

Substance Use among the Patients with First Episode Psychosis

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Substance Use Disorder is a frequent problem in Bangladesh and many of these patients develop psychosis. Substance use can cause psychosis and it can modify the course of psychosis. This cross-sectional study was done to see the proportion of substance use in patients with First-Episode Psychosis (FEP) in two tertiary care hospitals in Dhaka, Bangladesh mentioned here as Bangabandhu Sheikh Mujib Medical University and Dhaka Medical College Hospital; from November 2007 March 2009. Fifty consecutive FEP patients were taken as subjects and 50 healthy attendants were recruited as control. Mean age of the patients was 27.24, male (62%) are more having first-episode psychosis than female (38%). Majority of the patients were unmarried (64%). Regarding occupation students were 34%, followed by unemployed 24% and service 18%. In control group's occupation; service 34%, housewife 22%. Life time substance use was found double in patients with first-episode psychosis than control. Cannabis was found to be the most common substance causing psychosis. Among the lifetime substance users in first-episode psychosis patients 77.78% were male where as, in control group 100% patients were male. However, the researcher did not find any of the first-episode psychosis patients taking current use of substance (abuse and /or dependence). The small size of the present study was only 50. Future prospective study is required having large sample size to see the outcome of substance use in first-episode psychosis.

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Introduction

The term psychosis historically received a number of different definitions, none of which has achieved universal acceptance. The narrowest definition of psychosis is restricted to the symptoms of delusions and/or prominent hallucinations, with the hallucinations occurring in the absence of insight into their pathological nature. Broader definition that also includes other positive symptoms of Schizophrenia (i.e., disorganized speech, grossly disorganized behavior etc.). The term substance use disorder is a cluster of cognitive, behavioral and physiological symptoms indicating that the individual continues using the substance despite substance-related problems¹. According to DSM-IV TR, substance refers to a drug of abuse, a medication, or a toxin. The substances can be classified according to DSM-IV TR into 11 classes: alcohol, amphetamine or other sympathomimetics; caffeine; cannabis; cocaine; hallucinogens; inhalants; nicotine; opioids; phencyclidine(PCP) or similarly acting aryl cyclohexylamines; and sedatives, hypnotics, or anxiolytics².

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The relationship of substance use and psychosis is complex. Many a time's substance use initiates the onset of psychosis. Other way round psychotic patients have more chances of using substance. Misuse of substances like cannabis, heroin, alcohol and other elicit drugs is common among people with psychotic illnesses^{3,4}. There is growing number of researches showed the possible causal links between cannabis and psychosis^{5,6}. In an epidemiological representative study in UK, high prevalence of substance use was reported in people with first episode psychosis. Life time prevalence (not using currently but at some point of time they satisfied the criteria of substance use disorder) of substance use among the First-Episode psychosis (FEP) was 55.3% where as in general population of substance use was 13% in UK. In the same study current substance use (defined as substance use in last 30 days) was detected 29% in first episode psychosis as compared to 13% of the general population⁷. Among Dutch population, research showed that cannabis use causes much earlier onset of schizophrenia⁸. In Bangladesh, a community based prevalence study was done on awareness and attitude towards mentally ill patients, conducted by National Institute of Mental Health in year 2003-2005. This study showed that substance dependence was 0.6% and psychosis was 1.1%⁹. Emphasis has been given on the use of substance use and early onset of Psychosis. In Bangladesh, the issue of substance use in first episode psychosis was not addressed adequately.

The objective of the present study was to see whether the proportion of current and life time substance use were more among the patients with first-episode psychosis than controls. Types of substances used were also seen.

Methods

This was a cross-sectional study. Patients were recruited from the department of psychiatry of Bangabandhu Sheikh Mujib Medical University (BSMMU) & Dhaka Medical College Hospital (DMCH) from both in-patients & out-patients and this study was carried out from November 2007 March 2009. These patient socio-demographic data were obtained from the patient or their reliable informant. They were assessed in more than one session to reach diagnosis. Structured interview were carried out by psychiatrists in the study places

by applying structured clinical Interview using DSM criteria-Clinical Version/patient version (SCID-CV). Diagnoses of these patients were assigned according to DSM-IV-TR. Life time substance use was ascertained by the above scale. Similarly Structured Clinical Interview using DSM criteria- Non patient version (SCID-NP) were applied to control group who were assigned randomly from the attendants of patients in the above mentioned hospitals (BSMMU & DMCH). The participants were clearly informed about the nature of the study and its scope and limitations. Written, thumb impression or verbal consent was obtained from the patients. If the patient was not in a position to give a valid consent (e.g., psychotic patient with no insight or Catatonic Schizophrenia etc.), informed consent were obtained from the legal guardian. Another written signature or thumb impression was taken from a witness who witnessed while giving consent. Fifty consecutive cases attending the above mentioned institutes in the specified time were taken as sample. Age and sex matched control group consists of 50 healthy volunteers, who did not suffer from any physical or mental illness were also randomly selected from the attendants in these hospitals. All adult patients age 18 and above were included in the study irrespective of sex, ethnicity or religion. All patients reporting for the first time having positive or negative symptom, and affective psychoses were included. Patients having first continuous episode for long time (not more than six months) but remained untreated were also included. Psychotic patients who were intellectually disabled were excluded. Substance induced psychosis patients were also excluded. Purposive sampling technique was used. The case registrar (in the study places) were used as a sampling frame, the diagnoses of first episode psychosis were confirmed initially by a qualified psychiatrist.

This questionnaire consists of socio-demographic variables and other questions relevant for this study like name of psychoactive drugs used, age at first intake, frequency of the drug of abuse or use, age at first ever psychotic symptoms, duration of untreated illness etc. This questionnaire was pre-tested among 10% of the sample. Little necessary correction was done. Then corrected questionnaire was applied to the patients.

Psychiatric interview was done by using SCID by the consultant psychiatrist and diagnoses were assigned by using DSM-IV TR. Substance Use, Dependence and Abuse disorders were identified similarly the researchers using SCID-CV & SCID-NP.

For the statistical analysis, Microsoft windows based software products will be used (SPSS 13, SPSS incorporation, Chicago, IL, USA). Statistical analysis will be done and presented as frequency and percentage, and significance of data will be determined by appropriate statistical tests such as, chi square and student 't' test.

Results

The main objective of the current study was to see the lifetime substance use among the patients and control groups. In order to get 50 patients we had to approach 63 patients. Nine patients had positive symptoms (delusions and hallucination) and current substance use; were excluded from the study as they were found as substance related psychosis on subsequent sessions. Two patients were having cognitive dysfunction and lack of reliable informants therefore excluded from the study. The remaining two patient's socio-demographic data sheet was obtained on first day and they did not attend in subsequent sessions. Participation rate was found 79.36%.

In present study we failed to get any of the first-episode psychosis patients having current substance (within last 30 days) abuse or dependence. All of the patients (9) having current substance use or dependence were subsequently excluded from the study for their diagnosis substance induced psychosis. Among the control population one patient was found to have current substance (phensedyl) intake but not abuse. Therefore, comparison of current substance use among FEP patients and control group was not possible.

The mean age of patients (27.24 ± 9.671) years was lower than that of healthy control (32.71 ± 9.441).

Table I shows among the FEP patient's majority were male both in patients (62%) and controls (72%). Regarding education; among the patients 20 patients (40%) studied up-to SSC level; 15 patients

(30%) completed primary level. Among the control group 20 (40%) patients completed up to SSC level, 17 (34%) patients completed graduation level and above and 9(18%) patients completed primary level. Regarding occupation of the patients, students 17(34%) topped the list, followed by unemployed 12(24%), service 09(18%), house wife 07(14%). Regarding, occupation of control group, service was highest 17(34%), followed by house wife 11(22%), business 9(18%). The patients came equally came from urban and rural areas (50% from each place) where as 70% of the control came from urban areas. Majorities were Muslim in both the patients (94%) and control group (90%). Among the patients 32(64%) were found unmarried and only 15(30%) were married. Where as, among control 31(62%) patients were married and only 19(38%) were found unmarried. Regarding Socio-economic status of the patients 28(56%) patients belong to middle class and 19(38%) patients belong to lower class and only 03(6%) patients belong to upper class. One (1) where as, 09(18%) patients belong to upper class, 27(54%) belong to middle class and 14(28%) patients belong to lower class.

Table II shows that among 50 first-episode psychosis (FEP) patients, 17 (34%) had mood disorders, 28 (56%) had schizophrenia and other psychotic disorders and 5 (10%) had psychotic illness not other wise specified (NOS).

Table III shows that among the mood disorder patients (n=17), bipolar affective disorder currently manic with psychotic feature was 13(76.5%) where as, major depressive disorder with psychotic feature was found 04(23.5%).

In Table IV among the 50 patients with FEP, 28 patients had schizophrenia and other psychotic disorders (except psychotic disorder not other wise specified). Of them, 16(57.1%) patients were diagnosed as schizophreniform disorder, 5(17.9%) patients were diagnosed as brief psychotic disorder and 2(7.1%) patients were diagnosed as schizophrenia. Three (10.7%) patients had delusional disorder and 2(7.1%) were diagnosed as Psychotic disorder due to General Medical Condition (psychotic disorder due to GMC).

Table I: Distribution of socio-demographic variables

Characteristics	Case		Control		P value
	No.	%	No.	%	
<i>Sex</i>					
Male	31	62.0	36	72.0	0.288
Female	19	38.0	14	28.0	
<i>Educational status</i>					
Illiterate	01	02.0	02	04.0	0.609
Primary	15	30.0	09	18.0	
Up to secondary	20	40.0	20	40.0	
Degree or above	13	26.0	17	34.0	
Up to Higher Secondary	01	02.0	02	04.0	
<i>Occupation</i>					
Unemployed	12	24.0	04	08.0	0.006**
Student	17	34.0	07	14.0	
Housewife	07	14.0	11	22.0	
Farmer	03	06.0	01	02.0	
Business	02	04.0	09	18.0	
Service	09	18.0	17	34.0	
Other	00	00.0	01	02.0	
<i>Socio-economic condition</i>					
Upper	03	06.0	09	18.0	0.151
Middle	28	56.0	27	54.0	
Lower	19	38.0	14	28.0	
<i>Habitat</i>					
Urban	25	50.0	35	70.0	0.041*
Rural	25	50.0	15	30.0	
<i>Religion</i>					
Islam	47	94.0	45	90.0	0.749
Hinduism	02	04.0	03	06.0	
Others	01	02.0	02	04.0	
<i>Marital status</i>					
Unmarried	32	64.0	19	38.0	0.018*
Married	15	30.0	31	62.0	
Separated	01	02.0	00	00.0	
Divorced	01	02.0	00	00.0	
Widowed	01	02.0	00	00.0	

* $p < 0.05$ & ** $p < 0.01$; Chi-square test applied for test of significance

Table II: Major psychiatric disorder in FEP

Psychiatric Disorder	Number of patient (n)	Percentage (%)
Mood disorder	17	34.0
Schizophrenia and other psychotic disorder	28	56.0
Psychotic disorder NOS	05	10.0
Total	50	100.0

Table III: Types of mood disorder among FEP

Types of mood disorder	Number of patients (n)	Percentage (%)
Bipolar disorder (manic with psychotic feature)	13	76.5
MDD* with psychotic feature	04	23.5
Total	17	100.0

MDD-Major Depressive Disorder*

Table IV: Schizophrenia and other psychotic disorder

	Number of patients (n)	Percent (%)
Schizophrenia	02	07.1
Schizophreniform disorder	16	57.1
Brief psychotic disorder	05	17.9
Psychotic disorder due to GMC*	02	07.1
Delusional Disorder	03	10.7
Total	28	100.0

GMC* -General Medical Condition

Table V: Lifetime substance use in FEP and control

Lifetime substance use	FEP		Control		P value
	No.	%	No.	%	
Present	18	36.0	09	18.0	0.043*
Absent	32	64.0	41	82.0	

*p<0.05; Chi-square test applied for test of significance

The above table shows that life time substance use was found among 18 patients of first-episode psychosis, whereas the rate was present in 9 subjects in control group.

Table VI: Life time substance use disorder in FEP & control

Substance related disorder	FEP		Control	
	(n=18)*	%	(n=09)*	%
Opioid dependence	1	05.6	0	00.0
Benzo dependence	1	05.6	0	00.0
Cannabis dependence	9	50.0	0	00.0
Yaaba dependence**	1	05.6	0	00.0
Alcohol abuse	2	11.1	7	63.6
Cannabis abuse	4	22.2	3	27.3
Phensidyl abuse (Codeine phosphate containing syrup)	1	05.6	2	18.2

**Yaaba is amphetamine containing substance; *multiple response

Table VI shows that most of the cannabis use disorder is more among the patients and Alcohol use disorder is more among the controls. Among the FEP patients cannabis use is most prominent. Nine (50%) patients with FEP had life time cannabis dependence and 4(22%) patients have cannabis abuse disorder. About 7(63.66%) of the controls with life time substance use disorder had alcohol use problems.

Among the patients with first-episode psychotic patients (18), 14 were male and 4 were female. Among the control group all the 9 patients were male; no female patients had lifetime substance use history.

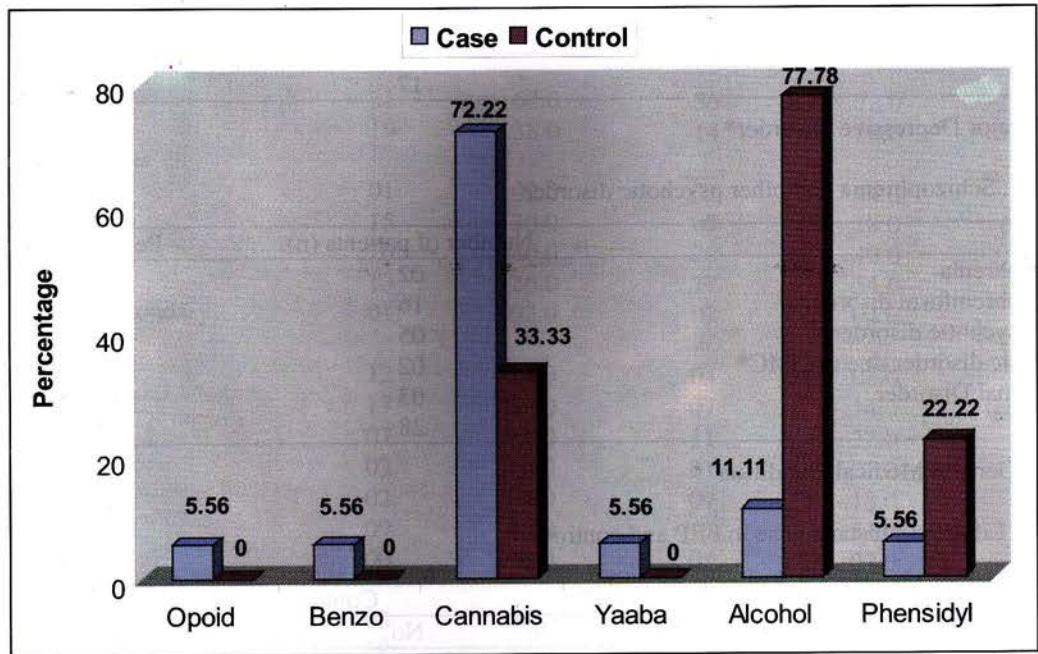


Figure 1: Substance use (both abuse & dependence) percentage of case (FEP; n=18) and control (n=09)

Figure 1 shows that among the case (first-episode psychosis patients) 72.22% had cannabis use (both abuse & dependence) whereas, 33.33% of the control had cannabis use (both abuse and dependence). However, proportion wise alcohol use was found more among the control (77.78%) group than FEP patients (11.11%). Among the FEP patients each of opioid users (heroin and buprinorphine), benzodiazepine, yaaba & phensidyl had 5.5% substance use; whereas, no control had opioid, benzo or yaaba use disorder.

Discussion

This cross-sectional study was done to see the life time substance use among the patients with first-episode psychosis and healthy hospital attendants in the study places. The expected study period was initially November 2007 up to July 2008. Only the persons having age 18 and above were included who ever developed psychosis for the first time. Control's age was similarly 18 and above.

Among the patients with first-episode psychosis majority were male (31 out of 50; 62%). However, 36(72%) healthy control were male and 14(28% were female). Presence of male patients indicates their willing ness to take treatment or it may be due to the fact that these facilities were more accessible to male patients than female patients. The age of the patients with FEP was 27.24 ± 9.671 where as

mean age of the control was 32.71 ± 9.441 . The age of FEP patient group is significantly lower than control group. The control group was taken from different wards randomly. The reason of this difference may be multi factorial. It may be due to the reason psychosis starts in early twenties or short sample size of the both case and control. It may simply be a fault of recruiting relatively aged population among the controls.

Regarding occupation of the patient and control; in present study unemployed were 24% in FEP patients where as, only 8% among controls. Besides, 34% of patients of FEP were students and only 14% in control. However, highest respondents among control group were service holder (34%) and that in patients were 18%. There is statistically significant difference in patient and control. The

reason of unemployment more in patients may be due the disease process causing incapacity. Among the patients with FEP, patients came equally from urban & rural areas. Where as, 70% of the attendants were from urban and 30% from rural areas; which is statistically significant. Regarding religion both the patients (94%) and control (90%) showed Muslim majority. About 64% of the patients with FEP were unmarried in comparison to 38% of control who were unmarried. This difference is statistically significant. It may be due to the fact that the premorbid personality, lack of social engagement, oddity of behavior can be the underlying reasons.

In the present study 18 (36%) first-episode psychosis patients had life time history of substance use (both abuse and dependence disorder); where as only 9(18%) persons in the control group had life time history of substance use. The overall life time proportion of substance use in people with first-episode psychosis was found double than that in the control. This difference is statistically significant ($p < 0.05$). In one UK based study the overall substance misuse was found to be 37% among first-episode psychosis patients which is almost equal to what we get in present study¹⁰. In another UK based epidemiological study, 66.38% of the first-episode psychosis patients had lifetime substance abuse/dependence⁷. So, our finding of more lifetime substance use among patients with first-episode psychosis than control group; is consistent with western studies.

Among the patients with FEP life time cannabis use disorder was found to be 72.22% among all class of drugs abused (13 out of 18 patients). Lifetime cannabis use was found around 33% (3 out of 9 controls) in control group. In UK based epidemiological study cannabis use anytime in life was found to be around 80% second to alcohol abuse disorder. However, cannabis dependence or abuse was only 50.8%. Life time alcohol abuse and/or dependence were found to be 11.11% in FEP where as; in control group it was 77.78% (7 out of 9 patients). This proportion is higher in control group than patients; the reason is not clear. Small sample size may be a reason. In western studies alcohol abuse and/or dependence was found highest in patients with FEP. Alcohol intake is part of their social norms. This may be the reason why in a country with Islamic background alcohol abuse

is not seen to be highest abusing substance. The rate of patients taking opoid, benzodiazepine, yaaba, phensidyl was 5.5% (1 in 18 patients) each in FEP. However, the researcher failed to get any of the controls getting opoid drugs, benzodiazepine and Yabba (a class of illicit drug containing caffeine and amphetamine) in their life time. It may be due to small sample size. In UK based study, more than half ($n=68$, 55%) had used Class A drugs like ecstasy, heroin, crack or cocaine, methadone etc. We know substance like Yaaba, cocaine and heroin are expensive drugs. In present study the 38% patients with FEP had income less than 5000/month and 56% patients had income 5000-1000 BDT/month. So, these drugs were not used by the patients with FEP.

In this study cannabis abuse and dependence was found to be the highest which is consistent with studies done abroad^{6,8}.

In present study, among the 50 FEP patients, 17(34%) had affective psychosis (mood disorder with psychotic feature), 28(56%) patients had non-affective psychosis like schizophrenia and other psychotic disorder and only 5(10%) had psychotic disorder NOS. Among the patients with affective psychosis, 13 patients had Bipolar I disorder (single manic episode) with psychotic feature where as, 4 patients had major depressive disorder (MDD) with psychotic feature. Among the non-affective psychosis patients we found schizophrenia 2, schizophreniform disorder 16, brief psychotic disorder 3, delusional disorder 3, psychotic disorder due to general medical condition (GMC) 2 patients.

In a longitudinal naturalistic out come study in Canada, out of 151 patients with FEP; affective psychosis was found in 24 patients (16%) where as, schizophrenia-spectrum disorder was found in 110(73%) patients and psychotic disorder NOS was found among 17(11%) patients¹¹. In another UK based epidemiologically representative treatment sample schizophrenia and schizophreniform psychoses was found in 35(32.71%) patients, mood disorders in 37(34.57%) patients and psychotic disorder not otherwise specified in 37(34.57%) patients. Here psychotic disorder NOS included cases where it was unclear whether the psychosis was drug induced⁶. Another UK based prevalence study of substance misuse in FEP found schizophrenia-

spectrum disorder 63.5% (schizophrenia 33.1%, delusional disorder 8.4%, acute psychosis 18.8%, schizo-affective disorder 3.2%), mood disorder with psychotic feature 24.2% (manic psychosis 13.6%, depressive psychosis 10.4%). However, this study included Substance related psychosis which was found to be 8.4%. In present study substance induced psychosis was excluded. We did not get any schizo-affective disorder in our study.

Limitations of the study

Sample size was small and study was conducted only at two tertiary level hospitals in Dhaka city. Separate substance dependence clinic/ward are absent in above mentioned hospitals. Early Intervention clinic is not present during the time of study in above mentioned study places. So, generalization of the study findings is not possible. Another potential limitation of present study is that below 18 years were excluded from both the patients and control groups. Therefore, substantial proportions of individuals who have onset of psychosis prior to 18 years of age and/or starting taking substance(s) below that age; were excluded. As a result these factors consequently shift the contents of intervention away from youth issues. Diagnosis of current and lifetime substance use disorder were done after information gathered from patient or their reliable informant, investigation finding (urine assay for substance etc.) were not done on the patients; leading to possible underreporting. In a country like Bangladesh where majority are Muslim, people might be reluctant to talk about their substance use pattern.

Conclusion

This study showed that lifetime alcohol and substance abuse/ dependence disorder is double in patients with first-episode psychosis than age and sex matched healthy control group. However, present study failed to compare the current substance use pattern in patients with FEP and controls due to small sample size. Among the patients with First Episode Psychosis, Cannabis was found to be the most commonly used substance followed by alcohol and phensidyl. Substance use was found more among male patients than female patients. This study will

provide baseline data of substance use in FEP patients for further studies.

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