



## Original Article

# A Study of Trends in the Prevalence and Pattern of Non Medical use of Dependence Producing Drugs among Discharged Male Psychiatric Patients

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## Abstract

**Objective:** In India the use of psychoactive dependence-producing drugs (DPD) for recreational, medical and social purpose probably goes back to prehistoric times. However, DPD also cause numerous mental and physical disabilities. The aim of the study was to assess the prevalence of the non medical use of D.PD among psychiatric patients and pattern and prevalence of various substances abuse.

**Material and Methods:** It was a retrospective study wherein data from 2015 to 2017 of 1529 discharged male psychiatric patients was assessed and collated. The statistical analysis was done using Statistical Package for Social Sciences Version 15.0 statistical Analysis Software.

**Results:** Majority of the patients were of schizophrenia followed by maniac depressive psychosis. Majority were multiple drug users followed by cannabis. Statistically significant increase was seen in alcohol abuse.

**Conclusion:** Prevalence, pattern and trend of non-medical use of dependence producing drugs among male discharged psychiatric patients over the years was more or less similar. Multiple drug abuse was the commonest substance. However, trend of multiple drugs was found to have decreased. Alcohol abuse is showing a rising trend. Schizophrenia was the most common diagnosis.

**Keywords:** psychosis, dependence producing drug, abuse.

## Introduction

In India the use of psychoactive dependence-producing substances for recreational, medical and social purpose goes back to prehistoric times. Among 'Devtas', 'Rakshhasas' etc non –medical

use of dependence producing drug (D.P.D) is known to have existed since antiquity<sup>[1]</sup>.

Non-Medical use of D.P.D is known to have significance in the manifestation of psychiatric symptoms, but the non-medical use of drugs does

not necessarily result in drug dependence or harm to the individual user<sup>[2]</sup>. Many studies, however, indicate that D.P.D affects the nervous system<sup>[3]</sup>. The crucial question is whether drug abuse has any aetiological significance or is a symptom manifestation of mental disorder is a difficult question and would require a lot of methodological sophistication to answer this<sup>[1,4]</sup>. It is not the purpose of this study to attempt an answer to this issue. The aim of this study is to find out the trends in the prevalence and pattern of non-medical use of D.P.D among discharged psychiatric patients from this hospital.

### Definition of Drug Dependence

A person is dependent on a drug when it becomes very difficult or even impossible for him/her to stop taking the drug or alcohol without help, after having taken it regularly for some time. Dependence may be physical or psychological, or both<sup>[5]</sup>.

For the purpose of the present study, D.P.D is defined as any substance that, when consumed by living organism, may modify one or more of its functions. Smoking or chewing tobacco has not been included in the list of substances. The lists of substances included in the category of D.P.D are alcohol, cannabis (bhang, charas, ganja) opium, morphine and heroin.

However, in categorizing patients as drug abusers in the present study, the above definition of drug dependence has not been rigidly followed. Patients were classified on a bi-modal axis: "the Non User" and "the User". All the patients who were reported to have indulged in substance abuse by the key informants either while giving psychiatric and social history or while filling in statement of particulars from irrespective of the nature, frequency, duration severity, etc, were placed in the 'user' category. Such patients who were reported to be never user, one time user, experimental user, user out of curiosity or ceremonial user were placed in the 'non user' category so that patients in 'user' group may for practical purpose be considered as 'abuser'.

Research studies on prevalence and pattern of drug abuse among psychiatric patients in this region of Northern India are relatively scarce<sup>[3,4]</sup>. Therefore, the aim and objective of this study were:

- i. To assess the prevalence of the non medical use of D.PD among discharged psychiatric patients
- ii. To study the pattern of the above use and
- iii. To find out the trends in the prevalence and pattern of the use.

### Material and Methods

This is a retrospective study; based on the study of records of the discharged psychiatric patients from this hospital from Jan 2015 to Dec 2017. The following exclusive criteria were applied:

- (i) Discharged female psychiatric patients were excluded since the habit of intake D.P.D among females is scanty, and even if it is there, its reporting is avoided.
- (ii) Pure cases of drug addiction without manifest psychiatric symptoms were excluded since the purpose of the present study is to find out the prevalence and pattern of abuse of D.P.D among discharged 'psychiatric patients'.
- (iii) All such cases who were discharged 'uncertified' (i.e. those who were not found to be suffering from any diagnosable psychiatric condition)
- (iv) Patients who were hospitalized through governmental agencies (e.g. police, jail) or were referred for admission by their employers or were admitted in the hospital through escort who were unable to give history of the use of D.P.D by the patients were also excluded from the study.

Thus, the study sample comprised of all the male patients (n=1529) discharged from Jan 2015-Dec 2017 with a certain psychiatric diagnosis, other than the diagnosis of drug addiction.

A detailed Psychiatric and social history of each patient was obtained on a structured performa, including general and systemic examination by psychiatrist and psychologist.

**Statistical Analysis**

The statistical analysis was done using SPSS (Statistical Package for Social Sciences) Version 15.0 statistical Analysis Software. The values were represented in Number (%) and Mean±SD

(Standard deviation). The X<sup>2</sup> test was used and p values of <0.05 were taken as significant.

**Results**

All 1529 patients were males with age ranging from 17-71 years and mean of 39.3 years.

**Table 1:** Frequency and Percentage distribution of user's and Non user's of DPD by index years

Category	Year			
	2015	2016	2017	Total
User's	125(16.65%)	108(29.03%)	174(25.29%)	407(26.62%)
Non-User's	344(73.35%)	264(70.97%)	514(74.71%)	1122(73.38%)
Total	469(30.67%)	372(24.33%)	688(45.00%)	1529(100%)

X<sup>2</sup> = 1732, df = 2, p > 0.05

It was observed that users were maximum in 2016 (29.03%) and non-users were maximum in 2017

(73.38%). The difference of prevalence was not found to be of statistical significance.

**Table 2:** Distribution of user's and non-Users by Psychiatric Diagnosis

Categories	Schizophrenia	M.D.P.	Psychoses	Total
User's	218 (24.36%)	160 (26.36%)	29 (26.61%)	407 (26.62%)
Non-User's	657 (75.08%)	385 (70.64%)	80 (73.39%)	1122 (73.38%)
Total	875 (57.23%)	545 (35.64%)	109 (7.13%)	1529 (100%)

X<sup>2</sup> = 3.395, df = 2 p > 0.05

Out of 1529 cases, majority were of the schizophrenia followed by Maniac depressive psychosis (M.D.P) (354.64%) and minimum were of other psychosis (7.13%). Similar trend were

observed in users and non-user's cases. Statistically, no significant difference was observed between users and non-user's regarding type of psychiatric diagnosis.

**Table 3:** Distribution of total user's by substance

Category	2015		2016		2017	
	Total	%	Total	%	Total	%
Alcohol	17	13.6	19	17.59	50	28.73
Cannabis	39	31.2	36	33.33	63	36.21
Multiple Drugs	68	54.4	51	47.22	61	35.06
Other Drug	1	0.8	2	1.85	0	0
Total User's	125	30.71	108	26.53	174	42.75

X<sup>2</sup> = 18.8444, df = 6, p < 0.05

This table shows the distribution of DPD according to substance. Out of 407 users, majority were found during 2017 and minimum in 2016. Among the users in 2015, majority were using multiple drugs followed by cannabis and

minimum of other drugs. Similar trend of substance was observed during 2016. Among the users of 2017, majority were using cannabis, followed by multiple drugs. Statistically significant increase was observed in alcohol abuse.

**Table 4:** Distribution of users and Non users of schizophrenic patients

Categories	2015		2016		2017	
	Total	%	Total	%	Total	%
Users	55	23.81	59	26.34	104	24.76
Non-Users	176	76.19	165	73.66	316	75.24
Total Population	231		224		420	

X<sup>2</sup> = 0.339, df = 2, p > 0.05

The above table indicates the distribution of schizophrenic cases according to index year and use of drug. In schizophrenic cases maximum were observed during 2016. Out of the schizophrenic cases, higher percentages of users

were observed in 2016 and non users in 2017. Statistically no significant difference regarding using of drug between various study years were observed.

**Table 5:** Distribution of total users in schizophrenic by substance

Categories	2015		2016		2017	
	Total	%	Total	%	Total	%
Alcohol	7	12.73	9	15.25	28	26.92
Cannabis	19	34.54	21	35.59	37	35.78
Multiple Drugs	28	50.91	28	47.47	39	37.50
Other Drugs	1	1.82	1	1.68	0	0
Total	55		59		104	

$X^2 = 8.184, df = 6, p < 0.05$

Among schizophrenia group, majority were multiple drug abusers, followed by cannabis and alcohol. Similar trends were also observed during 2016 and 2017. Statistically significant increase

was observed in alcohol, decrease in multiple drug and no significant changes were observed in cannabis users.

**Table 6:** Distribution of user's and non-users in M.D.P. Patients

Categories	1987		1992		1997	
	Total	%	Total	%	Total	%
Users	48	27.43	48	35.56	64	27.23
Non-Users	127	72.57	87	64.44	171	72.77
Total	175		135		235	

$X^2 = 3.328, df = 2, p > 0.05$

The above table indicates that among M.D.P. patients, users were maximum in 2016 (35.56%) and non-users were maximum in 2017 (72.77%).

The difference of prevalence was not found to be statistically significant.

**Table 7:** Distribution of total users in M.D.P by substance

Categories	2015		2016		2017	
	Total	%	Total	%	Total	%
Alcohol	8	16.67	10	20.83	19	29.69
Cannabis	11	22.92	15	31.25	24	37.5
Multiple Drugs	29	60.42	22	45.83	21	32.81
Other Drug	0	0	1	2.08	0	0
Total Users	48		48		64	

$X^2_c = 11.022, df = 6, p < 0.05$

Among M.D.P. patients, majority were using multiple drugs, followed by cannabis and alcohol. The trend of alcohol was significantly increasing

while it decreased in multiple drugs and no significant changes were observed in cannabis users.

**Table 8:** Distribution of total users in other psychosis by substance

Categories	2015		2016		2017	
	Total	%	Total	%	Total	%
Alcohol	2	9.09	0	0	3	50
Cannabis	9	40.91	0	0	2	33.33
Multiple Drugs	11	50	1	100	1	16.67
Other Drugs	0	-	0	-	0	-
Total Users	22	75.86	1	3.45	6	20.69

$X^2_c = 7.116, df = 4, p < 0.05$

Among other psychosis category, maximum numbers of cases were using multiple drugs during 2015 and 2016 – while alcohol was used

by majority during 2017. Statistically significant difference was observed between various index year regarding the use of substance.

## Discussion

The finding that there is no statistically significant in the prevalence and pattern of non-medical use of dependence producing drug among hospitalized psychotics over the year is interesting. In view of the general belief that prevalence of drug abuse in the general population is increasing and the reports that excessive use of drug is suspected to cause mental illness, particularly psychosis<sup>[5,6]</sup>, the finding of more or less stationary rate over the years needs meritorious attention. Expectantly, the prevalence of drug abuse among psychotic patients should have shown an increasing trend. Some plausible explanations for more or less stationary trend in the prevalence and pattern of non-medical use of dependence producing drug could be:

(i) The rate of functional psychoses across culture and over time has been reported to have remained more or less the same. Not all dependence producing drug are known to cause psychoses<sup>[7]</sup>. For example, the most commonly used DPD- alcohol and bhang, in the most cases can at best precipitate mental illness either of psychotic or of neurotic nature<sup>[3,6]</sup>. Normally the course and outcome of such precipitation is short lived full remission and the psychiatric intervention is usually not sought. In clinical practice, alcohol and bhang addicts are not found to be showing associated psychotic features. Often the reason of their contact with a psychiatric facility is de-addiction<sup>[8]</sup>. The chronic bhang abuse may produce some mild impairment in the cognitive functions<sup>[9]</sup>.

(ii) Another reason for this finding could be that the prevalence rate of indiscriminate multi-drug users abusing harder drugs which has the potential of causing a psychotic breakdown is not on increase due to communication and public education programs of voluntary and involuntary organization as well as rigid control of the State Government over the licensing and distribution of the drugs<sup>[7,10]</sup>.

(iii) It can also be hypothesized that drug abuse is not the single reason for a psychotic breakdown.

There are number of other reasons (for example stress, trauma, deprivation, personal maladjustment etc.) which could lead to a psychotic breakdown. If abuse per se is believed to be increasing, other reason too are increasing. The twin increase does not seem to be disproportional<sup>[6,11]</sup>.

(iv) Considering the summated overall rate of non-medical use of dependence producing drug in all the three index years, it works out to be more or less the same as found for the hospitalized psychotics<sup>[6,7]</sup>.

The finding that most non-medical users of DPD were multiple drug users, supports the view that multiple drug use makes the abuser more vulnerable to have psychotic breakdown than the use of the single drug<sup>[12]</sup>. Majority of the single drug users in the community are believed to be either alcohol or bhang users which are less likely to induce a psychotic breakdown<sup>[9]</sup>. The decrease in the number of multiple drug users among psychotic patients suggests that the community is increasingly becoming more aware of the deleterious effects of multiple drug use and is probably abandoning the habit<sup>[1,7,8]</sup>.

The rate of cannabis abusers was found to be the same over years. The reason for this finding could be that under the category 'Cannabis', three drugs namely bhang, ganja and charas were included. Among these, a significantly large number were bhang abusers<sup>[9]</sup>. Since bhang abuse generally does not cause psychoses, the numbers of drug abusing psychotic patients are less likely to show increasing or decreasing trend<sup>[1,9]</sup>. The increasing trends of alcohol abuse among psychotic patients suggest the trend of more indiscriminate use of alcohol by the community members<sup>[1,6]</sup>. Alcohol use is known to have a socio-cultural sanction and its use is even more prevalent in some pockets of the population. Easy availability, more unlicensed production of the country liquor without any quality control, increasing prevalence of alcohol abuse among youngsters, adolescents and students who are not mature enough for judicious indulgence in the habit could be some of the

reason for the increasing trend of alcohol abuse among psychotic patients<sup>[1,6,10]</sup>.

The number of psychotic patients abusing morphine, opium or heroin was found to be very low. These drugs have significant potential for causing a psychotic breakdown in addition to serious physical illnesses<sup>[7,11]</sup>. Their use is limited to those who derive enjoyment and pleasure in getting hallucinatory experiences. These individuals are usually vagabonds without relatives, friends or well wishers who could care or bother about their health. For such abusers, psychiatric intervention is usually not sought<sup>[6,7,12]</sup>. This could be an important reason for their low representation in the psychotic population contacting psychiatric facility.

A very high percentage of multiple drug abusers in other psychotic group could be statistical fallacy in view of the very small number in the group. For drawing any meaningful conclusion, sufficiently large number of 'other psychotics' should be studied.

### Conclusion

In this study we found that prevalence, pattern and trend of non-medical use of dependence producing drugs among male discharged psychiatric patients were more or less similar. Multiple drug abuse was the commonest substance. However, trend of multiple drugs was found to have decreased from 2015 to 2017 with alcohol abuse showing rising trend. Schizophrenia was the most common diagnosis during this study while the substance users were found more among M.D.P. cases.

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### References

1. Kumar V, Nehra DK, Kumar P, Sunila, Gupta R. Prevalence and pattern of substance abuse: A study from de-

addiction centre. Delhi Psychiatry Journal 2013;16:110-114.

2. Varma V.K, Dang, R. Nonmedical use of drugs among school and college students. Indian Journal of Psychiatry 1979; 21:228-234.
3. Dube, K.C. Drug abuse in northern India, observations concerning the Delhi and Agra regions. Bulletin Narcotics 1972; 24: 49-53.
4. Basu D, Mattoo SK. Epidemiology of substance abuse in India: methodological issues and future perspectives. Indian Journal of Psychiatry 1999; 41 (2): 145-153.
5. Dube KC, Handa SK. Drug use in health and mental illness in an Indian population. Br J Psychiatry 1971;118:345-346.
6. Murthy P, Manjunatha N, Subodh BN, Chand PK, Benegal V. Substance abuse and addiction research in India. Indian J Psychiatry 2010;52:189-199.
7. Priyanka S, Ankita T. A study on Adolescent Drug Abuse in India. American International Journal of Research in Humanities, Arts and Social Sciences 2016;15(2):119-121.
8. Agarwal M, Nischal A, Agarwal A, Verma J, Dhanasekaran S. Substance Abuse in Children and Adolescents in India. J. Indian Assoc Child Adolesc Ment Health 2013; 9(3):62-79.
9. Agarwal AK, Sethi BB, Gupta SC. Physical and cognitive effects of chronic bhang (cannabis) intake. Indian Journal of Psychiatry 1975;17:1-7.
10. Saluja BS, Grover S, Irpati AS, Mattoo SK, Basu D. Drug Dependence in Adolescents 1978-2003: A clinic-based observation from North India. Indian J Pediatr 2007; 74: 455-458.
11. Cooper HLF, Friedman SR, Tempalski B, Friedman R. Residential Segregation and Injection Drug Use Prevalence among

Black Adults in US Metropolitan Areas.  
Am. J. Public Health 2007; 97:334- 352.

12. Canadian Medical Association (2008).  
Youth substance use and abuse: challenges  
and strategies for identification and  
intervention. CMAJ 178:145-148