



Prevalence of Psychiatric Morbidity and Psychosocial Correlates of Alcohol use Among Heroin Dependent Addicts Seeking Treatment at Cure and Care 1-Malaysia Center, Kuala Lumpur, Malaysia

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Abstract

Objective

1. To assess prevalence of alcohol use and other psychiatric morbidity among the inmates of C&C.
2. To examine the psychosocial correlates of those with alcohol use.
3. To examine relationship between religiosity and alcohol use.

Method: This is a cross-sectional study involving two hundred and one drug addicts carried out at the first voluntary rehabilitation center Cure and Care (C&C), a governmental organization in Malaysia that enrolls addicts for Methadone Maintenance Treatment (MMT) on an out-patient basis. Upon enrollment for MMT, concomitant alcohol use was not routinely assessed for and this concomitant use can lead to many problems. Addicts were selected based on universal sampling method. Those recruited were aged 18 years and above. Written consent was obtained. Newly registered addicts at the center underwent medical detoxification, and subsequently were given a choice of either total abstinence or maintenance therapy with methadone. Next, those addicts who had already passed through an induction of methadone were given an option for outpatient treatment.

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Results: The prevalence rate of alcohol use was 77.1%. A higher level of education and family members using alcohol use were more likely to use alcohol. Prevalence of alcohol dependence was 16.8% and alcohol abuse was 15.5% and were the two psychiatric disorders that were associated with the MMT users. Finally, being more religious was associated with less alcohol use. Alcohol use is associated with higher education and having a family member who also uses alcohol.

Conclusion: There is a high prevalence of alcohol use among MMT clients and routine alcohol use must be assessed.

Introduction

Methadone maintenance therapy is currently being used to treat heroin dependence and is an integral part of treatment of the heroin dependent patient [1,2]. Methadone Maintenance Therapy (MMT) can reduce and/or eliminate the use of heroin, reduce death rates, criminality associated with heroin use, and improves patients' health and social productivity [1,2]. In addition, enrollment in a methadone maintenance programme has the potential to decrease transmission of infectious diseases associated with heroin injection, such as hepatitis and HIV [1, 3]. Methadone maintenance treatment has been shown to improve heroin users' long-term quality of life in the psychological and social relationship domains as well [4,5]. In Malaysia, Compulsory Drug Detention Centers (CDDCs) used to remand suspected drug users for two years without adjudication. These CDDCs have been criticized globally not only due to ineffectiveness in treating addiction but also for violation of human rights [6,7]. The introduction of initial evidence of reduced drug use and high levels of client satisfaction among C&C clients provide support for Malaysia's ongoing transition from compulsory drug detention centers to these voluntary drug treatment centers. If C&C centers are successful, Malaysia plans to eventually move away from CDDCs altogether [8]. Moreover, opioid-dependent patients in the CDDCs were significantly more likely to relapse to opioid use after release, and sooner, than those treated with evidence-based treatments such as methadone, implying that CDDCs have possibly no role in the treatment of opioid addiction [9].

Concomitant alcohol use among MMT patients not only poses a major health risk, but exacerbates psychopathology, and increases the risk of death by accidental overdose [10,11]. Despite this problem, screening for alcohol use remains underutilized among the methadone users. In this study we wish to ascertain prevalence of MMT users who are also using alcohol. There can be dangerous interactions between alcohol and methadone such as difficulty breathing, weak heart rate, low blood pressure and coma [12,13]. Problematic alcohol use has a high prevalence among current or former heroin users attending primary care for methadone treatment and interventions that address this issue should be explored as a priority [10].

Also relatively little is known about the associated psychiatric morbidity that coexists in methadone maintenance patients in Malaysia. By psychiatric morbidity we mean presence of associated depression, anxiety as well as other substance use disorders. The presence of associated psychiatric problems such as depression and anxiety among methadone addicts pose an

other hurdle that prevents the methadone patients from being completely treated. Previous studies have found methadone patients to have a prevalence of depression of 42.9% and of anxiety 27.2% [14]. In another study 34.7% had depression [15].

Frequently the patients on MMT have decreased spirituality and religiosity and suffer from anxiety, depression, or both, increasing the risk for continued substance use and experiencing its associated negative consequence [16]. In our study religiosity of the MMT patients was also assessed. In order to optimize the outcome of the MMT patients more information on the psychosocial determinants of associated alcohol use, associated psychological comorbidity of MMT patients and the effect of religiosity on alcohol use was assessed.

Materials and methods

Objectives

1. To assess the prevalence of alcohol use and other psychiatric morbidity among the inmates of C&C center.
2. To examine the psychosocial correlates of those inmates with alcohol use.
3. To examine relationship between religiosity and alcohol use.

Methodology

Setting

This study was carried out at the first voluntary rehabilitation center called "Cure and Care 1-Malaysia Center situated in Jalan Sungai Besi, Kuala Lumpur. There were two hundred and fifty addicts registered at the center during the time the study was conducted. The addicts mainly come from different parts of Malaysia. Most of them entered this center after they were released from the compulsory government drug rehabilitation center or the prisons. The majority of them came to this center on a voluntary basis but some of them were brought in by their family members. This center has ability to receive up to three hundred inmates at one time.

This is a cross-sectional study involving two hundred and one drug addicts who were aged 18 years and above. The participants gave written consent. All the addicts who were newly registered at the center underwent medical detoxification, and subsequently were given a choice of either total abstinence or maintenance therapy with methadone. Next, those addicts who had already passed through an induction of methadone were given an option for outpatient treatment. All subjects who met the inclusion criteria were included in the study.

Inclusion criteria

The subjects must be registered in the center and consent be given prior to the interview. Subjects must be abstinent from all drugs except methadone and if they are on methadone maintenance treatment, the duration of the treatment should have been ongoing for at least a month.

Exclusion criteria

The subjects who were in the withdrawal or intoxication state during the interview, subjects who refused to give consent and subjects who had entered the center less than one month prior to this interview were excluded from the study.

Data collection

The study was conducted in December 2011 after obtaining approval from the ethic committee board from the University Hospital. 250 subjects were screened for the study. However only 201 subjects were enrolled and included for the analysis. The remaining subjects did not fulfill the inclusion criteria. The data collection done by five raters at the C& C. The raters were trained and inter rater reliability was ascertained.

Definitions

Opioid dependence: Respondents who had prolonged opioid use associated with tolerance and withdrawals on sudden cessation or reduction of use.

Medical detoxification: A type of detoxification using adequate pain killers, anti- emetics, antispasmodic plus adequate hydration and minimal sedatives.

Psychiatric morbidity: This encompassed the following DSM IV diagnoses. Major depression, anxiety, alcohol dependence, alcohol abuse, substance dependence and substance abuse.

Alcohol Use: Both alcohol dependence and alcohol abuse were taken to interpret alcohol use.

Scales used

The data was collected using a questionnaires consisting of two scales. The first is an Alcohol Use Disorder Identification Test (AUDIT). It is a screening tool for alcohol use, an interviewer rated questionnaire consists of 10 items scale. Religiosity was measured using Hatta Islamic Religiosity Scale (HIR) 1996. Psychiatric morbidity was measured using MINI International Neuropsychiatric Interview (MINI) version 5.

Data analysis

All statistical analyses were performed using SPSS version 25. Descriptive statistics such as frequency and percentage was applied for categorical data. Inferential statistics including Chi square test and simple and stepwise multiple logistic regression were carried out to study the relationship between variables and outcome (alcohol use). A p-value of ≤ 0.05 was considered statistically significant.

Results

Results of descriptive analysis showed that the prevalence of alcohol use among the inmates is 77.1%. According to these results it was found that the “Beer” is the common type of alcohol used by respondents followed by “Vodka” with 25.9% and “Wine” with 23.9%.

Table 1: Pattern of alcohol use according to type of alcohol.

Types of Alcoholic drinks	Percent
Beer	66.7
Wine	23.9
Vodka	25.9
Tuak	10.9
Whisky	21.4
Tapai	18.4
Samsu	15.4
Others	5.5

Table 1 Shows that traditional alcohol is consumed less compared to western alcohol.

Table 2: Association between sociodemographic factors and alcohol use (n=210).

Variable	Level	Drinking		χ^2	P value
		No	Yes		
Age	>35 years	19 (41.3)	67 (43.2)	0.053	0.817
	<36 years	27 (58.7)	88 (56.8)		
Gender	Male	43 (93.5)	148 (95.5)	0.302	0.583
	Female	3 (6.5)	7 (4.5)		
Ethnicity	Malay	34 (73.9)	130 (83.9)	2.342	0.126
	Non-Malay	12 (26.1)	25 (16.1)		
Religion	Muslim	35 (76.1)	129 (83.2)	1.204	0.273
	Non-Muslim	11 (23.9)	26 (16.8)		
Marital	Married/divorced/widow	20 (43.5)	55 (35.5)	0.969	0.325
	single/never married	26 (56.5)	100 (64.5)		
Education	Higher Education Level	18 (39.1)	92 (59.4)	5.856*	0.016
	Lower Education Level	28 (60.9)	63 (40.6)		
Family alcohol use	No	42 (91.3)	82 (52.9)	22.134*	<0.001
	Yes	4 (8.7)	73 (47.1)		

Table 2 Presents the relationship between sociodemographic factors and alcohol use. Among these sociodemographic variables only education and family alcohol use were associated with alcohol use. Amongst the drinkers the highest percentage belonged to those with higher education. While amongst the non- drinkers most of them had a lower level of education (60.9%). Amongst the drinkers 82 (52.9%) have at least one family member who drinks. Amongst the non-drinkers only 8.7% have family who are drinking

Table 3: Relationship between psychiatric morbidity and alcohol use (Univariate analysis).

Variable	Level	Drinking		χ ²	P value
		No	Yes		
Major Depressive Episode - Current (Past 2 Weeks)	No	33 (71.7)	88 (56.8)	3.316	0.069
	Yes	13 (28.3)	67 (43.2)		
Major Depressive Episode -Lifetime	No	38 (82.6)	119 (76.8)	0.706	0.401
	Yes	8 (17.4)	36 (23.2)		
Anxiety Disorder -Current	No	35 (76.1)	110 (71)	0.463	0.496
	Yes	11 (23.9)	45 (29)		
Alcohol Dependence - Current (Past 12 Month)	No	46 (100)	129 (83.2)	8.863*	0.003
	Yes	0 (0)	26 (16.8)		
Alcohol Abuse - current (Past 12 Month)	No	46 (100)	131 (84.5)	8.088*	0.004
	Yes	0 (0)	24 (15.5)		
Substances Dependence (Non -Alcohol) -Current (Past 12 Month)	No	4 (8.7)	12 (7.7)	0.044	0.834
	Yes	42 (91.3)	143 (92.3)		
Substance Abuse (Non-Alcohol)	No	12 (26.1)	31 (20)	0.782	0.377
	Yes	34 (73.9)	124 (80)		
				Z/t value	P value
Audit score :Mean (Median)		0.217 (0)	3.792 (2)	-5.905*	<0.001
HIR: Mean (SD)		42.1 (10.2)	36.9 (11.3)	2.432*	0.016

* Significant at 0.05 level

According to table 3 it was found that only alcohol dependence and alcohol abuse were significantly correlated with drinking behavior. 16.8% have alcohol dependence and 15.5% have alcohol abuse. The results of the U Mann Whitney test indicated that there were significant differences between the two groups for the AUDIT score. The AUDIT score amongst drinkers was M= 3.79 which was significantly higher than the non- drink-

ers which was M= 0.127.The result of the T test revealed that the mean HIR amongst non- drinkers was 42.1 and was significantly higher than drinkers M=36.9.

All significant variables were used in multiple logistic regression analysis and showed that family alcohol use and HIR significantly influenced drinking pattern.

Table 4: Results of multiple logistic regression on drinking behavior.

		B	S.E.	P value	OR	95% CI. OR	
						Lower	Upper
Education	Higher Level	-0.592	0.46	0.198	0.553	0.225	1.363
	Lower Level (ref)				1		
Family Alcohol	No	1.934	0.788	0.014	6.914	1.475	32.416
	Yes (ref)				1		
Audit		0.775	0.315	0.014*	2.155	1.17	4.027
HIR		-0.043	0.02	0.033*	0.957	0.92	0.997

* Significant at 0.05 level

According to results of multi variate analysis (Table 4) it was found that the chance of drinking among respondents with no family members with drinking behavior is almost 7 times less compared to respondents with at least 1 family member who drinks. (OR= 6.914, P=0.014, CI: 1.475-2.416).

The results of AUDIT also indicated that the highest level of AUDIT also significantly predicted the positive drinking behavior. (B=0.775 p= 0.014, CI: 1.17- 4.027) While there was a negative impact of HIR score or religiosity on the drinking behavior the result indicates that respondents with increased HIR tend to be non –drinkers

Discussion

Different therapeutic interventions appear to be needed in patients with different longitudinal patterns of additional substance use during MMT [17, 18]. The management of simultaneous heroin and alcohol misuse represents a challenge [19]. In this study the prevalence of alcohol use disorder was 77.1%.The prevalence of alcohol consumption among methadone patients worldwide has been found to range from 30-56% [20-26]. However, a study in Vietnam, quoted the prevalence as only 18% [27].

The elevated prevalence rate of alcohol use in our study may be due to the following reason. The induction phase of methadone lasts from 8 to 10 weeks. In order to manage the withdrawal symptoms of heroin, some of the participants in this study may have turned to alcohol use as the organizers had threatened them that if they were found to be using benzodiazepines, then they could not participate in the voluntary outpatient programme and would have to be enrolled in the involuntary inpatient programme. This may have led to an increased prevalence rate of alcohol use. This new onset alcohol use may not diminish even after optimum methadone dosage 60 -80 mg daily has been reached and this may pose a new problem.

Comorbid alcohol use disorders among MMT patients can cause poor physical and mental health, including liver disorders, noncompliance to methadone, social deterioration and increased mortality risk. The effects of opioid maintenance therapy on alcohol consumption are controversial and no clear pattern has emerged. There may not be a change in alcohol use after initiation of methadone maintenance therapy [21]. Some research has suggested that MMT may also decrease the initiation of heavy drinking, further underlining the beneficial effects of opioid maintenance treatment on the health of people with opioid use disorders [28]. Cessation of illicit opioid abuse and retention in treatment have been positively correlated with decrease in alcohol and the absence of the psychosocial comorbidity [29]. Alcohol screening should be part of routine assessment and alcohol treatment should be made available within MMT programs [26]. At present alcohol use is not routinely assessed at the C&C.

Comorbid psychiatric disorders among MMT patients have been associated with negative outcomes [30]. Interestingly, in the study by Pani [31] the patients in MMT programme with high psychiatric severity do not have a lower retention in treatment or higher substance use compared to those with low psychiatric severity. In our study the only psychological conditions significantly associated with MMT were alcohol dependence and substance abuse. The positive associations between psychiatric comorbidity and severity of substance use and other psychosocial problems were most consistent among those with antisocial personality [32].

In our study, having a family member who used alcohol was associated with 7 times increased likelihood of using alcohol. There is a fairly large and consistent literature demonstrating that more parental drinking is associated with more drinking in offspring [33]. Psychosocial and genetic factors play a part in why children of alcoholics may become alcoholics themselves [34].

Higher education was associated with alcohol use in this study. Conversely other studies showed that those addicts who dropped out of high school were 6.34 times more likely to develop alcohol abuse or dependence than were individuals with a college degree. Education significantly reduced the risk of alcohol dependence [35,36].

In our study, with respect to religiosity, the more religious the patient, the less chance of drinking alcohol. A study by Linda P [16] on MMT patients showed that spirituality, religiosity, depression, anxiety, and negative drug-use consequences are interrelated in the person with addiction. Higher anxiety was predictive of negative drug-use consequences. Protective associations for religiosity varied by gender, ethnicity and childhood adversity histories. Greater religiosity may be protective against early alcohol use and later alcohol dependence [37].

Limitation of the study

Since this study was done in one center therefore the findings cannot be generalized to any other centers. The presence of associated personality disorders were not assessed as certain personality disorders have been associated with elevated use of alcohol. The assessments of alcohol use relied on the response of the subject and no objective tests were carried out. More severe cases of alcohol dependence may have been excluded as those having withdrawal/ intoxication symptoms were not included. Prospective MMT patients were threatened against the use of benzodiazepines and this may have propelled them to use alcohol to mitigate the withdrawal effects of heroin resulting in higher prevalence values for alcohol use.

Conclusions

In view of the high prevalence of alcohol use among patients on MMT in C & C Center, objective assessments of alcohol use should be routinely carried out. Also there is a need for a specialized psychiatric and dual diagnosis service to ensure safety of treatment in view of potential lethal methadone and alcohol interactions complications.

Author contributions

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Conflicts of Interest

Declare conflicts of interest or state “The authors declare no conflict of interest.” no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript, or in the decision to publish the results”.

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