DRINKING PATTERNS AND THEIR PREDICTIVE FACTORS : A CASE STUDY OF A COMMUNITY IN PHAYAO PROVINCE, THAILAND

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ABSTRACT:

Background: Alcohol consumption is a significant public health concern in Thailand. This study aimed to explore patterns of alcohol consumption, and to identify predictive factors of alcohol consumption among people in a rural area of Phayao province where high prevalence of alcohol consumption has been reported in the past five years.

Method: A cross-sectional study was undertaken in which 160 people, aged over 15 years, participated. Data were collected by face-to-face interviews. Chi-square tests and multiple logistic regression were used to characterize predictive factors of alcohol consumption among the participants.

Results: Findings revealed that 51.2% of participants were female, and their average age was 49.75 years (SD=17.8). Only 16.2% reported current smoking. Over half (56.2%) had consumed alcohol in their lifetime, 40% drank in the previous year and 21.9% drank in the last month. Among those who drank in the previous year, 87.5% reported they drank with their friends, and 42.2% drank at their friends' home. Nearly two-thirds (60.9%) reported that social drinking was an important factor in their drinking. The highest frequency of drinking reported in the previous year was 1-3 times a month (28.1%). The majority (89.1%) were identified as low-risk drinkers. Their preferences of beverage in the previous year were beer, dark spirits and clear spirits (25.6%, 21.2% and 19.4%, respectively). Following univariate analysis, seven factors emerged including: gender, smoking cigarettes, participation in community activities, a recent alcohol campaign in the community, peer pressure, cause, and place of drinking– were identified as being significantly associated with drinking ($p<0.05$). Multivariable analysis revealed only three factors to be predictive of alcohol consumption among people in the rural community: smoking (OR=8.07, 95%CI=2.69-24.12), being involved in community activities (OR=6.49, 95%CI=1.26-33.34), and male (OR=3.04, 95%CI=1.08-8.57).

Conclusion: Smoking and involving community activities were strong predictors of alcohol use. Hence, reduction of smoking and raising community alcohol awareness should be considered as key areas in attempts to reduce alcohol consumption among people in the community.

Keywords: Predictive factors, Alcohol consumption, Rural community, Thailand

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INTRODUCTION

Alcoholic beverages are widely consumed throughout the world. The World Health Organization estimates that there are about two billion people worldwide who consume alcohol [1]. In 2005, the number worldwide per capita of alcohol consumption equaled 6.13 liters of pure alcohol consumed by every person aged 15 years or older, and approximately 28.6% of people or 1.76 liters per person who consumed homemade and illegally produced alcohol. This alcohol may be associated with an increased risk of harm because of unknown and potentially dangerous impurities or contaminants in these beverages [2].

An increase in the number of heavy drinking (drinking five or more drinks on the same occasion [3]), to occasional hazardous drinking (occasionally drinking that runs the risk of causing serious problems [4]) creates significant public health, and serious associated problems in most countries [2]. The harmful use of alcohol is a causal factor in more

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than 200 diseases and injury conditions [5]. According to World Health Organization, the Thai adult aged over 15 who consumed alcohol per capita per year in 1990, 1998, 1999 and 2001 increased from 7.5, 8.3 and 8.5 liters respectively [1]. As consumption increased so did the negative impacts. In the analysis of burden of diseases and injuries of Thai population in 2004 reported that alcohol dependence/abuse contributed to the highest years lived in disabilities (YLD) of all illnesses among men (17.9% or 314,000 YLDs) [6].

Risk factors associated with alcohol consumption have two domains: individual and environmental. Individual level factors are such as age of onset, type of personality and gender. Drinking early in life is related to an increasing in the risk of developing an alcohol abuse problem [7]. Personality factors such as antisocial traits, poor self-regulation, anxiety, depression, and shyness may also predispose to alcohol drinking and alcohol related problems [8, 9]. Important to note is that from a population perspective men drink more and have higher alcohol-related problems than women [10].

Environmental level factors including economic development, culture, availability of alcohol, and the enforcement of alcohol policies in their communities effects alcohol consumption [5]. Literature revealed that the environment in which people live and work has an effect on the attitudes and behaviors among drinkers. Environment influences whether people will accept alcoholic drinking among people in their society; whereas availability, advertising and marketing were promoted accessibility of alcohol. Importantly, public policies regarding alcohol influence alcohol consumption [11]. Although there is no single factor determining alcohol consumption, if a person has more vulnerability, they are more likely to develop alcohol-related problems once they start to drink.

In Thailand, over one-fourth (28.6%) of the Thai population aged 12-65 years were identified as current drinkers [12]. Also, the Centre for Alcohol Studies in Thailand reported that Phayao province, located in the northern Thailand, has the highest prevalence of alcohol consumption in Thailand among people aged over 15 years (54.0%) [13]. However, there have been no studies specifically attempting to identify the risk factors for alcohol consumption among rural people in Phayao province. Therefore, this study aims to explore patterns of alcohol drinking, and identifying predictive factors of alcohol consumption among people in the rural area of Phayao province.

MATERIALS AND METHODS

A cross-sectional survey was conducted to gather base line data for the Capacity Building in Health Promotion Project organized by Boromarajonani College of Nursing, Phayao, which aimed for achieving a healthy community. The community consisted of a population of 770. One hundred-sixty community members who were aged over 15 years were interviewed while they were joining the health assessment service which was provided as part of the project. This number accounted for 20.78 % of the population of the village. Informed consent was obtained from all participants. The researcher scheduled one-day training on a structured interview questionnaire for five trained nursing students. The survey was conducted in July 2014. There were three parts of questionnaire that included closed ended questions:

Part I: Socio-demographic characteristics consisted of gender, age, and smoking history.

Part II: Alcohol consumption part which included the questionnaire relevant with individual and environmental factors of alcohol consumption, and drinking patterns. The environmental factors of alcohol consumption compose of person to drink, and the cause of drinking which can be divided into three main causes of drinking: social drinking, peer drinking and others cause. Social drinking is the consumption of alcohol without reaching the point of being drunk. It is drinking in a safe, legal, and responsible manner, allowing one to socialize. Three or less measured drinks (or a blood alcohol level of up to 0.05%) is considered to be within the social drinking range [14]. Whereas, peer drinking means drinking with friends since peers influence on drinking that peers who drank may encourage experimentation with alcohol use [15]. Moreover, exposure to alcohol use by peer groups seems likely to increase the risk by reducing drinking refusal self-efficacy [16]. In addition, all spirits (vodka, rum, tequila, bourbon, and so on) fall into one of two broad categories: clear spirits and dark spirits. Clear spirits are the ones you can see though; dark spirits range in color from warm amber to deep brown. All distillates come off the still as clear liquids. The taste, smell, and appearance of the final product depend on how the distiller processes the liquid [17].

Part III: This part covered the Alcohol Use Disorders Identification Test (AUDIT), a standard screening tool for excessive drinking developed by the World Health Organization (WHO). The AUDIT was developed and evaluated over a period of two decades, and it has been found to provide an accurate

Table 1 Characteristics of participants in a rural area of Phayao province, Thailand (n=160)

Variables	N	%
Gender		
Male	78	48.8
Female	82	51.2
Age (years)		
15-34	31	19.4
35-59	78	48.8
≥ 60	51	31.8
Smoke		
Never	110	68.8
Ever	24	15.0
Current smoke	26	16.2
Participate in community's activities (in last year)		
No	117	73.1
Yes	43	26.9

Table 2 Drinking pattern among people who have drank and have not drank in previous years in a rural area of Phayao province, Thailand (n=64)

Variables	N	%
Alcohol consumption		
Never	70	43.8
Ever	90	56.2
- Ever consumed in their lifetime	90	56.2
- Ever consumed in last year	64	40.0
- Ever consumed in last month	35	21.9
Person who they drank with		
Friends	56	87.5
Alone	4	6.3
Families	2	3.1
Others	2	3.1
Cause of drinking		
Social drinking	39	31.2
Peer drinking	20	60.9
Others	5	7.8
Frequency of drinking		
< 1 time /month	17	26.6
1-3 times / month	18	28.1
1-5 days / week	16	25.0
6-7 days / week	13	20.3
Alcohol drinking risk (AUDIT)		
Low-risk (1-7 scores)	57	89.1
High-risk (8-15 scores)	4	6.2
Hazardous (16-19 scores)	1	1.6
Dependence (20-40 scores)	2	3.1
Preference beverage in last year		
Beer	41	25.6
Dark spirits	34	21.2
Clear spirits	31	19.4
Preference beverage in last year		
Beer	35	21.9
Dark spirits	28	17.5
Clear spirits	28	17.5

measure of risk across gender, age, and cultures [18-20]. In comparison to other screening tests, the AUDIT has been found to perform equally well or at a higher degree of accuracy [20-23] across a wide variety of criterion measures. Better measurement of alcohol consumption methods are determining BAC from blood samples or measuring breath alcohol concentrations using appropriate devices [24].

Table 3 A breakdown of proportions between participants who have drank alcohol (n=90) and who have never drank alcohol (n=70)

Characteristic	Never drank	Ever drank	χ^2	*p-value*s
Gender, n (%)				
Male	16 (10.0%)	62 (38.8%)	33.39*	< 0.001
Female	54 (33.8%)	28 (17.4%)		
Smoke, n (%)				
Smokers	8 (5.0%)	42 (26.2%)	22.76*	< 0.001
Non-smokers	62 (38.8%)	48 (30.0%)		
Participation in community activities				
Participation	2 (1.2%)	26 (16.3%)	18.48*	< 0.001
Not participation	68 (42.5%)	64 (40.0%)		
Alcohol community campaign				
Yes	3 (1.9%)	40 (25.0%)	32.31*	< 0.001
No	67(41.9%)	50(31.2%)		
Peer drinking				
Yes	0 (0%)	56 (35.0%)	67.01*	< 0.001
No	70 (43.8%)	34 (21.2%)		
Cause of drinking				
Social drinking	0 (0 %)	39 (24.4%)	40.11*	< 0.001
Others	70 (43.8%)	51 (31.8%)		
Place of drinking				
Friend's house	0 (0%)	27 (16.8%)	25.26*	< 0.001
Others	70 (43.8%)	63 (39.4%)		

* Significant at *p-value* < 0.01

However, the BAC would not be used in this study for measuring alcohol consumption because it is complicated and expensive to use compared to the AUDIT. The AUDIT also helps to identify alcohol dependence and some specific consequences of harmful drinking. It is particularly designed for healthcare practitioners in a range of health settings, and with suitable instructions, it can be self-administered or be used by non-health professionals [25]. The AUDIT also translated in Thai version which is already adapted to specific languages, cultures and standard drinks measuring in Thailand [4]. The AUDIT will be used to identify whether the person has abstinence (0 score), low-risk drinking (1-7 scores), hazardous drinking (8-15 scores), harmful drinking (16-19 scores), and alcohol dependence (20-40 scores).

Statistical analysis was done using chi-square, to test the difference of the proportion between people who ever consumed alcohol (n=90) and those who had never consumed alcohol (n=70). Multivariate logistic regression was used to determine the predictive factors of alcohol consumption among the participants. Statistical significance was set at a *p-value* of < 0.05.

RESULTS

The general characteristics of the study participants is shown in Table 1. Over a half (51.2%) were female, their average age was 49.75 years (SD=17.8). Only 16.2% reported current smoking. Over a half (56.2%) had consumed alcohol in their lifetime, 40% drank last year and 21.9% drank last month. Among those who drank in the previous year reported 87.5% drank with their friends, and 42.2% drank at their friends' home. Nearly two-thirds (60.9%) reported that socializing was an important factor in their drinking. The highest frequency of drinking reported in the previous year was 1-3 times a month (28.1%). Majority (89.1%) were identified as low-risk drinkers. Their preferred beverage in the previous year was beer, dark spirits and clear spirits with 25.6%, 21.2% and 19.4% respectively. Similarly, their preferred beverage in the last month was beer, dark spirits and clear spirits with 21.9%, 17.5% and 17.5% respectively as shown in Table 2.

Following univariate analysis, seven factors including: gender, smoking, participation in community activities, alcohol campaign in a community, peer influence, motivation and place of drinking– were identified as being significantly associated with drinking ($p<0.05$) as shown in Table 3.

Multivariate analysis, results of involving all the listed variables simultaneously, revealed only three factors to be predictive of alcohol consumption among people in the rural community: smoking, involvement in community activities and gender.

Table 4 Factors predictive of alcohol consumption among people in a rural community (n = 160)

Risk factor	Group definition (compared, reference)	B	*P-value*	OR (95%CI)
Smoke	smokers, non-smokers	2.09	<0.001	8.07** (2.69 - 24.12)
Community participation	yes, no	1.87	0.025	6.49* (1.26 - 33.34)
Gender	male, female	1.11	0.036	3.04* (1.08- 8.57)
Peers	yes, no	19.85	0.997	6.35 (0.00)
Community campaign	yes, no	1.19	0.308	3.29 (0.33 – 32.53)
Place of drinking	friend's house, others	-0.087	1.000	0.916 (0.00)
Cause of drinking	social drinking, others	17.97	0.997	6.35(0.00)

* Significant at *p-value* < 0.01; ** Significant at *p-value* < 0.001

Smokers were 8.07 times more likely to drink alcohol compared to non-smokers (OR=8.07, 95%CI=2.69-24.12). Involvement in community activities was associated with alcohol consumption. Participants who were involving with community activities were 6.49 times more likely to drink than those who were not involved with community activities (OR=6.49, 95%CI=1.26-33.34). Males are more likely to drink at 3.04 the rate of females (OR=3.04, 95%CI=1.08-8.57) as shown in Table 4. However, alcohol campaigns in a community, peers, motivation and place of drinking were not associated with alcohol drinking among participants in this community.

DISCUSSION

The findings revealed that over a half (56.2%) of those surveyed had consumed alcohol in their lifetime, 40% drank last year and 21.9% drank last month. This was a one village survey as part of the Capacity Building in Health Promotion Project, and this could account for why the prevalence is lower than provincial statistics. The Centre for Alcohol Studies in Thailand [13] found that 54.0% of population 15 years and older in Phayao province reported alcohol consumption in the previous year. Most of people who drank in the previous year reported that 87.5% drank with their friends and 42.2% of those drank at their friend's home. This is in line with Schulenberg and Maggs [15] who reported that peers who drink encourage their peers to consume alcohol. Moreover, exposure to alcohol use by peer groups seems likely to increase the risk by reducing drinking refusal self-efficacy [16]. Nearly two-thirds (60.9%) reported that social drinking was an important part of drinking. People in the community considered alcoholic drinking as a social norm in Thai culture. Similar research has found alcoholic beverages and drinking were involved in daily life and to be an integral part of social events among Thai villagers in the northeast [26]. The majority (89.1%) were identified as low-risk drinkers, which is relevant as drinking frequency reported among participants in the previous year was 1-3 times a month (28.1%). Beer was identified as the most preferred alcoholic beverage in the previous year and previous month. Thai people seem to prefer beer over other forms of alcoholic beverage [27].

Smoking was the strongest influence on alcohol consumption among village people. Those substances are often used together. Research reported that people who smoke are more likely to drink , as well as people who drink are more likely to smoke [28]. In addition, alcohol dependence and smoking is correlated with people with alcohol dependence who are three times more likely than those in the general population to be smokers. Smokers are four times more likely to be dependent upon alcohol than non-smokers [29].

Involvement in community activities was associated with alcohol consumption. Participants who were involved with the community saw alcohol consumption as part of the social events [26]. In addition, males are more likely to drink than a female which is in line with research reported that men drink more alcohol and have higher alcohol-related problems than women [10].

Some limitations of this study should be addressed. The sample in this study was not a representation of the whole province; therefore, findings may not be generalized to other areas. Secondly, the interview process may affect the accurate reporting of alcohol consumption due to recall bias. Therefore, future studies should involve more people from different areas to get more consolidated evidence.

CONCLUSIONS

This study brought to light some of the risk factors associated with alcohol consumption among village people in Phayao province. There were three factors found to be predictive of alcohol consumption among people in the rural community: smoking, involvement in community activities, and gender. It can be seen that smoking and involving in

community activities were strong predictors. Hence, reduction of smoking and raising community alcohol awareness should be considered as key goals in the drive to reduce alcohol consumption among people in the community.

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DECLARATION OF INTEREST

The authors alone are responsible for the content and writing of this article.

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