นิพนธ์ต้นฉบับ

Community prevalence of alcohol use disorders in a rural area of Nakorn-Sawan Province, Thailand.*

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A community survey was conducted in Nakorn-Sawan Province, one of the top ten provinces for alcohol consumption per capita in Thailand. The purposes of this study were to determine the prevalence of alcohol use disorders and their epidemiological distributions. A total of 409 subjects were interviewed by trained interviewers. Prepared questionaires determined demography, drinking behavior, and patterns of drinking. Hasin questionaires were used to detect alcohol use disorders. The findings showed that the prevalence of alcohol use disorders was 30.8% divided into 16.6% alcohol dependence and 14.2% alcohol abuse. The epidemiological distributions, characteristics of drinking behavior and patterns of drinking for the alcohol use and alcohol use disorders are shown.

Key words : *Prevalence, Alcohol use disorders, Community.*

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นันทิกา ทวิชาชาติ. ความชุกของความผิดปกติของการดื่มสุราในชุมชนจังหวัดนครสวรรค์ ประเทศไทย. จุฬาลงกรณ์เวชสาร 2538 กันยายน; 39(9): 649-660

การสำรวจภาคสนามในชุมชนจังหวัดนครสวรรค์ ซึ่งเป็นจังหวัดหนึ่งในสิบที่มีการใช้แอลกอฮอล์ต่อประชากรสูงจังหวัดหนึ่งในประเทศไทย โดยมีวัตถุประสงค์ เพื่อหาความชุกของความผิดปกติของการดื่มสุรา และข้อมูลการกระจายทางระบาดวิทยาของผู้ที่ถูกวินิจฉัยว่ามีความผิดปกติของการดื่มสุรา ได้สัมภาษณ์ประชากร 409 คนโดยผู้สัมภาษณ์ที่ได้รับการฝึกอบรมเป็นผู้สัมภาษณ์ โดยใช้แบบสอบถามซึ่งประกอบด้วย ข้อมูลส่วนตัว พฤติกรรมการดื่ม รูปแบบของการดื่มและแบบสอบถามเพื่อค้นหาความผิดปกติของการดื่มสุราของ Hasin จากการศึกษาพบว่า ความชุกของความผิดปกติของการดื่มสุราพบได้ร้อยละ 30.8 โดยแบ่งเป็นการติดสุราร้อยละ 16.6 การใช้สุราผิดปกติร้อยละ 14.2 การกระจายทางระบาดวิทยา ลักษณะพฤติกรรมของการดื่มสุรา รูปแบบของการดื่มสุราในกลุ่มที่ดื่มสุรา และในกลุ่มที่มีความผิดปกติของการดื่มสุราได้แสดงให้เห็นในรายงานการศึกษา

Alarming data from many countries shows that alcohol consumption has steadily increased world wide. Per capita consumption increases have been especially, high in Europe and North America.[1] Alcohol abuse and dependence are producing virtual epidemics of accidents, and many health problems and societal problems such as family disruption, spouse and child abuse, compromised economic productivity, crime and violence.[2,3] Up to the present time there have not been many epidemiological assessment studies on alcohol use in Thailand. The prevalence of alcohol use disorders in many countries has varied from 8-36% depending on the target population and diagnostic criteria and techniques.[2,4,5]

In Thailand, all of the prior studies about prevalence of alcohol use disorders had been done on special target groups and in hospital settings. There have been no studies concerning about prevalence and the epidemiological data of alcohol use disorders in the community. The Ministry of Public Health's Department of Medical Services and Office of Drug and Substance Use Control Board have a policy to launch a national program for controlling alcohol use disorders. This study will be the pilot project for baseline data for that program.

The purposes of this study were to determine the prevalence of alcohol use disorders, their epidemiological distributions, drinking behavior, and patterns of drinking among alcohol consumers in Nakorn-Sawan Province.

Materials and methods

A total of 409 subjects in Nakorn-Sawan Province aged over 15 years, were selected by a 2 stages random sampling technique and subsequently interviewed by trained interviewers using questionaires. The questionaires determined demography, drinking behavior, and patterns of drinking. Hasin questionaires were used to measure and identify alcohol use disorders according to DSM-3-R items.[6,7] The questions had been tested for validity and reliability in the community before being developed into the complete and final questionaire. (The reliability for Hasin questionaires,[8] K was 0.81) Monitoring of data collection was tested periodically.

Results

The general characteristics of the study samples are shown in table 1. In the total 409 subject population, 45.7% were male and 54.3% were female. The most common age range of the subject population was between 25-44 years, with a mean of 42 years. Most were married, worked as argriculturists, had finished primary school (Pratom 4 about 57%), and the average income per head was lower than 3,000 Baht per month. All of the subjects were Budhists.

Table 1. Characteristics of the study samples.

	Number (n = 409)	Percent
1. Sex		
Male	187	45.7
Female	222	54.3
2. Age (year)		
15-24	49	12.0
25-34	87	21.3
35-44	87	21.3
45-54	74	18.1
55-64	64	15.6
>,=65	48	11.7
3. Marital status		
single	49	12.0
married	360	88.0
- separate	10	2.4
- divorced	2	0.5
- widowed	17	4.2
4. Employment status		
No occupation	57	13.9
Government officers,retired	34	8.3
Business,employee	100	24.5
Agriculturists	218	53.3
5. Educational acheivement		
Never enter school	22	5.4
1-4 years in school	233	57.0
5-9 years in school	82	20.0
10-12 years in school	32	7.8
Bachelor degree	20	4.9
> Bachelor degree	4	1.0
College students	16	3.9
6. Income (Baht/month)		
No own income	57	13.9
1 - 3,000	213	52.2
3,001 - 10,000	55	13.4
10,001 - 20,000	10	2.4
Pay by relatives	74	18.1

Alcohol drinking is high about 71.9%. Alcohol use disorders 30.8% devided into alcohol abuse 14.2% and alcohol dependence 16.6%. (Table 2)

Table 2. Prevalence of alcohol use disorders in the community of Nakorn-Sawan province.

Alcohol use subgroups	Number	Percent
1. No alcohol use	115	28.1
2. Alcohol use	294	71.9
2.1 Alcohol use but no disorders	168	41.1
2.2 Alcohol abuse	58	14.2
2.3 Alcohol dependence	68	16.6
Total	**409**	**100.0**

We found that more males than females used alcohol, and males were diagnosed with alcohol use disorders statistically different at significant levels $p < .001$. (Table 3)

Table 3. Prevalence by gender of alcohol use, alcohol abuse and dependence.

Alcohol use subgroups	Male		Female		Total	
	n	%	n	%	n	%
1. No alcohol use	26	13.9	89	40.1	115	28.1
2. Alcohol use but no disorders	75	40.1	93	41.9	168	41.1
3. Alcohol abuse	30	16.0	28	12.6	58	14.2
4. Alcohol dependence	56	29.9	12	5.4	68	16.6
Total	**187**	**100.0**	**222**	**100.0**	**409**	**100.0**

$X^2 = 50.6$ $p < .001$

The rate of alcohol abuse was highest in the 25-34 age group and alcohol dependence was highest in the older age range between 45-54 years. Alcohol use disorders was higher among married persons than among singles. Most of the alcohol use disorders were among argriculturists, who had finished Pratom 4 or primary school and who had incomes <3,000 Baht/month. (Table 4)

Table 4. Prevalence by socio-demograph variables of alcohol use and alcohol use disorders.

Socio-demography	No use		Alcohol use		Alcohol use disorders			
					dependence		abuse	
	n	%	n	%	n	%	n	%
1. Age (year)								
15-24	30	26.2	6	3.5	6	8.8	7	12.1
25-34	19	16.5	35	20.9	15	22.1	18	31.0
35-44	22	19.1	43	25.7	14	20.6	8	13.8
45-54	17	14.8	30	17.8	17	25.0	10	17.2
55-64	16	13.9	30	17.8	10	14.7	8	13.8
>,=65	11	9.5	24	14.3	6	8.8	7	12.1
Total	115	100.0	168	100.0	68	100.0	58	100.0
2. Marital status								
single	29	25.2	10	5.9	8	11.8	2	3.4
married	86	74.8	158	94.1	60	88.2	56	96.6
Total	115	100.0	168	100.0	68	100.0	58	100.0
3. Occupation								
no occupation	29	25.2	20	11.9	3	4.4	5	8.6
government office, retired	7	6.1	13	7.8	5	7.3	7	12.1
business, employee	22	19.1	31	18.4	25	36.8	21	36.2
agriculturists	57	49.6	104	61.0	35	51.5	25	43.2
Total	115	100.0	168	100.0	68	100.0	58	100.0
4. Educational level								
No school entrance	6	5.2	11	6.5	2	2.9	3	5.2
1-4 year in school	54	46.9	105	62.5	41	60.3	32	55.2
5-9 year in school	25	21.7	35	20.8	10	14.7	12	20.7
10-12 year in school	10	8.8	6	3.6	10	14.7	6	10.2
Bachelor degree	6	5.2	7	4.2	4	5.9	3	5.2
> Bachelor degree	-	-	2	1.2	1	1.5	1	1.7
now studying	14	12.2	2	1.2	-	-	1	1.7
Total	115	100.0	168	100.0	68	100.0	58	100.0
5. Income								
No income	29	25.2	20	11.9	3	4.4	5	8.6
1-3,000	49	42.2	100	59.5	35	51.5	33	57.0
3,001-10,000	14	12.2	19	11.3	13	19.1	5	8.6
10,000-20,000	1	0.8	5	2.9	2	2.9	2	3.5
paid by relative	22	19.2	24	14.4	15	22.1	13	22.4
Total	115	100.0	168	100.0	68	100.0	58	100.0

Most of the alcohol use disorder subjects had statistically significant familial histories of alcohol drinking $p<.05$ (Table 5)

Table 5. Prevalence of alcohol consumption by familial history.

Alcohol use subgroup	Familial history of drinking		No familial history		Total	
	n	%	n	%	n	%
1. No alcohol use	74	64.4	41	35.6	115	100
2. Alcohol use	117	69.6	51	30.4	168	100
3. Alcohol abuse	52	89.7	6	10.3	58	100
4. Alcohol dependence	61	89.7	7	10.3	68	100
Total	**304**		**105**		**409**	

$X^2 = 56.2$ $p < .05$

When we combine alcohol dependence and alcohol abuse into alcohol use disorders and analyse between alcohol use without disorders and alcohol use with disorders and familial history of alcohol consumption we find that the Odd ratio was 3.79, $p < .001$. Familial hisory of alcohol consumption was a factor associated with alcohol use disorders.

Regarding drinking behavior and patterns of drinking, we found that the common onset age for consumption was between 15-24 years. (Table 6)

Table 6. Age onset of drinking.

Age onset (year)	Alcohol use		Alcohol dependence		Alcohol abuse	
	n	%	n	%	n	%
Before 15	2	1.2	4	5.9	2	3.4
15-24	122	72.6	48	70.6	34	58.6
25-34	22	13.1	11	16.2	20	34.6
35-44	10	5.9	4	5.9	2	3.4
over 45	2	1.2	1	1.4		-
Total	**168**	**100.0**	**68**	**100.0**	**58**	**100.0**

The characteristics of consumption among alcohol dependence subjects were continuousness and regularity but for alcohol abuse they were episodic drinking. Reasons for staring consomption are shown in table 7.

Table 7. Reasons to start drinking.

Reasons	Alcohol use		Alcohol dependence		Alcohol abuse	
	n	%	n	%	n	%
Mental stress	5	2.8	7	10.3	1	1.7
Persuation by friends	35	20.8	19	27.9	12	20.7
Want to try	21	12.5	14	20.6	12	20.7
Social activity	38	22.7	14	20.6	21	36.2
Mix with heral med.	58	34.6	7	10.3	11	19.0
Others	11	6.6	7	10.3	1	1.7
Total	168	100.0	68	100.0	58	100.0

$X^2 = 466.6$ $p < .001$

We found that the most common reason among the alcohol consumption (No disorders) group was use with herbal medicines while the major reasons in the alcohol use disorders group were social activities, persuation from friends and desire to try.

Regarding the frequency of alcohol consumption in the past 30 days, alcohol use disorder subjects continued to drink but the frequency of drinking varied from once per week to daily. The amount of alcohol varied from 1-3 mixed glasses and totaled less than 1 small bottle of whiskey. Alcohol use disorder subjects typically like to drink in the evening, take about 1-2 hours, consume both inside and outside the home and usually like to drink with friends.

There were several common emotional stages both before and after drinking among alcohol use disorders. The changes before drinking were : could not control awareness, easily irriable, and decreased appetite. The changes after drinking were : intoxication, impulsiveness, itching, headache, dizziness, hot sensations in the stomach, talkative, loud, increased appetite, palpitation, hypomotor retardation and deep sleep.

Alcohol use disorder subjects used alcohol as a tool for relief of mental and emotional stress more often than more casual alcohol drinkers. (Odd ratio = 5.65, $x^2 = 34.2$, $p < .0001$) (Table 8)

Table 8. Comparing on using alcohol as a relief of stress.

Use as a relief	Alcohol use		Alcool use disorders	
	n	%	n	%
Never	151	89.9	77	61.1
Ever	17	10.1	49	38.9
Total	**168**	**100.0**	**118**	**100.0**

*Odd ratio = 5.65, X^2 = 34.2, p < .001

We found that alcohol use disorder subjects have often tried to reduce or stop their drinking. The reasons were self motivation, health problems, family request, matured and drug holidays associated with religious beliefs. Most subjects would stop for a period of 1-3 months and then resume consumption because of friends or social activities. Most of them believed that drinking cessation was easy, but they did not wish to stop and did not request help from others about quitting.

Regarding other drugs and substances used, most of the alcohol use disorder subjects were poly-drug users. (Table 9)

Table 9. Other drugs and substances used.

Drug and substances	No alcohol use		Alcohol use		Alcohol dependence		Alcohol abuse	
	n	%	n	%	n	%	n	%
Never	47	40.9	35	20.8	5	7.4	6	10.3
Ever - cigarettes	4	3.5	26	15.5	10	14.7	4	6.9
- tea,coffee	11	9.6	8	4.8	1	1.5	6	10.3
- areca nuts	7	6.1	11	6.5	-	-	1	1.7
- analgesics	16	13.9	9	5.9	2	2.9	7	12.2
- C.N.S. stim.	2	1.7	4	2.4	5	7.4	-	-
- transquilizer	-	-	5	2.9	4	5.9	1	1.7
- kratom	2	1.7	8	4.8	2	2.9	2	3.4
- heroin	-	-	6	3.6	2	2.9	4	6.9
- poly-drugs	26	22.6	56	33.3	37	54.4	27	46.6
Total	**115**		**168**		**68**		**58**	

We found that in the past 6 months 73.5% had used drugs in the prior 24 hours about 63.8% had used drugs.

Discussion

The results of prevalence of alcohol use disorders and the associated epidemiological data have been shown. We found that alcohol consumption is quite high in Nakorn-Sawan province (79.1%). Among these alcohol consumers, we found alcohol use disorder subjects who were diagnosed from Hasin's questionaires at a level of 30.8%. The Alcohol dependence 16.6% and for alcohol abuse 14.2%. Rates in other studies but in other setting were 25 aned 32%.[9-11] The differences among these results were instruments used to measure,[12-21] they use MAST that classified only alcohol dependence. MAST is not up to date because DSM-3-R classified alcohol use disorders into alcohol dependence and alcohol abuse. Those studies surveyed in OPD in general hospital so the prevalence should be high.

The results of demographic distribution among alcohol use disorders indicated more prevalence among males than females which did not differ from other studies.[2,22-24] It was most common in the age range of 25-34, most were married, were argriculturists, had low education low income and had a familial history of alcohol consumption. The same distributions with one study were found except for occupation.[25] We believe this was because that study set was in a governmental hospital in Bangkok and among the alcoholics admitted to the hospital were a high distribution of government officers and employees.

The age of onset of drinking was most commonly between 15-24 years (about 65% of the time), and the reasons for starting alcohol use were social activities and persuasion from friends. The frequency of alcohol consumption was once or more per week. Most alcohol use disorder subjects preferred to drink "arracks" and mix the alcohol with herbal medicine. The amount of alcohol use was about 1-3 glasses per occasion. Most of the alcohol use disorder subjects perferred to drink in the evening, took 1-2 hours for drinking, and did it both inside and outside of the home with friends. Most of them had mood or other emotional changes before and after drinking, such as : could not control awareness, easy irritability, and decreased appetite before drinking. The changes after drinking were intoxication, a hot sensation in stomach, talkative and loud, increased appetite, impulsiveness, itching, headache, dizziness, palpitation, hypomotor retardation and sounder sleep. Most of the alcohol dependence use subjects used alcohol as a tool for mental stress relief more than did the alcohol abuse subjects. Most of the alcohol use disorder subjects thought that alcohol reduction or cessation was not difficult, but they still did not want to stop. Only small numbers requested help. Most of them could stop for only 1-3 months and then they would resume drinking for the same reasons they had when starting. Most of the alcohol use disorder subjects had used other drugs and substances and were still using them. These included cigarettes, analgesics, etc. Most of them were poly drug users.

Suggestion

This study can be used as a pilot study because we have developed an instrument used for conducting a survey. Modified questionaires

could be used as a frame for conducting a national survey for planning a policy to prevent and control alchol use disorders.

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References

1. Claxton GH. Alcohol the facts. National Drug Abuse Information Center (NDAIC). Australian Governmrnt Publishing Service. Canbera, 1992
2. Arif A, Westermeyer J. Epidemiological factors of drugs and alcohol abuse. In : Manual of Drug and Alcohol Abuse. American Psychiatric Association Inc., Washington DC, 1988
3. World Health Organisation Expert Committee. Problems related to alcohol consumption. WHO Techn Rep Ser 1980; 650:1-72
4. McLellan AT, Luborsky L, Woody GE, O'Brien CP. An improved diagnostic evaluation instrument for substance abuse patients. TheAddiction Severity Index. J Nerv Ment Dis 1980 Jan; 168(1): 26-33
5. Allen Jp, Eckard MJ, Wallen J. Screening for alcoholism : techniques and issue. Public Health Rep 1988 Nov-Dec; 103(6): 586-92
6. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders, 3rd ed. revised. Washington DC: American Psychiatric Association, 1987
7. Rounsaville BJ, Kosten TR, William JB, Spitzer RL. A field trial of D.S.M. 3-R : Psychoactive substance dependence disorders. Am J Paychiatry 1987 Mar; 144(3):351-5
8. Hasin DS, Grant B, Endicott J. The national history of alcohol abuse : implication for definitions of alcohol use disorders. Am pschiatry 1990 Nov; 147(11):1537-41
9. Otrakul A. Wong-arsa C, Boonshuya C, Issa Abdulkarim A. Identification of alcoholism among B M A bus drivers in Bangkok. J Psychiatr Assoc Thai, 1988 Apr; 33(2):55-60
10. Tanchaiswad W. MAST : the instrument for screening alcoholism. J Psychiatr Assoc Thai 1988 Apr; 32(2):47-53
11. Tanchaiswad W. Alcoholism : prevalence in general hospital outpatient. J Psychiatr Assoc Thai 1990 Jan; 35(1):3-9
12. Selzer ML. The Michigan Alcoholism Screening Test : the quest for a new diagncstic instrument. Am J Psychiatry 1971 Jun; 127(12):1653-8
13. Silger ML, Vinokur A, Van Rooijen L. A self-administered Short Michigan Alcoholism Screening Test (SMAST). J Stud Alcohol 1975 Jan; 36(1):117-26
14. Ewing JA. Detecting alcoholism. The CAGE questionaires. JAMA, 1984 Oct 12; 252 (14): 1905-7
15. Umbricht-Schneiter A, Santora P, Moore RD. Alcohol abuse : comparison of two methods for assessing its prevalence and associated morbidity in hospitalized patients. Am J Med 1991 Aug; 91(2): 110-8

16. Bush B, Rhow S, Cleary P, Delbanco TL, Aronson MD. Screening for alcohol abuse using the cage questionares. Am J Med 1987 Feb; 82(2):231-5
17. Chick J. Alcohol dependence : methodoiogical issues in its measurement reliability of the criteria. Br J Addict 1980 Jun; 75(2):175-86
18. Cottler LB, Keating SK. Operationalisation of alcohol and drug dependence crileteia by means of a structured interview. Recent Dev Alcohol 1990; 8:69-83
19. Morse RM, Hurt RD. Screening for alcoholism. JAMA 1979 Dec 14; 242(24): 2688-90
20. Hughes PH, Barker NW, Crawford GA, Jaffee JH. The natural history of heroin epidemic. Am J Public Health 1972 Jul; 62(7):995-1001
21. Woodruff RA Jr, Clayton PT, Cloninger CR. A brief method of screening for alcoholism. Dis Nerv Syst 1976 Aug; 37(8): 434-5
22. Goowin DW. Genetic factors in the development of alcoholism. Substance abuse. Psychiatr Clin North Am 1986 Sep; 9(3):427-34
23. Meyer RE. Old wine, new bottie : an alcohol dependence syndome. Substance abuse. Psychiatr Clin North Am 1986 Sep; 9(3):435-54
24. Edwards G, Arib A, Hadgson R. Nomenclature and classification of drug-and alcohol-related problems. A WHO Memorandum. Bull WHO 1981; 59(2): 225-42
25. Vajarajote P, Otrakul A, Kusolvisikul V, Patumpetch D, Sangsupan A, Kriansakpichit A. A survey of admitted alcoholics admitted to government hospital in Bangkok. J Psychiatr Assoc Thai 1985 Jul; 30(3):101-6