.08) และเกรดเฉลี่ยมากกว่า 3 (OR = 0.71, 95% CI = 0.58-0.86) ($p < 0.05$) นอกจากนี้ ยังมีพฤติกรรมการบริโภคเครื่องดื่มแอลกอฮอล์ที่ไม่เหมาะสม ได้แก่ ร้อยละ 20 ดื่มมากกว่า 2 ครั้ง/เดือน ร้อยละ 40 ที่ดื่มมากกว่า 2 หน่วยแอลกอฮอล์/ครั้ง ร้อยละ 47 เคยมีประสบการณ์ดื่มอย่างหนัก และหนึ่งในสามของผู้ดื่มมีประสบการณ์ดื่มจนมีอาการเมา

สรุป: มาตรการป้องกันการบริโภคเครื่องดื่มแอลกอฮอล์ในกลุ่มนักเรียนหญิงระดับมัธยมศึกษาที่ควรคำนึงถึงได้แก่ ระดับชั้นปี สถานที่พักอาศัยโดยเฉพาะหอพักเอกชน และสมาชิกในครอบครัวมีปัญหาด้านการติดเครื่องดื่มแอลกอฮอล์/ยาเสพติด การทำความเข้าใจให้เห็นถึงผลเสีย จากการบริโภคเครื่องดื่มแอลกอฮอล์แก่กลุ่มเสี่ยง ต่อการดื่มเครื่องดื่มแอลกอฮอล์อย่างต่อเนื่อง จะช่วยลดสัดส่วนของผู้ดื่มหน้าใหม่และกลุ่มผู้ดื่มปัจจุบันลงได้ในระดับหนึ่ง
