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Study of psychiatric comorbidity in opioid dependent patients registered in jail ooat clinic

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Abstract
Substance use is a global concern affecting most importantly younger population. Opioids are the most harmful drugs used. According to a UN report, one million heroin addicts are registered in India. This grave problem of opioid dependence is also an issue of concern for confined populations like prisons. Criminal behaviour and drug dependence is strongly correlated and prevalence of limited treatment services in jail has further aggravated this problem. Psychiatric comorbidities also have increased due to stressful and poor living conditions in prisons than general population.
Aims: To study sociodemographic profile and prevalence of psychiatric comorbities in opioid dependent patients on OOAT in central Jail.
Material and Methods: Hundred patients on OOAT in Jail are studied by applying DAMS proforma for socio demographic profile and MINI scale for assessing psychiatric comorbidity.
Results: out of 100 patients taken, 62% belonged to younger population of 21-40 years age group. Mean age of group is 35.37±9.849. Majority of patients were in 31-40 years age group(37%) followed by 25% in age group 21-30 years, 19% in 41-50 years of age group, 12% in more than 50 years age group, 7% in less than 20 years age group. 63% married, 18%never married, 8% divorced, 6% widower and 5% separated due to drug abuse. 36% in 10th and 12th pass group, 30% in middle, 13% literate,10% illiterate, 10% primary and 1% graduate. Majority of patients were self-employed 38%, 24% part time employed, 22% presently unemployed, 11% never employed, 2% student. 28% used polysubstance out of which 15% were using other opioids than heroin, 8% sedatives, 3% tobacco, 1% alcohol and 1% cannabinioids. All the patients were intravenous drug users and sharing of syringe was present in 70% of the sample. Symptoms of STIs were present in 58%. Presence of psychiatric comorbidity was present in 39% of the group and most common was major depressive disorder followed by anti-social personality disorder.

Keywords: OOAT, opioid dependence, psychiatric comorbidity, central Jail

Introduction

Opioids are the most harmful drug type and accounted for 70 per cent of the negative health impact associated with drug use disorders worldwide according to the latest world drug report, released by UNODC. In 2015 about a quarter of a billion people used drugs out of which around 29.5 million people were engaged in problematic use and suffered from drug use disorders, including dependence [1].

The Diagnostic and Statistical Manual of Mental Disorders 5 (DSM-5) defines Substance use disorder (SUD) as a cluster of behaviors involved in compulsive drug seeking along with impaired control of substance use, impaired social interactions with others due to substance use, risky drug use, and pharmacological changes like experiencing withdrawal symptoms [2].

Substance abuse is a global concern. Recent WHO estimate shows worldwide burden of psychoactive substance use to be around 2 billion alcohol users, 1.3 billion smokers and 185 million drug users [3].

India is also facing the pestilence of drug abuse, and the number of drug addicts are increasing everyday. Substance abuse is like an epidemic in young generation which has assumed alarming dimensions in India. According to a UN report, one million heroin addicts are registered in India, and unofficially, there are as many as 5 million. The National Household Survey of Drug Use in the country is the first systematic effort to document the nationwide prevalence of drug use. Alcohol (21.4%) was the primary substance used (apart from tobacco), followed by cannabis (3.0%) and opioids (0.7%). Drug users involve mainly young and males predominately. A National Survey (2004) in India on the extent, pattern, and trends of drug abuse found that opiates are the primary drug to be abused [4].

Substance use disorders pose tremendous burden on the individual, family and community as a whole and growing roots of this grave problem has undermined glorious state like Punjab to a great extent and the situation is worsening day by day. About 35 per cent of the households in Punjab have at least one person with substance use disorder. A survey of 1276 households in Punjab estimated that nearly 80 per cent households had one user especially in border regions involved most in drug trafficking [5].

Substance use disorders (SUDs) have become rampant in the state of Punjab. Tremendous burden is expected on the individual, family, and larger society because of substance abuse, in terms of physical and mental health impairment, quality-of-life, economic hardship, lost productivity, accidents, and crimes, etc. According to one survey report, extent of drug addiction in Punjab is 70%. Household survey indicates that there is at least one drug addict in the

65% of families in Majha and Doaba and 64% families of Malwa. Tarn Taran is the most affected rural district, and Amritsar is the most affected urban district in Punjab [6].

Substance use significantly increases crime rate because of various reasons like need to commit crimes to obtain money to buy a particular substance, alarming increase in drug trafficking. According to a U.S. Department of Justice report, in 2004 about one-third (32%) of inmates in prisons reported that they had committed a crime under the influence of drugs [7].

Prisoners live their life behind bars and this takes them away from their families, marriages, heterosexual contact, jobs, friends, communities, and religious activities and brings in an extremely bad moral environment for years at a time. Many prisoners are beaten, raped, brutalized or made to live in fear. Overcrowding is another issue which makes environment worse for prisoners. As per data of 2006 by National Human Rights Commission, prisons of India having a total capacity of 248,439 while actual number of prisoners living in prisons was 358,177. Most of the prisons lack good exposure to sunlight and fresh air and are full of bad odors and poor health services. Food, clothing and extremely confining shelter makes life more difficult for prisoners. In a study published in 2003 Nurse *et al* examined the influence of environmental factors on the mental-health of people in prison found that participants reported lengthy periods of isolation with little mental stimulation contributing to poor mental-health and feelings of anger, frustration, and anxiety. Prisoners nearly spend on average around 8-9 h unlocked from their barricks, however, it is not uncommon to find in higher-security prisons that some prisoners spend 19-20 h and sometimes up to 23 h a day locked in their cells. Because of these circumstances, Prisons have high percentage of mentally-ill prisoners. On one hand mentally-ill persons are more frequently involved in crime due to symptoms like impaired judgment, lack of impulse control, suspiciousness, loss of inhibitions, paranoid ideas, inability to trust others, delusions, and hallucinations and most of them are less smart, so easily caught by police and on other end prisoner's living conditions in prison make them more susceptible to psychiatric disorders.

Increasing the gravity of conditions substance use disorder highly prevalent in convicted make them more prone to psychiatric comorbidities. Because above all conditions in prisons are not conducive to good mental-health, prisoners with mental-illness are at risk of experiencing deterioration in their mental statex [8]. For this reason state government also decided to establish OOAT clinics in jails also to address the grave situation of drug dependence in jail inmates. OOAT (Outpatient Opioid Assisted Treatment) was started in 2018 and this program has been a boon in drug dependence treatment since 2018 under their supervision. The model was initially started in the 3 districts of Punjab Amritsar, Tarn taran and Moga respectively and currently have been established in every district and 10 central jails of state. Under OOAT, a medical officer, a staff nurse, a data entry operator, counselors have been appointed in each OOAT centre. BPN in combination with nalaxone is being provided to drug addicts in out Patient department as substitution therapy after registration on online portal. Emphasis is more given on the OPD based treatment [9].

Focus of our study is to review psychiatric comorbidities present in opioid dependent patients on OOAT in Central Jail, Amritsar to improve the quality of treatment and care for jail inmates.

Aims and objectives

1. To study socio demographic profile of patients registered in OOAT clinic in Jail.
2. To study psychiatric comorbidity in opioid dependent patients in Jail OOAT clinic.

Material and methods

In this study, 100 patients taking treatment from OOAT in Central Jail, Amritsar for opioid dependence treatment and diagnosed as case of opioid dependence as per ICD-10 Criteria were enrolled. The duration of the study was from 1st Jan. 2019 to 31st Dec. 2019. Diagnosis was confirmed by the senior consultant. Precise aim of interview, nature of study were explained to the enrolled patients and patients were reassured about the confidentiality of the information given.

Inclusion criteria

1. Opioid dependent exclusively males aged 18-65 years who fulfill the criteria of opioid dependence as per ICD 10 classification.

Exclusion Criteria

1. Patients who have not given consent.
2. Irregular or Drop out patient of OOAT Clinics.
3. Uncooperative patient.
4. Patient with mental retardation and organicity.

Method of Selection

100 patients from Central Jail OOAT Clinic diagnosed as case of opioid dependence as per ICD-10 criteria were enrolled for study after stratified random sampling.

After getting informed consent from the patient, DAMS Proforma containing socio-demographic details, details of drug use pattern, present history, past history, high risk behaviour, compelling needs to use drugs were filled. Psychiatric comorbidity was assessed using MINI scale.

Observations and Results

Majority of patients were in 31-40 years age group (37%) followed by 25% in age group 21-30 years, 19% in 41-50 years of age group, 12% in more than 50 years age group, 7 % in less than 20 years age group.

Table 1

Age Group	No. of Patients	Percentage
<20 years	7	7.0
21-30 years	25	25.0
31-40 years	37	37.0
41-50 years	19	19.0
>50 years	12	12.0
Total	100	100.0

p=0.033 Mean age is 35.37±9.849.

Sample includes 63% married, 18% never married, 8% divorced, 6% widower and 5% separated due to drug abuse.

Table 2

Marital Status	No. of Patients	Percentage
Never married	18	18.0
Married	63	63.0
Divorced/separated	8	8.0
Widow/widower	6	6.0
Separated due to drug abuse	5	5.0
Total	100	100.0

Regarding education status 36% in 10th and 12th pass group, 30% in middle, 13% literate, 10% illiterate, 10% primary and 1% graduate. Majority of patients were self-employed 38%, 24% part time employed, 22% presently unemployed, 11% never employed, 2% student. 90% belong to nuclear families and 10% to joint families. 28% used poly-substance out of which 15% were using other opioids than heroin, 8% sedatives, 3% tobacco, 1% alcohol and 1% cannabinioids. All the patients were intravenous drug users and sharing of syringe was present in 70% of the sample. Symptoms of STIs were present in 58%. History of previous treatment taken was in 39%.

Table 3: Distribution of psychiatric comorbidities in sample (n=100)

MINI A	12	12.0
MINI B	2	2.0
MINI C	2	2.0
MINI D	1	1.0
MINI E	4	4.0
MINI F	0	0.0
MINI G	0	0.0
MINI H	1	1.0
MINI I	0	0.0
MINI J	3	3.0
MINI L	1	1.0
MINI M	0	0.0
MINI N	0	0.0
MINI O	3	3.0
MINI P	10	10.0

39% of the sample was found have psychiatric comorbidities in opioid dependent patients.

This table describes that major psychiatric comorbidity is major depressive disorder (MINI-A) 12% followed by antisocial personality disorder (MINI-P) 10%, panic disorder (MINI- E) 4% alcohol dependence (MINI-J) 3%, generalized anxiety disorder (MINI-O) 3%,dysthymia (MINI-B) 2%, suicidality (MINI-C) 2%,manic episode (MINI-D) 1%, obsessive compulsive disorder (MINI-H) 1%, psychotic disorders (MINI-L) 1%.

Discussion

In our study majority of patients were in 31-40 years age group (37%). P value for age incidence is 0.03 which shows that it is statistically significant. Drug dependence is more common in younger age group. The mean age is 35.37±9.849.This finding is supported by a study done by Basu *et al* (2012) mean age in three decades from 1978 to 2008 was 32.68±11.52 years, 30.83±9.94 years and 28.33±8.37 years respectively [10]. Another study done by Bhat *et al* showing majority of patients involved in drug use between 20-40 years of age group also supports our findings [11]. Malik P *et al* in his study reported the most common age group of opioid abuse as 25-44 years [12]. So all the studies support the finding of our study that drug use is most common in younger age group.

In our study, exclusively male opioid-dependent patients were taken. Mohan, Dhar and Lal conducted a study in which the whole study sample (n=180) comprised of males. [13] In another study done by Avasthi *et al* (2018), 98.1% of the opioid users were males and only 1.86% were females.[14] So due to high prevalence of opioid abuse in males, this study was exclusively done in male opioid-dependent patients.

Most patients were educated upto higher secondary in 36% followed by middle class in 30%. Mattoo *et al* conducted a study in which 55% of patients were educated above high school level [15]. Another study done by Gul *et al* showed 33.67% patients were matriculate while another 30.67% were educated upto secondary level [16].

In our study, the majority of patients were self-employed (38%) and 22% were presently unemployed. The majority of patients in our study sample belonged to nuclear families (90%). This is supported by findings in study done by Farhat *et al* in which 64% were self-employed [17]. Another study done by Bhat *et al* shows most of the patients to be males (97.5%) and from nuclear families (75.68%) [18].

Regarding the marital status, most of the patients were married (63%). This is supported by study done by Gul *et al* in which 54.67%of the patients were married. Our study findings were supported by studies of Chavan *et al* and Malik *et al* who reported 73.80% and 95% of their study sample were married respectively [19, 20] p value is >0.05 for marital status, family type, educational status and employment status so is insignificant in our study which is supported by a study of Chalana *et al* in which no significant association was seen with sociodemographic factors [21].

The polysubstance use is quite prevalent in drug dependent patients but in our study only 28% had polysubstance used. This is because of restricted premises of jail where availability of substance in very less as compared to general community.

Total sample taken registered on OOAT Clinic were intravenous drug abusers. Regarding sharing of syringes 70% were sharing syringes which also correlated with higher prevalence of symptoms of STI (58%). In the 2010 PREVACAR Survey, HIV and HCV sero-prevalence rates in a representative sample of 1856 prisoners were respectively 2% and 4.8%, 6 times higher than in the general population [22]. 39% in sample had history of seeking treatment before OOAT. Gul *et al* reports 22% patients with the present attempt as first attempt to leave drugs and 33% had attempted giving up once before and 13.67% had more than three prior attempts [16].

Presence of psychiatric comorbidity was 39%.

Major psychiatric comorbidity is major depressive disorder (MINI-A) 12% followed by antisocial personality disorder (MINI-P) 10%, panic disorder (MINI- E) 4%, alcohol dependence (MINI-J) 3%, generalized anxiety disorder (MINI-O) 3%, dysthymia (MINI-B) 2%, suicidality (MINI-C) 2%,manic episode (MINI-D) 1%, obsessive compulsive disorder (MINI-H) 1%, psychotic disorders (MINI-L) 1%. This is statistically significant as p value of our study is less than 0.05. These findings are supported by various studies in literature like study done by sharma *et al* shows presence of psychiatric comorbidities with substance use as depression was most common psychiatric comorbidity; and only 13% were found to have severe depression followed by anxiety. [23]. another study done by Mir J *et al* on prisoners with substance use disorders, (90%) had at least one other mental disorder; (68%) had comorbid affective disorders; 49% had borderline or antisocial personality disorders; and 44% had comorbid anxiety disorders [24]. In one other survey on prisoners done by Michel *et al*, 33.9% presented at least one psychiatric disorder, including 17.3% a psychotic disorder, 22.9% a major depressive disorder and 24.0% an anxiety disorder [22].

Halikas *et al*. determined a major proportion of subjects (62%) met diagnostic criteria for a current psychiatric disorder, and nearly three-quarters (73%) met lifetime criteria for at least one psychiatric disorder other than substance abuse. Antisocial personality disorders, affective disorders, and anxiety disorders accounted for most of the psychiatric illnesses [25].

McGovern MP *et al* studied presence of comorbid disorders in addiction treatment setting which showed mood disorders (40%-42%), anxiety disorders (24%-27%), posttraumatic stress disorder (24%-27%), severe mental illnesses (16%-21%), antisocial personality disorder (18%-20%), and borderline personality disorder (17%-18%) [26].

A comparative study of psychiatric comorbidity in opioid abusers by Brooner *et al* reported rates of comorbidity that far exceeded general population estimates. Antisocial personality disorder (25.1%) and major depression (15.8%) were the most common diagnoses [27].

Another study done by Ahmad *et al* in Srinagar shows the major co-morbid psychiatric conditions in patients with substance use were major depression (30%), personality disorder (6%), generalized anxiety disorder (4%), phobic disorder (4%), panic disorder (2%), dysthymic disorder (2%) [28].

Limitation of study

1. The sample size was small.
2. Jail premises was a difficult settings to reach patients as prisoners were detained in their cells.
3. Female opioid dependent patients were not taken. So caution should be exercised when applying these findings to female patients.
4. Only opioid dependent patients taking treatment from OOAT clinic were taken. So caution should be exercised when applying these findings to patients on other treatment settings

Conclusion

Confined shelters in jail, poor living conditions and presence of drug dependence increase the risk of presence of psychiatric comorbidities in jail inmates which should be addressed along with substance use treatment to improve the quality of treatment and life of prisoners.

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