ORIGINAL ARTICLE

A COMPARATIVE PREVALENCE OF PERSONALITY DISORDER AMONG MALE PATIENTS SUFFERING WITH PSYCHOACTIVE SUBSTANCE DEPENDENCE

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Abstract

Objectives: **Objectives of this study are to determine the comparative prevalence of personality disorder in prisoners suffering with substance dependence and to find the relationship of personality disorder (PD) with pattern and severity of substance dependence (SD).** ***Methods*****: This is a single-blind case controlled design prison hospital based study. A period sample of nineteen months was taken. Convenience samples of first 250 prisoners admitted in de-addiction ward fulfilling study criteria were taken as study participants and equal numbers of inmates were taken as control participants. Main outcome measure of the study was the presence of PD, whether it is related to the psychoactive substance dependence.** ***Results:*** **There was severe substance dependence among PD cases with the severity of dependence scale, SDS score of 10.7 ± 1.7 vs. 9.6 ± 1.3 in those without PD. Difference in duration of substance use of those with and without PD was statistically significant. However, the difference in age of onset of substance use and duration of substance dependence was not statistically significant. Prevalence of personality disorder in study was found to be 40.8% and was significantly higher than in control participants, i.e. 18.4%. Dissocial PD was noted as the most common type of PD in both study and control participants, i.e. 20.8% and 8%, respectively. In study participants, other most common types of PD were borderline, impulsive and anankastic PD at 7.2%, 5.6% 3.2%, respectively. More than 80% study participants were dependent on various types of substance-related use, i.e. alcohol, opioid and cannabis. Frequency of participants with use of greater than two substances at a time was much more common in participants with PD, than in those without a PD.** ***Conclusions:*** **In those prisoners, suffering from SD is usually of severe intensity. Prevalence of PD in prisoners suffering from SD is much higher than in non-SD population. In both groups, dissocial PD is the majority type of PD. Alcohol, cannabis and opioid are most commonly used substance. Prevalence on more than one substance was higher in those participants suffering from PD than those without PD.** ***ASEAN Journal of Psychiatry, Vol. 18 (1): January – June 2017: XX XX.***

Keywords: Personality Disorder, Substance Dependence, Males, Prisoners

Introduction

Personality disorders (PD) have been significant, but often unrealized, public health importance. PD leads to disturbance in functioning as great as that in most major mental disorders [1]. They are associated with high rates of separation and divorce, unemployment and inefficiency, and poor quality of life for the individual and his or her family. Patients with PD have an increased risk of mortality through suicide, homicide, and accidents. Moreover, when a personality disorder is present, the treatment of other

coexisting psychiatric or medical condition is frequently more complicated, lengthier, or less successful; a pattern that may at times be due to lack of recognition of the PD [2-4]. Epidemiological studies regarding PD became more difficult because there is a considerable personality disorder diagnostic co-occurrence. Patients who meet the DSM-IV-TR diagnostic criteria for one personality disorder are likely to meet the diagnostic criteria for another [5]. Diagnostic categories provide clear, vivid descriptions of discrete personality types but the personality structure of actual patients might be more accurately described by a constellation of maladaptive personality traits [5].

Epidemiological studies show that PDs are common in the clinical population, and their rates vary across sub populations. Since the publication of the Diagnostic and Statistical Manual (DSM-III) in 1980, and its creation of a separate diagnostic axis (i.e., Axis II) for PD, interest in the description and classification of PD has expanded dramatically in the West. Four general population studies done in the late 1980s and early 1990s that used assessment instruments specific to personality disorders established the high (and consistent) prevalence of these disorders (10.3 to 13.5%) in developed countries [6]. In recent studies, the median rate of diagnosable PD was estimated to be around 9- 10.6% [7-8].

A UK national epidemiological study (based on DSM-IV screening criteria), reclassified into levels of severity rather than just diagnosis, reported in 2010 that the majority of individuals showed some personality difficulties, in one way or another (short of threshold for diagnosis), while the prevalence of the most complex and severe cases (including meeting criteria for multiple diagnoses in different clusters) was estimated at 1.3%. Even low levels of personality symptoms were associated with functional problems, but the most severely in need of services was a much smaller group.[9]In a study by Gunn et al (1991), 10% of male prisoners were found to be suffering from the personality disorder. The prevalence of individual personality disorders in general population ranges from about 2% to 3% for the more common varieties, such as schizotypal, antisocial, borderline, and histrionic, to 0.5–1% for the least common, such as narcissistic and avoidant [5]. Clinical samples from India reported prevalence rates of 0.3-16% [10-13]. However, the rates were much higher in special populations such as criminals (7.3-33.3%) [14-15] and patients with substance use disorder (20-55%) [16-19].

Among individual PD, prevalence of schizotypal PD was reported in 19.1% [20], borderline PD in 14.7% [20], emotionally unstable PD in 6-8.6% [20-21] and dependent PD in 6% cases [21]. Existing literature has already established relationship between offense and substance abuse. The prevalence of substance abuse and dependence, although highly variable, is typically many orders of magnitude higher in prisoners than the general population, particularly for women with drug problems.[22]However, prevalence of substance use in prison population differs in various countries. In Iran, 93% inmates had used drugs in their lifetime, and 67% were using it currently [23]. In Indian setting, there is history of drug abuse/dependence in 56.4-58.8% prisoners prior to imprisonment [24-26], 10 to 30% of prisoners suffer from either alcohol abuse or dependence [27]. The prevalence of opium dependence was found in 10% [27] and drug abuse and dependence in 10 to 60% prisoners [27-28]. Though prevalence of PD in general and substance dependence in prison population has been studied but until now, important area related with prevalence of personality disorder in prisoners suffering from substance dependence has not been studied.

Studying the relation between PD and SD will help in determining the degree to which personality disorder can modify the course of substance dependence, their prognosis and response to treatment. This will help in developing effective treatment strategies and interventions for management of these patients. The present study conducted is an attempt to further our understanding of this important problem. Objectives of this study are to find the comparative prevalence of personality disorder in prisoners suffering with substance dependence and to find the relationship of PD with pattern and severity of SD.

Methods

This cross-sectional hospital-based study was conducted at Central Jail Hospital (CJH), New Delhi researched both inpatient and outpatient departments. A period sample of nineteen months (between 15/9/11 to 14/4/13) was taken. Convenience samples of first 250 prisoners admitted in De-addiction (DAC) ward fulfilling study criteria were taken as study participants and equal numbers of inmates were taken as control participants. The sample size was decided one basis of the number of male patients suffering from substance dependence admitted in DAC ward in previous 19 months. Participants were unaware about group allocation. For better reliability of results, two researchers separately applied assessment tools in all participants and were different from one who applied statistical tests on collected data. Participants continued to receive pharmacological therapy that was unchanged during the study. Assessment of all participants, both study and control took place in DAC ward of CJH. As it had been the pre-decided trial was stopped after 19 months after its initiation. Chief outcome measure of the study was the presence of PD, independent of psychoactive substance dependence.

Assessment Procedure

The protocol of this study abided by principles as laid down in 'Declaration of Helsinki (seventh revision)' by the institutional research ethics committee. After obtaining written informed consent from participants, The Mini Mental State Examination (MMSE) was applied followed by the Performa to assess the socio-demographic characteristic; Severity of dependence scale (SDS), Schedule for Clinical Assessment in Neuropsychiatry (SCAN) based clinical interview and International Personality Disorder Examination (IPDE).

The inclusion criteria for all participants included: age above 18 years, male patients and should be satisfying ICD-10 (DCR) criteria for substance dependence in the past one year. The exclusion criteria for all participants included: MMSE score < 23 as presence of cognitive deficits could have hampered the assessment process; participants currently suffering from psychiatric morbidity except substance dependence as per ICD-10 (DCR), having fulfilled ICD-10 (DCR) criteria for substance dependence in present or past and inability to speak Hindi or English sufficient for assessment purpose.

Instruments used in the study

Semi-structured Socio-Demographic Performa: This Performa had basic identification data with details of socio-demographic data, detail history of present illness, past history and family history. This Performa had also been used previously in other studies on substance using population [29-30].

The Mini Mental State Examination (MMSE): MMSE is a 30 point questionnaire used in current research to rule out cognitive impairment in participants. Score of ≤ 23 indicates cognitive impairment [31].

The Severity of Dependence Scale (SDS): The SDS scale developed by Gossop et al. was used to rate severity of Substance Dependence in individuals. It is a 5 item scale that measures the degree of psychological dependence specifically related to the individual's feeling of impaired control over and preoccupation and anxiety towards drug taking. Score of each item ranges from 0-3 [32].

Schedules for Clinical Assessment in Neuropsychiatry (SCAN): In participant's psychiatric disorder and substance dependence were assessed using relevant section of SCAN interview [33] which has also been used in earlier studies on similar clinical population [34].

International Personality Disorder Examination (IPDE): IPDE provides ICD-10 diagnosis.[20] In current study, IPDE was used to make the diagnosis of personality disorder as in past researchers [35]have demonstrated that clinical diagnosis has low reliability when compared with semi-structured interviews.

Statistical analysis and data collection

Statistical package for social sciences (SPSS 15.01)was used for data analysis and interpretation [36].A 'p' value of <0.05 was considered as significant.

Results

According to Table 1, mean age ± standard deviation (SD) of study participants was 39.26± 10.52, which was similar to mean age ± SD of control participants i.e. 38.78± 8.32. The difference in age of study and control participants was statistically insignificant (p value= 0.571, t = 0.566, standard error [SE] of difference= 0.848).

Table 1. Socio-demographic profile of study and control participants-I

	N	Minimum	Maximum	Mean ± SD
Age of study participants in years	250	21	64	39.26 ±10.52
Age of control participants in years	250	23	65	38.78± 8.32

In Table 2, both study and control participants were evenly matched in terms of education, occupation, employment and marital status. Majority of participants were unemployed married individuals who did not have occupational skills of more than the skilled labor level.

Table 2. Socio-demographic profile of study and control participants-II

		Study participants (n=250)		Control participants (n=250)	
		Frequency	**Percentage**	**Frequency**	**Percentage**
Education	Illiterate	45	18	40	16
	Under-metric	73	29.2	76	30.4
	Higher Secondary	82	32.8	89	35.6
	Graduate and above	50	20	45	18
Occupation	No occupation	62	24.8	67	26.8
	Unskilled	66	26.4	63	25.2
	Semi-skilled worker	62	24.8	58	23.2
	Skilled	3	1.2	4	1.6
	Professional	21	8.4	31	12.4
	Business	27	10.8	18	7.2
	Student	9	3.6	9	3.6
Employment	Unemployed	144	57.6	135	54
	Employed	106	42.4	115	46
Marital status	Married	139	55.6	147	58.8
	Unmarried	98	39.2	81	32.4
	Separated/Widowed	13	5.2	22	8.8

There were no statistical differences in socio-demographic variables for two groups were found in Table 3.

Table 3. Difference between socio-demographic and clinical variables in study (250) and control participants (250)

	Chi-square value	Degree of freedom	p-value

Education	0.904	3	0.824
Occupation	4.263	6	0.641
Employment	0.657	1	0.418
Marital Status	4.153	2	0.125

Based on Table 4, the mean score ± SD of study participantshaving PD on SDS scale was 10.7±1.7against 9.6± 1.3 in those without PD. Considering the maximum possible score on SDS of 15 in an individual, there was severe substance dependence among study participants. The difference in SD score of psychoactive substance using participants with and without PD was statistically significant (p-value < 0.0001, t= 5.769, SE = 0.191).

Table 4. Score of study participants on Severity of Dependence Scale (SDS)

	N	Minimum	Maximum	Mean ± SD
Study participants having personality disorder	96	8.6	12.8	10.7± 1.7
Study participants not having personality disorder	154	7.4	11.5	9.6± 1.3

According to Table 5, study participants with PD compared to those without PD start consuming substance at younger age have greater duration of substance use and dependence.

Table 5. Characteristic features of participants with substance use

	Years	Frequency of study participants with PD (n=96)	Percentage of study participants with PD	Frequency of study participants without PD (n=154)	Percentage of study participants without PD
Age of onset of substance use	10-20	40	41.67	47	30.52
	20-30	43	44.79	77	50
	30-40	9	9.38	20	12.99
	40-50	4	4.17	10	6.49
	Mean±SD	22.60±7.91		24.55±8.35	
Duration of substance use	0-5	18	18.75	38	24.7
	6-10	19	19.8	43	27.9
	11-15	24	25	44	28.8
	16-20	26	27.1	23	14.9
	>20	9	9.38	6	3.9
	Mean±SD	12.71±7.16		10.31±6.21	
Duration of substance dependence	0-5	32	33.3	60	39
	6-10	43	44.8	65	42.2
	11-15	17	17.7	24	15.6
	16-20	4	4.2	5	3.25
	Mean±SD	7.58±4.42		6.96±4.24	

According to Table 6, differences in duration of substance use of those with and without PD were statistically significant. However, the difference in age of onset of substance use and duration of substance dependence was not statistically significant.

Table 6. Relationship of substance use characteristics in study participants with PD (N = 96) and study participants without PD (N= 154)

	Chi square value	Degree of freedom	p-value
Age of onset of substance use	3.68	3	0.3

Duration of substance use	10.192	4	0.037
Duration of substance dependence	0.9	3	0.825

According to Table 7, prevalence of personality disorder in study participants i.e. 40.8% was significantly higher (p <0.0150, Chi square= 8.396, degree of freedom, df= 2), than in control participants i.e. 18.4%. Dissocial PD was most common type of PD in both study and control participants i.e. 20.8% and 8% respectively. In study participants, after Dissocial most common type of PD were borderline (7.2%), impulsive (5.6%) and anankastic PD (3.2%). While in study participants, after dissocial most common type of PD were borderline (3.2%), impulsive (2%) and histrionic PD (1.6%).

Table 7. Prevalence of Personality Disorder in participants

Type of Personality Disorder	**Study participants (n= 250)**	**Percentage of study participants**	**Control participants (n=250)**	**Percentage of control participants**
Cluster A				
Paranoid	1	0.4	3	1.2
Schizoid	0	0	2	0.8
Schizotypal	0	0	0	0
Cluster B				
Impulsive type	14	5.6	5	2
Borderline type	18	7.2	8	3.2
Dissocial	52	20.8	20	8
Histrionic	3	1.2	4	1.6
Cluster C				
Anankastic	8	3.2	2	0.8
Anxious (avoidant)	6	2.4	2	0.8
Dependent	0	0	0	0
Total	102	40.8	46	18.4

(In Study participants 6 and in control participants 5 satisfied criteria for more than one type of personality disorder, as individual value various personality categories were less than 5 for calculation purpose they were clubbed together in Cluster A, B and C).

According to Table 8, more than 80% study, participants were suffering from various combinations of alcohol, opioid and cannabis dependence. Frequency of participants with use of greater than two substances at a time was much more common in study participants with PD then in those without PD.

Table 8. Prevalence of various psychoactive substance use/ dependence in study participants

Psychoactive substance	Frequency in study participants suffering from PD (n=96)	Percentage in study participants suffering from PD	Frequency in study participants not suffering from PD (n=154)	Percentage in study participants not suffering from PD
Alcohol dependence	3	3.1	14	9.1
Cannabis dependence	0	0	13	8.4
Opioid dependence	3	3.1	17	11
Benzodiazepine dependence	0	0	2	1.3
Other substance dependence	0	0	1	0.64
Alcohol & Cannabis dependence	4	4.2	18	11.7
Alcohol & Opioid dependence	6	6.3	19	12.3
Alcohol & Benzodiazepine dependence	6	6.3	12	7.8
Alcohol & other substance dependence	5	5.2	4	2.6
Cannabis & Opioid dependence	6	6.3	13	8.4
Cannabis & Benzodiazepine dependence	5	5.2	5	3.2
Cannabis & other substance dependence	0	0	0	0
Opioid & benzodiazepine dependence	0	0	6	3.9
Opioid & other substance dependence	4	4.2	0	0
Benzodiazepine & other substance dependence	0	0	0	0
Alcohol, Opioid & Cannabis dependence	8	8.3	13	8.4
Alcohol, Cannabis & Benzodiazepine dependence	6	6.3	11	7.1
Alcohol, Cannabis & Other substance dependence	8	8.3	0	0
Cannabis, Opioid & Benzodiazepine dependence	11	11.5	3	1.9
Cannabis, Opioid & Other substance dependence	5	5.2	0	0
Opioid, Benzodiazepine & Other substance dependence	4	4.2	0	0
Polysubstance dependence	12	12.5	3	1.9

(PD = Personality Disorder)

Discussion

Current study only included male participants as substance use is much more common in men than women [37]. Furthermore, the rate of conviction in females is less, and by including females required sample size would have become large, which was not feasible.

Information on substance use was based on self-report. Although some participants may have minimized their levels of substance use, earlier methodological study on this issue [38] had shown that collateral reports do not necessarily indicate higher substance use levels when compared with self-report. Patients with cognitive impairment, co-morbid severe medical illness and who were not co-operative for the interview were planned to be excluded as this could have hampered the assessment. However, no exclusion in the study was required on the above account.

Only participants above 18 years of age were included within the study because though personality-related patterns are usually evident

during late childhood or adolescence, but the requirement to establish their stability and persistence restricts the use of the term 'disorder' for adults [39]. Findings of this study are like to the earliest study finding of co-morbidity of addictive and severe mental disorders being higher in the prison populations, especially among an individual with an antisocial personality disorder [40]. Existing study finding of PD in 36.1% patients suffering from alcohol dependence was lesser than earliest study finding of PD being present in 36-54% alcoholics [41-42]. Current finding study of dissocial PD being common in SD was similar to another study finding of dissocial PD being present in 21-41% alcoholics [43-44]. Those participants with PD were more likely to use three or more than three substance at a time but because of both drug-use pattern and type of PD being heterogeneous, due to the small sample size relationship of PD with individual substance cannot be studied.

According to a study, the management of PD depends on factors like availability of health care resources, therapist's skill, aspects of patient's personality and present situation but dealing with management issues is beyond scope of this article [45]. Not only more detailed and longitudinal studies are needed to understand these relations in a better perspective, but also a well-planned intervention program for prisoners with substance use and personality disorder co-morbidity is a need of the hour. The limitations of study include the study was performed in a prison hospital setting and might differ from any future study carried in community setting. Since study involved self-reporting by subjects, there is a possibility of some recall bias in few subjects cannot be completely ruled out.

Conclusions

In those prisoners, suffering from SD problem is usually of severe intensity. Participants having substance dependence had higher rates of PD than those without substance dependence. In both groups, dissocial PD is the mainly type of PD. Alcohol, cannabis and opioid either alone or in various combinations are most commonly used substance. Prevalence on more than one substance was higher in those participants suffering from PD than those without PD.

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Conflict of interest

There is no conflict of interest in this study.

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