

A Study of Prevalence & Pattern of Substance Use among the Patients Suffering From Psychotic Disorders

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Abstract: Introduction: The co-occurrence of Psychosis and Substance use is prevalent and is associated with significant clinical and social problems. More than three fourths of all schizophrenic patients smoke cigarettes; 30-50 % may meet diagnostic criteria for alcohol abuse or dependence. **Aims & Objectives:** 1. To evaluate the Prevalence and Pattern of Substance use in the patients with Psychotic disorders & to co-relate with various socio-demographic factors. 2. To find severity of Psychosis & substance use & to find correlation between them. **Materials & Method:** This cross-sectional study was carried out at, Psychiatry OPD, PDU Gov. Medical College & Hospital, Rajkot. Systematic randomization sampling method with fraction of 8 was used for case selection and total 200 patients were approached. BPRS, FTND & LDQ was used as instrument. **Results & Discussion:** We could find the comorbidity of substance use in 70.5% patients. The substance we found in our study was tobacco (68%), Alcohol (6%) & Cannabis (1%). There was statistically significant difference in prevalence of substance use co-morbidity with socio-demographic variables like gender, education, occupation & socioeconomic class. **Conclusion:** The Study suggests need for sensitization of psychiatrists to evaluate and treat co-morbid substance dependence in the patients with Psychosis.

Keywords: Substance use, Dual Diagnosis, Psychosis.

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I. Introduction

The co-occurrence of Psychotic disorders and Substance use is prevalent and is associated with significant clinical and social problems confronting mental health field today^[1]. More than three fourths of all schizophrenic patients smoke cigarettes; 30-50 % may meet diagnostic criteria for alcohol abuse or dependence, 15-25% found to be using cannabis and 5-10 % found to be using cocaine^[2]. Research has shown that a complex association exists between mental illness and substance use disorders. Mentally ill patients may have impaired judgment, which may instigate drug use to self-medicate psychiatric symptoms like to counteract negative symptoms, depressed mood and to alleviate distressing extra pyramidal side effects of treatment^[3]. The World Health Organization (WHO) defines 'Dual Diagnosis' as 'the co-occurrence in the same individual of a psychoactive substance use disorder and another psychiatric disorder' (WHO, 2010). In comparison with patients with a single disorder, dually diagnosed patients show a higher psychopathological severity, significantly increased rates of psychiatric hospitalization and a higher prevalence of suicide. Taking above points in consideration and also due to limited data about this kind of study, we decided to carry out this study.

II. Material And Methods

Study Design: cross-sectional.

Study Location: This was a tertiary care teaching hospital based study done in Department of at psychiatry (OPD), PDU Gov. Medical College & Hospital, Rajkot, Gujarat.

Study Duration: July 2016 to July 2017.

Sample size: 200 patients.

Sampling Method: Systematic randomization sampling method with fraction of 8 was used for case selection and total 200 patients were approached.

Inclusion criteria:

- ❖ OPD based patients falling under Schizophrenia spectrum and other Psychotic disorder as per DSM-5 diagnostic criteria.

- ❖ Patients of either sex from 18 to 65 years of age.
- ❖ Patients who can communicate in Gujarati, Hindi or English.
- ❖ Patients who gave written informed consent.

Exclusion criteria:

- ❖ All the patients with serious physical illness.
- ❖ Patients who are not co-operative for detailed evaluation.
- ❖ Drug induced psychosis.
- ❖ Affective Psychosis.
- ❖ Organic Psychosis.
- ❖ Patients who could not communicate in Gujarati, Hindi or English.
- ❖ Acute Substance Intoxication/Withdrawal.

Procedure methodology

During the study, we approached total 200 patients and explained them about the study in details. We planned to use systematic randomization method with fraction of 8 for case selection. Out of these 200 patients, all agreed to participate in the study. We obtained their informed verbal and written consent. For collecting socio-demographic data in uniform and standard manner we prepared a standard socio-demographic data sheet. First, all the patients were clinically evaluated with history and mental status examination and diagnosis of Psychotic disorder was made by using DSM-V diagnostic criteria. BRIEF PSYCHIATRIC RATING SCALE (BPRS)^[4] was applied to all psychotic patients to assess severity of psychosis. FAGERSTROM TEST FOR NICOTINE DEPENDENCE (FTND)^[5] was applied to patients to assess severity of tobacco dependence. Self translated Gujarati version of LEEDS DEPENDANCE QUESTIONNAIRE (LDQ)^[6] was applied to patients to assess severity of alcohol and drug dependence. Final diagnosis of Substance use disorder was established by applying DSM-5 diagnostic criteria. Patients who were fulfilling the diagnostic criteria of substance use disorder according to DSM-5 diagnostic criteria were labeled as Dependent and those who were occasionally using and not fulfilling the criteria of substance use disorder were labeled as occasional users. Substance users include both dependent & occasional users.

INSTRUMENTS USED

Socio-demographic Proforma:

For collection of data related to socio-demographic parameters of patients, a standard proforma was used which included information about name, age, domicile, religion, education, occupation, marital status, type of family, number of family members and per capita income. For collection of clinical details of patients, a standard proforma was used which included information about History of Psychotic disorder and Mental status examination, DSM-5 Diagnosis of Psychotic disorder, Details of Psychotic disorder as well as history of Substance use co-morbidity by using DSM-5 criteria.

Brief Psychiatric Rating Scale (BPRS):

The BPRS (Overall and Gorham 1988) is a clinician-rated tool designed to assess change in psychopathology. The BPRS provides a continuous total score that is most often used to assess the effectiveness of treatment interventions. The BPRS includes 18 items, is brief taking about 20-30 minutes to administer. All items scored from 0-7. The reported validity of the BPRS is generally high when it is compared with other measures of general psychopathology. Reliability coefficients of 0.56-0.87 have been reported by the authors.

LEEDs Dependence Questionnaire (LDQ):

The LEEDs dependence questionnaire is used to assess the severity of substance dependence. The instrument is capable of measuring change in dependence and can therefore be used to follow treatment progress and evaluate treatment outcomes. The LDQ has been validated for use with alcohol and other substance use disorder. It contains 10 questions to assess the severity of substance dependence.

Fagerstrom Test for Nicotine Dependence (FTND):

The FTND (Fagerstrom and Schneider 1989) was designed to provide an ordinal measure of nicotine dependence related to cigarette smoking. But we planned to use this instrument in both smoking as well as smokeless tobacco. It contains items that evaluate the quantity of cigarette consumption, the compulsion to use, and dependence. The scale is useful as a screen for nicotine dependence and as a severity rating that can be used for treatment planning and prognostic judgments. The FTND contains three yes/no and three multiple-choice questions and can be used in an interview or self-report format.

Statistical analysis:

All the collected data was appropriately tabulated and data was analyzed to find out statistical significance with the help of t-test & chi-square test. Pearson correlation co-efficient was used to find out correlations between scales. The level $P < 0.05$ was considered as the cutoff value or significance.

III. Result

Table 1: Prevalence & Pattern of Substance use Co-Morbidity

Substance use Co-morbidity	No. of patients (n=141)	Percentage (70.5%)
Tobacco use	141	70.5%
Alcohol use	14	7%
Cannabis use	2	1%

Out of 200 patients studied 141(70.5%) were found to be using substance. All 141 (70.5%) were found to be using tobacco, 14(7%) were found to be using alcohol & 2(1%) were found to be using cannabis. Among 141 substance users all 141(100%) were using tobacco, 14(9.9%) were using alcohol & only 2(1.4%) were using cannabis. The patients who were using cannabis & alcohol were also using tobacco.

Table 2: Dependent Versus Occasional users

Substance	Dependent (n=136) (95.04%)	Occasional users (n=7) (4.96%)
1 Tobacco	136 (96.46%)	5 (3.54%)
2 Alcohol	12 (85.71%)	2 (14.29%)
3 Cannabis	2 (100%)	0

Patients who were fulfilling the diagnostic criteria of substance use disorder according to DSM-5 diagnostic criteria were labeled as Dependent and those who are occasionally using and not fulfilling the criteria of substance use disorder were labeled as occasional users. Substance users include both dependent & occasional users. Out of 141 substance users 136 were dependent who were fulfilling DSM-V diagnostic criteria of substance use disorder & received substance use disorder diagnosis accordingly, while 7 patients was occasionally using & was not fulfilling DSM-V diagnostic criteria of substance use disorder. Out of 136 dependent patients all 136 were tobacco dependent, 12 were also alcohol dependent & 2 were also cannabis dependent. Out of 7 occasional users, 5 were of tobacco and 2 were of alcohol & none of cannabis.

Table 3: Dependence Severity in patients with alcohol & drug dependence using LDQ

Severity of alcohol & drug dependence (LEEDS Score)	Grading	Frequency & Percentage
	1-10 (Low to Moderate)	9 (64.28%)
	11-20 (Moderate to High)	5 (35.71%)
	21-30 (High)	0

Table 3 shows the dependence Severity in patients with alcohol & drug dependence using LDQ. LDQ was applied to total 14 patients. 12 were of alcohol dependence and 2 were of drug (cannabis) dependence. 9(64.28%) were falling in the low to moderate category, 5(35.71%) were falling in the moderate to high category & there was no one in high category.

Table 4: Dependence Severity in patients with tobacco dependence using FTND scale

FTND Scoring	Frequency & percentage (n=136) (100 %)
1-2 = very low dependence;	5 (3.6%)
3-4 = low dependence;	73 (53.67%)
5 = moderate dependence;	22 (16.17%)
6-7 = high dependence;	17 (12.50%)
8+ = very high dependence	19 (13.97%)

Table 4 shows the dependence Severity in patients with tobacco dependence using FTND scale. The FTND scale was applied to total 136 tobacco use disorder patients. 73(53.67%) were falling in the low dependence, 22(16.17%) were falling in the moderate dependence, 19(13.97%) were falling in the very high dependence, 17(12.5%) were falling in the high dependence & 5(3.6%) were falling in the very low dependence.

IV. Discussion

Out of 200 patients we could find the comorbidity of substance use in 70.5% patients which closely matched with the comorbidity of 63% in the study conducted by Lawrie SM et al (1995)^[7]. Various studies like Dixon L et al (1991)^[8] reported 48%, Habibisaravi R et al (2015)^[9] reported 52.2%, Chouljian TL et al (1995)^[10] reported 30-40%, Aich KT et al (2004)^[11] reported 54.3% & Miller FT (1989)^[12] reported 50% prevalence rate of substance use in psychosis in their studies.

The principal substance we found in our study was tobacco & its prevalence was 70.5%. Goff DC et al (1992)^[13] reported 64 % of schizophrenia patients were smokers. Leone JD et al (1995)^[14] in their epidemiological survey in state hospital found that overall frequency of smoking for the population was 79% out of which 85% were schizophrenics. Joseph McEvoy et al (1999)^[15] found that 92% of first episode of schizophrenia or schizophreniform disorder were found to be smoking.

The prevalence of Alcohol & drug dependence we found in our study was 7%. Similarly the study conducted by McCredie RG (2002)^[16] reported 7 % prevalence of alcohol & drug use, while study conducted by Chouljian et al (1995)^[10] showed 30-40% of subjects were using drugs or alcohol & study conducted by Lawrie SM et al (1995)^[7] reported 26% prevalence of drug use. This was probably because in our region the prevalence of alcohol (4.6%) & drug abuse even in general population was also quite less.

The substance use found in our study was tobacco, alcohol & cannabis. Similar substances (tobacco, alcohol, cannabis & opioid) was found in the study conducted by Aich KT et al (2004)^[11]. Whereas substance found in study of Dixon et al (1991)^[8] and Habibisaravi R et al (2015)^[9] were stimulants, cannabis, alcohol, cocaine, hallucinogen, sedative-hypnotics & opioids etc. This may be because in our region even in general population commonest substances abused were tobacco, alcohol & cannabis.

There was statistically significant difference in prevalence of substance use co-morbidity with socio-demographic variables like gender ($\chi^2=54.15$, $p=0.0001$), education ($\chi^2=8.09$, $p=0.04$), occupation ($\chi^2=37.46$, $p=0.0001$) & socioeconomic class ($\chi^2=10.71$, $p=0.03$). Similarly the study conducted by Habibisaravi et al (2015)^[9] also found that significant association was found between illicit substance abuse and demographic variables of male gender, a low level of literacy, living in the urban area, unemployment, and young age, while the study conducted by Aich KT et al (2004)^[11] reported no significant association.

There was no statistically significant difference in prevalence of substance use co-morbidity with socio-demographic variables like age, area of domicile, religion, marital status and type of family. Similar findings were obtained in the study conducted by Aich KT et al (2004)^[11], while the study conducted by Habibisaravi et al (2015)^[9] found that significant association was found between illicit substance abuse and demographic variables of living in the urban are and young age.

There was no statistically significant difference found in age at onset of psychosis & substance use, similar findings were obtained by Dixon et al (1991)^[8] in their study.

There was no statistically significant difference found in duration of psychosis & substance use, similar findings were obtained by the study conducted by Joseph McEvoy et al (1999)^[15].

There was no statistically significant difference found in severity of psychosis & substance use, similar findings were obtained by the study conducted by Chouljan TL et al (1995)^[10].

We didn't find any correlation between severity of psychosis & tobacco use by comparing BPRS & FTND scores. We were not able to perform co-relation between the severity of psychosis & severity of alcohol & drug use due to difficulties in co-relational statistical analysis due to inadequate subsample size.

V. Conclusion

Our study suggested that prevalence of substance use co-morbidity is higher (70.5%) in patient with psychotic disorders. Among the substances we found tobacco, alcohol & cannabis, out of which prevalence of tobacco was very high. There was statistically significant difference in prevalence of substance use co-morbidity with socio-demographic variables like gender (male: 88.97%, female: 11.03%), education, occupation & Socioeconomic class. Each patient suffering from psychosis especially schizophrenia should be assessed in detail for substance use especially tobacco use. Management of substance dependence should be initiated in all patients suffering from psychosis at earliest.

Limitations

The major limitation of this study was that it is cross-sectional in nature. There was no control group in our study. So we can't directly compare the prevalence and pattern of substance use co-morbidity with general population.

Most of the patients of psychosis in the present study were on long-term treatment. Therefore, improvement with medication and irregular treatment may have altered the prevalence & pattern of psychosis, as well as substance use. We have conducted the study on the patients attending psychiatric OPD of our hospital. These patients may not be representative of all the patients in the community, particularly those who

have no access to mental health care. The subsample size of patients with alcohol & cannabis dependence was small, resulting in limitation of statistical analysis. A larger sample size is needed to comment more accurately on the prevalence and pattern of substance use co-morbidity in psychotic patients.

Suggestion for Future Research

To get a more accurate idea of prevalence and pattern of substance use co-morbidity in psychotic patients, a large scale, community based, case control, longitudinal study of such patients can be helpful.

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