Original Article

Prevalence of substance use in first episode psychosis and its association with socio-demographic variants in Nepalese Patients

Mishra A[1], Ojha SP[2], Chapagain M[3], Tulachan P[4]

1. 1. Junior Resident, Department of psychiatry, Maharajgunj Medical Campus, Kathmandu, Nepal 2. Assoc. Prof. Department of psychiatry, Maharajgunj Medical Campus, Kathmandu, Nepal 3. Asst. Prof. Department of psychiatry, Maharajgunj Medical Campus, Kathmandu, Nepal 4. Lecturer, Department of psychiatry, Maharajgunj Medical Campus, Kathmandu, Nepal

Email Corresponding Author: manisha_chapagai@yahoo.com

Abstract

Introduction: *Substance use is common in first episode psychosis patients and has emerged as one of the greatest obstacle in the good prognosis of the illness. The high prevalence of substance use in patient with first episode psychosis and its association with socio-demographic variants found in the study signifies the importance of identifying and addressing these issues. The aim of the study was to estimate the prevalence of substance use in patients with first episode psychosis attending Department of Psychiatry and Mental Health, Tribhuvan University Teaching Hospital and to find out the association of socio-demographic variables in Nepalese population.*

Materials and methods: *All patients with first episode psychosis attending Department of Psychiatry were selected based on inclusion and exclusion criteria. A semi structured proforma was used to record the socio-demographic variables and psychiatric diagnosis was made according to ICD-10 DCR criteria by a consultant psychiatrist. A total of 80 patients meeting the inclusion criteria were selected.*

Results: *The result showed that 47.5% of first episode psychosis patient had a current or lifetime history of substance use. Alcohol was the most commonly used substance (52.6 %) followed by cannabinoids (26.3 %), opioids (5.3 %) and 15.8 % were multiple substance users. There was a statically significant association found in between socio-demographic profiles and substance use. When compared to non-substance users, substance using group were commonly from male gender, unemployed, educated up to secondary level and belonged to 15-25 years of age group. Cannabis use was associated with younger age and earlier onset of psychotic illness compared to alcohol use.*

Conclusion: *This study concluded that substance use is common among newly diagnosed first episode psychosis patients, alcohol being the most common. There was statically significant association with the socio- demographic variables for substance use. The study calls the need to develop services that address substance use in first episode psychosis. Profiles of substance use in psychosis shows demographic gradients that can inform treatment and preventive research for better management and help making treatment protocol for these subgroups of patients.*

Keywords: First episode psychosis, ICD-10 DCR Criteria, Substance use.

INTRODUCTION

Co-occurring substance use disorders occur commonly in patients with psychotic disorder. It has emerged as one of the greatest obstacles to the effective treatment of persons with psychosis leading to poor outcome. The increasing prevalence of substance use over past decade has aroused growing concern about the association of substance use in psychotic disorder.

In most of the Western samples the lifetime prevalence of substance abuse or dependence in psychotic disorders was found to be about 40–60%.[1,2,3] Substance use patterns seem to establish themselves before the onset of psychotic disorders in a significant proportion of individuals, this may

be as little as a month before the first signs of illness.[4] There are only few studies done in large samples of first episode psychosis where prevalence rates for alcohol abuse varied between 3% and 35% and for drug abuse varied from 6% to 44%. This variation was partly related to different time frames for assessment of current abuse.[5]

This close temporal proximity of substance use to emerging signs or symptoms of psychotic illness may be an indication for the causal link between substance use and psychotic disorders.[6] This has highlighted the importance of substance use in first episode psychosis, to identify prognostic factors that can be prevented or treated, as earlier as possible in the course of illness leading to overall good prognosis of the disease itself. The early course of psychosis is a critical period, where social adjustment and symptomatic evolution strongly predict the subsequent course of illness.[7] It is therefore important to find out factors than can be modified by therapeutic interventions at this stage of illness.

Therefore, substance use is an important as well as clinically challenging aspect of first episode psychosis. Associations between substance use and illness related factors generally being in the direction of worsened course and prognosis.[1,2,3]

However, study estimating prevalence of substance use in first episode psychosis or even in chronic psychiatric patients has not been done in our country till date. The aim of this study is to identify the prevalence of substance use in first-episode psychotic patients and the relationships between age of onset, demographic variables and other variables in context of Nepalese population. The result of the study will be useful in assessing risk factor for substance use in them and developing integrated therapeutic intervention that address substance use resulting in increase in retention and participation in treatment, reducing symptoms and substance use itself.

MATERIAL AND METHODS:

This was a descriptive retrospective study conducted within a period of one year. The study population comprised of 80 patients aged more than 18 years who attended the Psychiatry Department of TUTH and were diagnosed with first episode psychosis. Informed consent was taken from the patients and their relatives when they were not able to provide consent because of disease severity. Patients with affective psychosis, mental and behavioral disorders due to psychoactive substance use except substance induced psychotic disorder, organic brain syndrome and those with co-morbid medical illness or mental retardation were excluded from the study.

A self- designed semi structured proforma was devised to obtain the socio- demographic characteristics of the study population. It consisted of identification number, age, sex, address, educational status, religion, caste, marital status, occupation, type of family and socioeconomic status. Also included was a format for the collection of presenting complaints with duration and findings from general physical examination along with mental state examination during presentation in OPD. Also included was details regarding the use of substance which consist of the age patient started taking substance, type of substance, pattern of use, duration of substance use, last intake of substance, duration of substance use and onset of psychotic illness and the family history of psychiatric illness. The diagnosis of different variant of psychotic disorder and pattern of substance use [harmful and dependence] was done on the basis of ICD- 10, DCR as developed by the division of Mental Health of the World Health Organization (WHO, 1992). It deals with mental and behavioral disorders and the version is mainly used for research purposes. Variant of psychotic disorder included schizophrenia, schizotypal disorder, persistent delusional disorder, acute and transient psychotic disorders, unspecified nonorganic psychosis, other nonorganic psychotic disorders and mental and behavioral disorders due to psychoactive substance use [substance induced psychotic disorder].Whenever possible 2nd interview was conducted within 2 weeks or more, mainly during follow up period, when the patient was well enough to complete the further assessment regarding the history of substance use. Those who did not come to an appointment were contacted by telephone to the patient as well as the patient party. Finally, information obtained from was analyzed by using suitable statistical tools. Data were analyzed using SPSS version 16 (Chicago, Illinois, USA). Descriptive analysis was performed, and mean, median, range were calculated. The data were explained as mean± standard deviation (SD) wherever suitable. Chi- square tests were applied for categorical data. Independent sample t test, ANOVA tests were applied wherever applicable. P-value of <0.05 was considered significant.

RESULT:

1. **Patient characteristics:**

Socio-Demography:
Patients were commonly of age group 15-25 years; and 65% of the total samples were males. Of the total sample population, more than half were from outside valley (60%) and the proportion of single and married patients was 42.5% and 57.5% respectively. Majority of the patients were Hindus, 92.5%, and caste wise, majority, 46.2% were Brahmins. The proportion of illiterate patients and those attending primary school, secondary school, higher secondary school, and university were 10%, 17.5%, 30%, 27.5%, and 15% respectively. Regarding occupation, majority of them (47.5%) were unemployed. Assessment of socioeconomic status was based on the rough guidelines provided by CBS, government of Nepal. Majority of the sample, 54.3% was found to be in middle class, followed by lower class, 32.9% and higher class, 12.9%. Regarding family structure, 37.5% belonged to nuclear family and joint family, 62.5%. Out of the 80 patients enrolled in the study 46.2% were diagnosed as Schizophrenia, 32.5% were diagnosed as ATPD and 21.2% were diagnosed as Mental and Behavioral Disorder due to psychoactive substance use including only substance induced psychotic disorder.

2. **Prevalence rate of substance use in first episode psychosis patients:**

Table 1: Distribution on basis of substance use

Substance Use	Frequency (N)	Percentage (%)
Yes	38	47.5
No	42	52.5
Total	**80**	**100**

Table no 1 shows distribution on basis of substance use in patient with first episode psychosis.

Result shows that of the total 80 patients with first episode psychosis, 38 (47.5%) of the patients used at least one substance group, currently or during lifetime.

3. **Prevalence rate for different substances**:

Table 2: Distribution on basis of type of substance use

Substance	Frequency (N)	Percentage (%)
Alcohol	20	52.6
Opioids	2	5.3
Cannabinoids	10	26.3
Multiple Drugs	6	15.8
Total	**38**	**100**

Table 2 shows distribution on basis of type of substance use.

Alcohol was most commonly used substance n=20 (52.6%), followed by cannabinoids n=10 (26.3%), opioids n=2 (5.3) % and 6 of them (15.8%) were multiple substance users.

4. **Prevalence rate based on pattern of substance use:**

Table 3: Distribution on basis of pattern of substance use

Pattern of Substance Use	Frequency (N)	Percentage (%)
Harmful Use	16	42.1
Dependence	22	57.9
Total	38	100

Table 3 shows the distribution on basis of pattern of substance use.

Result showed out of the total 38 patients taking substance 57.9 % were dependent and 42.1 % were found to use the substance harmfully. Harmful use was found more among cannabis users. It was found that 62.5 % of the cannabis users had harmful use. Whereas, dependence was found more in alcohol users. It was found that 77.2 % of alcohol users were dependent to it.

Table 4: Distribution on basis of diagnosis

Diagnosis	Frequency (N)	Percentage (%)
Schizophrenia	37	46.25
ATPD	26	32.5
Mental and behavioral disorder due to psychoactive substance use [psychotic disorder]	17	21.25
Total	**80**	**100**

Table 4 shows the distribution on the basis of diagnosis.

It shows that n=37 (46.25%) of the cases were diagnosed as Schizophrenia, n=26 (32.5%) were diagnosed as ATPD and n=17 (21.25%) were diagnosed as Mental and behavioral disorder due to psychoactive substance use [psychotic disorder]

Table 5: Distribution on basis of type of substance use and diagnosis

Diagnosis	Alcohol	Opioids	Cannabinoids	Multiple Substance Use
Schizophrenia	13	1	2	1
ATPD	3	0	1	0
Mental and behavioral disorder due to psychoactive substance use (Psychotic Disorder)	4	1	7	5
Total	**20**	**2**	**10**	**6**

Table 5 shows the distribution on basis of type of substance use and diagnosis.

Alcohol use was found to be more common in patients diagnosed with schizophrenia that is, 76% and ATPD that is, 75%. Cannabinoids was most commonly used substance in patients diagnosed as Mental and Behavioral disorder due to psychoactive substance use that is, 41 %.

1. **Demographic variants of first episode psychosis patients with substance use:**

Common age group among substance user to present with psychotic disorder was 15 to 25 yrs. and mean age when patient started taking substance was 23 years. Mean age of the onset of psychotic disorder for substance user was 30.95 years and for non-user 29.32 years. It was not statistically significant ($p > 0.05$). Mean age of onset of psychotic disorder for alcohol was 37.95yrs (SD = 9.5) and for cannabinoids 21.80 yrs(SD = 3.36). The observed finding is significant ($p < 0.05$).

Out of 38 substance user 86.84 % were male and 13.1% were female. Majority of the substance user belonged to Brahmin caste (31.5%) followed by Chhetri 26.3% and Newars (10.5 %). Of the total unemployed and student patient majority of were taking substance, 52.6 % and 44.4 % respectively. At the time of presentation, substance use was common in patient educated up to secondary level 31.5%.Half of the

substance user was married (52.6 %).Majority of the substance user were from joint family.Among substance user 13.1 % had family history positive whereas it was 26.1 among non-users. In our study, mean duration of substance use and onset of first psychotic symptoms was 7.84 years (SD= 7.992).

Table 6: Duration between first use of substance and onset of psychotic disorder (in years)

Duration between first use of substance and onset Of psychotic disorder (in years)	
Number	38
Minimum	1
Maximum	35
Mean	7.84
Standard Deviation	7.99

Table 6 shows the duration between first use of substance and onset of psychotic disorder (in years). Most of the substance user presented with psychotic disorder within 7.84 years from the date of first use of substance.

DISCUSSIONS:

Our results suggest a high prevalence of substance use (47.5%) in patients with first episode psychosis attending Psychiatry Department of Tribhuvan University Teaching Hospital. Of the total 80 patients with first episode psychosis, 38 (47.5%) of the patients in the study used at least one substance group, currently or during their lifetime. This is in line with published data indicating the lifetime prevalence of substance abuse or dependence in psychotic disorders about 40–60% in most Western

samples[1,2,3] and as reported in other previous studies done in first episode psychosis.[5,8] In our study alcohol was most commonly used substance (52.6%), followed by cannabinoids (26.3%). This result is comparable with many studies which showed alcohol and cannabis to be most commonly used substance.[5,9] A study done in UK [8], Germany[10], Canada[11], Australia[12] all showed high prevalence rate for both cannabis and alcohol use. However in all these studies cannabis was most commonly used substance followed by alcohol. Our study showed high prevalence rate for alcohol use compared to other substance. This could be explained by cultural approval for alcohol use in many ethnicities in our country, easy accessibility and affordability. Its use is considered to fall within social norms and is not taken as illegal. Whereas cannabis is not easily available especially in the urban areas and its use is not culturally acceptable and it is also considered illegal. Drinking alcohol is well accepted in this Hindu society. Some of locally brewed alcoholic beverages are not even considered alcohols in our society. They are even included in the daily meals in some castes. Use of alcohol is considered a universal phenomenon in Nepalese society, as the traditional sanctions and caste bound restrains have disappeared during the recent time.

In our study there was relatively high prevalence of dependence for the substance. Out of 38 patients taking substance 57.9 % were dependent and 42.1 % were found to use the substance harmfully. Harmful use was found more among cannabis users. It was found that 62.5 % of the cannabis users had harmful use whereas, dependence was found more in alcohol users. It was found that 77.2 % of alcohol users were dependent to it. Dependence was found more in alcohol because it was culturally acceptable and easily available.

In our study, there was no difference in mean age of the onset of psychotic disorder for substance user and for non-user. Our finding was different from other published studies [8,9,11,13,14] which revealed that compared to subjects with no history of substance use; subjects with substance use have an earlier age at onset of psychosis. Studies have shown that there is no significant difference in age of onset of psychotic disorder in alcoholic patients and general population.[15] This could be the reason for our above finding, since most of participants in our study used alcohol.

Similarly, mean age of onset of psychotic disorder for alcohol was 37.95yrs (SD = 9.5) and for cannabinoids 21.80 yrs (SD = 3.36). Patients who used cannabis presented with psychotic disorder at an early age compared to patient who use alcohol. Similar findings have been reported in other studies.[16] Studies have shown that alcohol users tend to be older than users of non-alcoholic substance. There is no significant difference in age of onset of psychotic disorder in alcoholic patients and general population.[15] Onset of psychotic disorder is seen early in cannabis user but not in alcohol user as stated above.

Out of 38 substance user 86.84 % were male and 13.1% were female. Our finding of a higher proportion of male patients among the substance users is also in line with other studies .[8,9,10,17] The over representation of the males in our study may be due to our socio-cultural belief, in that females do not come up with their problems and substance use by female is highly stigmatized.

About 31.5% of substance user belonged to Brahmin caste followed by Chhetri 26.3% and Newars (10.5 %). In our sample majority were Brahmins /chhetri with no cultural approval for alcohol use where as Newar and other mongoloids have cultural approval for alcohol use. It can be inferred to some extent that that the traditional restrains and caste based boundaries for substance use, particularly alcohol consumption is disappearing in the modern society.

Of the total unemployed and student patient majority of were taking substance, 52.6 % and 44.4 % respectively. This result shows the increasing prevalence of substance use in student and unemployed people. This signifies the disability leading to unemployment in psychotic disorder.

At the time of presentation, substance use was common in patient educated up to secondary level 31.5%.This is similar to result of other studies which showed patient who have substance use more likely to be less educated than their non-substance using counterparts.[18,8,19,20,21] Substance use is more commonly seen in the students of secondary level because it is around that they are exposed to other students at school who are abusing substance. Also they are very curious at this age and also there is greater susceptibility to succumb to peer pressure to use substance.

Half of the substance user was married (52.6 %). This finding is in contrast to other studies [1,15,22] where comorbidity of substance misuse and psychosis showed to be significantly associated with single marital status. A reason to this

difference could be because in Nepalese culture there is a tradition to get married at a younger age compared to that of western society.

Majority of the patients both substance users and non-users were from joint family. It could be explained according to our social construct. Most of the families in our society are joint families.

In line with other studies, we did not find any differences in the family histories among the two groups substance user and non-user.[16] However this was contrast to finding of another study[23] who found a particularly high risk of psychotic disorder among the relatives of probands who developed, or relapsed into, psychosis in the context of substance use.

Despite the prevailing discrepancies, our study shows that substance use is common in patients with first episode psychosis.

STUDY LIMITATIONS:

We acknowledge that our study was a cross sectional study and consisted of relatively small sample size. The detailed data on frequencies of substance use and quantities are not available and assessment of substance use was based on client and informant report. We did not systematically confirm substance use through blood or urine screening. Moreover this was a single hospital based study focused on patients attending Psychiatric Department. So, the findings of this study cannot be generalized in the general population

CONCLUSION:

Substance use was found to be common among newly diagnosed first episode psychotic patients (47.5%), alcohol being the most common. There was a significant association with the socio-demographic variables for substance use. The study calls for the need to develop services that address substance use in first episode psychosis. Profiles of substance use in psychosis shows clinical and demographic gradients that can inform treatment and preventive research for better management and a help develop treatment protocol for these subgroup of patients.

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