

Personal and Environmental Factors Related to Amphetamine Addiction and Quitting in Northeastern Thailand

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ABSTRACT

Objective: The study aimed to investigate both personal and environmental factors related to amphetamine addiction and quitting of drug-using people in Leu-Amnat sub-district, Amnatchareon Province, Thailand.

Methods: Questionnaires were completed by one hundred and nineteen persons, in addition to them attending basic knowledge activities and a matrix program. Pre-tests, immediate post-tests, and 6 month post-tests were performed before and after the activities and program. Questionnaire responses and comparisons of scores of the tests were statistically analyzed.

Results: Overall, the results showed that coming from a small family was a statistically significant personal factor related to drug addiction and quitting. Numbers of houses, and family and income problems were environmental factors significantly related to drug addiction and quitting. Basic knowledge regarding drug addiction increased statistically at different periods of time. The study found that the best solutions for drug addiction were the establishment of communities and the provision of knowledge regarding the dangers of drug addiction for children. Strategies involving drug addiction prevention programs, medical treatment, mental therapy, and education focusing on family and school levels were considered necessary.

Conclusion: Some personal and environmental factors may be related to a person's increased likelihood of exposure to drugs. These results may imply that the Thai government should reconsider those factors involved in drug addiction and quitting.

Keywords: Amphetamine addiction, drug addiction, drug dealer, quitting (quitters), traffickers

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A mphetamine and amphetamine-related drugs are central nervous system stimulants whose actions resemble those of adrenaline, one of the body's natural hormones. They were first introduced in the 1930s as a remedy for nasal congestion and were used by some to induce euphoria and to prolong normal periods of wakefulness and endurance.¹ Among illegal drug-users, injectable methamphetamine, usually called "speed", has become popular because the "high" is more rapid and intense than when the drug is taken orally. There is also a form of methamphetamine known as "ice" that can be smoked. Other street names for

these drugs are "glass," "crystal," "pep pills," and "uppers." The physical effects may include loss of appetite, rapid breathing, tremors, collapse, and death. Heavy users of amphetamine may be prone to sudden, violent, and irrational behaviors and may be involved in criminal actions.²

There has been an increase in illegal drug use, especially amphetamine, in Thailand³. This increase has caused extensive economic and social problems.³⁻⁶ Annual reports from 69 provinces indicated the presence of illegal drug users in fifty-five provinces (80%).⁷ Most new illegal drug users were identified as teenagers.^{8,9} A previous survey showed vocational, senior high, and junior high students were involved in narcotics (45%, 27%, and 24% of students, respectively).¹⁰ The situation became regarded as a serious national

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problem and on February 1st 2003, the Thai government announced a war against drugs.

A lot of the drug trafficking in northeastern Thailand, involves police officers, and exists between the Thai provinces of Amnatchareon and Ubon Ratchathani and Chanumarn province in Laos.¹⁰⁻¹² Noticeably, Amnatchareon is also the second most well known for drug trade; especially amphetamine.¹¹ Recently, the situation has been worsened. Amphetamine is made across the border in Laos and is transferred into Thailand via Amnatchareon and Kaemaraj sub-district, Ubon Ratchathani. Consequently, it is easy for anyone living in those cities to buy amphetamine, especially low income workers. Unfortunately, new young generations are targeted by drug dealers. Moreover, the criminal records between 1997 and 2002 estimated that there has been an increase in the numbers of the drug addicts (from 886 to 1,452 cases).⁹ Students are one of the main targets who are involved with the drug trade. Even though the Thai government announced the anti-war against drugs around the country on February 1st 2003, it is still unsolved in some particularly northeastern provinces including; Ubon Ratchathani and Amnatchareon.¹¹

Thus, the authors of this article aimed to investigate the personal and environmental factors related to amphetamine addiction and quitting among drug users in the area of Leu-Amnat in Amnatchareon, providing an assessment of the current situation and advice about drug use prevention.

Objectives

1. Investigate personal and environmental factors among drug users.
2. Evaluate drug users' basic knowledge of and attitudes toward drug addiction.
3. Investigate the relationship between personal and environmental factors and drug addiction and quitting of drug users.
4. Evaluate knowledge of drug users before and after the implementation of programs focusing on the improvement of basic knowledge of the dangers of amphetamine use.

Assumptions

1. Personal factors are related to drug user's addiction and quitting.
2. Environmental factors are related to drug user's addiction and quitting.
3. There are differences in basic knowledge of the dangers of drug user's use of amphetamine as shown by performances in pre-test, immediate post-test, and 6 month post-test evaluation.

Terminology

1. Trafficker means drug dealers, drug user, drug abuser, and organizers related to drug trading who make a formal commitment to the government to stay away from any drugs in any circumstances.
2. Drugs mean the chemical or natural substances that create physical & mental addictions.

MATERIALS AND METHODS

The study was of a descriptive, pre-post-test nature

conducted from December 2004 to July 2006 involving 119 volunteers (113 were traffickers and 6 drug addicts) from Leu-Amnat sub-district, Amnatchareon. The participants completed a questionnaire that included: 1) demographic data (13 items), 2) the multiple choice questions regarding basic knowledge of amphetamine (20 items), and 3) attitude towards amphetamine addiction (15 items). They then took part in two activities recognized as part of a National Health Policy, of the Ministry of Health Thailand 2006, a three day intensive course and a matrix program. The former provided basic information about drug addiction, and involved visits to drug rehabilitation centres. The matrix program was of 16 weeks duration and included individual counselling, family education, and the development of skills in early recovery, relapse prevention, and self help. All activities were supervised by health professionals from the Drug Rehabilitation Centre in Amnatchareon Province. All participants completed an immediate and a 6 month post-test. This study protocol was approved by the ethics committee and informed consent was provided by all participants.

Content validation of the questionnaire was established by the use of a panel of experts consisting of one medical doctor, one pharmacist, and three members of the narcotics control board. Changes were made to it before administration based on the panel's recommendations. A pilot study involving thirty-three volunteers was conducted to measure the reliability of each item using Chronbach's coefficient alpha for which an acceptable average alpha value is more than 0.70.

All responses were evaluated statistically via the SPSS program. Frequencies, means, SDs, and percentages were calculated for demographic data, basic knowledge of drug addiction, and the attitudes toward amphetamine addiction. Relationships between personal and environmental factors and amphetamine addiction & quitting were evaluated using Chi-square. Additionally, a paired t-test was implemented to analyze pre-test and immediate post-test scores, pre-test and 6 month-post scores, and immediate post-test and 6 month post-test scores. All statistics were kindly analyzed by a respectful statistician at Center of Public Health, Ubon Ratchathani province.

RESULTS

Of the 119 participants, most were males (97.5%) and above 25 years old (83.2%). The majority were farmers (73.9%), unmarried (56.3%), came from small families of 3 or 4 persons, and graduated from junior high schools (64.7%). For most of them (84%), the average salary was less than 4,000 baht per month. Most of participants came from small families with two to four siblings (55% and 74%, respectively). Interestingly, most of the participants stated that their family members were caring persons (77%).

Environmental data showed most of the participants (traffickers) lived in large communities. They believed they were raised by warm, caring families (86%). However, family problems existed and drug addicts and dealers resided in the communities (68.9%, 56%), and 75%, respectively. Noticeably, most traffickers stated that amphetamine was the most commonly used drug, followed by alcohol and cannabis (45%, 29%, and 21%, respectively).

TABLE 1. Relationships between personal factors and drug addiction and quitting (n = 119).

Personal factors	χ^2 (Chi-square)	Drug addiction and quitting	
		P-values (<0.05)	Assumptions
Gender	0.163	0.855	Rejected
Age	1.053	0.388	Rejected
Marital status	0.276	0.466	Rejected
Education level	2.687	0.339	Rejected
Occupation	0.054	0.129	Rejected
Average income	0.676	0.050	Rejected
Family income	5.455	0.950	Rejected
Numbers of family members	2.462	0.950	Rejected
Status in family	0.749	0.050	Rejected
Types of family	4.427	0.047	Accepted
Numbers of siblings	1.526	0.051	Rejected

Note: The assumptions were accepted when $p<0.05$ and rejected when $p>0.05$

Regarding basic knowledge and attitudes towards the amphetamine addiction, the pre-post test scores showed that traffickers noticeably enhanced their knowledge after an intensive course and a matrix program were provided, except the scores of the understanding of family and environmental factors which cause drug addiction, types of drugs, and signs and symptoms of amphetamine usage which were slightly improved.

The attitudes toward the amphetamine addiction were generally admirable. They recognized some factors involving amphetamine addiction, for example, family problems, friends, and drug dealers were the common causes of amphetamine addiction. However, there were still misunderstandings in some issues including; drug addiction can be too difficult to cure, or taking drugs can improve your work performances. Thus, the correct information about these issues should be addressed.

TABLE 2. Relationships between environmental factors and drug addiction and quitting (n = 119).

Environmental factors	Drug addiction and quitting		
	χ^2 (Chi-square)	P-values (<0.05)	Assumptions
1. Numbers of houses	8.600	0.040	Accepted
2. Type of family in which raised	0.056	0.588	Rejected
3. Responsible person(s) for child raising	0.874	0.743	Rejected
4. Feelings for your family	0.580	0.584	Rejected
5. Relationship with family members	0.408	0.412	Rejected
6. Process of child raising	0.526	0.374	Rejected
7. Daily money spending	2.464	0.165	Rejected
8. Common problems			
Family issues	12.021	0.001	Accepted
Budget spending	7.868	0.007	Accepted
Study	0.580	0.584	Rejected
Health	0.277	0.796	Rejected
No problems	0.125	0.684	Rejected
9. Drug addicts in your community	0.002	0.432	Rejected
10. Drug trading in your community	0.370	0.656	Rejected
11. Chance of drug exposure in your family members	0.749	0.383	Rejected
12. Types of drugs were used via family members	0.842	0.254	Rejected
13. Quitting method	2.436	0.231	Rejected

Note: The assumptions were accepted when $p<0.05$ and rejected when $p>0.05$

Results considering personal factors and drug addiction and quitting showed only types of family was statistically significant ($p=0.047$) (Table 1).

The relationships between environmental factors and drug addiction and quitting were shown to be statistically significant regarding numbers of houses, family problems, and budget spending ($p= 0.04, 0.001, 0.007$, respectively) (Table 2).

Comparisons of scores of pre-tests, immediate post-test, and 6 month post-tests of basic knowledge of the dangers of amphetamine addiction showed mean scores of the 6 month post-test

were higher than the immediate post-test and pre-test (11.2, 10, 6.9, respectively). Some differences in scores were significantly different ($p=0.001$) (Table 3 and 4).

DISCUSSION

Noticeably, most of participants were more than 25 years of age (83.2%), and farmers (73.9%) whom were different from most illegal drug users, as they were mostly teenagers. Thus, the study results may not apply to other groups of drug users. Table 1 suggests a statistically significant relationship between types of families and drug addiction and quitting ($p = 0.047$). The result also indicates that 54.6% of participants came from "small" (4 or less) types of families, inferring that families of this nature may be a factor in drug addiction and quitting. Thai families have traditionally involved different generations, such as grandparents, parents, and children, living together, resulting in many people in the family structure.¹³ However, changes from large to small families are occurring, and family members working longer hours may lead to reduced and/or inadequate care and supervision of children by parents.¹⁴ Unaware of the dangers of drug use, children from these situations then may be more likely to experiment with drugs given by their close friends or drug dealers.¹⁵⁻¹⁷ Other personal factors in this study, such as educational levels, occupations, family incomes, and genders were found to be not statistically related to drug addiction and quitting, unlike the findings of previous studies.¹⁸⁻²⁰ It might be possible that characteristics of participants, study areas, economics, were different in various regions of studies. As a result, the study results might be different.

There were statistically significant relationships between drug addiction and quitting and

TABLE 3. Mean scores and standard deviations of the participants (n=119).

Basic knowledge	Pre-test	Comparisons		
		Immediate post-test	6 month post-test	
Mean ± SD	6.9 ± 2.4	10 ± 2.6	11.2 ± 2.3	
Max	12	15	18	
Min	3	3	5	

Note: Total score is equal to 20

numbers of houses, family problems, and budget spending ($p = 0.04, 0.001, 0.007$ respectively). Supab²⁰ found a similar result that most drug addicts came from large communities. This may be due to general crime being more common and the more likely presence of drug addicts or drug dealers in such communities. Despite most participants stating that they came from caring families (77%), family issues were still recognized as the most common problems, followed by a shortage of budget. These results are similar to the study of Supab²⁰ that highlighted internal family problems, for example, child abuse, drug addiction and misunderstandings as the cause of the termination of family relationships. These problems have been identified as major reasons for families breaking up and children exploring the use of narcotics.¹⁹ Puapirom²¹ found that drug addicts experienced financial problems due to drug expenses, debts, and cost of living, but Boonnuch,²² on the other hand, discovered an increasing number of rich persons involved in drug use. Financial status may not always be a reliable predictor of the etiology of drug addiction, indicating the need for more investigation into other factors, such as family background, health, stress, and social and economic issues.

The results of comparisons of scores of pre-tests, immediate post-tests, and 6 month post-tests of basic knowledge of the dangers of amphetamine showed statistical differences at different stages. Overall, the mean scores increased over time. T-test analysis of mean scores indicated statistically significant differences between the stages. These can be explained by the implementation of the activities provided for the participants improved their basic knowledge of the dangers of amphetamine addiction. However, other resources, such as parents, teachers, or friends may also play important roles.²³

Strong community programs aimed at improving understanding, self-care, awareness, and support would assist in the reduction and/or elimination of drug problems from society. These programs require the collaboration of all parties, including drug-users, police, and local government.

CONCLUSION

The study showed some personal and environmental factors, such as types of family, numbers of houses, and family and financial problems, may be related to person's increased likelihood of exposure to illegal drugs. For the participants involved in the investigation, the intensive course and the matrix program appeared to increase the basic knowledge of the dangers of amphetamine addiction. As a result, all three assumptions are acceptable. Finally, the results from the study implies the Thai government should reconsider those factors involved in drug addiction and quitting. Thus, the feasible strategies for drug (e.g., amphetamine) surveillance & control will be established within the communities.

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REFERENCES

1. World Health Organization. Systematic review of treatment for amphetamine related disorders: a report from the WHO meeting on management of substance dependence. Geneva: WHO, 2001.
2. World Health Organization. Amphetamine type stimulants: a report from the WHO meeting on amphetamine, MDMA and other psycho-stimulants. Geneva: WHO, 1997.
3. Department of Medical Services. Ministry of Health, Thailand. A Collaborative Centre for Narcotics and Substance Abuse: drug crisis and national policy, 1998.
4. Ratanawichit K. The evaluation of new drug addicted cases. JNCB 1995; 12:15-19.
5. Department of Medical Services. Ministry of Health, Thailand. A Collaborative Centre for Narcotics and Substance Abuse: a manual of substance abuse policy for health professions, 1998.
6. Academic Department. Methods of narcotics and substance abuse protection in vocational education institutes, Thailand. Ministry of Education, Thailand, 2000.
7. Office of the Narcotics Control Board, Thailand. An annual report of national budget spending for narcotics control in Thailand, 2002.
8. Pulaharn K. Knowledge, attitudes and behaviors of high school students regarding drug addiction. An annual report of Chuataparn High School. Amnatchareon, 1999.
9. Office of the Narcotics Control Board, Thailand. The prevention & vigilance strategies for the narcotics, Amnatchareon, Thailand, 2004.
10. Chitpradab S. Headline of Matichon Newspaper: young victims, drugs, crimes, 8th January 2000, Matichon Inc. 2000.
11. Department of Health, Amnatchareon. A report of the narcotics and substance abuse in communities, Amnatchareon, Muang, Amnatchareon, 2003.
12. Office of the Narcotics Control Board, Thailand. The situation between 1997 and 2003 of narcotics used in young generation, 2004.

TABLE 4. Comparison of mean scores of the participants (n = 119).

Comparisons	Mean difference	SD	95% CI		T-test (<0.05)	df	P
			Lower	Upper			
Pre-test/immediate post-test	3.1	2.1	-2.758	-3.510	16.515	118	0.001
Pre-test/6 month post-test	4.4	2.2	-4.748	-3.597	21.774	118	0.001
Immediate post-test/6 month post-test	1.2	2.1	-1.600	-0.836	6.318	118	0.001

13. Nardi DA. Parenting education as family support for low-income family of young children. *J Psycho Nurs* 1999;37:11-19.
14. Liepmann MR, Silvia LY, Nirenberg TD. The use of family behavior loop mapping for substance abuse. *JFS* 1989;38:282-87.
15. Hasanou M. The effectiveness of the narcotics prevention program for teenage in Bangkok. Thesis of Master degree in Health Science, Faculty of Public Health, Mahidol University, 1997:125.
16. Youprasert P. Factors involved in narcotics uses of teenage living in Bangkok. Thesis of Master degree in Health Science, Faculty of Public Health, Mahidol University, 1997:97.
17. Labrianankun J. The development of self protection skills of high school students regarding narcotics and substance abuse addiction, Barpong High School, Rajaburi. Thesis of Master degree in Health Science, Faculty of Public Health, Mahidol University, 2000:96.
18. Kaewkangworn S. Psychological & behavioral development of human life span. 2nd ed. Thammasart University Press Inc, Bangkok, 1997.
19. Sookthasanee P. External factors related to narcotics uses in teenage of KhrongTauw Community, Bangkok. Thesis of Master degree in Sociology, Faculty of Sociology & Human Resources, Thammasart University, 1998:109.
20. Supab S. Social problems, 6th ed. Thiwathanapanich Inc, Bangkok, 1999.
21. Puapirom L. An annual report of roles of families in drug prevention. Srinakarintharawiroch Research Institute, Bangkok, Thailand, 1995.
22. Boonnuch J. An annual report of the factors involved in narcotics uses of Thaiteenage. Student Inspector Unit, Ministry of Education, Thailand, 1999.
23. Utraramart J. The development of a strategy for drug prevention & vigilance in young generation of NhongKae sub-district, Chaipoom. Thesis of Master degree in Liberal Art, Faculty of Liberal Art, Khon Kaen University, 2000:110.