

Research Article

Agriculture Sector Women's Alcohol Drinking Pattern and Behavior in the Lower Northern Region of Thailand

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Abstract

Background: Alcohol consumption is one of the leading public health problems in the modern era and associates with almost 200 health conditions. In Thailand, the number of alcohol consumers is increasing especially among women. Agriculture is one of the major sectors of Thailand where almost half of the workforce is female. However, the pattern and behavior of alcohol consumption in this section of the population are not fully explored. This research aims to find out the pattern and behavior of the consumption of alcohol among women in the agricultural sector in the lower northern region of Thailand.

Methods: A triangulation mixed-method study had been conducted. In the quantitative part, there were 468 responders and 24 participants were in the qualitative part. Data had been analyzed through logistic regression and thematic analysis.

Results: Being single, parent's alcohol consumption, and distance of alcohol retail shop had been significantly associated with alcohol behavior found in the quantitative part. However, the qualitative part explored woman drinker, availability, reason, frequent, and amount of alcohol consumption.

Conclusions: Strong intervention is needed to reduce the consumption of alcohol among women in the agriculture sector.

Keywords

Agricultural worker, Alcohol, Behavior, Pattern, Thailand, Women

1. Introduction

Alcohol has been widely used in many cultures for centuries around the world and more than 200 health conditions have been identified either directly or indirectly, by alcohol consumption [1]. Different factors such as drinking patterns, frequency, volume, gender, age, and the quality of alcohol consumed have been found associated with the harmful effects of alcohol [1-4]. However, policies of alcohol sales, the minimum legal age for drinking, and taxes on alcohol have been found to significantly improve the fetal outcome of alcohol [5].

Between 1990 and 2017, global adult per-capita consumption of alcohol increased from 5.9 liters to 6.5 liters and by 2030, it is forecasted to reach 7.6 liters [6]. Regardless of gender, the highest proportion of alcohol-

attributable deaths was reported in Europe [7]. Eastern European countries, has the highest alcohol consumption in the world [1,3]. Belarus drinks more alcohol in the world, with an average of 17.50 liters consumed annually per capita followed by Moldova and Lithuania [8]. However, in Asia, the consumption of alcohol is significant and the highest consumption of per-capita alcohol recorded in Laos, South Korea, and Vietnam was 10.6, 9.8 and, 8.9 liters respectively [9].

Although, globally, women are more likely to drink fewer amount of alcohol, which gives them a higher proportion of lifetime abstainers than males [1]. They also suffer more of the consequence of the social effects of alcohol such as partner violence and sexual assaults [10]. Additionally, in the case of young adults, alcohol drinking increased risks of hostile sexual behaviors such as multiple sexual partners, unwanted pregnancy, and STDs infections [11]. Moreover, alcohol consumption poses a significant danger to a woman as it is linked to disrupting the menstrual cycle and increased risk of infertility and miscarriage [12]. It has been found that continuous alcohol consumption during pregnancy exposes the fetus to alcohol toxicity which is associated with premature delivery, nutritional deficiencies, stillbirth, pancreatitis, alcoholic hepatitis, alcoholic ketoacidosis, liver cirrhosis, and very low birth weight [13,14]. An average daily intake of alcohol up to 20 grams has a chance of 14% increased risk of developing breast cancer, and in the case of 40 grams, the risk increases to 59% [15,16].

Though different health outcomes exist between chronic and social drinkers, chronic drinkers are more likely to have negative consequences than social drinkers [15]. Living with the family is linked to reduce tendencies for alcohol use, on another hand, social factors such as

parenting, relationship with colleagues, neighbors, family members are affected by excess alcohol use [17]. Unintentional injuries are the second highest alcohol-related cause of deaths and suicidal attempts or deaths are also associated with alcohol abuse, because most of the factors characterized to influence suicide such as family instability, social exclusion, breakdown of social bonds, and social marginalization, are common outcomes of untreated alcohol abuse and dependence [1,18].

In Thailand, the social cost estimated at 156 billion Thai baht of alcohol drinking, and 39.5% consumed alcohol among the total agriculture workforce [19,20]. Moreover, in the total agriculture-related workforce, 46% are women [21]. However, the drinking pattern and behavior among this woman are not explored whereas, there is an increasing number of establishments on alcohol production around the northern and northeastern regions of Thailand [22]. To minimize the gap of knowledge, this research aimed to find out the pattern and behavior of the woman in the agricultural sector in the lower northern region of Thailand. The results of the study help to understand drinking habits along with the related factors and determine the practices in the promotion of the women in the agriculture sector to reduce alcohol intake.

2. Methods and metrical

2.1. Study design and population

A triangulation mixed-method study had been conducted from November 2017 to January 2019 in the eight villages of Bang Rakam District in Phitsanulok Province, Thailand. Through the lottery method of simple random sampling among the provinces of the lower northern region of Thailand, Phitsanulok province had been identified. Later, again lottery method had been applied to select the Bang Rakam district and the eight villages. For quantitative study sampling, the sample was calculated using Cochran's formula and 468 women in the agriculture sector participated in the study considering the inclusion criteria which was women aged between 18 to 59 years working in the agricultural sector [23]. Propitiation of the population had been used to select the number of samples per villages and by stratified random sampling, the samples were selected from each village. For a Qualitative study, the samples were identified through a purposive sampling method and 24 participates had been selected from the eight villages. The selection criteria of the participants were 18 to 59 years old woman working in the agricultural sector with a history of alcohol consumption.

2.2. Data collection

For the quantitative part, an interviewer administrative close-ended survey questionnaire consisted of demographic and drinking behavior of the responders had been used. For the qualitative research, key

informant interviews along with the observation method had been adopted. There was no external influence while participants gave their answers and a non-participatory observational approach had been implemented. The interview was conducted by the principal investigator (PI), audio recording, and field notes had been taken by the two research assistants. After the interview, the researchers transcribe the conversation and print it in writing. The duration of the survey and the interview was 40 minutes on average.

For the quantitative study, item objective congruence (IOC) and Cronbach's alpha coefficient were used to measure the quality of the research tool. For IOC, five experts from the alcohol filed were selected. Both IOC and the overall Cronbach's alpha were calculated as 0.85 and 0.78, respectively which qualified the acceptable criteria [24,25]. Triangulation method applied for the qualitative study [26]. To verify the accuracy, completeness, and quality of the data, four key informant interviews had been done in a different area with a similar population and inspection of the results whether the obtained information was in the same direction or not. Ethical approval was obtained from Naresuan University Institutional Review Board (Certificate number: HE56-Ep2b-0087), and all subjects provided informed consent before participation.

2.3. Data analysis

The data were analyzed using SPSS version 20 for Windows (IBM Corp., Armonk, NY) in the quantitative part. Descriptive statistics were used to describe basic socio-demographic characteristics. Logistic regression was applied to decide the associations between potential factors. All results were showed as unadjusted and adjusted odds ratio (OR) with 95% confidence intervals (CIs). A p-value ≤ 0.05 was considered to be statistically significant. For the qualitative part, thematic analysis had been conducted to analysis the data through the six steps. At first, information obtained from interviews, the PI analysis, and interpretation of the data to find out the initial themes keeping the objective of the research in mind (becoming familiar with data). Later, by removing unrelated information the PI encryption data (generating initial code), created issues (searching for theme), review issues (reviewing themes) and define the issues clearly, and finalizing the issues (naming of themes). In the end, the PI linked the issues and making reports (producing the report).

3. Results

3.1. Quantitative study

Of the total 468 respondents, the majorities were 51 to 60 years old (35%) and were married (68.4%). Additionally, 60.7% had completed primary education whereas, a very limited number of respondents finished graduation (0.4%). However, most of the respondents had 4 to 17 years of experience in the agricultural sector (48.3%).

Regarding drinking alcohol, the study showed most of the respondent's husbands drink alcohol (60.0%) whereas, most of the responders did not drink alcohol at all (29.4%) and 56.4% had a moderate level of awareness (Table 1).

It had been observed that being single (OR 0.257, 95% CI 0.098-0.675) had a significant association with alcohol drinking behavior after adjusting all variables. Additionally, parents drinking also found significant both univariate (OR 0.229, 95% CI 0.123 - 0.427) and multivariate (OR 0.325, 95% CI 0.125-0.844) analysis. Our study also found that having alcohol store within

108-342 meters from households also associated in both univariate (OR 2.371, 95% CI 1.478, 3.805) and multivariate (OR 3.788, 95% CI 1.477-9.714) analysis. Though, being single and being parents found as a protective factor whereas, the distance of the alcohol store found as a risk factor for alcohol drinking behavior (Table 2).

3.2. Qualitative study

Our research explained alcohol drinking is very common in the district. The qualitative result can be divided into the availability of alcohol, reason for drinking, woman drinker, amount, and frequency of drinking.

Table 1: Socio-demographic characteristics and alcohol drinking behavior of the respondents.

Characteristics	Respondents (n = 468)	
	n	%
Age (Years)		
18 - 20	8	1.7
21 - 30	24	5.1
31 - 40	72	15.4
41 - 50	144	30.8
51 - 60	164	35.0
≥ 61	56	12.0
Marital Status		
Single	74	15.8
Married	320	68.4
Divorced	10	2.1
Widow	64	13.7
Education		
No formal education	8	1.7
Primary	284	60.7
Secondary	76	16.2
Diploma	98	21.0
Bachelor	2	0.4
Experience in the agriculture sector (Years)		
≤ 3	96	20.5
4 - 16	226	48.3
17 - 29	120	25.6
≥ 30 y	26	5.6
Land ownership		
Owner of the land	124	26.5
Lease of land	344	73.5
Having family members drinking		
Parent	78	17.4
Husband	284	60.0
Adult children	106	22.6
Distance of liquor stores from the household (Meters)		
≤ 107	80	17.1
108-342	283	60.4
≥ 343	105	22.5
Awareness of drinking		
Low level of awareness	20	4.3
Moderate level of awareness	264	56.4
High level of awareness	184	39.3
Alcohol consumption		
Don't drink	138	29.4
Low-risk drinker (1-2 times a week)	119	25.3
Risk drinker (3-4 times a week)	98	20.8
Dangerous drinker (5-6 times a week)	57	12.2
Stick drinker	56	11.9

Table 2: Univariate and multivariate analysis of alcohol drinking behavior.

Variables	N= 468 (%)	Unadjusted		Adjusted*	
		OR (95% CI)	P-value	OR (95% CI)	P-value
Age (Years)					
18-20	8 (1.7)	0.407 (0.084 - 1.970)	0.297	1.882 (0.357-7.737)	0.205
21-30	24 (5.1)	0.488 (0.166 - 1.432)	0.208	0.514 (0.133-8.033)	0.691
31-40	72 (15.4)	0.733 (0.314 - 1.712)	0.484	1.994 (0.570-9.592)	0.126
41-50	144 (30.8)	0.538 (0.255 - 1.136)	0.101	0.640 (0.147-8.435)	0.624
51-60	164 (35.0)	0.592 (0.281 - 1.247)	0.167	1.697 (0.390-7.366)	0.208
>60	56 (12.0)	Reference			
Marital status					
Single	74 (15.8)	1.531(0.708 - 3.308)	0.286	0.257 (0.098-0.675)	<0.001
Married	320 (68.4)	0.915 (0.510 - 1.645)	0.779	2.401 (0.848 -9.120)	0.767
Separated	10 (2.1)	0.633 (0.160 - 2.502)	0.528	0.639 (0.193-2.109)	0.462
Divorced	64 (13.7)	Reference			
Land ownership					
Owner of the land	124(26.50)	0.777 (0.501 - 1.207)	0.265	0.645 (0.036-1.141)	0.132
Lease of land	344(73.50)	Reference			
Awareness on drinking					
Low level of awareness	20 (4.3)	0.690 (0.268 - 1.780)	0.450	0.520 (0.0235- 5.213)	0.778
Moderate level of awareness	264 (56.4)	1.182 (0.784 - 1.782)	0.427	0.632 (0.438- 6.320)	0.684
High level of awareness	184 (39.3)	Reference			
Having family members drinking					
Spouse	284 (60.0)	1.722 (1.038 - 2.857)	0.038	0.428 (0.221-1.051)	0.660
Parents	78 (17.4)	0.229 (0.123 - 0.427)	<0.001	0.325 (0.125-0.844)	<0.001
Adult children	106 (22.6)	Reference			
Distance of liquor stores from household (Meters)					
≤ 107	80 (17.09)	1.472 (0.805 - 2.692)	0.213	1.783 (0.608-5.226)	0.292
108-342	283 (60.47)	2.371 (1.478, 3.805)	<0.001	3.788 (1.477-9.714)	<0.001
≥ 343	105 (22.43)	Reference			

3.2.1. Availability of alcohol: Alcohol is easily available in the district in any convenience store such as 7-11 stores, in large gas stations as well as in the district markets. Besides that, there are many wholesale and retail stores of alcoholic beverages around the district. Although there are specific time and age limits for alcohol selling, many stores do not maintain the rules. One responder's explaining: "Alcohol sold all day long, no time limit, you can get any time even you are minor". The bestselling product is beer. However, beer is expensive for the rural area though people were buying. A responder told: "Some belief, especially young found beer is tastier and symbol of smartness. They come together after work and drink beer even sometimes did not pay on time." some local restaurants sell alcohol along with food and there is a huge number of customer found in the restaurant especially in late night as well as some restaurants deliver alcohol products in the home.

3.2.2. Reason for drinking: People have different reasons to drink alcohol. Some people think it is helpful and work like medicine. One responder's explained: "Drinking is a tonic. In this area, it is called liquid medication. It makes you strong and helps you to eat and sleep." Also, drinking started as peer pressure and as an act of fun. According to one young responder's: "My friend invited me to try, so I tried, we enjoyed together and had fun". Alternatively, stress, family problem, workload also act as aggravated factors for drinking. One responder's told: "Stress,

uncomfortable family, quarreling with the husband, working pressure make me a heavy drinker. When I drink I feel comfortable. When there are more people, I feel more comfortable. So sometimes I invite others to drink together." Other responders said: "The alcohol is cheap, easily available and tasty. People also give alcohol as a gift. Some people invite to drink together." The white liquor is more common among older as mentioned by the responders: "I like to drink white liquor because you don't have to urinate frequently. If you drink beer, you need to urinate frequently. Also, white liquor makes you drunk quickly". Also, there is a tradition of buying alcoholic beverages for the employees by the employer. One woman farmer's response: "During the time of harvest, our employee buy us alcohol almost every day after dinner".

3.2.3. Woman drinker: We have found that the number of women alcohol consumers is plenty in the district as per one responder: "In the past, there was only man who use to come to buy alcohol in the evening, but now woman routinely purchase alcohol almost every day." Another responder mentioned: "Earlier in the village, the male drinks together or sometimes alone. But now almost all family members including women drink together." She also added: "Women usually not a regular drinker and usually drink beer. But if there is any party or wedding ceremony, the numbers of woman drinkers are more."

3.2.4. Frequency of drinking: Some drinker drinks occasionally whereas, others drink more frequently. It depends on the situation as well. Like in the "Songkran" the frequency is more than usual. According to the responders: *"I drink 2 to 3 times a week. But in the time of Songkran, I drink almost every day several times."* Also, stress is found to drink more frequently. Responder's explained: *"While I feel stress, I drink three or four days. Sometimes I drink until I drunk."*

3.2.5. Amount of drinking: The amounts of alcohol consumed by women are different found by our study. Some women drink just a sip whereas, some drink one or two glasses while other drink till drunk. The responder explains: *"Just one sip is enough to have fun at work. But in the New Year or Songkran, I drink till I get drunk."* Another responder's added: *"A can of beer a day or at most, no more than a bottle."* Sometimes a small bottle is divided among 2-3 people just to enjoy the drink.

4. Discussion

Our study described the alcohol behavior and pattern among women working in the agriculture sector of the lower northern region of Thailand and to our knowledge, this is the first study of this issue in the lower northern part. Our study explored both quantitative and qualitative aspects that made the study result more accurate and reliable. The study found three factors that are significant with alcohol behavior in the quantitative study. Being single has reduced the change in alcohol drinking behavior. It may be due to being married which has increased the chance of drinking with the spouse. The result is also in line with another study conducted in Nepal [27]. However, among the Chicness older woman, it was found that living with a spouse has reduced the intake of consumption alcohol [17]. Drinking parents also reduce the consumption of alcohol found by our study which is directly opposite of the result from the previous study showed parents drinking increases the consumption of alcohol [28]. This is maybe due to the previous study had been conducted among both genders whereas, our study reflected only woman. Nevertheless, the distance of the alcohol retailer shop from home was found as a risk factor. It is obvious that if the shop is near, the amount of consumption of alcohol is more [29].

The qualitative result explained the different perspectives of alcohol drinking patterns among women farmers. The availability of alcohol products is one of the reasons to increases drinking. Results from the previous study conducted in Finland also the same with our findings [30]. Reports from the World Health Organization also endorse this [31]. Additionally, stress, family disharmony were also related to consuming alcohol according to our responders. A similar trend had been found in other studies as well in different settings. Not only that the low price of alcohol also increases the alcohol intake

found by our research and a previous study [32-35]. However, a woman drinks almost half the amount then their counterpart [3].

In Thailand, among the agricultural workforce, almost half are women [21]. Despite this huge number of this section of the population's alcohol consumption is not widely explored. The research helped to find the behavior and pattern which may help to develop an intervention in future to reduce the consumption of alcohol among woman farmer thus the female population of Thailand.

5. Conflict of interest

There is no conflict of interest among authors

6. Acknowledgment

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