

# FACTORS RELATED TO ABSTINENCE FROM DRUG USE AND SEEKING HELP FROM MEDICAL SERVICES IN TAIWANESE HEROIN AND METHAMPHETAMINE USERS

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The aim of this study was to examine the factors related to abstinence from heroin and methamphetamine (MAMP) use and to seeking help from medical services in Taiwanese drug users. A total of 196 heroin users and 226 MAMP users were recruited in this study. Their experience of previous abstinence from drug use and the routes taken to seek help for abstinence were determined at interview. Demographic data, characteristics of drug use and reasons to abstain from drug use were compared between subjects who had and those who had never tried to abstain from drug use before, as well as between the subjects who had previously sought help from medical services and those who had tried to abstain from drug use by themselves. Those who had previously tried to abstain from heroin use had longer durations of heroin use, spent more money on getting heroin, were more likely to have a criminal record of illicit drug use and had longer durations of being detained due to illicit drug use compared with those who had never tried to abstain from heroin use. Those who had sought help from medical services for abstinence were more likely to be heroin users and to spend more money on getting illicit drugs, and tried to abstain due to concerns about relationships with family. Demographic data, characteristics of drug use and reasons to abstain from drug use were different between drug users who had different experiences of abstinence.

**Key Words:** abstinence, heroin, methamphetamine, seek help  
(*Kaohsiung J Med Sci* 2008;24:63–71)

Heroin and methamphetamine (MAMP) use is a major public health issue in Asia [1,2]. Heroin use is associated with a wide range of serious harmful effects, including overdose, disease, trauma, psychopathology,

suicide and crime [3–6]. Previous research has also demonstrated that amphetamine use is associated with psychologic morbidity, dependence and health problems [7–11]. Although substance use results in severe complications, it is not easy for abusers to make the decision to abstain from substance use, unless they are aware of the adverse effects of substance use on their health, social relationships, occupational function and family life [12].

For example, a previous study found that concerns about health and relationships were the main reasons



ELSEVIER

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for wanting to stop MAMP use [13]. However, the factors related to the will to abstain from heroin and MAMP use have seldom been examined in Asian societies. Further studies on this can serve as a basis for developing strategies to promote drug user motivation to try abstinence.

Previous studies found that only a small portion of drug users seek help from medical services for their drug-related problems. Klee and Morris reported that about half of amphetamine users wanted to reduce their use of amphetamines, but only one in five had sought help from medical services [11]. Hall and Hando found that 41% of amphetamine users felt that they needed help for amphetamine-related problems, but only 27% had actually sought help from medical services [14]. An Australian study on young offenders revealed that only 10% reported willingness to access treatment for their drug problems, and 18% reported accessing some form of treatment in the past, despite high rates of problems caused by substance abuse [15]. The most common form of help-seeking was approaching their family [15]. It is important to identify the factors associated with treatment entry, which may help treatment providers develop effective intervention systems to encourage drug users to seek help from medical services.

Previous studies in Western societies have shown that substance abusers who were female [16–19], older [14,20,21], classified as substance-dependent [14], had lengthy durations of drug use [18,22], histories of prior treatment [18,23,24], histories of being arrested or booked [18,22,25], better social support [26,27], concurrent psychiatric comorbidity [20,22,25,28–31], perceived the adverse effects of drug use [32], perceived the loss of control over substance use [33] and perceived the need for treatment [25], were more likely to seek help from medical units to abstain from substance use. However, to our knowledge, no study has examined the factors related to the will to seek help from medical units when attempting to abstain from heroin and MAMP use in non-Western populations.

The aims of this study were to examine the factors related to the experiences of abstaining from heroin and MAMP use and to seeking help from medical services in Taiwanese drug users. We hypothesized that there are demographic and drug-using factors that can differentiate between the drug users who have and those who have never tried to abstain from drug use before, as well as between the drug users who have

previously sought help from medical services for abstinence from drug use and those who tried to abstain from drug use by themselves.

## METHODS

### Subjects

Taiwan's Justice Act requires those who are arrested for illicit drug use to undergo a 1- to 2-month detoxification program at an abstinence center sponsored by the Ministry of Law. The Ministry of Justice invites psychiatrists to gather psychologic, behavioral and familial information from drug users to determine the risk of relapse and, when appropriate, to intervene in the management of deviant behavior. In this study, one third of the subjects who used MAMP or heroin were randomly recruited from an abstinence center in southern Taiwan. Those who refused interview ( $n=10$ ) or could not cooperate (for example, mentally retarded individuals;  $n=3$ ) were excluded from the study. We investigated the experiences of MAMP or heroin use if the subjects used these two drugs simultaneously. The protocol was approved by the institutional review board of Kaohsiung Medical University.

### Assessment

We used the Questionnaire for Experiences of Drug Use (Q-EDU) to inquire about subjects' experiences of drug use, including the variety of illicit drug use, experience of previously abstaining from drug use, the routes of abstinence from drug use (seeking help from medical services, family or friends, or trying to abstain by themselves), duration from the first drug use, money spent on drug use, criminal record of illicit drug use, and durations of previous detention due to illicit drug use [34]. The 1-week test-retest reliability of the Q-EDU in this study was examined by the Kappa coefficient of agreement for nominal variables and Pearson's correlation coefficient ( $r$ ) for ratio variables. The values of Kappa ranged from 0.484 ( $p<0.005$ ) to 0.621 ( $p<0.001$ ), and the values of  $r$  ranged from 0.4145 ( $p<0.005$ ) to 0.778 ( $p<0.001$ ).

We designed the questionnaire to inquire into the motivation to abstain from drug use. Initially, we conducted interviews in depth for 10 heroin users and 10 MAMP users who had once abstained from drug use. Based on the information collected and the

clinical experiences of the investigators, we designed the Questionnaire for Reasons to Abstain Drug Use (Q-RADU–Chinese version). We then invited six experts to examine the validity of the questionnaire and then revised it accordingly. The Q-RADU is a 4-point 12-item questionnaire, and a higher score indicates that the item is more concordant with an individual's reasons for abstaining from drug use. The 1-week test–retest reliability of each item on the Q-RADU was examined by the intraclass correlation coefficient, which ranged from 0.394 ( $p < 0.05$ ) to 0.742 ( $p < 0.001$ ).

### Procedures and statistical analyses

Subjects who refused participation, had severe mental illness and had obvious withdrawal symptoms were excluded. We explained the purposes and procedures of the study to the subjects. Written informed consent was obtained from all participants prior to study commencement. We inquired about subjects' demographic data and characteristics of drug use according to the Q-EDU, including the variety of illicit drug use, experience of previously abstaining from drug use, duration from the first drug use, money spent on drug use, criminal record of illicit drug use and duration of previous detention due to illicit drug use. Those who had previously tried to abstain from drug use were further asked whether they had sought help from medical services for abstaining from drug use, sought help from family or

friends, or tried to abstain by themselves. Subjects with experience of abstinence completed the Q-RADU after the questionnaire was explained to them by the research assistants and under their direction.

Demographic data and characteristics of drug use were compared between subjects who had and those who had never tried to abstain from drug use before by using the  $\chi^2$  test,  $t$  test and Mann-Whitney U test in heroin and MAMP users. Meanwhile, because seeking help from medical services for abstinence from drug use and abstaining from drug use itself are two totally different routes, we compared the demographic data, characteristics of drug use and reasons to abstain from drug use between subjects who had previously sought help from medical services and those who tried to abstain from drug use by themselves using the  $\chi^2$  test,  $t$  test and Mann-Whitney U test. A  $p$  value of less than 0.05 was considered statistically significant. However, because there were multiple comparisons in this study, we decreased the alpha level by dividing 0.05 by the numbers of comparisons made to prevent the probability of a type I error.

## RESULTS

Interviews with 196 heroin users and 226 MAMP users were completed. The demographic data and characteristics of drug use are shown in Table 1. Of these, 124 (63.3%) heroin users and 56 (24.8%) MAMP

**Table 1.** Demographic data and experience of illicit drug use of all participants

	Heroin users ( $N=196$ )			MAMP users ( $N=226$ )		
	Mean (SD)	Range	$n$ (%)	Mean (SD)	Range	$n$ (%)
Male gender			166 (84.7)			192 (85)
Age (yr)	32.8 (7.8)	18–67		29.9 (7.5)	18–50	
Education duration (yr)	9.7 (2.1)	3–16		9.6 (2.1)	1–16	
Duration from first illicit drug use (mo)	44.7 (61.9)	0–246		48.0 (59.8)	1–232	
Money spent on illicit drug use (NTD/mo)	23,853.3 (38,702.7)	0–300,000		3,208.3 (9,332.5)	0–125,000	
Criminal record of illicit drug use			54 (27.6)			45 (19.9)
Duration of previous detention due to illicit drug use (mo)	18.3 (38.9)	0–186		4.5 (18.5)	0–137	
Combined with other substance use			85 (43.4)			82 (36.3)
Have tried to abstain from illicit drug use			124 (63.3)			56 (24.8)

MAMP = methamphetamine; SD = standard deviation; NTD = New Taiwan Dollars.

**Table 2.** Differences in demographic data and experiences of illicit drug use between subjects who had and those who had never tried to abstain from heroin use

	Tried to abstain (N=124)		Never tried to abstain (N=72)		$\chi^2$ or <i>t</i> or <i>Z</i>	<i>p</i>
	Mean (SD)	<i>n</i> (%)	Mean (SD)	<i>n</i> (%)		
Male gender		102 (82.3)		64 (88.9)	1.545	0.214
Age (yr)	32.7 (6.8)		33.0 (9.4)		0.334*	0.739
Education duration (yr)	9.6 (2.1)		9.7 (2.2)		0.276*	0.783
Duration from first heroin use (mo)	54.1 (62.6)		28.6 (57.8)		-4.201 <sup>†</sup>	<0.001
Money spent on heroin use (NTD/mo)	30,292.7 (13,109.9)		12,697.6 (25,427.6)		-4.533 <sup>†</sup>	<0.001
Criminal record of illicit drug use		43 (34.7)		11 (15.3)	8.588	0.003
Duration of previous detention due to illicit drug use (mo)	23.3 (42.6)		9.7 (29.8)		-2.825 <sup>†</sup>	<0.001
Combined with other substance use		52 (41.9)		33 (45.8)	0.282	0.596

\**t* test; <sup>†</sup>Mann-Whitney U test. SD = standard deviation; NTD = New Taiwan Dollars.

**Table 3.** Differences in demographic data and experiences of illicit drug use between subjects who had tried to abstain and those who had never tried to abstain from methamphetamine (MAMP) use

	Tried to abstain (N=56)		Never tried to abstain (N=170)		$\chi^2$ or <i>t</i> or <i>Z</i>	<i>p</i>
	Mean (SD)	<i>n</i> (%)	Mean (SD)	<i>n</i> (%)		
Male gender		44 (78.6)		148 (87.1)	5.048	0.025
Age (yr)	29.7 (7.8)		29.9 (7.3)		0.236*	0.814
Education duration (yr)	9.2 (2.3)		9.8 (2.0)		2.056*	0.062
Duration from first MAMP use (mo)	59.6 (59.0)		44.1 (59.7)		-2.474 <sup>†</sup>	0.013
Money spent on MAMP use (NTD/mo)	5,419.3 (16,642.5)		2,440.3 (4,485.5)		-2.499 <sup>†</sup>	0.012
Criminal record of illicit drug use		15 (26.8)		30 (17.6)	1.732	0.188
Duration of previous detention due to illicit drug use (mo)	7.5 (22.8)		3.5 (16.6)		-1.225 <sup>†</sup>	0.221
Combined with other substance use		19 (33.9)		63 (37.1)	0.419	0.517

\**t* test; <sup>†</sup>Mann-Whitney U test. SD = standard deviation; NTD = New Taiwan Dollars.

users had once tried to abstain from drug use. The differences in demographic data and experiences of illicit drug use between subjects who had and those who had never tried to abstain from heroin use are shown in Table 2. Because there were eight comparisons made, a *p* value of less than 0.00625 was considered statistically significant. The results indicated that the subjects who had previously tried to abstain from heroin use had longer durations of heroin use, spent more money on getting heroin, were more likely to have a criminal record of illicit drug use and had longer durations of being detained due to illicit

drug use compared with those who had never tried to abstain from heroin use.

The differences in demographic data and experiences of illicit drug use between subjects who had and those who had never tried to abstain from MAMP use are shown in Table 3. Because there were eight comparisons made, a *p* value of less than 0.00625 was considered statistically significant. The results indicated no difference in the demographic and MAMP-using characteristics between subjects who had and those who had never tried to abstain from MAMP use.

**Table 4.** Differences in demographic data and experiences of drug use between subjects who had sought help from medical units for abstinence from drug use and those who had tried to abstain by themselves

	Sought help from medical units (N=79)		Abstained from drug use by themselves (N=74)		$\chi^2$ or <i>t</i> or <i>Z</i>	<i>p</i>
	Mean (SD)	<i>n</i> (%)	Mean (SD)	<i>n</i> (%)		
Male gender		65 (82.3)		58 (78.4)	0.369	0.544
Age (yr)	33.1 (6.8)		30.8 (7.3)		-1.997*	0.048
Education duration (yr)	9.5 (2.2)		9.5 (2.4)		-0.061*	0.952
Duration from first illicit drug use (mo)	48.6 (57.7)		62.6 (63.4)		-0.898 <sup>†</sup>	0.369
Money spent on illicit drug use (NTD/mo)	31,442.3 (40,008.6)		16,068.9 (41,009.1)		-4.350 <sup>†</sup>	<0.001
Criminal record of illicit drug use		26 (32.9)		23 (31.1)	0.059	0.808
Duration of previous detention due to illicit drug use (mo)	25.9 (47.1)		11.4 (25.9)		-1.206 <sup>†</sup>	0.228
Combined with other substance use		32 (40.5)		25 (33.8)	0.739	0.390
No. of times tried to abstain from illicit drug use	3.0 (5.3)		1.9 (1.9)		-2.508 <sup>†</sup>	0.012
Illicit drugs						
Heroin		71 (89.9)		33 (44.6)	36.325	<0.001
Methamphetamine		8 (10.1)		38 (51.4)		

\**t* test; <sup>†</sup>Mann-Whitney U test. SD = standard deviation; NTD = New Taiwan Dollars.

Of the drug users who had tried to abstain from drug use, 79 (43.9%) had sought help from medical services for abstinence from drug use, 27 (15%) had approached their family or friends for abstinence from drug use and 74 (41.1%) had tried to abstain from drug use by themselves. A total of 71 (57.3%) heroin users and eight (14.3%) MAMP users had sought help from medical services for abstinence from drug use.

The differences in the demographic data and experiences of illicit drug use between subjects who had previously sought help from medical services and those who had tried to abstain from drug use by themselves are shown in Table 4. Because there were 10 comparisons made, a *p* value of less than 0.005 was considered statistically significant. Compared with those who had previously abstained from drug use by themselves, the drug users who had visited medical services for help were more likely to be heroin users and spend more money on obtaining illicit drugs.

The differences in the reasons to abstain from drug use between subjects who had sought help from medical services and those who had tried to abstain

from drug use by themselves are shown in Table 5. Because there were 12 comparisons made, a *p* value of less than 0.00417 was considered statistically significant. The subjects who had sought help from medical units for abstinence were more likely to have tried to abstain for reasons of "relationships with family" than those who had abstained from drug use by themselves.

## DISCUSSION

More heroin users (63.3%) had tried to abstain from drug use than MAMP users (24.8%). Also, while 57.3% of heroin users had sought help from medical services for abstinence from heroin use, only 14.3% of MAMP users had sought help from medical services for abstinence from MAMP use. This difference in the experiences of abstaining from drug use might be due to the different characteristics of the drugs. Withdrawal symptoms and tolerance of heroin use are more prominent than those related to MAMP use.

**Table 5.** Differences in the reasons for abstaining from drug use between subjects who had sought help from medical services and those who had abstained from drug use by themselves

	Sought help from medical units*	Abstained from drug use by themselves*	Z <sup>†</sup>	p
Illicit drug use will damage our health	2.7 (0.8)	2.6 (0.8)	-1.220	0.223
Illicit drug use will damage our mental health	2.1 (1.1)	2.3 (1.0)	-1.148	0.251
Illicit drug use will damage family relationships	2.9 (0.5)	2.5 (1.1)	-2.982	0.003
Illicit drug users will be sentenced	2.5 (1.0)	2.3 (1.1)	-1.183	0.237
Illicit drug use will damage our vocational and academic functioning	2.3 (1.1)	2.4 (0.9)	-0.038	0.970
Illicit drug use will damage relationships with friends	2.4 (1.1)	2.2 (1.1)	-1.768	0.077
Illicit drug use will ruin our economic status	2.5 (0.9)	2.2 (1.2)	-2.289	0.022
Illicit drug use will ruin our reputation	2.6 (0.8)	2.4 (1.0)	-1.865	0.062
Illicit drug use will ruin our future	2.7 (0.7)	2.5 (0.9)	-2.092	0.036
Difficult to obtain the drugs	0.6 (1.0)	0.9 (1.2)	-1.064	0.287
Tired of illicit drug use	1.4 (1.4)	1.1 (1.4)	-1.633	0.102
Others	0.3 (1.0)	0.2 (0.8)	-0.991	0.322

\*Data presented as mean (standard deviation); <sup>†</sup>Mann-Whitney U test.

Meanwhile, heroin use may cause more severe legal problems and economic distress than MAMP use in Taiwan. These differences may cause heroin users to have a greater motivation to abstain from drug use and to seek help from medical services.

In this study, heroin users who had longer durations of drug use and spent more money on getting drugs were more likely to have tried to abstain from drug use. Longer durations of drug use and spending more money on heroin indicated more severe heroin use, which increases the possibility of encountering the negative consequences of heroin use. The heroin users who had previous criminal records for illicit drug use and longer durations of being detained due to illicit drug use were more likely to have tried to abstain from heroin use. These findings were also compatible with the results of previous studies [18,22,25]. This result further supports the notion that experiencing legal problems as a result of illicit drug use may increase the motivation for abstinence. That is to say, it may be beneficial to help subjects be aware of functional and legal consequences caused by illicit drug use, which may increase their motivation to quit drug use.

Compared with subjects who abstained from drug use by themselves, subjects who had sought help from medical services for abstinence from illicit drug use had higher expenses for illicit drugs and had used heroin. Once again, spending more money on illicit drugs indicated more severe drug use, which increases the intolerance of withdrawal symptoms when abstaining

from drug use. Meanwhile, the withdrawal symptoms of heroin abstinence are more uncomfortable than those of MAMP abstinence. The worry about the intolerance of withdrawal symptoms when abstaining from drug use may increase the motivation to seek help from medical services.

In addition, drug users who were aware of the fact that continuing illicit drug use would damage relationships with family would have had motivation to seek help from medical units for drug abstinence. Social support and social networks are important factors to help individuals enter treatment programs [26,27], and families are generally the major source of support for individual drug users. Clinicians may use motivational interviewing to guide drug users to be aware of the adverse effect on family relationships caused by continuing drug use. This may change drug users' decisional balance and encourage drug users to seek help from medical units for abstinence [35]. However, a previous study found that although the drug users with the most severe drug-related problems may be the most likely to enter treatment initially, they were also the most likely to relapse during subsequent treatment [24]. These findings will help treatment providers develop strategies to provide insight into barriers to treatment.

Several studies have shown the efficacy of methadone maintenance therapy (MMT) in reducing illicit substance use and crime rate, improving the rehabilitation of intravenous opiate-addicted patients and lowering the prevalence of HIV infection [36,37]. Previous

studies also indicate that psychosocial services increase methadone treatment efficacy [38,39]. Further intervention programs will be designed based on the results of our study to increase the motivation for drug abstinence and to remove this barrier to treatment.

In Taiwan, those who are arrested for heroin or MAMP use are mandatorily incarcerated in an abstinence center for detoxification. It is relevant to consider these subjects as community samples, for they are drawn from the community at large by a natural selective process carried out by law enforcement officers [36]. Since MMT has been implemented in Taiwan, our further studies will be performed in the very near future. Data will be collected on people receiving MMT and these will be compared with the results of the current study.

Some potential limitations of this study should be considered. First, we did not investigate the role of psychiatric comorbidity on the motivation to abstain from drug use and to seek help from medical services. As previous research has indicated [20,22,25,28–31], dual psychiatric diagnoses influence help-seeking behaviors and the utilization of mental services. Second, the characteristics of drug use and experiences of abstaining from drug use were determined according to the information provided by the subjects in this study. Contextual information, such as observations of family, was not obtained.

## ACKNOWLEDGMENTS

This study was supported by a grant from the Bureau of Controlled Drugs, Department of Health, Executive Yuan, Taiwan (DOH94-NNB-1033).

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# 海洛因及安非他命使用者之藥物戒除經驗及求助管道之相關因子

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本研究的目的，在於檢視台灣地區曾經嘗試戒除海洛因和安非他命使用者，以及曾經求助於醫療院所尋求戒毒協助者，在社會人口學變項、毒品的使用型態及戒毒動機等相關因子。本研究邀請 196 位海洛因及 226 位安非他命使用者參加，研究者依據研究問卷藉由會談瞭解毒品使用者過去戒毒的經驗、戒毒時的求助管道、社會人口學變項、毒品的使用型態，並邀請個案填寫問卷以了解其戒毒動機，再比較曾經嘗試戒除海洛因和安非他命使用者和完全不曾嘗試戒除者，以及曾經求助於醫療院所尋求戒除使用毒品者和自行戒毒者之間，在社會人口學變項、毒品的使用型態及戒毒動機等各因子的差別。曾經嘗試戒除海洛因使用者比不曾嘗試戒除海洛因使用者使用海洛因的時間較長、購買海洛因的花費較大、有較多與毒品相關的犯罪紀錄、因毒品被勒戒或服刑的時間較長。曾經求助於醫療院所尋求戒毒協助者，較多為海洛因之使用者、購買毒品的花費較大、比較會因重視與家人關係而嘗試戒毒。曾經嘗試戒除毒品使用和完全不曾嘗試戒除者，以及曾經求助於醫療院所尋求戒除使用毒品者和自行戒毒者之間，存在社會人口學變項、毒品的使用型態及戒毒動機等各因子的差別。

**關鍵詞：**戒癮，海洛因，安非他命，求助行為

(高雄醫誌 2008;24:63-71)

收文日期：96 年 5 月 31 日

接受刊載：96 年 10 月 19 日

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