Factors associated with immediate relapse among Bahraini heroin abusers

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العوامل المصاحبة للانتكاس الفوري بين البحرينيين الذي يتعاطون الهيروين

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خلاصة: تمت دراسة الخصائص الديمغرافية والعوامل المصاحبة للانتكاس الفوري نحـو تعـاطي الهـيروين، في أربعين من البحرينيين الذكور الذين يتعاطون الهيروين، وذلك بعد أسبوع واحد مـن تخريجـهم مـن وحـدة تـأهيل مدمني المخدّرات والكحول في البحرين. لقد كان العمر الوسطي للمرضى 32.7 سنوات. وكـان العمر الـذي بـدأ عنـده تعاطي المخدّرات يتراوح بين 12 و31 سنة، كما كان المجال العمري للتعاطي المنتظم 15–37 سـنة، وتبيّـن أن أكـثر من نصف المرضى عمال عازبون وعاطلون من غير ذوي المهـارات، ومـن الحـاصلين علـى تعلـيم ثـانوي. وكـانت الغالبية العظمى تتعـاطى الهـيروين عـن طريق الوريـد. ورأت غالبية أفـراد الدراسـة أن الحـالـة الانفعاليـة السـلبية والتلميحات المتعلقة بالمخدّرات، كانـت، عظيمة الأثـر بصـورة خاصـة في انتكاسـهم فور إخراجـهم وتدلُّ النتـائج علـى أن وحدة معالجة المدمنين وتأهيلهم ينبغي أن تنظر في قضايا الرعاية اللاحقة، مثل التدريب، والتعليم المستمر، وحفز المرضى وتطوير مهارات التلاؤم والدعم الاجتماعي، بُغية مواصلة الامتناع عن الإدمان.

ABSTRACT Demographic characteristics and factors associated with immediate relapse to heroin use among 40 male Bahraini heroin abusers were studied 1 week after discharge from the Drug and Alcohol Rehabilitation Unit in Bahrain. The mean age of the patients was 32.7 years, the age at which drug abuse began ranged from 12 years to 31 years, and the age range of regular use was 15–37 years. More than half the patients were single, unemployed, unskilled labourers with secondary-school education. The vast majority used heroin intravenously. Negative emotional states and drug-related cues were seen by the majority of the subjects as influential in their immediate relapse after discharge. Findings suggest that the treatment and rehabilitation unit in Bahrain should look into the issues of after-care.

Facteurs associés à une rechute immédiate chez les héroïnomanes à Bahreïn
RESUME Les caractéristiques démographiques et les facteurs associés à la rechute immédiate pour la consommation d'héroïne chez 40 Bahreïnis héroïnomanes ont été étudiés une semaine après leur sortie du Service de réadaptation pour toxicomanes et alcooliques à Bahreïn. L'âge moyen des patients était de 32,7 ans, l'âge auquel la toxicomanie avait débuté allait de 12 à 31 ans, et la fourchette d'âge d'utilisation régulière était de 15 à 37 ans. Plus de la moitié des patients étaient célibataires, chômeurs, ouvriers non qualifiés ayant reçu une instruction secondaire. La grande majorité utilisait l'héroïne par voie intraveineuse. La majorité des sujets considéraient les états émotionnels négatifs et les sollicitations liées à la consommation de drogue comme ayant une influence particulière dans leur rechute immédiate après leur sortie. Les résultats laissent penser que le Service de traitement et de réadaptation de Bahreïn devrait examiner les questions concernant la postcure.

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Introduction

Heroin was introduced into Bahrain in the late 1970s and reached epidemic levels in 1983, when a total of 424 new cases were registered [1]. The Drug and Alcohol Rehabilitation Unit in Bahrain stipulates that treatment of drug abusers must initially be on an inpatient basis, during which period the severity of withdrawal symptoms are recorded for each patient according to a locally devised scale [2]. This practice revealed that only a small number of patients claiming to be heroin dependent developed moderate to severe withdrawal symptoms. Only those with severe withdrawal symptoms were given methadone treatment. This has lead to a 99% reduction of dispensed medication [1]. The inpatient assessment and detoxification programme lasts between 3 weeks and 6 weeks. Although this policy takes into account the degree of withdrawal symptoms, it does not address psychological dependency on heroin.

Relapse to substance use is a major problem in addiction. Most studies have revealed a very high rate of relapse among heroin abusers within the first year of treatment, most of them within the first 90 days [3–8]. Initial relapse does not inevitably herald a full-blown relapse [9]. Despite relapse rates, treatment of substance abuse had a positive effect on different aspects of patient behaviour, such as reduction of daily substance use, increase of periods of abstinence, decrease of criminal activity and social stability [10,11].

Our study attempts to describe factors associated with relapse among Bahraini heroin abusers 1 week following discharge from the Drug and Alcohol Rehabilitation Unit.

Methods

A total of 40 male Bahraini patients who used heroin during the first week after discharge from the Drug Treatment and Rehabilitation Unit of the Psychiatric Hospital, Bahrain in 1998 were studied. Heroin use was confirmed by the patient himself, his family and clinical findings, such as the presence of withdrawal symptoms or clinical evidence of intoxication. All 40 patients were interviewed and completed a questionnaire containing the following data: age, sex, marital status, social class, educational level, living arrangements, starting age of drug abuse, age of regular use, route and frequency of use. They also completed a relapse-precipitants questionnaire. The relapse-precipitants questionnaire used by Unnithan et al. [12] was translated into Arabic and back into English. The English versions were compared by expert psychiatrists, who confirmed the similarity between the two versions and the reliability of the translation. The relapse-precipitants questionnaire contains 14 items with 2-point scale: no = 0 and yes = 1. The 14 items were grouped into 4 categories as follows: drug-related cues (items 3, 9, 11, 14); feeling unwell (items 2, 5); social and interpersonal interactions (items 4, 7, 10, 13); and mood category (items 1, 6, 8, 12). The coded data were analysed using *SPSS*.

Results

The demographic characteristics of the 40 men are shown in Table 1. The majority (55.5%) were aged between 19 and 25 years. The age range was 18–47 years with a mean of 32.7 years. The majority were single (52.5%), unemployed (52.5%), la-

Table 1 Demographic characteristics of the drug users

Characteristic	No.	%
Age group (years)		
0–18	5	12.5
19–25	22	55.0
26+	13	32.5
Marital status		
Single	21	52.5
Married	16	40.0
Divorced	3	7.5
Employment status		
Unemployed	21	52.5
Employed	18	45.0
Retired	1	2.5
Social class		
Professional	1	2.5
Administrative and managerial	2	5.0
Clerical and related	10	25.0
Sales workers	1	2.5
Others workers	25	62.5
Businessmen	1	2.5
Educational level		
No formal education	1	2.5
Primary	9	22.5
Intermediate	6	15.0
Secondary	19	47.5
College	5	12.5
Living arrangements		
Parents	28	70.0
Spouse	12	30.0

bourers (62.5%), had completed secondary education (47.5%), and lived with their parents (70.1%).

Table 2 gives the drug history of the patients. The age they began using drugs ranged from 12 years to 31 years with a mean of 17.3 years. The majority (75.0%) started using drugs before the age of 19 years. The age at which regular drug use started ranged from 15 years to 37 years, with a mean of 20.8 years. The majority (60.0%) started regular abuse of drugs between 19 years and 25 years. The vast majority (95.0%) were intravenous drug users, and 92.5% used drugs daily, 32.4% of whom used drugs twice a day and 24.3% of whom used them three times a day.

Table 3 shows the factors associated with immediate relapse. The majority of the subjects had experienced negative mood states during the week of relapse; 27 (67.5%) felt sad, 35 (87.5%) felt anxious/tense/frustrated because things were not going their way and 34 (85.0%) felt bored. Only 14 (35.0%) had experienced a good mood and felt like "getting high". With re-

Table 2 Drug history of the drug users

Drug history	No.	%
Age at which drug use started (years)		
0–18	30	75.0
19–25	8	20.0
26+	2	5.0
Age of regular use (years)		
0–18	14	35.0
19–25	24	60.0
26+	2	5.0
Route of use		
Smoking/inhaling	1	2.5
Injecting	38	95.0
Sniffing	1	2.5
Frequency of use		
Daily	37	92.5
Every other day	2	5.0
Every three days	1	2.5
Frequency of daily use (n = 37)		
Once a day	1	2.7
Twice a day	12	32.4
Three times a day	9	24.3
Four times a day	10	27.0
More than four times day	5	13.5

Table 3 **Factors associated with immediate relapse among Bahraini heroin users**

Item	Factor	No.	%
1.	I felt sad	27	67.5
2.	I was suffering from withdrawal symptoms	20	50.0
3.	I was offered drugs	28	70.0
4.	I spent long periods alone	22	55.0
5.	I felt unwell but not because of withdrawal	34	85.0
6.	I felt bored	34	85.0
7.	I met people who are users	32	80.0
8.	I was in a good mood and I felt like "getting high"	14	35.0
9.	I felt tempted to use drugs out of the blue	34	85.0
10.	I felt angry/tense/frustrated about my relationship with someone	27	67.5
11.	I went looking for a drug-using area	32	80.0
12.	I felt anxious/tense/frustrated because things were not going my way	35	87.5
13.	I was with others having a good time and we felt like "getting high" together	17	42.5
14.	I saw someone else use drugs or saw drugs and I felt I had to use them	26	65.0

Categories: drug-related cue factors: items 3, 9, 11, 14; unwell factors: items 2, 5; social factors: items 4, 7, 10, 13 and mood factors: items 1, 6, 8, 12.

others and they felt like "getting high" together. Most of the subjects were exposed to drug-related cues; 28 (70.0%) were offered drugs, 34 (85.0%) felt tempted on impulse, 32 (80.0%) went looking for a drug-using area and 26 (62.5%) saw someone else using drugs or saw drugs and felt they had to use them. Half the subjects reported that they were suffering from withdrawal symptoms and 34 (85.0%) felt unwell, but not because of withdrawal symptoms.

Discussion

Patients included in the study were all Bahraini males; in the history of the unit, only three Bahraini females have been treated at the Psychiatric Hospital [1]. Drug abuse in females is a rarity in Bahrain because of the protective nature of the family and society.

The age range of the patients was 18–47 years, with a mean of 32.7 years; more than 50% were under the age of 25 years. These results are similar to those of Bradley et al. who reported age ranges of 15–38 years with a mean of 27 years [4], while Edwards and Goldie reported age ranges of 16–35 years with a mean of 21 years [13]. The mean age of this sample is the same as that reported by Unnithan et al. [12].

Both the age at which subjects first started using drugs and the age at which they started regular use of heroin varied considerably. The results also show that drug abuse could begin as late as 31 years and regular use at 37 years, which confirms the heterogeneity of the drug-abusing population.

The age of starting drug use ranged from 12 to 31 years, with a mean of 17.3 years and the range of regular use was 15–37 years, with a mean of 20.8 years. This finding is very similar to that of Bradley et

gard to social and interpersonal relationships, 22 (55.0%) spent long periods alone, 32 (80.0%) met other drug abusers, 27 (67.5%) felt angry/tense/frustrated about their relationship with someone and 17 (42.5%) had experienced good times with

al. who reported a range of 11–30 years for starting age of drug use and 12–35 years for age of regular use [4]. The mean age of the start of drug use is also similar to Cottrell et al. who reported a mean age of 17.1 years [6].

The proportion of subjects who were married (40.0%) suggests some stability; this is further supported by the fact that only 7.5% had broken marriages, a rate compatible with the general divorce rate in Bahrain [14]. The proportion of unmarried patients (52.5%) has to be seen against their young age since 60.0% were under 25 years.

The majority of patients (70.0%) lived with their parents, including 25% of married patients. This is understandable since the majority were young and single, and this is a cultural norm. It is also a cultural norm that married couples stay in the family home.

The high unemployment rate (52.5%) is to be expected in such a population and is comparable with other studies [12.13]. Nevertheless, 45% of heroin users in our study had regular jobs, therefore challenging the myth that all drug users end up unemployed. This again compares favourably with other studies [15,16]. The majority were labourers, which is similar to the findings of Edwards and Goldie [13], who observed that 97% of their drug-using population came from social classes III and IV.

Almost half of the studied population (47.5%) had a secondary-school education compared with 22.5% of the general population [14]. The higher representation of those with secondary-school education is mainly because the majority started using drugs before the age of 18 years and became regular users between 19 and 25 years, which coincides with the age at which they finish secondary schooling.

The vast majority of the patients took intravenous heroin every day. The frequency, and thus the dose level of heroin, varied considerably from once per day to more than four times per day. A similar variation was reported by Gossop et al. [17]. This variation may reflect the heterogeneity among substance abusers as well as the changing pattern of substance abuse over time.

The majority had experienced negative mood states (feeling sad, feeling bored and feeling anxious/tense/frustrated), while only 35.0% had experienced positive mood states and 42.5% had experienced good times with others. These findings are comparable with several studies that found that negative mood states are associated with relapse [8.19.20]. Bradley et al found that cognitions and moods tend to be the most common factors associated with relapse; more than half their subjects indicated that negative mood states, such as sadness, loneliness, boredom, tension or anxiety were directly associated with relapse, but these were not necessarily the first risk factors to occur [4]. Findings from the Relapse Replication and Extension Project (RREP) in the United States show reasonably consistent evidence for two common antecedents of relapse: negative emotional states and positive emotional states in a social context. They found strong evidence of the role of negative emotional states as antecedents for relapse. Negative mood has emerged not only as a frequently reported antecedent in retrospective assessment, but also as a principal component derived from relapse scales and a prospective predictor of relapse [21]. Mood states, along with social isolation and family factors, were more likely to repeat as reported antecedents of consecutive relapses [16]. Mood monitoring is a useful tool for detecting impending relapse and strategies are warranted to en-

sure that the client's drug-free lifestyle is rewarding. Substance abuse programmes should screen and address negative emotional states, such as depressed mood, anxiety, frustration and anger early in sobriety.

The majority of patients were exposed to drugs and drug-related cues; 80.0% had met substance abusers, 70.0% were offered drugs, 62.5% saw someone else using drugs or saw drugs and felt that they had to use them, 85.0% felt tempted to use them out of the blue and 80.0% went looking for a drug-using area. A similar finding was observed by Unnithan et al., who reported two sets of factors associated with relapse; these were interpersonal factors and drug-related cues [12]. Gossop et al. and Cummings et al. also found that interpersonal factors played an important role in influencing relapse [9,19]. Bradley et al. found that the greatest number of initial relapses occurred within a week of patients leaving inpatient treatment [4]. This may reflect the power of environmental influences in leading to renewed drug taking. After discharge, the majority of patients return to an environment where drugs are available and where drug-related cues may be widespread. The presence of drug-related cues in itself may cause substance abusers to develop a more positive attitude toward the drug, as has been reported for alcohol abusers [22]. Individuals whose friends are drug users are exposed to a much greater risk.

A number of the following factors are likely to be associated with relapse: increased drug availability, social pressure to use, seeing others using drugs, and being exposed to other drug-related cues such as syringes and needles. Oppenheimer et al. found that substance abusers who stopped using opiates were less likely to have contact with other substance abusers [23].

Half of the patients reported that they felt unwell because of withdrawal symptoms, while the majority felt unwell, but not because of withdrawal symptoms. It is possible that feeling unwell, whether because of general health problems or other emotional states, may not have a direct causal effect but may act as chronic background factor that decreases resistance to other more specific precipitants. The role of withdrawal symptoms in precipitating relapse is not clear. Wikler suggested that environmental cues associated with drug withdrawal elicit emotional withdrawal-like responses, which precipitate further drug use in abstinent addicts [24]. He also suggested that these conditioned responses remain unaltered by conditional addiction treatment. Gorski and Miller introduced the term post-acute withdrawal syndrome, which begins 1–2 weeks after cessation of use, peaks at 6–8 weeks and subsides over the subsequent 13 weeks [22]. According to them, the relapse process follows a consistent pattern. First, the individuals' attitude change and they begin to question themselves about their well-being and ability to stay sober. They then begin to use maladaptive coping methods and the end result of this process is a resumption of substance abuse [22].

Our study had two main limitations: first, the diagnosis of relapse was made according to information from the patients or their families, physical examination or the presence of withdrawal symptom, but was not confirmed by drug screening; second, patients were asked to provide a retrospective assessment of events and emotions that occurred prior to their substance use episode. In addition to the possible lack of awareness or insight into the reasons for the substance use episode, there are a number of potential difficulties and attributional biases inherent in retrospective assessment. Each of the factors may contribute indepen-

dently or interactively to inaccurate identification of true relapse precipitants.

Conclusion and recommendations

Bahraini heroin users do not differ from heroin users in Western countries in their demographic features, such as drug history, heterogeneity or factors associated with relapse to heroin use. Unfortunately, it seems that the after-care treatment and rehabilitation services at the Drug and Alcohol Rehabilitation Unit in Bahrain are not adequate. An analysis should be made in order to assess and improve treatments services.

Every effort should be made to provide the best possible support for patients immediately after discharge, and after-care services should focus on this period. Prevention and treatment of drug abuse should involve helping the individual to develop effective life-skills, identify high-risk situations and cope with them effectively. Treatment strategies that teach coping skills are among the most effective [25]. Strategies can be used through the continuity of care in rehabilitation programmes, outpatients and after-care services. Family members can be involved in educational and therapy sessions, as well as recovery plans for members with substance use disorders. A similar programme would allow problems to be anticipated and coping strategies be defined and practised.

In light of our findings, the team of the Drug and Alcohol Rehabilitation Unit should look into the issues of after-care, such as ongoing education, motivation to maintain abstinence, coping skills, training and social support. Well designed, controlled studies are also needed to address different aspects of the substance abuse problem.

Acknowledgement

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