The Prevalence and Associated Factors of Alcohol Consumption: A Cross-Sectional Study in Khon Kaen, Thailand

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Background and Objective: Knowledge of the situation and risk factors associated with alcohol consumption are essential for prevention and control measures of health consequences. This study aims to explore the prevalence of alcohol consumption and the factors associated with alcohol consumption in the population aged 12-65 years.

Material and Method: This was a descriptive study. This survey used multi-stage sampling and face-to-face interviews, carried out in both urban and rural areas. Those interviewed were a representative sample of 876 people in the ratio of one male and one female to represent the household. Data were collected by interviewers between 1 January and 28 February 2012. The data were analyzed by frequency, percentage, mean, standard deviation, Chi-square, multiple logistic regression, OR and 95% CI of OR. This study was approved by the ethics and research institutional review board of Khon Kaen University No. HE53121.

Results: The mean age of the respondents was 41.7 years (SD 13.6). The majority of the respondents were the head of the family (33.9%), those educated to primary school level (44.6%), living in rural areas (55.9%), who were married (70.7%), and who were farmers (35.3%). The prevalence of alcohol consumption during the previous week was 6.3% (95% CI: 4.7 to 7.9), during the previous month was 35.2% (95% CI: 32.0 to 38.3), and during the previous year was 41.0% (95% CI: 37.7 to 44.2). The factors associated with alcohol consumption were gender (male/female) AOR 6.5 (95% CI 4.4 to 8.9, p-value <0.001) age group (25-44/45-65) AOR 1.6 (95% CI 1.1 to 2.4, p-value = 0.011) location (rural/urban) AOR 1.7 (95% CI 1.3 to 2.4, p-value <0.001) educational attainment (bachelor or master degree/primary school) AOR 1.7 (95% CI 1.1 to 2.8, p-value = 0.031) and the occupation (laborer) AOR 1.6 (95% CI 1.1 to 2.4, p-value = 0.015).

Conclusion: Knowing the prevalence and factors associated with alcohol consumption are essential to understanding the situation, solving related problems and using the information in the campaign for the prevention and control of alcohol consumption.

Keywords: Alcohol consumption, Prevalence, Factors, Thailand

The use of alcoholic beverages has been an integral part of many cultures for thousands of years[1]. The vision of this strategy is to improve the health and social outcomes of individuals, families and communities, considerably reducing morbidity and mortality due to the harmful use of alcohol and their ensuing social consequences[2]. Alcohol is a psychoactive substance with dependence-producing properties. Consumption of alcohol and problems related to alcohol vary widely around the world, but the burden of disease and death remains significant in most countries. The harmful use of alcohol ranks amongst the top five risk factors for disease, disability and death throughout the world[2,3]. It is a causal factor in more than 200 diseases and injury conditions[4]. Drinking alcohol is associated with a risk of developing such health problems as alcohol dependence, liver cirrhosis, cancers and injuries[5-7]. The other causal relationships suggested by research findings were those between alcohol consumption and the incidence of infectious diseases such as tuberculosis and HIV/AIDS[8-10] as well as between the harmful use of alcohol and the course of HIV/AIDS[11,12]. The net effect of the harmful use of alcohol is approximately 3.3 million deaths each year, even when the beneficial impact of

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low risk patterns of alcohol use on some diseases is taken into account. Thus, the harmful use of alcohol accounts for 5.9% of all deaths worldwide[13].

Worldwide consumption in 2010 was equal to 6.2 litres of pure alcohol consumed per person aged 15 years or older, which translates into 13.5 grams of pure alcohol per day. A quarter of this consumption (24.8%) was unrecorded, i.e., homemade alcohol, illegally produced or sold outside normal government controls. Of the total recorded alcohol consumed worldwide, 50.1% was consumed in the form of spirits. Worldwide, 61.7% of the population aged 15 years or older (15+) had not drunk alcohol in the past 12 months. In all regions, females are more often lifetime abstainers than males. There is a considerable variation in the prevalence of abstention across regions. Worldwide about 16.0% of drinkers aged 15 years or older engage in heavy episodic drinking[13].

The National Statistics Office[14] reported that in 2004, 32% of Thai adults aged 15 years and above drank alcohol. Of those people in the northeast about 60% of the same group had experienced alcohol use during their lives[15]. Moreover, where there was violence in the family and psychological abuse, about 81.2% of these problems were associated with alcohol use. The research question was "How prevalent is alcohol consumption, and what were the factors associated with alcohol consumption in the population aged 12-65 years in Khon Kaen province, Thailand?".

Objective

The primary objective is to study the prevalence of alcohol consumption in the past year in the population aged 12-65 years. The secondary objective is to determine the association between alcohol consumption and characteristic factors.

Material and Method

This cross-sectional, descriptive study design was conducted in Khon Kaen province, northeast Thailand. The sample size was calculated to estimate the proportion of alcohol consumption. The parameters used were where the prevalence of alcohol consumption was 43.0%, and the precision of the estimate was ±5%, with a confidence interval level of 95%. The sample size was calculated in the Win Pepi statistical package. The initial sample of 377 individuals was multiplied by a design effect (deff) of 2 increased by 15% for losses and refusals. This resulted in a sample of 888 individuals. The sampling process was a multi-stage sampling. The location was set in urban and rural areas,

444 households were interviewed, one male and one female were sampled and represented the household. The questionnaire comprised two sections: 1) socio-demographics and 2) alcohol consumption, which were determined for content validity by three experts. Data were collected by interviewers. The data abstraction and interview forms were checked for completeness, then double-entered into a computer and validated using EPI INFO 6 before the data were transferred into SPSS for analysis. The Data set was analyzed by frequency, percentage, mean, standard deviation and Chi-square, multiple logistic regression, OR 95% CI of OR. This study was approved by The Ethics and Research institutional review Board of Khon Kaen University No. HE53121.

Results

Socio-demographic characteristics of the respondents

There were 876 respondents from 888 samples aged 12-65 years. The response rate was 98.6%. Half of the respondents were females (50.0%). The mean age was 41.7 years (SD 13.6). The majority of the respondents were the head of the family (33.9%), those who attained primary school level (44.6%), who lived in a rural area (55.9%), who were married (70.7%), and who were farmers (35.3%) (Table 1).

Prevalence of alcohol consumption during the past year

The prevalence of alcohol consumption during the previous week was 6.3% (95% CI: 4.7 to 7.9), during the previous month was 35.2% (95% CI: 32.0 to 38.3), and during the previous year was 41.0% (95% CI: 37.7 to 44.2) (Table 2).

Socio demographic factors related to alcohol consumption in the past year

After adjusting for potential confounding factors, the multiple logistic regression analysis revealed that sex, age group, location, educational attainment, and the occupation of laborers were the socio-demographic factors related to alcohol consumption in the past year (Table 3).

Discussion

This study explored the prevalence of alcohol consumption in Khon Kaen Province, northeast Thailand. The authors found that the proportion of alcohol consumption during the past year prior to the study was lower than the study reported in the Northeast Regional Household survey in Thailand in

Table 1. Socio-demographic characteristics of people aged 12-65 years in Khon Kaen, Thailand 2012

Characteristics	Male (n = 438)		Female (n = 438)		Total (n = 876)	
	n	%	n	%	n	%
Gender	438	50.0	438	50.0	876	100.0
Age (years)						
Mean ± SD	41.2±14.3		42.1±13.0		41.7±13.6	
Status in family						
The head of family	257	58.7	40	9.1	297	33.9
Partner of the head of family	10	2.3	253	57.8	263	30.0
Sons or daughters	129	29.5	118	26.9	247	28.2
Next of kin of the head of family	8	1.8	7	1.6	15	1.7
Parents of the head of family	7	1.6	8	1.8	15	1.7
Relatives	11	2.5	7	1.6	18	2.1
Tenants	1	0.2	3	0.7	4	0.5
Other	15	3.4	2	0.5	17	1.9
Educational attainment						
Primary school	179	40.9	212	48.4	391	44.6
Secondary school	131	29.9	130	29.7	261	29.8
Diploma	55	12.6	43	9.8	98	11.2
Bachelor or master degree	73	16.7	53	12.1	126	14.4
Location						
Urban	193	44.1	193	44.1	386	44.1
Rural	245	55.9	245	55.9	490	55.9
Marital status						
Single	110	25.1	72	16.4	182	20.8
Married	303	69.2	316	72.1	619	70.7
Separated/divorced/window	25	5.7	50	11.4	75	8.6
Occupation						
Farmer	152	34.7	157	35.8	309	35.3
Labourer	111	25.3	87	19.9	198	22.6
Self-employed	40	9.1	64	14.6	104	11.9
Government employee	61	13.9	35	8.0	96	11.0
Student	54	12.3	42	9.6	96	11.0
Unemployed/retired	20	4.6	53	12.1	73	8.3

Table 2. Prevalence of alcohol consumption of people aged 12-65 years in Khon Kaen, Thailand 2012

Period	Alcohol consumption (n = 876)		95% CI
	n	%	
The previous week	55	6.3	4.7-7.9
The previous month	308	35.2	32.0-38.3
The previous year	359	41.0	37.7-44.2

2003[15]. However, it was higher than another study carried out in the same age group by the Khon Kaen, Northeast Regional Household survey-Thailand 2007, which reported that 30.6% of all 12-65 years old had drunk alcohol during the past year prior to the study[16]. The authors found that the prevalence of alcohol consumption during the past month prior to the study was equal with the study reported in the Northeast

Table 3. Distribution of factors related to alcohol consumption of people aged 12-65 years in Khon Kaen, Thailand 2012

Variables (n = 876)	n	n of alcohol consumption	% alcohol consumptions	Crude OR	95% CI	p-value	Adjusted OR	95% CI	p-value
Gender									
Male	438	268	61.2	6.0	4.5 to 8.1	<0.001*	6.5	4.4 to 8.9	<0.001*
Female	438	91	20.8	1			1		
Age group									
12-24	141	61	43.3	1.4	0.9 to 2.0	0.009*	1.1	0.6 to 1.7	0.680
25-44	326	152	46.6	1.6	1.2 to 2.1		1.6	1.1 to 2.4	0.011*
45-65	409	146	35.7	1			1		
Location									
Rural	486	219	44.7	1.4	1.1 to 1.9	0.012*	1.7	1.3 to 2.4	<0.001*
Urban	390	140	36.3	1			1		
Educational attainment									
Primary school	310	137	35.0	1		0.002*	1		
Secondary school	261	123	47.1	1.6	1.2 to 2.3		1.4	0.9 to 2.1	0.105
Diploma	98	36	36.7	1.1	0.7 to 1.7		0.7	0.4 to 1.2	0.239
Bachelor or master degree	126	63	50.0	1.8	1.2 to 2.8		1.7	1.1 to 2.8	0.031*
Occupation of labourer									
Yes	198	102	51.5	1.7	1.3 to 2.4	0.001*	1.6	1.1 to 2.4	0.015*
No	678	257	37.9	1			1		

Regional Household survey in Thailand in 2003[15]. We found that the prevalence of alcohol consumption during the week prior to the study was lower than the study in the Northeast Regional National Survey and by the AUDIT in the Thai population[17] and a study in the South of Brazil[18].

Males generally had a higher level of alcohol consumption than females. The significant effect of gender on alcohol consumption has been reported in several studies. It was similar to the previous study[14,16-19]. The other significant factor associated with alcohol consumption in this study, is that the younger people had a higher level of alcohol consumption than the older, which is similar to the study carried out in a medium-sized city in the South of Brazil[18,20-22]. This pattern of alcohol consumption was also found in research carried out in Australia, where, in addition to consuming more, young people also presented higher risk behaviors related to alcohol use compared with older people[23]. Another factor was the location. The authors found that people who live in rural areas had a higher level of alcohol consumption than people who live in urban areas, which is similar to the study by Buntrai[16]. Another factor was educational attainment[24,25]. Education gave people a greater opportunity to find work and gain more income. Some studies in Brazil have found the same traits among abstainers, those with lower income, those with lower level of education, and those with family history of alcohol problems[26], and the last factor was the occupation as a laborer. When laborers worked very hard, they sometimes believed that alcohol could protect them from chemicals entering their bodies; for example, a farmer might drink alcohol before spraying insecticide in his field. Some farmers or laborers used alcohol for the purpose of relaxation after tiring work. That was the reason cited for their drinking[15].

Knowing the prevalence and factors associated with alcohol use disorders are of extreme relevance in order to finance and assess health program policies, of interest at all government levels, to the society in general and their organizations in search of better levels of health.

Conclusion and recommendation

Although local policy and planning is appropriate to pursue population health, Alcohol consumption and factors associated with it is essential in healthcare planning. It could benefit both government and non-government agencies to make appropriate services plans, in particular at the local authority. In this regard, understanding of alcohol consumption and related problems will guide local authorities to take effective prevention and control measures.

What is already known on this topic?

Regarding alcohol consumption situation in Thailand, two approaches have been used currently. Alcohol volume intake (per capita) is calculated using ratio of total alcohol production and total population. Alcohol consumption cross has been done periodically at national level through cross sectional survey.

What this study adds?

The two approaches could be benefit at national level, but may not be specific to local problems. This study emerged that local situations differ from national figures, not only regarding alcohol consumption, but also factors associated with it.

Potential conflicts of interest

None.

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ความชุกและปัจจัยที่มีความสัมพันธ์กับการบริโภคเครื่องดื่มที่มีแอลกอฮอล์ของประชาชนในจังหวัดขอนแก่น ประเทศไทย

สุทิน ชนะบุญ, มานพ คณะโต

ภูมิหลังและวัตถุประสงค์: ข้อมูลสถานการณ์และปัจจัยที่เกี่ยวข้องกับการบริโภคเครื่องดื่มที่มีแอลกอฮอล์เป็นสิ่งสำคัญที่ใช้ในการวางมาตรการเพื่อป้องกันและควบคุมผลกระทบต่อสุขภาพ โดยมีวัตถุประสงค์เพื่อศึกษาความชุกของการบริโภคเครื่องดื่มแอลกอฮอล์และปัจจัยที่มีความสัมพันธ์กับการบริโภคเครื่องดื่มแอลกอฮอล์ของประชาชนอายุ 12-65 ปี

วัสดุและวิธีการศึกษา: การศึกษาเชิงพรรณนา ตัวอย่างคือ ประชาชนอายุ 12-65 ปี จังหวัดขอนแก่น ประเทศไทยจำนวน 876 ราย ทั้งในและนอกเขตเทศบาล โดยใช้การสุ่มตัวอย่างแบบหลายขั้นตอน เก็บข้อมูลโดยการสัมภาษณ์โดยสุ่มตัวแทนครัวเรือนเพศชาย 1 ราย เพศหญิง 1 ราย วิเคราะห์ข้อมูลโดยการแจกแจงความถี่ ร้อยละ ค่าเฉลี่ย ส่วนเบี่ยงเบนมาตรฐาน ไคว์สแควร์ การถดถอยพหุแบบโลจีสติก อัตราเสี่ยง และการประมาณค่าช่วงเชื่อมั่นร้อยละ 95 การวิจัยครั้งนี้ได้รับการพิจารณาและรับรองจากคณะกรรมการพิจารณาด้านจริยธรรม ของการวิจัยในมนุษย์ของมหาวิทยาลัยขอนแก่น เลขที่ HE531212

ผลการศึกษา: พบว่ากลุ่มตัวอย่างเป็นเพศชายและเพศหญิงเท่ากัน มีอายุเฉลี่ย 41.7 ปี (ส่วนเบี่ยงเบนมาตรฐาน 13.6) กลุ่มตัวอย่างเป็นหัวหน้าครัวเรือนมากที่สุด (ร้อยละ 33.9) การศึกษาระดับประถมศึกษามากที่สุด (ร้อยละ 44.6) อาศัยอยู่นอกเขตเทศบาล (ร้อยละ 55.9) ส่วนใหญ่มีสถานภาพสมรสคู่ (ร้อยละ 70.7) อาชีพเกษตรกรรมมากที่สุด (ร้อยละ 35.3) ความชุกของการบริโภคเครื่องดื่มแอลกอฮอล์ในรอบ 1 สัปดาห์ที่ผ่านมาร้อยละ 6.3 (95%CI: 4.7 ถึง 7.9) ในรอบ 1 เดือนที่ผ่านมา ร้อยละ 35.2 (95% CI: 32.0 ถึง 38.3) และในรอบ 1 ปีที่ผ่านมา ร้อยละ 41.0 (95% CI: 37.7 ถึง 44.2) ปัจจัยที่มีความสัมพันธ์กับการบริโภคเครื่องดื่มแอลกอฮอล์ได้แก่ เพศ (ชาย/หญิง) AOR 6.5 (95% CI 4.4 to 8.9, p-value <0.001) กลุ่มอายุ (25-44/45-65 ปี) AOR 1.6 (95%CI 1.1 to 2.4, p-value = 0.011) เขตที่อยู่อาศัย(นอกเขต/ในเขตเทศบาล) AOR 1.7 (95% CI 1.3 to 2.4, p-value <0.001) ระดับการศึกษา (ปริญญาตรีขึ้นไป/ประถมศึกษา) AOR 1.7 (95% CI 1.1 to 2.8, p-value = 0.031) และอาชีพ (เกษตรกรรม/อาชีพอื่นๆ) AOR 1.6 (95%CI 1.1 to 2.4, p-value = 0.015)

สรุป: ความชุกและปัจจัยที่เกี่ยวข้องกับการบริโภคเครื่องดื่มแอลกอฮอล์เป็นสิ่งจำเป็นในการทำความเข้าใจสถานการณ์ การแก้ปัญหาและใช้เป็นข้อมูลในการรณรงค์เพื่อการป้องกันและการควบคุมการบริโภคเครื่องดื่มแอลกอฮอล์