

PROBLEMS AND FACTORS INFLUENCING ALCOHOL USE DISORDER AMONG THE FIRST-YEAR STUDENTS OF MAHASARAKHAM UNIVERSITY, MAHASARAKHAM PROVINCE, THAILAND.

Terdsak Promarak¹ and Wongsa Laohasiriwong^{2*}

¹Graduated School, Khon Kaen University, Khon Kaen 40002, Thailand.

²Department of Public Health Administration, Faculty of Public Health, Khon Kaen University, Khon Kaen 40002, Thailand, and Board Committee of Research and Training Centre for Enhancing Quality of Life of Working Age People (REQW).

ABSTRACT

This study aimed to identify prevalence, patterns of alcohol use, and factors influencing alcohol use disorder among the first year students of Mahasarakham University (MSU), Mahasarakham Province, Thailand. Participants, consisted of 878 first-year students from all 17 faculties, were systematic randomly selected and completed the questionnaire. The average age for the first year students was 17.7 ± 0.7 years old. It was found that 41.5% of them drank alcohol during the past years. AUDIT scores indicated that 17.6% were alcohol use disorders. They also showed that 59.9 % of family members drank alcohol. According to the university no alcohol policy, 76.3% of them were aware of the policy, and 81.5 % agreed with the university's policy on prohibited alcohol sell and drink in the campus. It was shown that 78.2 % of the first-year students had moderate level of knowledge on alcohol, and 63.2 % of them had high level of attitude on alcohol control. Several factors, i.e., close friend persuasion, challenged by close friend, and possessed inappropriate attitude on alcohol disorder, were statistically significant factors that influencing alcohol use disorder among these first-year students, where the values of adjusted OR= 3.64 (95% CI: 2.25 - 5.87) at $p < 0.01$, 3.14 (95% CI: 2.12 - 4.64) at $p < 0.01$, and 2.64 (95% CI: 1.81- 4.64) at $p < 0.01$, respectively. This could be concluded that alcohol use disorder was critical among the first-year students. Authorities, parents, peers, and policy implementation were essential factors that contributed to the reduction and management of alcohol use disorder in MSU.

Keywords: Alcohol, alcohol use disorder, student.

INTRODUCTION

The World Health Organization had estimated that there were about 2 billion people worldwide consuming alcoholic beverage and 76.3 million with diagnosed alcohol use disorders (WHO, 2004). Once it was considered at the global population, it was estimated that alcohol consumption caused 3.2% of deaths (or approximately 1.8 million), and 4.0% of the disability-adjusted life-years lost (or approximately 58.3 million). The results from the national survey in 2006 indicated that there was 29.2% of population aged 11 years and older, which comprised of male 50.3% and female 9.1%, drank alcoholic beverage.

It had been shown that alcohol was the second most risk factors that cause death and disability in Thai population in 2003. An estimated economic loss attributable to alcohol consumption in 2003 was 13,007-33,652 million baht, with 0.22-0.56% of gross domestic product (GDP) in Thailand (Bureau of Policy and Strategy, 2003). The annual report published by the Ministry of Public Health in 2005 indicated that there were increasing trends of alcohol related mortality and morbidity rates among Thai people (Bureau of Policy and Strategy, 2006).

The study reported in 2003 that 15,946,900 people in Northeast Thailand of the age group between 12 - 65 years old, which equivalent to approximately 62.5 % or more than 9,500,000 people, consumed alcoholic beverage. It indicated that teenager started drinking alcoholic beverage at the age of 12 years old and the most common drink among these teenagers were beer. There were more than five million northeasterners drank beer in the year of study (Kanato, 2004). Mahasarakham University (MSU) is one of the universities located in Northeast Thailand of which alcohol use disorder is a major concern, since most of the students are teenagers. It was documented in 2005 that there were 79 reported cases of traffic accidents and some violence related to alcohol use disorder (MSU Student Affairs Division, 2006). The university has started to issue some policy measures in order to deal with alcohol use disorder among students. However, they were not

systematically and continuously implemented. This study was aimed to describe the alcohol use disorder patterns and factors associated with alcohol use disorder among the first year students at MSU. The identified problems would be used to develop a set of interventions for prevention and reduction of alcohol consumption, and to decrease alcohol use disorder among the first-year students of MSU. The objectives of this study were focused on identifying factors influencing alcohol use disorder, and examining alcohol use disorder problems among the first-year students of MSU.

METHODOLOGY

The cross-sectional study was conducted to explore the prevalence and pattern of alcohol use disorder and factors influencing alcohol use disorder among the first-year students of MSU. The constructed questionnaire was used to interview and collect the quantitative data.

The population of this study was the first-year students of MSU from seventeen faculties. The students who were selected to participate in this study were those who were willing to participate in the study, had good verbal communication and enrolled as the first-year students of MSU.

The sample size of this study was calculated with 95% confidence interval level with the absolute precision of 0.03. The anticipated proportion of the previous studies indicated that there were 24% of population aged between 15-24 years old drank alcoholic beverage. Therefore, the value of $p = 0.24$ (National Statistical Office, 2007.) was obtained using formula of Lwanga and Lemeshow (1991), which $n = 877.7$ where the absolute precision required = 0.01. Thus, a total sample of 878 students was selected. The population from seventeen faculties was stratified into seventeen strata, which having different students size. The samples of students from all faculties were randomly selected by systematic technique and be proportional to the strata size.

A structured questionnaire consisted of five parts, i.e., demographic and socioeconomic information consisted of age, sex, background of families, and

incomes; knowledge of alcohol use disorder (20 items); attitude related to alcohol use disorders consisted of 20 items and four rating scales; environment context consisted of law enforcement, selling points, and peer drinking behavior; and alcohol use disorders identification test (AUDIT) developed by WHO (Babor et al., 2001). The test consisted of four domains and 10 items. AUDIT classified alcohol use disorder into three categories, i.e., hazardous drinking, harmful use, and alcohol dependence.

A handbook for interviewers was developed and pretested before the trainings' use. The proposal and the tools, which were tested for the content validity and reliability, received the approval from the Ethical Committee of Khon Kaen University and the Human Research Board of MSU.

All data were validated, coded, and analyzed using the STATA version 9.0 after the collection. Descriptive statistics, i.e., percentage, mean, standard deviation, minimum, maximum, and median were used to describe the descriptive characteristics of students, independent variables, and alcohol use disorder. Multiple logistic regression analysis was used to identify the factors influencing alcohol use disorder among MSU students.

RESULTS

The total number of samples was 878 of first year students of MSU. The majority of them were females (68.3 %). Their average age was 17.7 ± 0.7 years old where about half of them were aged 18 (or approximately 49.2%) and 17 (or approximately 41.0%) years old. Their parents' marital status was mostly married, which was approximately equivalent to 87.9%. The occupations of their fathers were farmers, which approximately equivalent to 38.2%, and government service, which approximately equivalent to 24.5%, respectively. Their average monthly expenditure was 4568.5 ± 1484.0 baht, where 38.2 % of them stayed in dormitory in campus, and 33.1 % of them stayed in either private dormitory or rental home or apartment. It was found that 76.7 % of the first-year students stayed with friends, and 18.3 % were all alone.

The AUDIT results indicated that about 41.5 % of the first year students drank alcohol. Once the volume of light alcoholic beverage was estimated, it was found that the consumption of beer or wine, etc., was approximately 28.8 % of them who drank 2 - 3 cans (1 can = 330 ml), 14.0% of them drank spirit or whiskey 2 - 3 kongs (1 kongs = 50 ml), and 12.4% of them drank 1 kug (1 kug=100 ml) on a typical drinking day. Heavy episodic drinking or binge drinking was the modern epithet for drinking alcoholic beverages with the primary intention of becoming intoxicated by heavy consumption of alcohol over a short period of time (Renaud, 2001). It was considered as heavy drinking when someone drinks more than six standard drinks per episode. It was shown that 25.3 % of these students never experienced heavy drinking; however, 35.7% of them had heavy drinking less often than monthly, 20.3 % had monthly, and 16.2% had weekly heavy episodic drinking. In term of dependency symptoms, 38.5% of the students had ever been unable to remember what happened during the night before because they had been drunk, 34.1 % of the students ever failed to do what was normally expected from them because of drinking, 24.5% needed a first drink in the morning to get oneself going after a heavy drinking session. According to the harmful effect of alcohol use, 34.6 % had a feeling of guilt or remorse after drinking, 25.8% were unable to remember what happened during the night before because they had been drunk, 19% of the students or someone else had been injured as a result of the students drinking, and 35.9% of the students had a relative, friend, or a health worker been concerned about their alcohol drinking or suggested them to cut down.

Once the classification of alcohol use was dealing with, it was found that 82.4 % of the first-year students were non-hazardous alcohol use. However, 17.6 % of them were alcohol use disorders, of which 11.5 % were hazardous use, where 2.7 % of them were harmful use, and 3.4% were dependence alcohol use, as shown in Table 1.

Table 1. Numbers and percent of alcohol use disorder of participants (n = 878).

Alcohol use disorder	AUDIT score	Number	Percent
Non-hazardous alcohol use	0 - 7	723	82.4
Hazardous alcohol use	8 - 15	101	11.5
Harmful alcohol use	16 - 19	24	2.7
Dependence alcohol use	20-40	30	3.4

Results showed that from the total of 20 scores, the average knowledge score was 9.24 ± 2.48 . The minimum and maximum scores were 2, and 20, respectively. It was demonstrated that

most of the students, approximately 78.2%, had average knowledge on alcohol use disorders, where as only 11.5 % had high knowledge on alcohol use disorders. Results are summarized in Table 2.

Table 2. Numbers and percent of the levels of knowledge on alcohol use disorder of participants (n = 878).

Levels	Knowledge score	Number	Percent
Low	0 - 6	90	10.3
Average	7 - 13	687	78.2
High	14 - 20	101	11.5
Mean \pm S.D. = 9.84 ± 3.07 ; Min = 2; Max = 20.			

It was demonstrated that 63.3 % of the first-year students had appropriate attitude on alcohol use disorder control, which was followed by 35.6

% who had average level of indifferent attitude. Results are summarized in Table 3.

Table 3. Numbers and percent of the levels of attitude scores of participants (n = 878).

Levels	Attitude score	Number	Percent
Inappropriate	30 - 60	10	1.1
Indifferent	61 - 90	313	35.6
Appropriate	91 - 120	555	63.3
Mean = 92.64; S.D. = 11.7;		Min = 30;	Max = 116

Once the influence of their parents or family was taken into consideration, 59.9 % of these students had parents or family members who drank alcohol, and 52.2 % had ever bought alcohol for their family members. It was shown that 48.7 % or almost half of them had close friends who drank alcohol, while 54.7 % of them were persuaded by their friends, 28.6 % were challenged, and 44.4 % who bought

them alcohol to drink, respectively. It revealed that most of them, or equivalent to 76.3 %, ever known about MSU Alcohol Free Policy, and 86 % agreed with the policy, respectively.

Despite the fact that 71.4 % knew that drinking alcohol was prohibited in their accommodation, where 47.9% indicated alcohol was sold there. The median time from student accommodation to the

nearest place where students could buy alcohol was five minutes.

Results of the multiple logistic regression analysis suggested that the odds ratios adjusted for sex, agreed with MSU policy in prohibiting selling and drinking alcohol in MSU, close friend persuasion, challenged by close friends, and attitude on alcohol use disorder control indicated that

close friend persuasion, challenged by close friend, and possessed inappropriate attitude on alcohol disorder control, were factors statistically significant influencing alcohol use disorder among these first-year students (adjusted OR= 3.64 (95% CI: 2.25 – 5.87), $p < 0.01$; 3.14 (95% CI: 2.12 – 4.64), $p < 0.01$ and; 2.64 (95% CI: 1.81- 4.64), $p < 0.01$, respectively, as shown in Table 4.

Table 4. Factors influencing alcohol use disorders of the first-year students of MSU (n=878). Results of odds ratios of adjusted for sex, agreed with MSU policy in prohibiting selling and drinking alcohol in MSU, close friend persuasion, challenged by close friends and attitude on alcohol used disorder control are summarized, as shown in the Table.

Factors	Alcohol use disorder of the first-year students							
	Non hazardous (n=723)		Dependent alcohol use (n= 155)		Crude OR	Adjusted OR	95% CI adjusted OR	p-value
	n	%	n	%				
Close friend Persuasion								
Not persuaded	373	51.6	25	16.1	1			
Persuaded	350	48.4	130	83.9	5.54	3.64	2.25 – 5.87	<0.01
Challenged by close friend								
Not challenged	562	77.7	65	41.9	1			
Challenged	161	22.3	90	58.1	4.83	3.14	2.12 – 4.64	<0.01
Attitude on alcohol use Disorder control								
Appropriate	475	65.7	60	38.7	1			
Inappropriate	248	34.3	95	61.3	3.03	2.64	1.81 – 4.64	<0.01

DISCUSSION

This study indicated a very clear alcohol use disorder situation among the MSU first-year student, and that 41.5% of these students drank alcohol during past year. The prevalence of alcohol consumption was higher than that of the average of the national northeastern Thai figures, in which the reported figures were 23.7% and 28.2 %, respectively (National Statistical Office, 2007), where

17.6 % of them were alcohol use disorder, 20.3 % had monthly heavy drinking, and 16.2% had weekly heavy drinking. It was also shown that it was much higher than those of the study of Land, who found that almost 15% of high school students in the USA fit the criteria for “heavy” drinking. In term of adverse impact, 19% of the students or someone else had been injured as a result of the students drinking. Once risk factors were taken

into consideration, it was found that 59.9 % of the students had family members who drank alcohol, 52.4 % who used to buy alcohol for their family members, 48.7 % who had close friend who drank alcohol, and 54.7% who were persuaded by close friend, and 28.6% who were challenged by close friend to drink alcohol. It was conformed to a number of studies suggesting that there were risk factors which could lead adolescents to the abuse of alcohol and other drugs. Johnson et al. (1990) described three basic categories of risk factors, i.e., demographic, social, and behavioral. Social risk factors involved the influence of the family, peers, and the environment. Parents and peer factors had been affected on their alcohol use disorder. They were familiar and had sense of normal practices in drinking alcohol since their close ones also drink. It is similar to various studies that indicate that adolescents whose peer group is involved with alcohol and other drugs and is also more likely to become involved (Agnello-Linden, 1991; Barrett, 1990; Schilling and McAlister, 1990).

A lack of appropriate law enforcement has been found to contribute to the prevalence of adolescents drinking (Agnello-Linden, 1991; Linde, 1992). In the MSU situation, 76.3% of the students were aware of university's free alcohol policy, while 81.5 % of them agreed with university's policy on prohibiting alcohol sell and drink in the campus. Most of them, or approximately 63.2%, had appropriate attitude on alcohol control. However, in the real situation it might not be strong enough in term of enforcement, since 47.9% of them indicated that alcohol was sold in their accommodation areas, and 84.9 % of them said that they could buy alcohol within 10 minutes, with the median time of five minutes from their accommodations to the nearest place that sold alcohol. It was confirmed by the results of multiple logistic regression analysis that several factors, i.e., close friend persuasion, challenged by close friend, and possessed inappropriate attitude on alcohol disorder, were statistically significant influencing alcohol use disorder among these first-year students, where the values of adjusted OR were 3.64 (95% CI: 2.25 - 5.87) at $p < 0.01$, 3.14

(95% CI: 2.12 - 4.64) at $p < 0.01$, and 2.64 (95% CI: 1.81- 4.64) at $p < 0.01$, respectively. Therefore, it is quite clear that parents, peers, and policy have influences on alcohol use disorders of the first-year students of MSU. The systematic approaches, which involve parents, peers, policy implementation, are essential factors for the reduction and management of alcohol use disorder in MSU.

An action research on model development to emphasize on alcohol use disorder managements, which involves of all sectors, would help solving alcohol use disorder and its impacts.

ACKNOWLEDGEMENT

I would like to express my sincere gratitude and appreciation to those who contributed to this study, especially the MSU students. This study was supported in part by a scholarship from the Higher Education Commission, Ministry of Education, Thailand, and that, from the National Health Commission Office and Thai Public Health Network (Thai Health Promotion Foundation).

REFERENCES

- Agnello-Linden, M.F. 1991. Alcohol use and abuse in a rural school. Paper presented at the Annual Convention of the National Rural Education Association, Jackson, Mississippi, USA. (ERIC Document Reproduction Service No. ED 339 580).
- Babor, T.F., Higgins-Biddle, J.C., Saunders, J.B., and Monteiro, M.G. 2001. AUDIT: The Alcohol Use Disorders Identification Test. Guidelines for Use in Primary Care. 2nd ed., Department of Mental Health and Substance Dependence, World Health Organization, Geneva, Switzerland, (WHO/MSD/MSB/01.6a), which available at URL:http://www.who.int/hq/who_msd_msb_01.6a/ Retrieved on May 2007.
- Barrett, H. 1990. Drug use in rural Kansas fifth and sixth graders. Fort Hays State University, Kansas, USA. (ERIC Document Reproduction Service No. ED 339 955).
- Bureau of Policy and Strategy, Ministry of Public

- Health. 2003. An In-depth Analysis of Data from Provincial Health Survey. Ministry of Public Health, Bangkok, Thailand (in Thai).
- Bureau of Policy and Strategy, Ministry of Public Health. 2006. Health Policy in Thailand. Ministry of Public Health, Bangkok, Thailand. Available at URL: <http://www.bps.ops.moph.go.th/Health Policy/> Retrieved on May 2007.
- Center for Alcohol Studies (CAS). 2006. Thailand Alcohol Situation 2006. Ministry of Public Health, Bangkok, Thailand (in Thai).
- Johnson, C.A., Pentz, M.A., Weber, M.D., Dwyer, J.H., Baer, N., MacKinnon, D.P., Hansen, W.B., and Flay, B.R. 1990. Relative effectiveness of comprehensive community programming for drug abuse prevention with high-risk and low-risk adolescents. *Journal of Consulting and Clinical Psychology* 58(4): 447-456.
- Kanato, M. 2004. The Estimates of Alcoholic Beverage Consumption in Northeast, 2003. Illicit Drugs, Substance Abuse, Academic and Information Development Network. Khon Kaen University, Khon Kaen, Thailand. Available at URL: http://www.isan.kku.ac.th/Activity/upload_files/ Retrieved on July 2007.
- Linden, M.F. 1992. Attitudes toward alcohol use and abuse in a rural school. Paper presented at the annual meeting of the Southwest Educational Research Association, Houston, Texas, USA. (ERIC Document Reproduction Service No. ED 341 001).
- Lwanga, S.K. and Lemeshow, S. 1991. Sample size determination in health studies: A practical manual. World Health Organization, Geneva, Switzerland. (NLM Classification: WA 950) Available at URL: [http://www.who.int/publications/9241544058\(p1-p22\)/](http://www.who.int/publications/9241544058(p1-p22)/) Retrieved on May 2007.
- Maharakham University. 2006. Public devotion is a virtue of the learned. Maharakham, Thailand (in Thai).
- Maharakham University Student Affairs Division. 2006. Report cases of traffic accident and violence in Maharakham University. Maharakham University, Maharakham, Thailand (in Thai).
- Ministry of Public Health (MOPH). 2005. Thailand Health Profile 2001-2004. Bureau of Policy and Strategy, Ministry of Public Health, Bangkok, Thailand.
- National Statistical Office. 2007. The 2006 Health and Welfare Survey. Population and Social Statistics Group, Economic and Social Statistics Bureau, National Statistical Office, Bangkok, Thailand (in Thai).
- Renaud, S. C. 2001. Diet and Stroke. *Journal of Nutrition Health Aging* 5(3): 167-72.
- Schilling, R.R., and McAlister, A. 1990. Preventing drug use in adolescents through media interventions. *Journal of Consulting and Clinical Psychology* 58(4): 416-424.
- World Health Organization (WHO). 2004. Global Status Report: Alcohol Policy. Department of Mental Health and Substance Abuse, World Health Organization, Geneva, Switzerland (NLM Classification: WM 274). Available at URL: http://www.who.int/substance_abuse/publications/en/Alcohol/ Retrieved on May 2007.