Offenders With Substance Abuse Who Receive Mandatory Psychiatric Treatment

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We examined the mandatory treatment referral rates before and after Taiwan's Penal Code revision of 2006 and factors associated with the mandatory treatment in Taiwan of criminals who engage in substance abuse. The 3,467 offenders who underwent forensic psychiatric assessments, based on Taiwan's court sentence dataset, included 3,163 offenders with substance-abuse–related crimes, but only 412 (13%) received mandatory treatment. There were no changes in mandatory treatment referral rates before and after the revision. The three main factors that determined whether an offender received mandatory psychiatric treatment were an agreement by the forensic psychiatrist and the presiding judge attesting to the lack of legal responsibility during the commission of the offense, the presence of substance-related psychosis, and location of the court in a rural area.

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Mental disorders related to substance abuse seem to lead to incarceration[1] and can affect as many as 83 percent of all prisoners.[2] In a study of 12,934 persons incarcerated in the San Francisco jail system, inmates who were homeless and had co-existing severe mental disorders and substance abuse, remained in jail longer than other inmates charged with similar crimes.[3] However, a United Kingdom study revealed that only one-third of court reports contained recommendations for treatment.[4] Little is known about the factors associated with court decisions to recommend treatment.

In Taiwan, the courts frequently ask forensic psychiatrists to evaluate the criminal responsibility of the accused and the need for mandatory treatment. However, the final verdict on the responsibility and the referral for mandatory treatment are dependent on the judges.[5–9] Most of the treatment providers are conventional hospitals, clinics, or mental health workers contracted to provide treatment to the offenders.[10] Forensic psychiatric assessments are ordered by judges, or by prosecuting attorneys, before or during court proceedings. A team of two board-certified psychiatrists, often including a senior psychiatry resident or fellow and a clinical psychologist, perform psychiatric diagnostic interviews, mental and physical examinations, psychological assessments, routine laboratory workups, and sometimes, brain-imaging studies. Judges or prosecutors can appoint a psychiatrist or a psychiatric team to perform assessments on suspicion of an abnormal mental status of the accused.[11] The rates of court-ordered mandatory treatment for offenders with substance-abuse related charges have not, as yet, been reported.

In Taiwan, before July 1, 2006, the Penal Code (Chapter 2: Criminal Responsibility, Article 19) de-

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fined three categories of mental status: legal insanity (no legal responsibility), diminished responsibility, and full criminal capacity.[7] Before the 2006 Amendment, the Penal Code in Taiwan was: "(1) An offense committed by a person who is in the state of *sin-shen sang-shih* (literally, loss of one's mental capacity, legal insanity) is not punishable. (2) Punishment may be reduced for an act committed by a person who is in the state of CHIN-CHEN HAO-JO (literally, diminished mental capacity)."[5,11] The meanings of *sin-shen sang-shih*, or the loss of one's mental capacity, and *chin-chen hao-jo*, or diminished mental capacity, were defined by a Supreme Court Precedent (26 Yu Appeal No. 237), which stated: "The determination of *sin-shen sang-shih* and *chin-shen hao-jo* should follow the degree of mental impairment. If, at the time of committing the crime, the person has lost the abilities of self-consciousness, comprehension, judgment, and voluntary intention, such a state is defined as *sin-shen sang-shih*. If these abilities have not yet been lost, but are substantially decreased, such a state is then defined as *chin-shen hao-jo*."[5,11,12] Even with this precedent, there has been ambiguity and controversy in defining the states of "lost" or "substantially decreased" in describing one's abilities of self-consciousness, comprehension, judgment, and voluntary intention.[12,13] Furthermore, before the 2006 Penal Code, the concept of *actio libera in causa*, which allows attribution of involuntary actions to persons, provided they were responsible for causing the conditions that resulted in those actions,[14] was not clearly defined.[5,6,13] Therefore, the Legislative Yuan (the Taiwan Parliament) finally amended Article 19 to contain the following three sections[15,16]:"Section 1: An offense is not punishable if it is committed by a person who has a mental disorder or defect and, as a result, is unable to judge his act or lacks the ability to act according to his judgment." "Section 2: The punishment may be reduced for an offense committed for the reasons mentioned in the preceding paragraph with the result of an obvious reduction in the ability of judgment or to act according to his judgment."

"Section 3: Provisions prescribed in the two preceding paragraphs shall not apply to a person who intentionally brings [on] the handicaps or defects." Although Taiwan has adopted the Continental Law system in criminal courts, Taiwan's Penal Code and the M'Naughten Rule ("knowledge of right versus wrong") combined with the American Law Institute test ("cannot conform one's conduct to the requirements of the law") define legal insanity.[12,13,15,17] After that, the Penal Code was revised to include and emphasize the principle of a*ctio libera in causa*.[16] Similar to situations in the United States, "settled insanity" is sometimes allowed in Taiwan's courts.[18] However, judges have the final authority to decide as to whether the predictability of the behavioral outcomes, or the *actio libera in causa*, is conceded by the offender, regardless of voluntary intoxication, or substance-induced mental disorder, at the time of the offense. This authority is similar to that of criminal courts in other countries that use the Continental law system.[19,20]

This study was conducted to identify factors associated with the decision of judges to sentence defendants who abuse substances to mandatory treatment and to compare the difference of referral rates before and after the Penal Code revision. We hypothesized that this revision, which inserted the *actio libera in causa* clause in Penal Code Article 19, would change the referral rates of mandatory treatment for offenders with substance abuse. Therefore, the judges' decisions on referrals for mandatory treatment were also examined.

Methods

Study Design

We compared the factors associated with the assignment to mandatory treatment before and after July 1, 2006. All individuals included in the study were identified as engaging in substance abuse, according to criteria enumerated in the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (DSM-IV-TR).[21] The variable, "reason for judge's referral," meant the compelling reason for referring an offender for psychiatric forensic evaluation, whereas the "agreement on responsibility" indicated that the judge and forensic psychiatrist agreed or disagreed on whether to order the defendant to undergo psychiatric treatment.

Settings

All of the study subjects were referred by the district courts for pretrial forensic evaluations throughout Taiwan between June 30, 2002, and July 1, 2010.

Participants

The psychiatric and legal records in the prison sentence data bank were obtained from the law and

retrieval system of the Judicial Yuan (State Judicial Department) of the Republic of China (Taiwan) and reviewed. Of the 3,467 offenders who underwent forensic psychiatric assessments by a judge's order, 3,163 were charged with substance-related offenses (Fig. 1). Of the total sample, 1,432 offenders who had engaged in substance abuse underwent forensic psychiatric evaluation before the Penal Code revision and 1,731 after the Penal Code revision.

Ethics

This study was conducted in accordance with the Code of Ethics of the World Medical Association (Declaration of Helsinki). The Institutional Review Board of Tri-Service General Hospital approved the protocol (No. 2-102-05-044).

Measurements

The forensic psychiatric assessors used the DSM-IV-TR criteria and clinical judgment in recording their diagnoses of dependence, abuse, and other psychiatric disorders on the prison sentence databank. The prisoners underwent full forensic psychiatric examinations, including psychiatric interviews, physical and neurologic examinations, mental status and psychological evaluations, electroencephalograms (EEGs), and, if indicated, neuroimaging tests.

Of the total sample, 304 offenders were excluded for seizures, organic brain syndromes, and intellectual disability. The review team included two forensic psychiatrists, one neurologist, and one clinical psychologist.

Statistical Methods

The characteristics of those who received mandatory treatment and those who did not were compared and tested for significant differences with either the chi-square test or Fisher's exact test, as appropriate. Logistic regression was used to estimate the odds ratios (ORs), and 95 percent confidence intervals (CIs), for the association between potential risk factors and mandatory treatment. The ORs and 95 percent CIs of multivariate analysis were calculated after mutual adjustment for the variables (Table 3), including reasons for judge's referral, substance use disorder and related mental illness, types of substances, court location, and the judges' acceptance of the forensic psychiatrists' opinions on legal responsibility. Statistical significance was set at $p < .05$. The Statistical Package for Social Sciences version 19.0 (SPSS, Inc., Chicago, IL, USA) was used for all analyses.

Results

Of the 3,163 offenders with substance-related charges, only 412 (13%) were referred for mandatory treatment. The male-to-female ratio was 28.9 to 1. Before the Penal Code revision, 1,432 substance-related offenders underwent forensic psychiatric assessments, including 190 (13.3%) referred for mandatory treatment. After the revision, 1,731 substance-related offenders underwent forensic psychiatric assessment, with 222 (12.8%) referred for mandatory treatment. We speculated that the change in

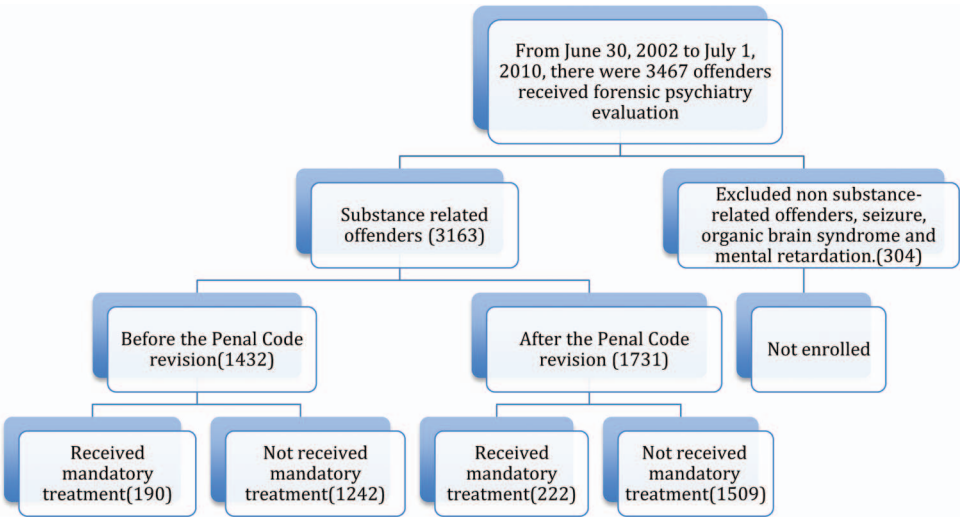

Figure 1. Offenders Receiving Forensic Psychiatry Evaluations (June 30, 2002 - July 1, 2010).

the Penal Code in 2006, which clarified the definitions of the lack of legal responsibility and partial responsibility, would have made it much easier for the judges to decide on the offenders' legal responsibility and therefore would have led them to refer more individuals with substance-related offenses for mandatory treatment. However, no significant change was observed before and after the Penal Code revision.

Several factors were significantly associated with mandatory treatment. Before the Penal Code change, the diagnoses of offenders ($p = .006$) and the judges' acceptance of the forensic psychiatrists' opinions on legal responsibility ($p < .001$), were significantly associated with mandatory treatment. The types of substance abuse did not affect the judges' decisions ($p = .364$). Alcohol was by far the most commonly abused substance in this study population (46.3% with mandatory treatment versus 46.3% without mandatory treatment). Amphetamine was the second most common (12.2% with mandatory treatment versus 19.5% without), followed by glue (organic inhalants; 14.6% with mandatory treatment versus 4.7% without). The variables studied in the cases are shown in Table 1.

After the law was changed, a different group of factors affected the judges' decisions for mandatory treatment (Table 2), including the judges' acceptance of the forensic psychiatrists' opinions on legal responsibility ($p < .001$), diagnosis ($p < .001$), reasons for judge's referral ($p < .001$), the substance of abuse ($p < .026$), and residential location of the offender ($p < .026$). The last three variables were not significant before the revision. The seriousness of the crimes and the gender of the offender were not associated with the judge's decision ($p = .167$, and .349, respectively).

The rates of acceptance by judges of the forensic psychiatrists' opinions on legal responsibility were 7.3 percent in the offenders who were referred for mandatory treatments and 7.4 percent in the offenders who were not referred before the Penal Code change. The rates of discordance of the judges' acceptance of the forensic psychiatrists' opinions on legal responsibility were 1 percent in the offenders who were referred for mandatory treatment and 19 percent in the offenders who were not referred after the Penal Code change in 2006. No statistically significant differences between the groups, with or without mandatory treatments, were noted.

Multivariate logistic regression analysis of the risk factors for mandatory treatment (Table 3) revealed that agreement on the offender's state of legal insanity or no criminal responsibility played an important role in the eventual referral for psychiatric treatment (OR: 16.39; 95% CI: 2.72–98.81). The presence of substance-induced psychotic disorders significantly influenced the decision for mandatory treatment (OR: 4.77; 95% CI: 1.77–12.87). Judges of courts in urban areas sentenced offenders to mandatory treatment less frequently when compared with judges in rural areas (OR: 0.40; 95% CI: 0.19–0.81; $p = .031$).

Discussion

In this study, only a small proportion of subjects with substance use disorders (12.8–13.3%) were referred for mandatory treatment, even though most of the assessing psychiatrists in Taiwan would recommend some form of treatment for the offenders.[8,15] In the United States, most referrals come from the criminal justice system and account for 36 percent of all substance abuse treatment admissions.[22] The reasons that fewer offenders are referred for mandatory treatment in Taiwan remain unclear, although a possible explanation is that judges are more willing to refer offenders with substance-related psychosis than those in other categories.

In this study, the leading substances linked to crimes are alcohol and amphetamines, similar to reports in other countries,[23] even if the type of substance-related crimes differs from country to country. Alcohol and psychostimulants have been identified in many studies as proximal risk factors for crime.[24–26] Alcohol is a strong trigger of criminal violence.[27] However, in Australia, cannabis prevails, followed by heroin, in the Magistrates Early Referral Into Treatment (MERIT) program.[28] In the rural areas in the United States, crack cocaine is the most common, and amphetamine is the least common substance of abuse among offenders.[29]

Fazel *et al.*[30] estimated that alcohol abuse and dependence are as high as 18–30 percent in male prisoners and 10–24 percent in female inmates, whereas drug abuse and dependence varied between 10–48 percent in male prisoners and 30–60 percent in female inmates. There has been no similar study on the prevalence of alcohol or substance use disorders

Table 1 Before the Penal Code Revision of 2006

Variable	Actual Mandatory Treatment Received, *n* (%)		χ^2 (*df*)	*p*
	Yes (*n* = 41)	No (*n* = 149)		
Reason for referral			1.025 (2)	0.599*
Recidivism	8 (19.5)	36 (24.2)		
Court's investigation	21 (51.2)	80 (53.7)		
Medical history	12 (29.3)	33 (22.1)		
Result or type of crime			9.041 (5)	0.102†
Death	3 (7.3)	25 (16.8)		
Injury	11 (26.8)	22 (14.8)		
Property damage	13 (31.7)	61 (40.9)		
Public disorder	11 (26.8)	24 (16.1)		
Drug crime	1 (2.4)	12 (8.1)		
Other	2 (4.9)	5 (3.4)		
Gender			0.407 (1)	0.587†
Male	41 (100.0)	144 (96.6)		
Female	0 (0)	5 (3.4)		
Diagnosis			13.673 (4)	0.006†
Dependence	2 (4.9)	17 (11.4)		
Abuse	4 (9.8)	12 (8.1)		
Substance-induced psychotic disorder	23 (56.1)	45 (30.2)		
Substance-induced mood disorder	9 (22.0)	32 (21.5)		
Intoxication	3 (7.3)	43 (28.9)		
Substance			7.442 (6)	0.364†
Alcohol	19 (46.3)	69 (46.3)		
Amphetamine	5 (12.2)	29 (19.5)		
Heroin	0 (0)	3 (2.0)		
Glue	6 (14.6)	7 (4.7)		
Other	4 (9.8)	11 (7.4)		
Any two	6 (14.6)	21 (14.1)		
More than three	1 (2.4)	9 (6.0)		
Area			4.463 (2)	0.107*
Urban	7 (17.1)	51 (34.2)		
Suburban	14 (34.1)	40 (26.8)		
Rural	20 (48.8)	58 (38.9)		
Judges' acceptance of forensic psychiatrists' opinions on legal responsibility			28.171 (3)	<0.001†
Both not responsible	6 (14.6)	2 (1.3)		
Both diminished responsibility	28 (68.3)	67 (45.0)		
Both fully responsible	4 (9.8)	69 (46.3)		
Discordant	3 (7.3)	11 (7.4)		

n = 190. *df,* degree of freedom.
* Chi-square.
† Fisher's exact test.

among offenders in Taiwan. In the present study, 3,163 of 3,467 (91%) referrals for assessment were substance abusers. This proportion is comparable with studies in countries that have adopted similar court-ordered forensic assessment systems, such as Norway and the Netherlands.[31,32] One study showed that, of people with substance use disorders, 58.5 percent of male and 62.5 percent of female subjects have at least one non-substance-use Axis I psychiatric disorder or an Axis II antisocial personality disorder.[33] There has been no similar study of the psychiatric comorbidities of disordered offenders who engage in substance abuse among prisoners in Taiwan.

Taiwan has an inquisitorial system in criminal courts, which differs from the adversarial system in Common Law countries. In an inquisitorial system, the court is actively involved in investigating the facts of the case, in contrast to an adversarial system, in which the role of the court is primarily that of an impartial referee between the prosecution and the

Table 2 After the Penal Code Revision of 2006

Variable	Actual Mandatory Treatment Received, *n* (%)		χ^2 (*df*)	*p*
	Yes (*n* = 46)	No (*n* = 176)		
Reason for referral			16.814 (2)	<0.001*
Recidivism	19 (41.3)	30 (17.0)		
Court investigation	12 (26.1)	99 (56.3)		
Medical history	15 (32.6)	47 (26.7)		
Result or type of crime			7.576 (5)	0.167†
Death	1 (2.2)	20 (11.4)		
Injury	9 (19.6)	47 (26.7)		
Property damage	21 (45.7)	67 (38.1)		
Public disorder	9 (19.6)	21 (11.9)		
Drug crime	5 (10.9)	12 (6.8)		
Other	1 (2.2)	9 (5.1)		
Gender			0.811 (1)	0.349†
Male	46 (100.0)	169 (96.0)		
Female	0 (0)	7 (4.0)		
Diagnosis			26.549 (4)	<0.001†
Dependence	4 (8.7)	39 (22.2)		
Abuse	4 (8.7)	19 (10.8)		
Substance-induced psychotic disorder	24 (52.2)	31 (17.6)		
Substance-induced mood disorder	9 (19.6)	33 (18.8)		
Intoxication	5 (10.9)	54 (30.7)		
Substance			15.832 (6)	0.026†
Alcohol	21 (45.7)	103 (58.5)		
Amphetamine	7 (15.2)	27 (15.3)		
Heroin	0 (0)	8 (4.5)		
Glue	4 (8.7)	4 (2.3)		
Other substance	5 (10.9)	15 (8.5)		
Any two	7 (15.2)	19 (10.8)		
More than three	2 (4.3)	0 (0)		
Area			6.922 (2)	0.031*
Urban	12 (26.1)	70 (39.8)		
Suburban	8 (17.4)	44 (25.0)		
Rural	26 (56.5)	62 (35.2)		
Judges' acceptance of the forensic psychiatrists' opinions on legal responsibility			69.125 (3)	<0.001†
Both not responsible	1 (2.2)	1 (0.6)		
Both diminished responsibility	38 (82.6)	34 (19.3)		
Both fully responsible	6 (13.0)	122 (69.3)		
Discordant	1 (2.2)	19 (10.8)		

n = 222. *df,* degree of freedom.
* Chi-square.
† Fisher's exact test.

defense,[34] with the courts frequently requesting forensic psychiatrists to provide their professional opinions about the offenders' criminal responsibility, whether it was legal insanity or diminished responsibility. Several precedents and rulings require forensic psychiatric assessments for judges finding someone legally insane.[12,35] However, the judges have the final authority to accept or not accept the forensic psychiatrists' professional opinions by ruling on the offenders' criminal responsibility.[7,8,11] In this study, the judges' acceptance of the forensic psychiatrists' opinions on the legal responsibility between the forensic psychiatrists and judges on the offenders having legal insanity is one of the factors that influence a referral for mandatory treatment.

The court's location is an important factor. In urban areas, judges have less tendency to order offenders to undergo mandatory treatment when compared with those from rural areas ($p = .031$). Further prospective studies to determine the relationship

Table 3 Logistic Regression Analysis of Risk Factors for Mandatory Treatment

	Univariate			Multivariate*		
	OR	(95% CI)	*p*	OR	(95% CI)	*p*
Reasons for referral						
Recidivism	1.21	(0.65–2.26)	0.546	1.13	(0.53–2.40)	0.760
Court investigation	0.55	(0.31–0.97)	0.039*	0.60	(0.30–1.24)	0.168
Medical history	1.00	(reference)		1.00	(reference)	
Substance use disorder and related mental illness						
Dependence	1.30	(0.43–3.94)	0.644	1.43	(0.42–4.84)	0.567
Abuse	3.13	(1.08–9.03)	0.035*	3.30	(1.00–10.90)	0.051
Substance-induced psychotic disorder	7.50	(3.34–16.81)	<0.001*	4.77	(1.77–12.87)	0.002*
Substance-induced mood disorder	3.36	(1.38–8.18)	0.008*	2.29	(0.82–6.43)	0.114
Intoxication	1.00	(reference)		1.00	(reference)	
Substance						
Alcohol	0.70	(0.18–2.69)	0.602	0.85	(0.17–4.23)	0.842
Amphetamine	0.64	(0.15–2.73)	0.550	0.35	(0.06–1.94)	0.230
Heroin	–	–	0.999	–	–	0.999
Glue	2.73	(0.57–13.01)	0.208	1.07	(0.17–6.84)	0.941
Other	1.04	(0.23–4.70)	0.961	0.83	(0.14–5.06)	0.841
Any two	0.97	(0.23–4.15)	0.973	0.84	(0.15–4.68)	0.839
More than three	1.00	(reference)		1.00	(reference)	
Court location						
Urban	0.41	(0.23–0.74)	0.003*	0.40	(0.19–0.81)	0.011*
Suburban	0.68	(0.38–1.22)	0.198	0.62	(0.31–1.26)	0.187
Rural	1.00	(reference)		1.00	(reference)	
Judges' acceptance of the forensic psychiatrists' opinions on legal responsibility						
Both not responsible	17.50	(3.17–96.58)	0.001*	16.39	(2.72–98.81)	0.003*
Both diminished responsibility	4.90	(1.65–14.55)	0.004*	3.14	(0.99–10.01)	0.058
Both fully responsible	0.39	(0.12–1.33)	0.134	0.38	(0.11–1.37)	0.093
Discordant	1.00	(reference)		1.00	(reference)	

The ORs were calculated after mutual adjustment for the variables shown. OR, odds ratio; CI, confidence interval.
* $p < 0.05$.

between location of judges' residences and the decisions for mandatory treatment are warranted. A speculation is that, in urban areas, prisons are overcrowded,[36] and judges are less likely to refer offenders from those areas because of limited resources and budgets that restrict the resources for in-prison treatment of these offenders, as discussed below.

The literature on criminal justice systems that direct drug-related offenders to treatment suggest that compulsory treatment programs are more effective in reducing drug abuse and drug-related crimes[37] and promoting longer treatment retention.[38] Other researchers have argued that predictors such as a higher number of working days in the previous month correlate positively with treatment retention, whereas lifetime depression correlates negatively with treatment retention, in either voluntary or compulsory programs.[39] In Taiwan, some preliminary data show that heroin-dependent individuals benefit from methadone maintenance treatment,[40] which leads to an improved quality of life.[41] Higher methadone doses are associated with lower mortality rates in those individuals.[42–44] It is difficult to determine how many offenders voluntarily join the treatment programs versus those who are ordered into them.

Those offenders who are found not criminally responsible, have diminished responsibility and are at significant risk of recidivism, or are a threat to public safety, will be placed in custody. General hospitals, charity facilities, or other appropriate places, such as outpatient clinics or substance abuse treatment centers, could be facilities in which the offenders receive their treatment.[15] To those offenders who are found criminally responsible for substance-related offenses, both pharmacologic and psychosocial treatments are given in the prisons, to prevent recidivism.[45] Most of the contracted providers are conventional hospitals, clinics, or mental health workers who make sched-

uled visits to offenders.[10] Some studies have shown that among the ex-inmates in Taiwan with a history of opiate injection, enrollment and continued participation in methadone treatment are associated with a substantially lower mortality rate and a better quality of life.[43,44] However, there are no researchers conducting studies on the relationship among substance-related offenders, their criminal-responsibility verdicts, and the real treatment benefits they can get in Taiwan at the present time. Therefore, a prospective study to answer this question is warranted. There are no nationwide studies about recidivism in jails, with one study about a detoxification program for illicit drugs, with mostly offenders who have engaged in heroin and methamphetamine abuse in detention centers, finding that 67.9 percent (539 of 794) were repeat offenders during the five years after detoxification.[46] Further studies to determine recidivism are essential.

This study reveals that, despite the revised Penal Code, the referral rates for mandatory treatment have not as yet changed. Forensic psychiatrists in Taiwan should be aware of this finding and attempt to provide more confirmative suggestions for the judges if they find that the offenders may well need mandatory treatment. Further prospective studies are needed to clarify the long-term impact of the Penal Code revision on the referral rates of offenders with substance abuse. Cohort or case control studies may also be needed to compare the outcome of groups with or without mandatory treatments.

Limitations

The major validity problems in this study include information bias (misclassification of exposure) and confounding short-term factors within individuals (*e.g.*, dynamic risk factors that co-vary with exposure to substances and influence the category of crime). The most important limitation is the source of data: the written databank of prison sentences set up by legislators. The databank lacks input from the judicial system, and there is no information regarding waiting time for each mandatory treatment program and no follow-up information regarding the treatment's effect, especially in situations where the offenders are sent to mandatory treatment programs.

Conclusions

In Taiwan, the factors that affect referral for mandatory treatment are: agreement between the forensic psychiatrists and judges on the offenders having legal insanity; substance-related psychosis of the offender; and a rural location. Even with the revision of the Penal Code, only 13 percent of offenders with substance-related charges have received mandatory treatment. More studies are warranted to investigate the relationship between substance abuse and crimes in Taiwan, especially in terms of the and practical relevance of the substance abuse treatment programs. The major implication for policy change is that a much improved communication procedure between psychiatry and the legal system is needed when dealing with offenders who abuse substances.

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