Follow-Up the Outcome of Treatment of Inhalant Users in Northeastern Thailand

Wirut Watanaphithuk MSc*,
Amornrat Ratanasiri PhD*, Manop Kanato PhD*

** Department of Community Medicine, Faculty of Medicine, Khon Kaen University, Khon Kaen, Thailand*

Background: *Drug treatment in Thailand is categorized into three types, namely voluntary system, correctional system, and compulsory system. The latter is under Inhalants Law and Drug Addict Rehabilitation Act 2002 A.D.*
Objective: *Follow-up the outcome of the compulsory system treatment in inhalant user on probation program and evaluate hospital referrals and the process of follow-up in community.*
Material and Method: *A survey questionnaire adopted from KKU-VOUDIT was used in the present study in nine selected provinces of Thailand. Nine hundred ninety two people formed the study population and were divided into 95 administrators, 71 stakeholders, and 760 inhalant users.*
Results: *Inhalant users were classified as experimental (56.8%), harmful (24.2%), dependent (13.9%), and psychosis (5.1%). Majority of inhalant users were male (95.0%), 12 to 19 (61.3%), single (83.4%). In this group, 15.5% were students while 45.1% were temporarily employed, and 40.3% were unemployed. Most inhalant users never reused (72.2%). However, some users re-used but were not incarcerated (12.2%) while others re-used and were incarcerated (15.5%).*
Conclusion: *As the targets are youths, sub-district administrative organization, basic education office, and primary healthcare organizations should come together to bring about necessary changes.*

Keywords: *Follow-up, Outcome, Inhalant*

J Med Assoc Thai 2013; 96 (7): 854-9
Full text. e-Journal: *http://jmat.mat.or.th*

Drug therapy is a chronic disease like diabetes and hypertension. Therefore, it has relapse and recurrence[1]. There is no clear-cut guideline for inpatient or outpatient treatment in case of drug inhalant use[2]. There are several characteristics of solvent abusers that make inpatient treatment the most appropriate choice[3,4]. For younger abusers, the school environment may be especially difficult to readjust due to poor relationship with teachers and staff. Of the adolescents who initiated illicit drug use during the past year, 17.2% indicated that inhalants were the first drug that they used. This rate remained relatively stable[5,6]. Drug treatment system in Thailand is classified into three types namely voluntary system, correctional system, and compulsory system. The latter is under Inhalant's Law and Drug Addict Rehabilitation Act A.D 2002[7]. Inhalant users are mostly concentrated in the Northeast of Thailand[8]. So far, no study on the evaluation of inhalant outcome study has been reported[9,10]. This led to the researcher's interest in the outcome of treatment under a compulsory system.

Correspondence to:
Ratanasiri A, Department of Community Medicine, Faculty of Medicine, Khon Kaen University, Khon Kaen 40002, Thailand.
Phone: 08-5001-1531, Fax: 043-202-488
E-mail: amorat@kku.ac.th

Objective

To follow-up outcome of compulsory system of treatment in inhalant user on probation program and referring to hospital and evaluate hospital referrals and the process of follow-up in community.

Material and Method

A descriptive study was conducted in nine provinces namely Khon Kaen, Mahasarakham, Roi Et, Kalasin, Nakhon Ratchasima, Buri Ram, Surin, Si Sa Ket and Chaiyaphum. Nine hundred ninety two people formed the study population and were selected according to the involvement in Inhalant treatment. They were divided into 95 administrators, 71 stakeholders, and 760 inhalant users. The instrument used was a survey questionnaire adopted from KKUVOUDIT[11] (Khon Kaen University-Volatile Use Disorder Identification Test), which covered a wide range of attitude and opinion of inhalant users, stakeholders, and administrators. It is a standard tool modified from a compendium of United Nation

standards and norms in crime prevention and criminal justice[12]. A score less than 24 in the KKUVOUDIT was considered as experimental, between 24 and 31 was considered harmful and more than 31 was considered as dependent. The present study protocol was reviewed then approved by the Human Research Ethics Committee of Khon Kaen University, Thailand (HE531257) and Institutional Review Board Number (IRB00001189).

Results

Data collection was divided into two parts quantitative and qualitative. The quantitative data collection gave the following results.

Inhalant users were classified as experimental (56.8%), harmful (24.2%), dependent (13.9%), and psychosis (5.1%) (Fig. 1). The majority of inhalant users were male (95.0%) with ages ranging from 12 to 19 years (61.3%) and an average of 24 years, and single (83.4%) (Table 1). It was found that single inhalant users had 1.894 times higher chance of being under compulsory treatment system than married ones (95% CI 1.287-2.786). Of the users, 15.5% were students, 45.1% were temporarily employed, and 40.3% were unemployed. In the inhalant users, 73.6% lived with their family. Regarding the equation with family members at home, 17.8% shared a cold relationship, and another 5.3% had a broken home. Majority (38.9%) of the subjects lived as part of the community. Some joined the community only sometimes (28.9%) while some seldom joined (27.4%). The majority of user did not re-enter for treatment (59.1%) while 20.9% did. Most (72.2%) inhalant users did not re-use inhalants but a few (12.2%) did and some (15.5%) were incarcerated (Table 1). Patients had 3.374 times more chance of not re-using inhalants than re-using under the compulsory system (95% CI 2.493-4.565) (Table 2). Most users (80.3%) never experienced any follow-up while a few (19.7%) did. Among the study subjects, 51.4% liked follow-up while the rest 48.6% disliked it.

The qualitative data consisted mainly of the opinions of stakeholder and administrative staffs.

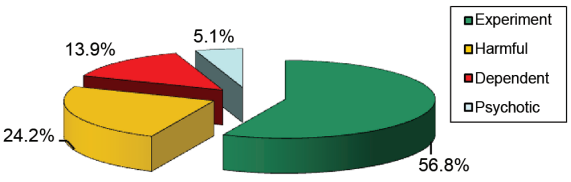

Fig. 1 Classifies severity of Inhalant user.

Under the voluntary system, the majority (93.0%) made no comments about policy and expressed that they had no necessary knowledge (63.0%), 60.3% thought the instruments were insufficient, and 81.0% thought the budget was insufficient. On further investigation, it was found out that 65.5% of the officials did not have necessary knowledge, 56.9% of the hospitals had insufficient instruments, and 74.0% had insufficient budget.

When asked about drug policy and strategies to the officials from the probation program and rehabilitation for harmful users group (compulsory system), some of them (13.0%) did not make any comment about policy, 18.0% believed the knowledge was not enough, 18.0% believed the instruments made available were insufficient, and 35.0% said the budget was insufficient. However, on investigation, it was found that only 16.0% of the officials had no knowledge, 27.0% of the probation office had insufficient instruments, and 37.0% had insufficient budget.

All inhalant users were collected under the compulsory system in accordance with Narcotic Addict Rehabilitation Act B.E. 2545 (2002) in order to rehabilitate inhalant user probationers but Sikheo district probation office and Sisaket provincial probation office were found to have problems even setting up basic programs. The total number of inhalant users among entire drug addiction cases registered in the nine provincial probation office was calculated and it was found that 42.8% of the total patients in Nakhon Ratchasima provincial probation office, 39.8% in Surin provincial probation office, 39.3% in Buriram provincial probation office, 37.5% in Nangrong provincial probation office, and 36.0% in Roi-Et provincial probation office were inhalant users. On comparing the inhalant user number to the probation offices around Thailand, it was found that 47.0% were in Kalasin provincial probation office, 25.0% in Sisaket provincial probation office, 23.5% in Mahasarakham probation office, and 25.0% in Sisaket Provincial probation office. The number of probationers per probation officer was highest in Surin provincial probation office (75 cases per person) followed by Nakhon Ratchasima provincial probation office (66 cases per person). There existed an imbalance between the number of inhalant users and the budget allocated. The Department of Probation Information System (DOPIS) and Antidrug-Phdb Database were found to repeat data and the data were not updated.

Table 1. Characteristics of inhalant users (n = 760)

Variables	Overall (n = 760)	Compulsory system	Voluntary system		p-value
			Outpatient	Inpatient	
Sex					
Male	722 (95.0%)	413 (95.6%)	172 (93.5%)	137 (95.1%)	0.540
Female	38 (5.0%)	19 (4.4%)	12 (6.5%)	7 (4.9%)	
Age					
12-19 years	466 (61.3%)	306 (70.8%)	100 (54.3%)	60 (41.7%)	<0.001
20-27 years	160 (21.1%)	91 (21.1%)	47 (25.5%)	22 (15.3%)	
28-35 years	91 (12.0%)	29 (6.7%)	21 (11.4%)	41 (28.5%)	
36-43 years	40 (5.3%)	5 (1.2%)	15 (8.2%)	20 (13.9%)	
44-51 years	3 (0.4%)	1 (0.2%)	1 (0.5%)	1 (0.7%)	
Marital status					
Single	634 (83.4%)	377 (87.3%)	145 (78.8%)	112 (77.8%)	0.005
Married	6 (0.8%)	1 (0.2%)	1 (0.5%)	4 (2.8%)	
Couple	49 (6.4%)	20 (4.6%)	17 (9.2%)	12 (8.3%)	
Others	71 (9.3%)	34 (7.9%)	21 (11.4%)	16 (11.1%)	
Income					
Monthly	111 (14.6%)	59 (13.7%)	41 (22.3%)	11 (7.6%)	<0.001
Temporary employment	343 (45.1%)	191 (44.2%)	83 (45.1%)	69 (47.9%)	
Unemployed	306 (40.3%)	182 (42.1%)	60 (32.6%)	64 (44.4%)	
Occupation					
None	251 (33.0%)	122 (28.2%)	58 (31.5%)	71 (49.3%)	<0.001
Student	118 (15.5%)	100 (23.1%)	15 (8.2%)	3 (2.1%)	
Monk	3 (0.4%)	3 (0.7%)	0 (0.0%)	0 (0.0%)	
Worker	283 (37.2%)	159 (36.8%)	81 (44.0%)	43 (29.9%)	
Other	105 (13.8%)	48 (11.1%)	30 (16.3%)	27 (18.8%)	
Relationship-home					
Cold	135 (17.8%)	42 (9.7%)	43 (23.4%)	50 (34.7%)	<0.001
Warm	559 (73.6%)	350 (81.0%)	133 (72.3%)	76 (52.8%)	
Broken home	40 (5.3%)	17 (3.9%)	6 (3.3%)	17 (11.8%)	
Others	26 (3.4%)	23 (5.3%)	2 (1.1%)	1 (0.7%)	
Committing crime					
No	449 (59.1%)	309 (71.5%)	94 (51.1%)	46 (31.9%)	<0.001
Yes but no re-entry	152 (20.0%)	60 (13.9%)	26 (14.1%)	66 (45.8%)	
Yes and re-entry	159 (20.9%)	63 (14.6%)	64 (34.8%)	32 (22.2%)	
Reuse					
No	549 (72.2%)	364 (84.3%)	114 (62.0%)	71 (49.3%)	<0.001
Yes	93 (12.2%)	51 (11.8%)	27 (14.7%)	15 (10.4%)	
Yes and incarcerated	118 (15.5%)	17 (3.9%)	43 (23.4%)	58 (40.3%)	
Follow-up					
No	610 (80.3%)	346 (56.7%)	151 (24.8%)	113 (18.5%)	0.713
Yes	150 (19.7%)	86 (19.9%)	33 (17.9%)	31 (21.5%)	

Data are n (%) of n in each inhalant user group. Data were analyzed using Chi-square test.
n = total number of possible responses from all participant

Discussion

Compulsory system is overloaded with many treatment strategies and is under-labored. NIDA advices developing effective methods of treatment depending upon individual needs and the patient's ability to benefit from rehabilitative services. This needs careful planning and support from all involved. Efficient probation officers who are able to provide group counseling are an essential pre-requisite of a probation office. Database of compulsory systems and other systems should be separated. The patients should be kept under the required system according to the

Table 2. Logistic regression analysis of determinant of prevalence of inhalant user level

Independent variables	Inhalant user		OR	95% OR	p-value
	Compulsory system	Voluntary system			
Marital status					
Single	377	257	1.894	1.287-2.786	0.001
Other	55	71			
Reuse					
No	364	185	4.138	2.949-5.805	<0.001
Yes	68	143			
Committing crime					
No	309	140	3.374	2.493-4.565	<0.001
Yes and re-entry	123	188			
Sex					
Male	413	309	0.382	0.696-2.567	0.239
Female	19	19			
Follow-up					
No	346	264	0.975	0.680-1.399	0.892
Yes	86	64			

CI = confidence intervals

needs of the patient and no conflict must occur on this between two systems.

The structures of provincial probation office were found to have a wide management. There were no job descriptions for rehabilitation officials and there existed mixed supervision and investigation. The Department of Probation Information System (DOPIS) was verified only after the allocated budget exhausted while Antidrug-Phdb Database did so whenever they needed to prosecute someone. Rehabilitation program should have many stages depending upon individual need, motivation, and ability to benefit from rehabilitative services.

In a study of the trend of inhalant use between 2008 and 2010, it was found to be on a high slope of three to six, according to the Inhalant Act. After 2010, the slope seemed to flatten, thereby exhibiting less threat. The data available on health promotion are not adequate. There is a need to get data on prevention rather than treatment alone. Apart from that, data of re-use and loss to follow-up is essential. It is also of utmost importance to include health promotion and prevention in the policy, so that it is applicable for all. This will not only reduce the outcome of inhalant use but the cost involved as well.

Conclusion

A probation office should have good probation officers with effective skills for group counseling. Data inputs were found to be irregular and there seemed no need or plans for solving this problem. The budget plan should not separate rehabilitation budget from other treatment budgets as this causes a lot of conflict. Government budget should be applied directly as and when needed. Rehabilitation process for experiment group requires regular quality assessment. There must be a legal provision of keeping patients under experiment group on probation.

The head of the rehabilitation center should undergo counseling skill training. Probation officers can be good counselors if they are well trained. The officials should have knowledge and skills about drugs and counseling the patients. Careful investigation should be carried out to prevent drug-trafficking, drug relapse, and before sentencing or bailing-out any patient.

As the targets are youths, sub-district administrative organization, basic education office and primary healthcare organizations all should come together so as to bring about necessary changes. Student inhalant users that fall under the category of experiment or harmful should be sent back to school as early as possible. Exercise and proper nutrition during and after rehabilitation proved helpful. If out-casted from society, the users tend to distance from education and thereby fall prey to relapse. Further study seems imperative on the effectiveness of drug treatment in Thailand.

Acknowledgements

We would like to offer special thanks to all the participants, Miss Astha Pant, Mrs. Ponprapa Khaewkla, The Department of Community Medicine, Faculty of Medicine, Khon Kaen University, Provincial probation offices, The Department of Probation, Office of The Narcotic Control Board, ISAN Substance Abuse Network, and the Graduate School, Khon Kaen University for providing support through scholarship.

Potential conflicts of interest

None.

References

1. United Nations Office on Drugs Crime and World Health Organization. Principles of drug dependence treatment. Geneva: WHO; 2008.
2. Danthamrongkul V. The context and condition of drug selling in the adolescents group who was on probation. Khon Kaen, Thailand: ISAN Substance Abuse Network, Khon Kaen University; 2009: 3.
3. Jumper-Thurman P, Beauvais F. Treatment of volatile solvent abusers. Subst Use Misuse 1997; 32: 1883-8.
4. Davies RD, Thurstone C, Woyewodzic K. Substance use disorders and neurologic Illness. Curr Treat Options Neurol 2004; 6: 421-32.
5. National Survey on Drug Use and Health. The NSDUH report: Trends in adolescent inhalant use: 2002 to 2007. Bethesda, MD: NIDA; 2009: 3.
6. Wu LT, Howard MO. Is inhalant use a risk factor for heroin and injection drug use among adolescents in the United States? Addict Behav 2007; 32: 265-81.
7. Probation Department, Ministry of Justice. Drug Addict Rehabilitation Act A.D 2002. Bangkok: Ministry of Justice; 2008.
8. Kanato M. A research estimate the number of drug abuse in Thailand. Khon Kaen, Thailand: ISAN Substance Abuse Network, Khon Kaen University; 2009.
9. Dinwiddie SH. Abuse of inhalants: a review. Addiction 1994; 89: 925-39.
10. World Health Organization. Assessment of compulsory treatment of people who use drug in Cambodia, China, Malaysia and Vietnam. Geneva: WHO; 2009.
11. Arunpongpaisal S, Kanato M, Chiaviriyabunya I, Daosodsai S, Kamproa S. Tool development and validity testing of Khon Kaen University-Volatile Use Disorder Identification Test (KKU-VOUDIT) to classify severity of volatile users. J Psychiatr Assoc Thai 2010; 55: 63-78.
12. United Nations Office on Drugs Crime. Compendium of united nations standards and norms in crime prevention and criminal justice. New York: United Nations; 2006.

การติดตามผลการบำบัดผู้ใช้สารระเหยในพื้นที่ภาคตะวันออกเฉียงเหนือของประเทศไทย

วิรัติ วัฒนพิทักษ์, อมรรัตน์ รัตนสิริ, มานพ คณะโต

ภูมิหลัง: *ระบบการบำบัดยาเสพติดในประเทศไทย แบ่งเป็น 3 ระบบ คือ ระบบผู้ป่วยในและผู้ป่วยนอก เรียกว่าระบบสมัครใจบำบัด ระบบเรือนจำสำหรับนักโทษยาเสพติด และระบบบังคับบำบัด หรือ ระบบคุมประพฤติซึ่งมีพระราชบัญญัติฟื้นฟูสมรรถภาพผู้ติดยาเสพติด พ.ศ. 2545 บังคับใช้อยู่ในปัจจุบัน*

วัตถุประสงค์: *เพื่อศึกษาติดตามผลการบำบัดสารระเหยโดยวิธีบังคับบำบัดผู้ป่วย วิธีคุมประพฤติ และการส่งต่อบำบัด โดยวิธีผู้ป่วยนอกและกระบวนการติดตามในชุมชน*

วัสดุและวิธีการ: *เป็นการศึกษาติดตามกลุ่มประชากร ในพื้นที่คัดสรร 9 จังหวัดของประเทศไทย จำนวน 3 กลุ่ม คือกลุ่มผู้ให้บริการจำนวน 95 คน กลุ่มผู้บริหารและผู้มีส่วนได้ส่วนเสียจำนวน 71 คน กลุ่มผู้รับบริการในระบบบังคับบำบัดจำนวน 760 คน รวมประชากรศึกษาทั้งสิ้นจำนวน 992 คน และทำการศึกษาระหว่างเดือนตุลาคม พ.ศ. 2553 ถึงเดือนกันยายน พ.ศ. 2554 และกลุ่มตัวอย่างได้คัดเลือกตามเกณฑ์ KKU VOUDIT*

ผลการศึกษา: *พบว่า 56.8% เป็นกลุ่มทดลองเสพ 24.2% เป็นกลุ่มเสพอันตราย 13.9% เป็นกลุ่มติดสารระเหย และ 5.1% เป็นกลุ่มที่มีอาการทางจิต ผู้ใช้สารระเหยส่วนใหญ่ (95.0%) เป็นเพศชาย อายุระหว่าง 12-19 ปี เป็นโสด (83.4%) เป็นนักเรียน (15.5%) มีรายได้รายวัน (45.1%) และไม่มีรายได้ (40.3%) หลังการติดตามการเสพซ้ำพบว่า 59.1% ผู้ใช้สารระเหยไม่กระทำผิดซ้ำ 20.0% กระทำผิดซ้ำ และ 20.9% ถูกจับกุมดำเนินคดีใหม่ 72.2% ผู้ใช้สารระเหยไม่เคยหวนกลับไปเสพซ้ำ 12.2% เคยเสพซ้ำแต่ไม่ถูกจับ 15.5% เคยเสพซ้ำและถูกจับใหม่ 80.3%*

สรุป: *ผลจากการศึกษาครั้งนี้พบว่าผู้ใช้สารระเหยส่วนใหญ่เป็นเยาวชนและปัจจุบันวิธีการบำบัดมีความหลากหลาย ซึ่งเป็นสิ่งที่ดี แต่ควรเพิ่มการติดตามผลโดยชุมชนมากขึ้น และจากการทบทวนการบริหารจัดการ พบว่าสิ่งสำคัญและมีความเร่งด่วนคือ การพัฒนาศักยภาพผู้ให้บริการในการบำบัด และควรมีการสนับสนุนด้านงบประมาณให้เกิดการกระจายตามความต้องการของผู้ป่วย*