

Research Article

Consumption of Illegal Community Distilled Liquor among Workers in a Rural Area of Thailand

Theeraphon Lopradit and Narongsak noosorn*

Faculty of Public Health, Naresuan University, Pitsanulok, Thailand

*Address Correspondence to Narongsak Noosorn, nnoosorn@yahoo.com

Received 19 December, 2021 ; Accepted 18 January, 2021; Published 25 January, 2021

Copyright © 2021 Narongsak Noosorn, et al. This is an open access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Abstract

This research investigated the forms and motives behind the consumption of illegally smuggled community distilled liquor among Thai workers located within a rural area of Thailand. The sample group consisted of 12 people who consumed illegal community distilled liquor in Sukhothai; an area where there is high consumption rate of illegal community distilled liquor. Snowball sampling was used to randomize the sample and in-depth interviews and content analysis was used to analyze the data. The results showed that the age of consuming first alcoholic drink, first drinking experience, the current purpose of drinking alcohol, taste, and alcohol tolerance, were all predisposing factors which caused people in Sukhothai to consume illegally distilled community liquor. The enabling factors, which led people in Sukhothai to consume the illegally distilled liquor included the compliance with a reference group, community way of life, tradition, and the beliefs of the people in the community. The reinforcing factors, which caused people in Sukhothai to consume illegal community distilled liquor, were price, distribution channels, illegal community distilled liquor, and the promotion of illegal community distilled liquor.

Recommendation: All relevant sectors should educate working people in areas of high illegal community distilled liquor consumption about the associated health risks.

Keywords

Consumption, Illegal Community Distilled Liquor, Workers in a Rural Area of Thailand

1. Introduction

The consumption of alcohol is a significant public health concern [1]. As it is associated with illness and increased mortality, with up to 2.5 million deaths per year attributed to alcohol related diseases, such as cancer, cerebrovascular disease, neuropathy, gastrointestinal disease, infection, and brain and vascular injuries [2]. In particular, consumption of illegal liquor is attributed as a significant factor in global premature death, with 27,000 deaths per year related to the consumption of alcohol contaminated with methanol and Clostridium botulinum toxin [3]. In approximately 30% of countries

throughout the world, methanol has been identified as the most hazardous content in illegal liquor [4], with the polyhexamethylene guanidine (PHMG) [5], contained in the alcohol associated with irregular heart rate and dysautonomia. Chronic alcoholism can also damage the functioning of the central nervous system [6], with illegal local distillation reported to be particularly harmful to health [7].

A total of 24.8% of worldwide population are reported to consume illegal liquor consumption, with the highest prevalence reported in Southeast Asia and the Eastern Mediterranean [8]. An average of 11.8% of World of European population take part in furtive illegal liquor distillation, with Portugal (14.7%), France (14.6%), Ireland and Denmark (13.9%) having the highest rates, respectively [9]. In Africa, the prevalence of illegal liquor distillation is also high (31%), with most countries located in the Sahara area [10]. The unregistered consumption of alcohol is suggested to be related to the higher alcohol prices, leading to numerous illegal local alcohol distillations [11]. However, factors also include social and cultural matters, such as the Asian tradition of guests [12], and the different topography and economic conditions across countries. The consumption of local liquor is also particularly prevalent in low and middle income countries as it is approximately 50%-70% cheaper compared with other alcoholic drinks [13].

In Thailand, the consumption rate of illegal liquor is ranked 5th in the world [14], with the rural Sukhothai province having a particularly high consumption rate of illegal liquor [15]. In rural areas, it is common for a host to prepare community distilled liquor to welcome guests during festivals, fetes, or funerals [16]. This has placed an emphasis on the government to put in place measures

to reduce the rate of alcohol consumption. An increase in alcohol tax was executed with the aim of controlling the alcohol consumption of people within the country, alongside efforts to eradicate the furtive distillation, selling, and smuggling of all types of illegal alcohol drinks [17]. Unfortunately, this has partly had negative consequences, bringing about the trading of liquor to which no revenue stamp is affixed, and transferring trading away from “legal” community distilleries. Indeed, this form of trading is generally found across all areas where there are community distilleries [18], with liquor approximately 2.8 times cheaper than community distilled liquor with a revenue stamp. In consideration of the high demand for illegal community liquor, there has been an increased requirement for distillers to feed the liquor products to the market. The strict governmental measures have only led the producers to relocate their distilleries to places that are more difficult to find [19].

The aim of this research study was to investigate the forms and motives behind the consumption of illegally smuggled community distilled liquor among Thai workers located in a rural area. The consumption of illegal community distilled liquor is currently a public health problem due to the exposure to contaminations from incorrect distillation processes. It risks exposing consumers to illnesses and infectious and chronic noninfectious diseases. It is expected that the outcome of this investigation will provide guidance for future research to be conducted into the consumption of illegal community distilled liquor.

2. Methods and Materials

2.1. Study design and Population

This study employed qualitative research in order to acquire knowledge of the in-depth research problem and to understand the related complicated circumstances. In order to ensure data quality to meet the requirements of the research objective, criterion sampling was used to select the research location. Consequently, a sample group of 12 participants who consumed illegal community distilled liquor were recruited from the Si Satchanalai District (n=6) and Khiri Mas District (n=6) areas using snowball sampling (referral sampling) [20]. The research tools were (1) The researcher’s 14-year experience in primary care in the study area; (2) in-depth interview, in which all questions were open ended to allow respondents to freely express their feelings and opinions; (3) general data notes; (4) voice recordings which were used during interviews; (5) field notes, which were used to record the environment and atmosphere during the interviews, and the behaviors of the correspondents (feelings, emotions, facial expressions, gestures, expressions, problems and obstacles), were used for planning subsequent interviews.

2.2. Data collection

The researcher used himself as a data collection tool by applying data collection techniques from in-depth

interviews and observations. The researcher approached the respondent’s using main questions and a snowball sampling technique [21], with sub-questions used to investigate unclear data. The interview time was dependent upon the response of the correspondents and the interview was closed upon attaining saturation of the data. During the interview, the researcher used an observation process to observe the respondents’ gestures, facial expressions, emotions, speeches, and communications. Prior to commencing the interview, the researcher estimated the respondents’ level of alcohol drinking using an Alcohol Use Disorder Identification Test (AUDIT Score). Delirium was also measured before the interview to confirm that the respondents were in a perfect state to provide information to the researcher.

2.3. Data analysis

In order to analyze the information from the respondents, the researcher divided the data analysis into 2 parts as follows:

General information of the respondents was analyzed using descriptive statistics, numbers, frequencies, and percentages.

The researcher analyzed the information attained from the interview using a qualitative data analysis method [22]. The interview was transcribed and observations were qualitatively analyzed using data analysis comprised of 2 elements. Firstly, data summarizing (or data reduction) was conducted with data familiarization, thematic framework defining, and encoding (or making data index) by categorization. Secondly, interpretation with charting to interpret and verify the meaning of the data was used across the different aspects. Interpretation, comparison, and data summarization were managed by creating a conclusion from the index of the data categories to explain all the acquired data.

Lincoln and Guba’s criteria for trustworthiness and data triangulation were applied to verify the quality of data [23]. The researcher placed a priority on the verification of the acquired data (from many sources) in order to examine if it was consistent. The verification included a systematic literature review and data collection from the interviews; if all data sources showed similar findings, the information was deemed to be correct. The verification of the sources, the participants, and time and location, were all used to examine if the acquired data were similar between the two different areas where the community distilled liquor was consumed. The main respondents had experience in providing phenomenal data related to the consumption behavior of illegal community distilled liquor in rural areas. Methodological triangulation was performed via researcher verifying the data acquired from the several data collection methods (observation, interview, and document review, etc.). If the findings were consistent, the information was deemed to be reliable.

2.4 Ethics

This research study was approved by Naresuan University Institutional Review Board (ICH-GCP Project Number: IRB No. 0150/62), and was conducted in accordance with the international standards of ethics in human research, the Declaration of Helsinki, The Belmont Report, and the CIOMS Guidelines and International Conference on Harmonization in Good Clinical Practice.

3. Results

3.1. Research site context

The areas of Si Satchanalai and AmphoeKhiri Mat Districts were selected as the research locations to undertake the qualitative research. Excluding the involvement of the researcher, the observations showed that the contexts of both sites were similar. Si Satchanalai district is a toe slope area where the Yom River is the main water resource for most of the locals. The majority of local people worked as agriculturists on rice farms, sugar cane farms, orange farms, or on economic tree plantations, such as teak, Asian afzelia, Burma padauk, and rose wood. The majority of the agriculture laborers were a mix of males and females of working age, who farmed in their own, or neighbors, farm area, within the same village called "Look Rai". Although there is agricultural machinery, such as tractors, seed drills, harvesters, across agricultural processes, it did not cover all areas, thus human supervision was still needed for the workforce. The laborers generally used the Northern dialect to communicate with each other, with ordination an important tradition that was held annually in April. The qualitative field survey showed that similar findings in Si Satchanalai, however, while Khiri Mat did not have a main river as a water resource, it had 2 large reservoirs (KhlungKhangNai Reservoir and KiwWua Dam Reservoir). The water is stored from the KhaoLuang reservoir during the rainy season and water is discharged for consumption along the canals throughout the district. Most of the local people worked in agriculture on rice farms, corn farms, sugar cane farms, cassava farms, sesame farms, or economic tree farming, such as teak and Burma padauk. Similar to Si Satchanalai, the agriculture relied on the human workforce and machinery, with most of the people communicating using local Sukhothai dialects. A number of migrants also made a living on state-permitted agriculture areas called ALRO land. The migrants emigrated from Northern areas, such as Lumpang, Chiang Rai, Tak, and from many other provinces situated in the Northeast of Thailand; making the language and culture in AmphoeKhiri Mat diverse. The important festivals in AmphoeKhiri Mat were the Kwan Phueng and Rocket festivals.

3.2 General information of the respondents

A total of 14 respondents (7 from each site) who consumed illegal community distilled liquor were recruited to take part in this study. The respondents had been living in the

study areas for over 6 months and were aged 35-67 years (average age =32 years), were all married, and 8 of them (57.14%) had graduated from high school. The majority of the respondents (12; 85.74%) were agriculturists, with 5 (35.71%) earning less than 5,000 Baht and 4 (28.57%) earning between 5,000-10,000 Baht. A total of 5 respondents (35.71%) had hypertension as underlying disease, and 4 (28.57%), whereas 5 respondents had no reported disease. All of the respondents (14; 100%) had drunk illegal community distilled liquor within the last 7 days (range 2 to 7 days).

The Alcohol Use Disorder Identification Test (AUDIT) was conducted with the respondents before the in-depth interview. A total of 10 people (60%) had dangerous drinking behavior (Audit score = 15-20), while 4 respondents (40%) had risky drinking behavior (Audit score = 8-15).

Delirium was not found in any of the respondents (14; 100%) who were measured before the interview, enabling all the recruited participants to continue to take part in the study.

3.3 Research findings

The predisposing factors of consuming illegal community distilled liquor in Sukhothai, included the age of first drinking, first drinking experience, and the current purpose for drinking alcohol, taste, and alcohol tolerance:

The age of first drinking was a predisposing factor for the illegal consumption of community distilled liquor. The study found that the majority of the drinkers had their first drinking experience during their teenage years, for example respondents stated "I started drinking illegal liquor from since I was teenager. I was getting more serious when I was 15 years old and my parents didn't complain" (CAS 2); or "I have drunk it since I was 15 years old; my aunt made home-distilled liquor for selling" (CAK4).

The respondents first drinking experience was a predisposing factor which led to the consumption of community distilled liquor. The research results showed that the respondents first drinking experience was similar, with adults or friends persuading them to drink; as supported by the statements; "They gave us the drink after working in the farm, so we started to drink since then" (CAS3); and "I made home-distilled liquor for selling; that's when I got to taste the fermented rice. It's sweet and I have drunk it since then" (CAK 4).

The current purpose of drinking was a predisposing factor which led to the consumption of community distilled liquor. The results indicated that the respondents had similar reasons for drinking. They drank for relaxing and socializing with each other; as supported by respondents stating that "It's relaxing when we drink while talking about work. It's less stressful and good for health. We're not tired and drowsy. We can work as normal" (CAS 6);

and, "Drinking can enhance our appetite and get rid of fatigue" (CAK 3).

Taste was a predisposing factor which has led to the consumption of community distilled liquor. The results showed that the respondent's preferred illegal community distilled liquor to legal liquor and beer. They said the community distilled liquor tastes better than any other liquor; as supported by the statements; "We used to drink whiskey and beer, however, we drink the liquor with no volume percentage limit. Rice whiskey with the stamp doesn't taste nice and the maximum volume percentage is only 40%. It has bad smell, while the liquor doesn't. It's good to drink the liquor because it's cheap but good" (CAS 4); and "The liquor tastes good and doesn't have bad smell. Whiskey with the stamp smells bad. It doesn't give the natural smell of alcohol. I don't want to drink it" (CAK 4).

Alcohol tolerance was a predisposing factor, which has led to the consumption of community distilled liquor. The results showed that the respondents had a higher tolerance to alcohol for community distilled liquor than that of legal whiskey. They said they had a headache every time they drank legal whiskey, which got worse after drinking, and that they had no strength. Nonetheless, they didn't have such symptoms if they drink illegal community distilled liquor; as supported by the respondents stating that "The liquor might only have good benefits. I don't see anything bad about it. Unlike whiskeys, it gives good drunkenness and doesn't leave a hangover headache so that we can't work (CAS 3); and, "Whiskey is very much different from the liquor. I have headache when I drink whiskey, so I drink the liquor because it's normal alcohol."

The enabling factors which led people in Sukhothai to consume illegal community distilled liquor were in compliance with reference group, community way of life, traditions, and beliefs of people in the community:

The compliance with the reference group is an enabling factor, which has led to the consumption of community distilled liquor. The respondents said they drink illegal community distilled liquor because it's a favorite thing in the area where they're living, and their family members also drink it. This is supported by the statements of the respondents; "People here drink it, so I drink it. When I first came here they asked me to try; I work in farm every day throughout the year, I'm exhausted so I drink it; it helps and makes me have good sleep. It's a kind of socialization and relaxation. I'm lighthearted and sleep well" (CAS 3); and "When I worked on a construction site, I cooked. I called my girlfriend for dinner and I was calm when she didn't come. Drinkers look calm, so I tried it and got addicted to it" (CAK7).

The community way of life is an enabling factor, which has led to the consumption of community distilled liquor. The study showed that drinking illegal community distilled liquor was in the community way of life. In agricultural

areas, people gather for growing rice or harvesting agricultural products, and they normally drink after work. In addition, when there are funerals or ordinations, there will be illegal community distilled liquor at the feast; as supported by the following statements of the respondents; "We have all types of alcohol in religious ceremonies. If it's for general drinking, I drink illegal liquor with my friends. I drink after work, not during the work. We drink at funerals, but in a different manner from religious ceremonies or wedding receptions, when the host prepares the liquor for us. We drink with the host and go back home. The host from where I was hired will buy the liquor and it has become the tradition. It's a society here, we must have alcohol no matter what" (CAS 7); and "Community distilled liquor is related to community way of life, such as drinking while having conversations, drinking at funerals, drinking with the host at wedding receptions. They normally drink illegal liquor here" (CAK 2).

Tradition is the enabling factor which has led to the consumption of community distilled liquor. The findings showed that there were traditions in the community, such as a paying homage ceremony. A part of the ceremony mostly involved illegal community distilled liquor, which would be consumed after the event. It's a social action which had been long performed; as supported by the following statements of the respondents; "At Songkran or the annual village festival, boiled eggs and chicken, and also community distilled liquor, will be prepared as offerings. We also drink the liquor after the Bun Klang Ban event" (CAS 3); and "Every house performs the same way; it has become the tradition. Village festivals will need community distilled liquor as an offering to the spirits and god, and the liquor is pure. At the Wai Nam Oucereemony, the oracle will bless the offerings at the shrine. After the ceremony, people will gather to eat the holy offerings, including the liquor" (CAS 4).

The belief of the people in the community is an enabling factor, which has led to the consumption of community distilled liquor. The findings showed that the consumption of illegal community distilled liquor at religious rituals is considered good luck for drinkers; as supported by the following quotes of the respondents; "There's a small spirit hut at a shrine located at bridgehead. It's where people offer pork, chicken, and many other offerings, including the liquor. After that, there are joyful plays and performances, such as music and a local band. People normally eat offerings after the event as they believe those offerings are fortunate for themselves (CAS 7); and "The liquor must get involved in the village ceremony, as it's clear and pure. At the Wai Nam Ou ceremony, the oracle will bless the offerings at the shrine. After the ceremony, people will gather to eat the holy offerings, including the liquor" (CAS 4).

The reinforcing factors, which caused people in Sukhothai to consume illegal community distilled liquor were price,

distribution channels, illegal community distilled liquor, and the promotion for illegal community distilled liquor:

Price is a reinforcing factor, which has led to the consumption of community distilled liquor. This study showed that illegal community distilled liquor is cheaper than any other types of alcoholic drinks. Therefore, it has become the most popular drink for local people; as supported by the following quotes of the respondents “I buy liquor in the village, but my neighbors don’t. They pay tax by drinking whiskey with a revenue stamp, but I drink liquor without a revenue stamp as it’s cheaper, sometimes it costs 40, 50 Baht per bag, but we can get a full bag of liquor for 60 Baht. However, whiskey with revenue stamp costs 70-80 Baht” (CAS 7); and, “Illegal liquor is cheaper. Drinking whiskey costs more than drinking illegal liquor” (CAS 2).

The place is a reinforcing factor, which has led to the consumption of community distilled liquor. The findings showed that illegal community distilled liquor is sold near households where people can easily get access to selling places, as supported by the following quotes of the respondents; “It is easy to get illegal liquor, we can promptly buy it in the village. There is no need to waste time and buy it at the shop” (CAS 1); and, “It can be easily found in every village, with about 3-4 sellers in a village. They get it from Phrae, we don’t do distillation at Mae Sin. They can call the sellers all the time because they can remember the voices, and they will sell it to us” (CAS 7). “It costs 200 Baht per four and a half kilograms of liquor bought at the distillery, however, we cannot find it here. They receive it from somewhere else” (CAK 4).

The volume percentage of illegal community distilled liquor is a reinforcing factor, which has led to the consumption of community distilled liquor. It has been found from the research that the illegal liquor has a high volume percentage volume and gives a stronger taste compared to that of any other types of alcohol drinks; as supported by the following statement of the respondents; “The illegal liquor is better as it is stronger than other alcohol drinks. Its volume percentage is unlimited. Rice whiskey with a revenue stamp doesn’t give a good taste. The maximum volume percentage is 40%.” (CAS 4); and, “Most people prefer illegal liquor because it’s cheap and strong. We get drunk with just only a small amount of it” (CAK 7).

The promotion of illegal community distilled liquor is a reinforcing factor, which has led to the consumption of community distilled liquor. This research showed that the liquor can be sold at retail and delivered to home, with no open-close hours. The customers can taste the liquor before buying, and can decide on the strength; as supported by the following respondent statements; “I buy it from Phrae, they deliver it here. I call to order and they deliver it at home. It’s a factory with the necessary certificates and it’s available for one price: 50 Baht. We don’t do distillation in our village because it’s easy to

find and available all time;” and, “At the shop, it costs 200 Baht per bag of four kilograms and a half. We don’t have it in our village, we receive it from the outsource and sell it at the retail price of 100 Baht per 1 Cola bottle. We can’t bear the cost if we use whiskey or rice whiskey for religious ceremonies or events, because it’s too expensive. We can buy big bags of liquor and make it like whiskey by fermenting herbs in it. There are different types of illegal liquor depending on the shop. It can be both strong and not strong, but I’ll taste it first to see if it’s too strong. If it is, it means they put in a lot of mixtures; it depends on each recipe of the shop.”

4. Discussion

This aim of this qualitative study was to describe the factors related to workers drinking illegally distilled liquor in Sukhothai. The study area was a rural community, and included many agriculture workers who earn a low to middle income. In our study, since the main respondents were from diverse ethnic backgrounds, we conducted in-depth interviews in the local dialect. The respondents were found to prefer illegally distilled liquor as their living areas were located near to the production sites where distilled liquor was illegally sold. This may be considered a public health concern, as the wide production and selling of illegal community distilled liquor in Sikkim (northeast of India), has been shown to result in negative health outcomes [12].

This research also found the important predisposing factors, which caused people to prefer community distilled liquor, included experiencing a hangover headache. A novel finding from this study was that compared to the consumption of legally taxed whiskey, the workers stated that they had more alcohol tolerance to illegal distilled community liquor, and it did not cause headache symptoms. Societal compliance was a significant enabling factor, which relates to the consumption of illegal community distilled liquor. It has led to the current drinking habit, with social relationships concerning illegal community distilled liquor having great significance among drinkers of working age. Our findings are in agreement with a study that examined the intention of consuming alcohol, and reported similar compliance with the reference group in our study [24]. The other reinforcing factors related to the consumption of illegal community distilled liquor, included the different liquor marketing processes. Its price was found to be lower than legal alcoholic and revenue-registered drinks, with drinkers having easy access to the places selling the liquor near to their houses within their communities. The higher volume percentage of illegal community distilled liquor also made the illegal drinks more popular, with the absence of lawful measures making the alcohol available for sale at all hours. This is similar to a study conducted in Vietnam, which found that the economic conditions the most important factor that led to the consumption of community distilled liquor, with middle-income drinkers

preferring the liquor due to it being cheap and easy to find in the community. Since the government has not had any considerable law enforcement on alcohol drink production, the furtive production of community distilled liquor has continued to spread widely.

5. Conflict of interest

There is no conflict of interest among authors

6. Acknowledgment

The authors would like to acknowledge Sukhothai provincial Public health office and Naresuan University for supporting the research.

Reference

1. Health Systems Research Institute, *Prevalence and factors associated with suicidal behavior in patients with mental and behavioral disorder due to alcohol*, (Thai), (2016).
2. H. Geokce, R. Akcan, A. Celikel, et al, *Hepatotoxicity of illegal home-made alcohols, Mustafa Kemal*, International Alliance for Responsible Drinking, (2016).
3. Center for Disease Control and Prevention, *Botulism from drinking prison-made illicit alcohol - Utah 2011*, (2012).
4. J. Rehm, K. D. Shield, M. Roerecke, G. Gmel, *Modelling the impact of alcohol consumption on cardiovascular disease mortality for comparative risk assessments: an overview*, BMC Public Health, 16 (2016).
5. W. D. Lachenmeier, *Clinical toxicology*, Carafate analytics, Journal Citation Reports, 4 (2012), 154-155.
6. T. G. Ferdinandis, H. J. De Silva, *Illicit alcohol consumption and neuropathy--a preliminary study in SriLanka*, Alcohol Alcohol, 43 (2008), 171-173.
7. J. Rehm, F. Kanteres, D. W. Lachenmeier, *Unrecorded consumption, quality of alcohol and health consequences*, Drug Alcohol Rev, 29 (2010), 426-436.
8. World Health Organization, *Global status report on alcohol and health – 2014*, Alcohol, (2014), 30.
9. H. Leifman, *Homogenisation in alcohol consumption in the European Union*, Nordic Studies on Alcohol and Drugs, 1 (2001), 15-30.
10. D. Samarasinghe, *Unrecorded alcohol*, the add resources web site is published by FORUT - Campaign for Development and Solidarity, (2014).
11. Spirits Europe, *High Tax, incentive for illicit alcohol*, 11 (2017).
12. A. Chakrabarti, T. Rai, B. Sharma, B. B. Rai, *Culturally prevalent unrecorded alcohol consumption in Sikkim, North East India: cross-sectional situation assessment*, J Substance Use, 20 (2014), 162-167.
13. International Alliance for Responsible Drinking, *Policy review unrecorded alcohol*, (2016), 1 - 9.
14. N. Upkum, *The lessons learned The format for the care and prevention of alcohol in the community*, (2nd ed), Cheangmai Wanida, (Thai), (2010).
15. S. Chaisong, K. Pakdeesedtakul, T. Dhammarungsri, *The proportion of alcoholic drinkers outside the tax system, Report consumption of alcoholic beverages by province. Provincial Alcohol Report 2011*, Bangkok, The Grafico Systems Co., Ltd. 119/138 Moo 11, The Terrace, Tiwanon, TaladKhwan. Nonthaburi, Nonthaburi 11000, (Thai), 18 (2013).
16. S. W. Sujinprum, *Suranareekarb karnjudkarntoneng kongchoomchonnai jangwudphayao*, Bangkok, Center for Alcohol Studies, Bangkok, (2016), 11-12.
17. U. Sangow, P. Wijittrakunakhon, S. Aschanangkhorchai, *Facts and figures: Alcoholic beverages in Thailand*, Center for Alcohol Studies, Bangkok, (Thai), (2016), 1-4.
18. Research Institute for health sciences, Chiang Mai University, *The situation of alcohol distillation community in Phayao*, 31 (2015).
19. P. Yadong., *Illegal liquor does not pay tax, but what is it?* (Thai), (2015).
20. M. B. Miles, A. M. Huberman, *Qualitative data analysis: An expanded sourcebook* (2nd edtn), Sage Publications, Inc, (1994).
21. J. Phuseerit, *Snowball technique method acquisition of a reliable expert group*, (2020).
22. S. Tantivest, *Qualitative data analysis, department of health evaluation research training*, (2018).
23. A. G. Lisa, C. D. Diehl, D. McDonald, *Triangulation: establishing the validity of qualitative studies*, (2004).
24. P. Norman, C. J Armitage, C. Quigley, *The theory of planned behavior and binge drinking: Assessing the impact of binge drinker prototypes*, Addictive Behav, 32 (2007), 1753-1768.