

## Health and social correlates of alcohol use disorders in a rural area of Nakorn-Sawan Province, Thailand\*

Nuntika Thavichachart\*\*

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*A community survey was conducted in Nakorn-Sawan Province, one of Thailand's top ten provinces for alcohol consumption per capita. The intentions of this study were to find the prevalence of alcohol use disorders, and the health and social correlates of alcohol use disorders such as behavioral consequences, co-morbid mental problems, general feelings of well-being and other factors.*

*We found that there was more anxiety, depression and low feelings of well-being among alcohol use disorder subjects, and this was significantly different at  $p < .05$ . For the general well-being total score, alcohol use disorder subjects were in the moderate to severe distress categories. We found many health and behavioral consequences associated with alcohol use disorders. These included health, work and financial problems ( $p < .05$ ). We did not find a specific personality profile among alcohol use disorder subjects.*

**Key words :** *Health factors, Social factors, Alcohol use disorder.*

Reprint request :Thavichachart N, Department of Psychiatry, Faculty of Medicine, Chulalongkorn University, Bangkok 10330, Thailand.

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\*\*Department of Psychiatry, Faculty of Medicine, Chulalongkorn University.

นันทิกา ทวิชาชาติ. ปัจจัยด้านสุขภาพ และสังคมที่เกี่ยวข้องกับความผิดปกติของการดื่มสุราในชุมชนจังหวัดนครสวรรค์ ประเทศไทย. จุฬาลงกรณ์เวชสาร 2538 กันยายน; 39(9): 677-685

การสำรวจภาคสนามในชุมชนจังหวัดนครสวรรค์ ซึ่งเป็นจังหวัดหนึ่งในสิบที่มีการใช้แอลกอฮอล์ต่อประชากรสูงจังหวัดหนึ่งในประเทศไทย วัดอุปสรรค เพื่อหาความชุกของความผิดปกติของการดื่มสุรา ปัจจัยด้านสุขภาพและสังคมที่เกี่ยวข้อง พฤติกรรมที่เป็นผลกระทบจากการดื่มสุราที่ผิดปกติ ปัญหาทางด้านจิตใจ คุณภาพชีวิต และปัจจัยอื่นๆ ที่เกี่ยวข้องกับผู้ที่มีความผิดปกติของการดื่มสุรา

จากการศึกษาพบว่า ในกลุ่มของผู้ที่มีความผิดปกติของการดื่มสุรา มีคะแนนของควมวิตกกังวลและภาวะซึมเศร้าสูง แต่คะแนนของความรู้สึกลบอย่างมีนัยสำคัญทางสถิติ  $p < 0.05$  ในการศึกษาคุณภาพชีวิต คะแนนรวมของกลุ่มความผิดปกติของการดื่มสุราดอกอยู่ในกลุ่มมีความเครียดทางด้านจิตใจในระดับปานกลางและรุนแรง พบผลกระทบทางสุขภาพกายและพฤติกรรมที่เกี่ยวข้องกับกลุ่มที่มีความผิดปกติของการดื่มสุรา เช่น ปัญหาสุขภาพ พฤติกรรมรุนแรง อุบัติเหตุ ปัญหาครอบครัว การงาน และปัญหาเศรษฐกิจสูงอย่างมีนัยสำคัญทางสถิติ ( $p < .05$ ) แต่ไม่พบบุคลิกภาพจำเพาะชนิดใดชนิดหนึ่งในกลุ่มที่มีความผิดปกติของการดื่มสุรา

Alcohol dependence and abuse are producing virtual epidemics of accidents, many health problems, and societal problems such as family disruption, spouse and child abuse, compromised economic productivity, crime and violence.<sup>(1,2)</sup> Alcohol consumption has steadily increased worldwide.<sup>(3)</sup> In general, excessive use of alcohol is associated with increased risk of high blood pressure, weight increase, accidents, stroke, cirrhosis of the liver, damage to the brain, pancreas and heart, various types of cancers and psychosocial problems. Many studies have examined these topics and found that alcohol consumption is associated with health problems (medical, physical and psychosocial), familial, legal, and criminal problems, violence and accidents.<sup>(1,4-9)</sup> In Thailand, data has shown the increased history of alcohol consumption among Thai people who died from traffic accidents. There have not been many studies conducted in Thailand about factors correlated to alcohol use disorders. But results of those papers has shown the statistical relationship between alcohol consumption and the strength of the personality,<sup>(10)</sup> and a statistically significant difference between the behavior of persons who did and did not have alcohol use disorders.<sup>(11)</sup>

These baseline data from this study can be used for strategic planning in the prevention and control of alcohol use disorders.

### Material and methods

A total of 409 subjects in Nakorn-Sawan Province, aged over 15 years, were selected by a 2-stage random sampling technique. They were interviewed by trained interviewers using questionnaires. Demography details were obtained, and Hasin questionnaires were used to measure and

identify alcohol use disorders according to DSM-III-R items.<sup>(12,13)</sup> The questionnaires had been developed to study behavioral consequences of alcohol abuse, including medical, physical, psychosocial, legal and accidents. The sixteen Personality Profile (16 PF) by Raymond B. Cattell, 1949, 1982, and the General Well-Being Schedule (GWB) by Harold J. Dupuy, 1977 were used. All of these instruments had been tested for validity and reliability in the community before developing the final questionnaires. (K for Hasin = 0.81, 16 PF reliability coefficient between 0.61-0.88, GWB test-retest reliability = 0.84, internal consistency = 0.91-0.95)

### Results

We found that 71.9% of the subjects consumed alcohol, and that alcohol use disorders occurred among 30.8% of the subjects. Those can be divided into 14.2% alcohol abuse and 16.6% alcohol dependence subjects (Table 1).

We found that the most common problems among alcohol use disorder subjects were health, accidents, financial and working problems. The problems that were statistically different among the groups were treatment in hospitals, treatment in mental institutions, health problems, brain and CNS problems, liver problems, stomach problems, accidents, police problems, fighting, injuries by others, injuries to others, familial problems, social problems, financial problems, working problems and sexual problems. (Table 2)

Most of the behavioral consequences associated with alcohol consumption were statistically significant at  $p < .001$ ,  $.005$  and  $.05$ , except for pancreas problems, CVD problems and self injuries.

**Table 1.** Prevalence of alcohol use disorders in 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
<b>Total</b>	<b>409</b>	<b>100.0</b>

**Table 2.** Behavioral consequences.

Behavioral Consequences	Non-drinkers		Alcohol drinking				Alcohol use disorder		
	Never	Ever		Never	Ever		Never	Ever	
		Ass.	Not ass.		Ass.	Not ass.		Ass.	Not ass.
1. Hospital admission	72.2	-	27.8	58.9	1.2	39.9	61.1	11.1	27.8
2. Mental hosp. admission	99.1	-	0.9	98.2	-	1.8	92.1	5.6	2.4
3. Health problems	72.2	-	27.8	64.9	0.6	34.5	47.6	14.3	38.1
4. CNS problems	99.1	-	0.9	97.0	-	3.0	90.5	2.4	7.1
5. Liver problems	100.0	-	-	98.2	-	1.8	95.2	2.4	2.4
6. Pancreas problem	100.0	-	-	97.6	-	2.4	96.8	1.6	1.6
7. Stomach problems	90.4	-	9.6	85.1	-	14.9	69.8	12.7	17.5
8. CVD problems	93.9	-	6.1	92.3	0.6	7.1	93.6	1.2	5.2
9. Accidents	88.7	-	11.3	82.1	-	17.9	76.2	11.9	11.9
10. Police problems	99.1	-	0.9	97.0	-	3.0	89.7	1.6	8.7
11. Fighting	99.1	-	0.9	98.2	-	1.8	87.3	5.6	7.1
12. Self-injury	99.1	-	0.9	99.4	-	0.6	97.6	1.6	0.8
13. Injury by others	99.1	-	0.9	99.4	-	0.6	91.3	4.0	4.8
14. Injury to others	99.1	-	0.9	99.4	-	0.6	88.1	7.1	4.8
15. Familial problems	88.7	-	11.3	75.6	3.6	20.8	54.0	15.9	30.2
16. Social problems	97.4	-	2.6	95.2	-	4.8	84.1	6.3	19.5
17. Financial problems	75.7	-	24.3	53.6	0.6	45.8	57.1	11.1	31.7
18. Work problems	87.0	-	13.0	85.1	-	14.9	65.1	8.7	26.2
19. Sexual problems	99.1	-	0.9	95.8	-	4.2	89.7	4.8	5.6

Never = Never occurred

Ass. = Associated with alcohol drinking

Ever = Ever occurred

Not ass. = Not associated with alcohol drinking

Co-morbid mental problems and general well-being were studied by using the GWB scale. This scale was divided into 3 groups : severe distress, moderate distress, and feelings of positive well-being. We found that the scores of general

well-being among alcohol consumption and alcohol use disorder subjects had a high percentage in the moderate to severe distress subgroup of GWB ( $p < .05$ ). (Table 3)

**Table 3.** General well-being feelings grouped by scores

GWB scores	No drinking		Alcohol drinking		Alcohol abuse		Alcohol dependence	
	No.	%	No.	%	No.	%	No.	%
Severe distress	24	20.9	32	19.0	14	24.2	22	32.4
Moderate distress	44	38.3	65	38.7	27	46.5	30	44.1
Positive well-being feelings	47	40.9	71	42.3	17	29.3	16	23.5

After calculating the differences between and among the groups of no drinking (mean score of GWB = 69.42), alcohol drinking (mean score of GWB = 69.79) and alcohol use disorders (mean score of GWB = 69.79) by using ANOVA, we found that alcohol use disorders was significantly different from other groups at  $p < .05$ .

From the total GWB scores we used analysis of ANOVA to subscore labels that were divided

into anxiety subscore, depression subscore, positive well-being feeling subscore, self-control subscore, vitality subscore and general health subscore. We found that alcohol use disorder subjects had anxiety, depression and positive well-being subscores statistically different from other groups. (Table 4)

**Table 4.** GWB anxiety subscore, depression and positive well-being.

Subscore/ Group	Mean	S.D.	S.E.	P
GWB subscore of anxiety				
- No consumption (115)	14.22	3.13	0.29	-
- Alcohol consumption (168)	14.48	2.74	0.24	-
- Alcohol use disorders (126)	13.32	3.33	0.39	< .05

The minimum, maximum and meanscore of each personality profile among alcohol use disorder subjects is show in Table 5. We found that in each personality profile the scores did not

clearly deviate from average scores except for the profiles L, M and O (trust-suspicious, practical-imaginative and self-assurd-apprehension). (Table 5)

**Table 5.** Personality profiles among alcohol use disorder subjects.

Personality profile	Minimum scores	Average	Maximum scores	Mean	Character
A reserved-outgoing	4	10	16	11.0	outgoing
B low-high intelligence	0	5.5	11	5.0	low
C emotional instability or weakness-stability	5	13.5	22	12.6	instability
E submissive-dominance	3	10.5	18	10.5	between
F serious-happy	4	11.5	19	11.2	serious
G self-indulgent -conscientious	4	11	18	12.2	conscientious
H shyness-bold	4	11.5	19	12.5	bold
I tough-tender minded	3	9.5	16	9.8	tender
L trust-suspicious	0	8.5	17	9.8	suspicious
M practical-imaginative	3	12	21	9.6	practical
N genuine-astute	0	0.5	18	10.3	astute
O self-assured -apprehension	0	0.5	19	12.4	apprehension
Q <sub>1</sub> conservative-experimenting	3	11	19	9.1	conservative
Q <sub>2</sub> group dependency-self sufficient	3	11	19	10.7	group dependence
Q <sub>3</sub> undisciplined-self control	5	11	17	11.4	undisciplined
Q <sub>4</sub> relaxed-tense	5	12	19	12.7	relaxed

We analysed the mean scores in each personality profile and used ANOVA to find differences between alcohol consuming and al-

cohol use disorder subjects. We found that there were not significant in the profiles except for the "trust-suspicious" profiles. (Table 6)

Table 6. "Trust-suspicious" personality profile scores among groups.

Group	Mean	S.D.	S.E.	P
No consumption (115)	9.22	2.39	0.23	-
Alcohol consumption (168)	9.83	2.70	0.21	-
Alcohol use disorders (126)	10.22	2.46	0.22	< .05

Alcohol use disorder subjects had "suspicious" scores different from the other groups at  $p < .05$ .

### Discussion and conclusions

The results of the prevalence of alcohol use disorders from this study were 30.8%. Alcohol dependence comprised 16.6% and alcohol abuse was 14.2%. Regarding behavioral consequences among alcohol consumption and alcohol disorder subjects, we found many types of problems associated with alcohol consumption such as health problems, accidents, familial problems, violent behavior, and social, work and financial problems. Some of these problems bring social harm, some result in death and some bring physical and psychological distress and illness. A campaign should be developed to alleviate these dangers.

For GWB total scores we found that most of the alcohol use disorders fell in the categories of moderate to severe distress. The quality of life of these subjects was not so good, and it should be better managed. Preventive and control programs should be combined, or go along with other mental health promotion and preventive programs. In subscores of GWB we found that there were significant differences among no consumption, alcohol consumption and alcohol abuse

subjects in the anxiety, depression and positive well-being subgroups.

For personality profiles, we found that alcohol use disorder subjects had scores of L profile (trust-suspicious) which deviated from other groups. But from our data we cannot consider it to be a baseline personality because it could be a cause or effect after consuming a large quantity of alcohol.

### Suggestions

We have conducted a community survey as a pilot study. To conduct this survey we developed an instrument which obtained a lot of information from the alcohol consumption and alcohol use disorder subjects. If we modified the questionnaires from this study they could be a frame for conducting a national survey. From the national survey we could determine the proper national policy on alcohol so as to minimize the harm associated with alcohol use while interfering as little as possible with the freedom of individuals to exercise personal choice for the use or non-use of alcoholic beverages.

Because there is no universally accepted safe level of drinking and because most alcohol related problems occur among persons who would be regarded by most Thais as habitual drinkers, it is difficult to direct efforts at reducing alcohol

related problems among those whose drinking is habitually irresponsible. Accordingly, although a targeted approach is appropriate in some instances with specific or appropriate strategies, relating either to habitual heavy drinkers or to specific problems such as accidents, in general, efforts to minimize alcohol related problems need to be more broadly based. However, no single initiative itself is likely to provide the significant improvement sought. This study has provided the baseline information needed for further study on strategic planning in the prevention and control of alcohol use.

We propose another study to determine which are the best policies. These would consist of educational policies, control policies, legal policies, treatment policies, and community mobilization policies.

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