

Associations of alcohol use with mental health and alcohol exposure among school-going students in Cambodia

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ABSTRACT

The aim of this study was to examine the associations of alcohol use with sociodemographic factors, mental health and alcohol exposure among school-going adolescents in Cambodia. The analysis included 3,806 school children, mean age 15.7 years (SD=1.8), from Cambodia who participated in the “Global School-based Student Health Survey” (GSHS) in 2013. The results indicate that overall, 10.0% of the students reported current alcohol use, 10.8% lifetime drunkenness, and 2.8% problem drinking. In multivariate logistic regression analysis, sociodemographic factors (older age and being male), mental health and other variables (bullying victimization, OR (odds ratio) = 1.99; 95% Confidence Interval (CI) [1.50, 2.65] and OR = 2.15; 95% CI [1.58, 3.21], respectively; having attempted suicide, OR = 2.04; 95% CI [1.35, 3.08] and OR = 2.06; 95% CI [1.29, 3.28], respectively and illicit drug use, OR = 4.97; 95% CI [2.41, 10.24] OR = 5.05; 95% CI [2.14, 11.98], respectively) and alcohol exposure variables (peer influence on drinking alcohol, OR = 6.68; 95% CI [4.75, 9.39] and OR = 7.83; 95% CI [5.73, 10.66], respectively and daily or almost daily to alcohol advertising in the past 30 days OR = 1.61; 95% CI [1.03, 2.51] and OR = 2.30; 95% CI [1.40, 3.77], respectively) were significantly positively associated with current alcohol use and drunkenness. Moreover, older age, being male, bullying victimization, having close friends, suicide attempt, drug use, father or male guardian drinks alcohol and peer influence were associated with problem drinking. There is a need to implement public health interventions with a special focus on the determinants of alcohol consumption, including exposure to alcohol advertising, in this age group.

Key Words: alcohol use, mental health, alcohol advertising, school children, Cambodia

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INTRODUCTION

Cambodia is a low income country, with a population of 14,365,000, in Southeast Asia.¹ Alcohol sales have been declining in high income countries but increasing, due to an expanding global alcohol industry, in low and middle income countries, including in Southeast Asia.² In Cambodia, per capita alcohol consumption (in liters of pure alcohol) increased from 4.6 in

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2003–2005 to 5.5 in 2008–2010 in the general population (15 years and above), while among drinkers the per capita pure alcohol consumption was 14.2.¹⁾ The prevalence of alcohol use disorders and alcohol dependence in Cambodia were 4.4% and 2.7%, respectively, in 2010 (higher than the Western Pacific region average).¹⁾ In a local study in rural communities in Cambodia, a high prevalence of alcohol use disorder (25%) was found.³⁾ In a school survey in a provincial town in Cambodia, 47.4% of adolescents had drunk at least a full glass of alcohol.⁴⁾

“Similar to other developing countries, alcohol consumption in Cambodia can be attributed to globalization, industrialization, migration, rising living standards, and increasing media presence. Indeed, these factors have been linked to the increasing use and abuse of alcohol, more drinking among women, more binge drinking, and greater acceptability of drinking as a social norm.”⁵⁾ Cambodia has a weak regulatory framework for alcohol, with no minimum drinking age,⁶⁾ no limitation on the sale or advertising of alcohol, and low taxes on alcohol products.¹⁾ However, in October 2014 the government of Cambodia introduced partial restrictions on broadcasting alcohol advertisements.⁷⁾ Furthermore, there is a draft law setting the legal drinking age at 21, which should restrict people who are under 21 years of age from buying alcohol or drinking alcohol in bars.⁸⁾

Previous studies among adolescents on the prevalence of alcohol use in the past 30 days or lifetime drunkenness in the Southeast Asia region found a prevalence of current alcohol use of 1.6% in Myanmar, 2.9% in Indonesia, 17.4% in the Philippines⁹⁾ and 14.8% in Thailand;¹⁰⁾ and a prevalence of lifetime drunkenness of 3.0% in Myanmar, 2.5% in Indonesia and 18.0% in the Philippines.⁹⁾ Sociodemographic factors, such as male gender^{10,11)} and older age,^{10,12,13)} have been found to be associated with current alcohol use, problem drinking, or lifetime drunkenness among adolescents in the Asian region. Furthermore, a number of studies have found that poor mental health (worry/anxiety),^{14,15)} suicidal ideation, loneliness¹⁴⁾ and related variables such as bullying victimization,¹⁵⁾ violence victimization¹³⁾ and drug use^{10,12,14,16)} were associated with current alcohol use, problem drinking, or lifetime drunkenness among adolescents.

Alcohol exposure in terms of peer influence and paternal drinking was found in previous studies¹⁷⁻¹⁹⁾ of alcohol use and problem drinking among adolescents. Regarding alcohol advertising, systematic reviews of longitudinal studies suggest there is an association between exposure to alcohol advertising and commercial communications about alcohol and subsequent alcohol consumption or increased drinking among young people.^{20,21)} In cross-sectional studies among adolescents in the Asian region, alcohol marketing was associated with drunkenness in the Philippines,¹³⁾ media marketing was associated with alcohol use and intention to drink in Thailand,²²⁾ and in a longitudinal study in Taiwan greater media exposure to alcohol advertising was associated with the initiation and persistence of alcohol use.²³⁾ In a study among adolescents in Australia, the majority indicated that they had been exposed to alcohol advertisements, which was found to be associated with increased alcohol use.²⁴⁾ Considering the use of aggressive advertising strategies by the alcohol industry to promote its products to young people, prevalence studies of alcohol use, including alcohol advertising, are needed in order to design effective prevention strategies.¹¹⁾

The aim of this study was to examine the associations of alcohol use with sociodemographic factors, mental health and alcohol exposure among school-going adolescents in Cambodia.

MATERIAL AND METHODS

Sample and procedure

This study included a secondary analysis of existing data from the 2013 Global School-based

Health Survey (GSHS) from Cambodia. Details and data of the GSHS can be accessed online.²⁵⁾ The current analyses are based on the restricted dataset that includes an expanded list of questions. A two-stage cluster sample design, based on selecting schools and then classes, was used to collect data to represent all students in grades 6 to 12 in Cambodia.²⁶⁾ Students self-completed the questionnaire under the supervision of trained research assistants.²⁶⁾ The study protocol was approved by the National Ethics Committee for Health Research, and informed consent was obtained from the students, parents and/or school officials.²⁶⁾

Measures

The study variables used were from the GSHS²⁵⁾ and are described in Table 1.

Table 1 Variable description

Variables	Question	Response options
<i>Sociodemographics</i>		
Age	“How old are you?”	1=11 years old or younger to 8=18 years old or older (coded 1–5=1: 13 years or younger to 15 years, and coded 6–8=0: 16 to 18 years or older)
Sex	“What is your sex?”	1=Male, 2=Female (coded 1=1 and 2=0)
<i>Alcohol use variables</i>		
Current alcohol use	“During the past 30 days, on how many days did you have at least one drink containing alcohol?”	1=0 days to 7=All 30 days (coded 1=0 and 2–7=1)
Drunkness	“During your life, how many times did you drink so much alcohol that you were really drunk?”	1=0 times to 4=10 or more times (coded 1=0 and 2–4=1)
Problem drinking	“During your life, how many times have you gotten into trouble with your family or friends, missed school, or gotten into fights as a result of drinking alcohol?”	1=0 times to 4=10 or more times (coded 1=0 and 2–4=1)
<i>Alcohol exposure variables</i>		
Father or male guardian drinks	“Which of your parents or guardians drinks alcohol?”	1=Neither, 2=My father or male guardian to 4=both (coded 2=1)
Peer influence on drinking	“If one of your best friends offered you a drink of alcohol, would you drink it?”	1=Definitely not to 4=Definitely yes (coded 1–2=0 and 3–4=1)
Alcohol adverts	“During the past 30 days, how often did you see any alcohol advertisements?”	1=Never to 5=Daily (coded 1–3=0 and 4–5=1)
<i>Mental health and related variables</i>		
Bullied	“During the past 30 days, on how many days were you bullied?”	1=0 days to 7=all 30 days (coded 1=0 and 2–7=1)
Close friends	“How many close friends do you have?”	1=0 to 4= 3 or more (coded 1=1 and 2–5=0)
Loneliness	“During the past 12 months, how often have you felt lonely?”	1=Never to 5=Always (coded 1–3=0 and 4–5=1)
Worried	“During the past 12 months, how often have you been so worried about something that you could not sleep at night?”	1=Never to 5=Always (coded 1–3=0 and 4–5=1)
Suicide attempt	“During the past 12 months, how many times did you actually attempt suicide?”	1=0 times to 5=6 or more times (coded 1=0 and 2–5=1)
Drug use	“How old were you when you first used drugs?”	1=I never used drugs to 8=18 years old or older (coded 1=0 and 2–8=1)

Data analysis

Using STATA software version 13.0 (Stata Corporation, College Station, Texas, USA), data were analyzed taking into account the sampling design. Frequencies, percentages and means and standard deviations were used to describe the sample. Multivariate logistic regression estimated the impact of independent variables (sociodemographic, mental health and related variables and alcohol advertising exposure) on alcohol use indicators (current alcohol use, lifetime drunkenness and problem drinking; binary dependent variables). In the analysis, weighted percentages are reported. The reported sample size reflects the sample that was asked the target question. A p-value of less than 5% was used to indicate statistical significance. Both the p-value and the reported 95% confidence intervals are adjusted for the multistage stratified cluster sample design of the study.

“A weighting factor was applied to each student record to adjust for non-response and for the varying probabilities of selection. The weight used for estimation in this survey is given by: $W = W1 * W2 * f1 * f2 * f3$ ($W1$ = the inverse of the probability of selecting the school; $W2$ = the inverse of the probability of selecting the classroom within the school; $f1$ = a school-level nonresponse adjustment factor calculated by school size category (small, medium, large). The factor was calculated in terms of school enrollment instead of number of schools. $f2$ = a student-level nonresponse adjustment factor calculated by class. $f3$ = a poststratification adjustment factor calculated by grade).”²⁶⁾

RESULTS

Sample characteristics

The total sample included 3,806 school children, mean age 15.7 years (SD=1.8); 47.7% were girls and 52.3% were boys. The year of data collection was 2013, and the overall response rate was 85.0%. Overall, 10.0% of the students reported currently (in the past 30 days) using alcohol, 10.8% had (ever) drunk so much alcohol that they were really drunk (drunkenness) and 2.8% had ever gotten into trouble with their family or friends, missed school, or gotten into fights as a result of drinking alcohol (problem drinking). Furthermore, 42.2% of students reported that their father or male guardian drinks alcohol, 11.1% said that they would drink alcohol if it was offered by their best friend, and 51.4% had seen daily or almost daily alcohol advertisements in the past month. Regarding mental health and other variables, 22.3% had been bullied in the past month, 5.0% had no close friends, 5.7% had been mostly or always feeling lonely in the past 12 months, 6.0% had been mostly or always so worried that they could not sleep at night in the past 12 months, 6.8% had attempted to commit suicide one or more times in the past 12 months, and 3.5% had ever used illegal drugs (Table 2).

Associations with alcohol use indicators

In multivariate logistic regression analysis, sociodemographic factors (older age and being male), mental health and other variables (bullying victimization, having attempted suicide and illicit drug use) and alcohol exposure variables (peer influence on drinking alcohol and daily or almost daily exposure to alcohol advertising in the past 30 days) were associated with current alcohol use and drunkenness. In addition, having close friends was associated with current alcohol use. Furthermore, older age, male gender, bullying victimization, history of suicide attempt, drug use, paternal or male guardian drinking and peer influence on drinking increased the odds of problem drinking (Table 3).

Alcohol use

Table 2 Sample characteristics

Variable	Sample N (%)	Current alcohol use n (%)	Drunkenness n (%)	Problem drinking n (%)
Socio-demographics				
All	3,806	411 (10.0)	434 (10.8)	105 (2.8)
Age in years				
16–18 or older	1,974 (48.3)	316 (15.2)	354 (18.0)	82 (4.4)
13 or younger –15	1,824 (51.7)	94 (5.2)	80 (4.3)	23 (1.3)
Sex				
Female	1,791 (47.7)	100 (4.6)	116 (5.0)	30 (1.6)
Male	2,003 (52.3)	310 (15.0)	318 (16.3)	75 (3.9)
Mental health and related variables				
Bullying victimization	867 (22.3)	150 (16.9)	159 (18.4)	55 (6.9)
No close friends	202 (5.0)	22 (9.1)	25 (10.7)	1 (0.2)
Loneliness	263 (5.7)	51 (17.9)	55 (21.3)	19 (7.1)
Worried or anxiety	276 (6.0)	51 (17.9)	57 (20.2)	21 (8.1)
Suicide attempt	264 (6.8)	58 (20.9)	65 (21.0)	27 (9.9)
Drug use	133 (3.5)	55 (46.7)	57 (51.7)	28 (23.0)
Alcohol exposure variables				
Father or male guardian drinks alcohol	1,570 (42.2)	191 (11.1)	201 (12.0)	61 (4.2)
If friend offered drink would drink	444 (11.1)	192 (40.7)	205 (47.0)	46 (9.6)
Alcohol advertising exposure				
Never or rarely	669 (18.5)	55 (8.0)	50 (7.2)	26 (3.9)
Sometimes	1,104 (30.0)	103 (7.8)	108 (9.5)	22 (1.8)
Almost daily or daily	2,024 (51.4)	251 (12.0)	274 (12.8)	56 (3.0)

Table 3 Associations of alcohol use with sociodemographic factors, mental health, and alcohol exposure among school-going adolescents from Cambodia, 2013

Variable	Current alcohol use AOR (95% CI) ^a	Drunkenness AOR (95% CI) ^a	Problem drinking AOR (95% CI) ^a
Socio-demographics			
Age in years			
16–18 or older	1 (Reference)	1 (Reference)	1 (Reference)
13 or younger –15	0.44 (0.30–0.64)***	0.27 (0.17–0.41)***	0.39 (0.23–0.66)***
Sex			
Female	1 (Reference)	1 (Reference)	1 (Reference)
Male	3.51 (1.86–6.64)***	3.75 (2.80–5.02)***	2.54 (1.50–4.27)***
Mental health and related variables			
Bullying victimization	1.99 (1.50–2.65)***	2.15 (1.58–3.21)***	3.39 (1.64–7.00)**
No close friends	0.46 (0.23–0.90)*	0.51 (0.23–1.14)	0.04 (0.005–0.39)**
Loneliness	1.40 (0.72–2.71)	1.13 (0.64–2.00)	1.62 (0.73–3.63)
Worried or anxiety	1.30 (0.74–2.30)	1.43 (0.87–2.34)	1.90 (0.96–3.77)
Suicide attempt	2.04 (1.35–3.08)*	2.06 (1.29–3.28)**	2.88 (1.10–7.53)*
Drug use	4.97 (2.41–10.24)***	5.05 (2.14–11.98)***	4.30 (2.09–8.84)***
Alcohol exposure variables			
Father or male guardian drinks alcohol	0.94 (0.69–1.26)	0.85 (0.54–1.33)	2.25 (1.22–4.15)*
If friend offered drink would drink	6.68 (4.75–9.39)***	7.83 (5.73–10.66)***	2.61 (1.56–4.38)***
Alcohol advertising exposure			
Never or rarely	1 (Reference)	1 (Reference)	1 (Reference)
Sometimes	0.88 (0.56–1.38)	1.67 (0.96–2.91)	0.58 (0.26–1.29)
Almost daily or daily	1.61 (1.03–2.51)*	2.30 (1.40–3.77)**	1.18 (0.59–2.35)

AOR=Adjusted Odds Ratio; CI=Confidence Interval; ^aAdjusted for socio-demographic, mental health and related variables, and alcohol exposure variables; ***P<0.001; **P<0.01; *P<0.05

DISCUSSION

This study investigated alcohol advertising exposure, mental health and alcohol use in a large, nationally representative sample of school-going adolescents in Cambodia. Compared to previous studies of the prevalence of current alcohol use and lifetime drunkenness among adolescents,^{9,10} this study found higher prevalences than in Indonesia and Myanmar but lower prevalences than in the Philippines and Thailand. In agreement with previous studies,¹⁰⁻¹³ this study found that male gender and older age were associated with current alcohol use, problem drinking and lifetime drunkenness among adolescents in Cambodia.

In terms of mental health and other variables, bullying victimization, having attempted suicide, and illicit drug use were all associated with current alcohol use, drunkenness and problem drinking. Similar results have been found in some previous studies, particularly regarding suicidal ideation, loneliness,¹⁴ bullying victimization,¹⁵ and drug use.^{10,12-14,16} Unlike some previous studies,^{14,15} this study did not find an association between worry or anxiety, loneliness and alcohol use. In this study, having close friends was associated with current alcohol use and problem drinking. It is possible that drinking activity is engaged in with peers, indicating an increased likelihood of having close friends among adolescents who reported drinking.

Peer influence was, in this study as in other studies,¹⁷⁻¹⁹ highly associated with alcohol use indicators. Although a large group of students had a father or male guardian who was drinking, this was only associated with problem drinking but not with current alcohol use and drunkenness. Similar results were found among adolescents in Taiwan.^{18,19}

As in a study among adolescents in Australia,²⁴ in this study in Cambodia a majority indicated that they had been exposed to alcohol advertisements daily or almost daily. After the study was conducted in 2013, the government of Cambodia introduced restrictions on broadcasting alcohol advertisements,⁷ and it is possible that, meanwhile, there have been reductions in exposure to alcohol advertisements in Cambodia. Nevertheless, this finding suggests that exposure to alcohol advertisements among young people in Cambodia is as common as in other countries such as Australia.²⁴ Furthermore, there is hope that ratifying a draft law setting the legal drinking age at 21 years of age⁸ will help to restrict people who are under 21 years of age from buying alcohol or drinking alcohol in bars.

In agreement with previous studies,^{13,20,21-24} this study found that daily or almost daily exposure to alcohol advertising in the past 30 days (adjusted for sociodemographic, mental health and related variables), peer influence and paternal drinking were associated with current alcohol use and drunkenness. This finding supports the possible explanation that increased exposure to alcohol advertising contributes to increased alcohol use among adolescents.²¹ The implication of this result of the current study is that policies are needed to prevent alcohol advertisements to underage youth. In fact, Saffer²⁷ showed that a ban on all alcohol advertising could reduce underage monthly alcohol consumption by 24%.

Limitations of this study include the cross-sectional nature of the study and its inclusion of only school-going adolescents. The prevalence of alcohol use indicators may differ between school-going and non-school-going adolescents. Moreover, data were collected by self-report, which may have biased the results. Alcohol advertising was only assessed with one question, and further studies should include more questions on the specific types of alcohol advertising such as media and promotional materials.

CONCLUSION

The study found, in a large sample of adolescents in Cambodia, that 10% or more engaged current alcohol use and lifetime drunkenness. Several sociodemographic (male and older age), mental health (suicide attempts) and other related variables (bullying victimization and drug use), as well as peer influence and exposure to alcohol advertising, were identified as risk factors for alcohol use and drunkenness, while older age, being male, bullying victimization, having close friends, suicide attempt, drug use, father or male guardian drinks alcohol and peer influence were associated with problem drinking. This knowledge can help guide interventions to prevent or reduce alcohol use among this school population.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

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