ALCOHOL CONSUMPTION AMONG OLDER ADULTS IN NORTHERN THAILAND

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ABSTRACT:

Background: Alcohol consumption of the older Thai adult population is important to understand for health promotion plans in district health systems. This study aimed to examine the prevalence of alcohol consumption and associated factors among older adults at community level to understand current situation for target health promotion policy implementation among this vulnerable group.

Methods: A household cross-sectional study was conducted for Thai adults aged 50 years and older in Wiang Pa Pao district, Chiang Rai Province, Thailand from January to March 2016. Multi-stage cluster sampling was used to select the respondents from seven sub-districts. Three hundred and sixteen participants were approached and interviewed by trained research assistants. Data were analyzed by Bivariate, and multiple logistic regressions.

Results: The majority of respondents (53.7%) were aged 60 years and over (Median = 60 years). The prevalence of current alcohol consumption over the past three months was 23.9%. The study identified factors associated with current alcohol consumption as aged between 50 to 59 years old, being male, current tobacco use, negative to moderate perceptions of current health status, low problem of sleep, high frequency of social contact, low frequency of modern medicine provider contact, and herbal medicine provider contact (p-value < 0.05). By multiple logistic regression, aged between 50 to 59 years old (AdjOR 1.98; 95% CI=1.09-3.59), being male (AdjOR 2.46; 95% CI=1.35-4.47), current tobacco use (AdjOR 6.29; 95% CI=2.56-15.44), high frequency of social contact (AdjOR 3.18; 95% CI=1.70-5.94), and low frequency of herbal medicine providers contact (AdjOR 2.78; 95% CI=1.01-7.68) were observed to be strong predictors of current alcohol consumption when adjusted for other factors.

Conclusions: High prevalence of alcohol consumption has been highlighted in this study. Our findings could help to understand current situation targeting promotion policy implementation among this vulnerable group in the district of northern Thailand.

Keywords: Alcohol consumption; Aging, Older adults; Risk factors; Thailand

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INTRODUCTION

Nowadays, over 15% of the global populations are over 50 years old and this will increase to 23% by 2030. A previous study showed that the absolute number of older adults with alcohol use disorders was increasing [1]. The Health Survey for England 2008 [2] reported a 3.6-fold increase in alcohol consumption in the last five years for people aged 65 years and over. Moreover, the 2013 review on alcohol research found that alcohol was a significantly increasing risk factor for the global burden of mortality, representing 2.8% of all deaths and 3.0% of all potential years of life lost (PYLL) in 2010 [3]. Previous studies reported that the trend of high risk alcohol consumption was increasing among older adult patients in primary care nationwide and was now considered as a public health concern [4, 5]. Few studies have investigated alcohol use among older adults in low and middle income countries. Research in India indicated that 7.7% of cases were hazardous and 9.2% were dependent and 2.4% were harmful drinkers [6]. The Thai National Survey in 2011 reported that 24.7% of

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people aged 60 years and over consumed alcohol [7].

Among the elderly, alcohol consumption was a major contributing factor for the occurrence of traumatic brain injuries, hypertension, anxiety and the worsening of chronic illnesses such as insomnia and depression with less social support during recent decades [8-10]. Consuming alcohol is more toxic in the ageing organism. Age related changes in metabolism, distribution and elimination [11]. The effects of alcohol may be increased in the elderly because of pharmacologic changes associated with ageing [12].

Socio-demographic factors were found to be associated with alcohol consumption among elderly people including age, sex, marital status, education level, race, religion and socioeconomic status [13-18]. Kirchner et al. [18] reported that heavy drinking was associated with depression and anxiety and less social support. Moreover, a recent review suggested that increased attention must be focused on the interaction between alcohol use, coping with stress and depressive illness [19]. Older adults who have health problems and use alcohol to manage pain are at elevated risk to contract drinking problems [20]. In addition, few studies have suggested that the strongest predictor of alcohol misuse was tobacco addiction [5, 21].

The 2015 Thais alcohol consumption annual report was shown prevalence 18.41% of Thais older adult were current alcohol use, 22.54% ever drink but not drink in the past 12 months, and 59.05% were ex-drinkers and lifetime abstainers [22]. Siviroj, et al. [23] reported that 64% of adults aged over 50 years in the northern Thailand were lifetime alcohol users, 25.2% were daily alcohol users and 13.1% engaged in drinking and driving. In Thailand, the difference association of age and gender with hazardous–harmful or probably dependent drinkers has been documented [23, 24]. It is hard to find reliable statistics on today's elderly alcoholics at district level in the northern Thailand [25]. This study aimed to examine the prevalence of alcohol consumption and associated factors among older adults at community level to understand current situation for target health promotion policy implementation among this vulnerable group.

MATERIALS AND METHODS

This was a household cross sectional descriptive study. Data on current alcohol consumption among Thai adults aged 50 years and older were obtained from January to March 2016.

Sampling and recruitment

Multi-stage cluster sampling was applied to seven sub-districts of Wiang Pa Pao district, Chiang Rai, Thailand. The sample size was estimated using a confidence interval of 95%, an acceptance error of 5%, and estimate proportion of older adults who used alcohol of 0.25. The required minimum sample size was determined at 316. Twenty-two villages in seven sub-districts were selected and participants were recruited by simple random sampling. Trained research assistants who work in primary care units were trained for household data collection. Informed consent was obtained before each interview.

Research instrument

A face-to-face interview questionnaire was adapted from The World Health Organization's Ultra-rapid Alcohol, Smoking and Substance Involvement Screening Test (ASSIT-lite) and the Study on Global Ageing (SAGE) [26]. It consisted of six parts, 1) general characteristics, 2) alcohol consumption behaviors, 3) current tobacco use, 4) health state-related factors, 5) social networks, and 6) health service utilization. The questionnaire was revised for validity and reliability according to the expert comments and suggestions.

Part 1 consisted of four questions regarding the socio-demographic characteristics of the respondents which included age, gender, current marital status, and education level. Part 2 was based on their response regarding alcohol consumption during the three months prior to this study, modified from the ASSIST-Lite version. The respondents were assessed with the question: "Did you have a drink containing alcohol?" The response choices included "yes" and "no". Part 3 concerned current tobacco use which is an important reinforcing factor associated with alcohol consumption [5, 21]. This section included one question modified from the ASSIST-Lite version which asked about tobacco use during the past three months. Each question included the options "yes" or "no".

Part 4 included seven questions regarding the heath related factors included perceptions of current health status, problem to dealing relationship, problem to dealing with conflicts, problem of pains, problem of sleep, problem of depressed, and problem of anxiety. An overall self-rated health status question was asked as, "In general, how would you rate your health today?" The response choices included; 1) very good; 2) good;

Table 1 Distribution of alcohol consumption, respondents' characteristics, current tobacco use, health related factors, social networks, and health service utilization (n=309)

Characteristics	Frequency	%
Current alcohol consumption		
Yes	74	23.9
No	235	76.1
Age group (years)		
50 – 59	143	46.3
> 60	166	53.7
Median 60 (QD 5.5) Age range 50-95		
Gender		
Male	124	40.1
Female	185	59.9
Current marital status		
Without spouse	96	31.3
With spouse	213	68.7
Education level		
Less than primary school	54	17.5
Primary school completed	178	57.6
Higher than primary school completed	77	24.9
Current tobacco use		
Yes	31	10.0
No	278	90.0
Perceptions of current health status		
Negative	86	27.8
Moderate	174	56.3
Positive	49	15.9
Problem to dealing with relationships		
Low	250	80.9
High	59	19.1
Problem to dealing with conflicts		
Low	258	83.5
High	51	16.5
Problem of pains		
Low	264	85.4
High	45	14.6
Problem of sleep		
Low	281	90.9
High	28	9.1
Problem of depressed		
Low	252	81.6
High	57	18.4
Problem of anxiety		
Low	281	90.9
High	28	9.1
Public meetings attended		
High frequency	100	32.4
Low frequency	209	67.6
Group meetings attended		
High frequency	93	30.1
Low frequency	216	69.9
Social contact		
High frequency	146	47.2
Low frequency	163	52.8
Modern medicine providers contact		
Low frequency	166	53.7
High frequency	143	46.3
Herbal medicine providers contact		
Low frequency	247	79.9
High frequency	62	20.1

Abbreviation: QD quartile deviation

3) moderate; 4) bad; and 5) very bad. Positive status was given for those with very good and good perception of their own health status, moderate status was given for those with moderate, and negative status was given for the remaining responses bad, and very bad. Six health related

factors questions were assessed with the questions: "Overall in the last 30 days, how much difficulty did you have? Or how much of a problem did you have?" The response choices were given on a 5-point scale to self-rate health difficulty level; none, mild, moderate, severe, and extreme/cannot do. Low status was assigned to those who answered none and mild difficulty level, and high status to whoever responded moderate, severe and extreme/cannot do.

In part 5, three questions were asked to measure social network activities. Respondents were asked for their opinions about community, social and political aspects; "How often in the last 12 months have you…", "…attended any group, club, society, union or organisational meeting?", "…left the house/your dwelling to attend social meetings, activities, programmes or events or to visit friends or relatives?", or "…attended any public meeting in which there was discussion of local or school affairs?" The respondents answered on the 5-point scale; 1) never, 2) once or twice per year, 3) once or twice per month, 4) once or twice per week and 5) daily. Never and once or twice per year were grouped together for low frequency; and once or twice per month, once or twice per week, and daily were grouped together for high frequency.

Lastly, health service utilization was assessed by two items. In the past 12 months "Have you visited any of the following health care providers of modern medicine (such as public hospitals, tambon health promoting hospitals or private clinics), and herbal medicine? The response choices included; 1) none, 2) once or twice per year, 3) once or twice per month, 4) once or twice per week and 5) daily. Low frequency was given to those who responded none, and once or twice per year; high frequency was given for whoever responded once or twice per month, once or twice per week, and daily.

Data analysis

Univariate analysis was used to describe the median, quartile deviation, minimum and maximum numbers and percentage. Bivariate analyses were performed to identify any association between each independent variable and alcohol consumption. Finally, multiple logistic regression was analyzed to determine the predictors of alcohol consumption, where a p-value < 0.05 was considered statistical significant.

Human subject approval statement

This research was reviewed and approved by the office of the Committee for Research Ethics (Social Sciences), Mahidol University Institutional Review Board (COA No. 2014/266.3009 at 30 September 2014).

RESULTS

A total of 316 participants was interviewed and 309 completed questionnaires were included in the analysis. Table 1 shows the prevalence (23.9%) of alcohol consumption in the three months prior to this study among adults aged 50 years and over, with 10.0% showing current tobacco use. The majority of respondents (53.7%) were aged 60 years and over (Median=60, QD=5.5), over half were female (59.9%), lived with spouse (68.7%) and completed the primary school level (57.6%).

The percentage of the health related factors showed that 27.8% of respondents had negative perceptions of current health status, 19.1% had problem to dealing relationships, and 16.5% had problems to dealing with conflicts. Moreover, 14.6% reported problem of pains, 9.1% had problem of sleep, 18.4% had problem of depressed, and 9.1% had anxiety.

Regarding social networks; 32.4% had a high frequency of public meetings attended, 30.1% had a high frequency of group meetings attended, and almost half (47.2%) reported a high frequency of social contact. In terms of health service utilizations, over half (53.7%) of the respondents had a low frequency of modern medicine providers contact, and 79.9% had a low frequency of herbal medicine providers contact over the past twelve months.

Associations between alcohol consumption and the independent variables

Table 2 shows the association between the independent variables and alcohol consumption. Eight factors were associated with current alcohol consumption as aged between 50 to 59 years old (OR 2.02; 95% CI=1.18-3.43), being male (OR 3.06; 95% CI=1.79-5.26), current tobacco use (OR 6.42; 95% CI=2.94-14.01), negative (OR 4.88; 95% CI=1.59-14.96) to moderate (OR 3.81; 95% CI=1.29-11.19) perceptions of current health status, low problem of sleep (OR 4.48; 95% CI=1.04-19.34), high frequency of social contact (OR 2.79; 95% CI=1.61-4.82), low frequency of modern medicine providers contact (OR 2.14; 95% CI=1.23-3.70), and herbal medicine providers contact (OR 4.42; 95% CI=1.70-11.49) (p-value < 0.05). On the other hand; current marital status, education level, problems in dealing relationships, problems in dealing with conflicts, problem of pains, problem of

Table 2 Association between current alcohol consumption and each Independent variables

Independent variables	Current alcohol consumption				
	n	Yes (%)	No (%)	Crude OR (95% CI)	*p*-value
Age group (years)					
50 – 59	143	30.8	69.2	2.015 (1.184-3.428)	0.010
≥ 60	166	18.1	81.9	1	
Gender					
Male	124	36.3	63.7	3.06 (1.786-5.256)	<0.001
Female	185	15.7	84.3	1	
Current marital status					
Without spouse	96	22.9	77.1	1.09 (0.615-1.920)	0.888
With spouse	213	24.4	75.6	1	
Education level					
Less than primary school	77	18.2	81.8	1.48 (0.755-2.893)	0.292
Primary school completed	178	24.7	75.3	1.89 (0.832-4.313)	0.112
Higher than primary school completed	54	29.6	70.4	1	
Current tobacco use					
Yes	31	61.3	38.7	6.42 (2.941-14.013)	<0.001
No	278	19.8	80.2	1	
Perceptions of current health status					
Negative	86	30.2	69.8	4.88 (1.588-14.962)	0.006
Moderate	174	25.3	74.7	3.81 (1.295-11.193)	0.015
Positive	49	8.2	91.8	1	
Problem to dealing relationships					
Low	250	25.6	74.4	1.69 (0.807-3.523)	0.165
High	59	16.9	83.1	1	
Problem to dealing with conflicts					
Low	258	24.4	75.6	1.17 (0.569-2.426)	0.663
High	51	21.6	78.4	1	
Problem of pains					
Low	264	25.8	74.2	2.55 (0.914-5.562)	0.077
High	45	13.3	86.7	1	
Problem of sleep					
Low	281	25.6	74.4	4.48 (1.037-19.341)	0.045
High	28	7.1	92.9	1	
Problem of depressed					
Low	252	24.6	75.4	1.22 (0.609-2.460)	0.571
High	57	21.1	78.9	1	
Problem of anxiety					
Low	281	24.6	75.4	1.49 (0.548-4.088)	0.431
High	28	17.9	82.1	1	
Public meetings attended					
High frequency	100	25.0	75.0	1.09 (0.625-1.895)	0.875
Low frequency	209	23.4	76.6	1	
Group meetings attended					
High frequency	93	24.7	75.3	1.06 (0.603-1.872)	0.947
Low frequency	216	23.6	76.4	1	
Social contact					
High frequency	146	33.6	66.4	2.79 (1.613-4.820)	<0.001
Low frequency	163	15.3	84.7	1	
Modern medicine providers contact					
Low frequency	166	30.1	69.9	2.14 (1.233-3.704)	0.009
High frequency	143	16.8	83.2	1	
Herbal medicine providers contact					
Low frequency	247	27.9	72.1	4.42 (1.700-11.489)	0.002
High frequency	62	8.1	91.9	1	

Table 3 Multiple backward logistic regression analysis for predictors of current alcohol consumption among adults aged 50 years and over

Independent variables		B (SE)	Adjusted OR (95% CI)	*p-value*
Age (years)	50-59	0.68 (0.30)	1.98 (1.09-3.59)	0.025
	≥ 60		1	
Gender	Male	0.90 (0.31)	2.46 (1.35-4.47)	0.003
	Female		1	
Current tobacco use	Yes	1.84 (0.46)	6.29 (2.56-15.44)	<0.001
	No		1	
Social contact	High frequency	1.16 (0.32)	3.18 (1.70-5.94)	<0.001
	Low frequency		1	
Herbal medicine providers contact	Low frequency	1.21 (0.52)	2.78 (1.01-7.68)	0.048
	High frequency		1	

Hosmer and Lemeshow test 16.46, *p*-value 0.036
Abbreviation: OR, odds ratio; CI, Confidence interval

depressed, problem of anxiety, public meetings attended, and group meetings attended were not found to be associated with current alcohol consumption among Thai adults aged 50 years and over in the northern Thailand.

Furthermore, multivariate backward logistic regression analysis determined that respondents aged between 50 to 59 years old (AdjOR 1.98; 95% CI=1.09-3.59), being male (AdjOR 2.46; 95% CI=1.35-4.47), current tobacco use (AdjOR 6.29; 95% CI=2.56-15.44), high frequency of social contact (AdjOR 3.18; 95% CI=1.70-5.94), and low frequency of herbal medicine providers contact (AdjOR 2.78; 95% CI=1.01-7.68) were significant predictors of current alcohol consumption among adults aged 50 years and over when adjusted for other factors (Table 3).

DISCUSSION

This survey revealed that 23.9% of adults aged 50 years and over in a district level of the northern Thailand drank alcohol in the past three months. This prevalence was high compared to previous studies in other low and middle income countries. For example, a study in India in 2014 showed that the prevalence of alcohol consumption was 19.2% [6], and 10.7% were current alcohol users in 2013 South Africans study [27]. However, the prevalence was low compared to a study with moderate and heavy drinking (≥40g alcohol/day in men, ≥24 g in women) in Spain [28]. This could be explained by the different drinking pattern of ethnicity of human. The prevalence found in our study was similar to the previous study conducted in northern Thailand in 2013 [29]. This reflects the fact that alcohol consumption is still a public health concern for older adults in the northern area.

Initially, male respondents were 3.06 times more likely to use alcohol than female. Moreover, results of bivariate analysis and multiple logistic regression indicated that being male was significantly associated with current alcohol consumption. Peltzer K et al. [27] reported male gender was associated with risky drinking in South Africa study. This indicated that males are at risk group. This could be explain that normally males are breadwinner who have to work outside and more likely to meet colleagues and friends, those situations may increase chance of alcohol drinking. Our findings indicated that the respondents aged between 50-59 years old were 2.92 times more likely to use alcohol than those who were older which agree with other studies [13, 14, 16, 23, 28, 30]. Many studies in other continents also identified that alcohol consumption associated with age [13-18]. In contrasts with a research study in Sri Lanka which reported that older age was positively correlated with alcohol drinking [31].

This study found that current tobacco use were 6.3 times more likely to current alcohol drink than those with non-current smoking. Both bivariate and multivariate analysis found that current at-risk tobacco use was associated and played as a strong predictor with current alcohol consumption among adults aged 50 year and older in the communities of Thailand. This is in line with several previous worldwide studies which determined that tobacco use as a significant strongest predictor of alcohol consumption that corroborated our results [5, 14, 21, 30]. One of reasons could be because of an pharmacological effects of alcohol intoxicating dose significantly increases smoking urge, potentially due to alcohol interacting with brain nicotinic receptors [32, 33], and alcohol may enhance the

rewarding effects of nicotine [34].

This study revealed that the negative to moderate perceptions of current health status was associated with alcohol use in the elderly. Moore, et al. [35] explained that alcohol consumption may be harmful for older adults, particularly in conjunction with physical or emotional illnesses. Negative perception of own health status was an associated with alcohol consumption [19, 36]. In addition, older adults with sleeping problem were more likely to drink alcohol. In agreement with recent study that found binge drinking is associated with a greater risk of insomnia among older adults [37].

Previous study identified the association of supportiveness and social relationship, and alcohol consumption among the elderly [38]. Furthermore, social norms could be defined to explain these findings as social normative variables were frequently associated with alcohol consumption [39, 40]. Wikinson, et al. [41] suggested that alcohol consumption was associated with socialization and social engagement which is important at all stages of life. Thus, the social networks and cultural practices are contributing to the high alcohol consumption at the community level especially in northern Thailand.

Bivariate analysis revealed that the frequency of modern medicine provider contact was associated with current alcohol consumption. It is important to address that healthcare providers pay attention when counseling with the elderly about alcohol consumption [42, 43]. These findings may help clinicians to identify elderly patients at risk of harm from drinking. Clinicians need to be aware of these factors to assist in identifying and managing alcohol-related problems [35]. In terms of using the herbal medicine, those who use the medicines are usually the group concerning their health. Therefore, we could find who rarely use herbal medicines or utilized the providers were more likely to drink which similar to other studies [44, 45].

This study highlighted the high prevalence of alcohol consumption in older adults related to the predictive factors. Primary health care providers should take these findings into consideration when planning preventive intervention to achieve the most benefit for the indicated group. Screening and identification alcohol use of older adult male before retirement age and focus those who smoke would be recommended. In addition, this could be achieved in collaborating of key stakeholders in the district health system.

When interpreting our findings, the following limitations should be considered. Alcohol consumption and independent variables were reported through a face-to-face questionnaire. It is possible that respondents underreported alcohol consumption, may had information bias. Furthermore, although the use of alcohol during the three months prior to the study was assessed, this did not show the at-risk alcohol consumption behavior.

CONCLUSIONS

This study highlighted that the predictors of alcohol consumption included aged between 50 to 59 years old, being male, current tobacco use, high frequency of social contact, and low frequency of herbal medicine provider contact. Our findings could help to understand current situation for target health promotion policy implementation among this vulnerable group in the district health system of northern Thailand.

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