Original Research Article

Psychotic features in patients with Bipolar I Mood Disorder current episode mania

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ABSTRACT

Background: Psychosis is quite common in Bipolar Disorder, with approximately half of the patients possessing a lifetime history of psychotic symptoms during a mood episode. Yet there has been little focus on psychotic mania as a meaningful subtype. The aims and objectives of the current research were to study the prevalence of psychotic features in patients with Bipolar I Mood Disorder in Mania, to study the socio-demographic and illness related variables of patients with psychotic features in Bipolar I Mood Disorder in Mania and to compare the patients of Bipolar I Mood Disorders in Mania with and without psychotic features.

Methods: 50 consecutive patients diagnosed as having Bipolar I Mood Disorder currently in mania were selected. The patients were clinically assessed for delusions and hallucinations and their scores on the Young Mania Rating Scale (YMRS) and Brief Psychiatric Rating Scale (BPRS) were noted. They were then divided into two groups viz. with and without psychotic features and compared on socio-demographic and illness related variables.

Results: 58% of the patients showed the presence of psychotic features, with grandiose delusions being the most common type of psychotic symptoms. Patients with psychotic features had significantly higher scores on the YMRS and BPRS.

Discussion: Our findings are in keeping with earlier research which also shows that psychotic symptoms tend to occur in severe mania.

Conclusion: Psychotic symptoms are common in mania and need to be evaluated.

Key words: Bipolar I Mood Disorder, mania, delusions, hallucinations, mood congruence, manic.

INTRODUCTION

Bipolar Mood Disorder remains a severe and recurrent mental illness for most patients despite advances in pharmacological treatments. Over 70% of patients relapse within five years of an index episode [1] and approximately half of those who do not relapse continue to experience impairing sub-threshold mood symptoms [2-3].

Researchers have attempted to identify features of the bipolar illness that may be predictive of its severity and course, including the presence of psychotic symptoms during mood episodes. Psychosis is quite common in bipolar disorder, with approximately 58% of the patients possessing a lifetime history of psychotic symptoms during a mood episode [4]. Grandiose delusions are the most common type of

psychotic symptom, but any kind of psychotic symptom, including thought disorder, hallucinations, mood incongruent psychotic symptoms and catatonia can present as a part of the mood episode [5]. However, even though psychosis is regarded as a prominent characteristic of a manic episode, it is not really clear whether psychosis is a dimensional aspect of severe psychiatric illness that is superimposed on other aspects of manic episode, or psychotic features are an integral part of the severe manic syndrome. Similar contradictory opinions exist as regards to the impact psychotic symptoms have on the course of bipolar mood disorder.

In their classic paper, Pope and Lipinski [6] argued that psychosis associated with severe affective illness is relatively common and not of prognostic significance. Different researchers have reported a variety of conflicting results. Some studies have concluded that psychotic symptoms are predictive of worse psychosocial outcome [7-8] whereas others [9-10] have found no relationship whatsoever between psychosis and any long term outcomes.

As psychotic features are relatively common in manic states and their association with disease outcome is not conclusively established, there has been little focus on psychotic mania as a meaningful subtype. The phenomenological and prognostic significance of psychotic features for depressive syndromes [11-12] however warrants analysis to determine whether psychotic features may be similarly predictive for mania as they are in depression.

This study was therefore undertaken to study the prevalence of psychotic features in patients with Bipolar I Mood Disorder in mania, to study the socio-demographic and illness related variables of patients with psychotic features in Bipolar I Mood Disorder in mania and to compare the patients of Bipolar I Mood Disorders in Mania with and without psychotic features.

METHODOLOGY

Materials:
1. Diagnostic and Statistical Manual IV Text Revision. (DSM IV TR) [13] was used in the diagnosis of mania.
2. Semi-structured proforma: This was specially designed for the study to obtain various socio-demographic and illness related variables.
3. Modified Kuppuswamy scale (Urban) (2001) [14]: This scale was used to measure the socio-economic status of the patient. This scale has been widely used in clinical research and is specially designed for use in urban areas where this study was conducted.
4. Global Assessment of functioning scale (GAF) [15]: This scale is a commonly used scale in clinical practice for reporting the clinician's judgment of the individuals overall level of functioning. Functioning is considered a composite of three major areas: social functioning, occupational functioning and psychological functioning. It is based on a continuum of mental health and mental illness.
5. Young Mania Rating Scale (YMRS) [16]: It was developed by Young and others and is one of the most frequently used scales to assess manic symptoms. Inter-rater reliability is reported to be 0.93.
6. Brief Psychiatric Rating Scale (BPRS)[17]: This scale was developed by Overall and Gorham. It is widely used for evaluating major psychotic and non-psychotic symptoms in individuals with a major psychiatric disorder. Reliability co-efficient of 0.56 to 0.87 have been reported.

Inclusion Criteria for patients in the study:
1. Patients fulfilling DSM IV TR diagnostic criteria for Bipolar I Mood Disorder at present in Mania
2. Patients with age between 18 to 50 years.
3. Patients and relatives consenting to be enrolled in the study.

Exclusion Criteria:
1. Patients with Bipolar I Mood Disorder, currently depressed or in mixed states.
2. Patients with diagnostic dilemma, substance dependence or any other psychiatric morbidity.
3. Patients with mental retardation, dementia or any history suggestive of organic disorders.

4. Patients with medical co-morbidities, pregnancy and within 6 months post partum.

Study outline:

1. Approval of the Ethics Committee was taken prior to commencing the study.
2. Patients and their relatives were informed of the research objectives and assured of the confidentiality of their responses. Informed consent was taken.
3. Consecutive patients diagnosed as having Bipolar I Mood Disorder in Mania as per DSM IV TR[13] and fulfilling inclusion/exclusion criteria were selected.
4. The various socio-demographic and illness related variables were recorded using the specially designed semi-structured proforma.
5. The Modified Kuppuswamy scale (Urban)[14] was used to measure the socio-economic status of the patient.
6. The patients were clinically assessed for the presence of psychotic features according to DSM IV TR i.e. delusions and hallucinations. The content of the delusions and hallucinations was noted, and the patients were grouped according to the DSM IV TR [13] classification of mood congruent or mood incongruent.
7. The Young Mania rating scale (YMRS) [15] was used to assess the severity of Mania.
8. The Brief Psychiatric Rating Scale (BPRS) [16] was used to evaluate the psychotic symptoms in patients.
9. The patient's level of functioning was rated using the Global Assessment of functioning (GAF) [17] scale.
10. The data that was thus obtained was pooled and divided into two groups:
    a. Patients with psychotic features
    b. Patients without psychotic features
11. The two groups were then compared and any difference between the two groups was noted. The following parameters were studied
    a. Socio-demographic variables
    b. Age of onset of illness (Adolescent versus Adult)
    c. Presence or absence of family history of mental illness
    d. Co-morbid substance use
    e. The scores on the YMRS
    f. The scores on the BPRS
    g. The scores on the GAF scale.

STATISTICAL ANALYSIS

The entire data was analyzed using the SPSS statistical software and the results were presented.

RESULTS

A total of 50 patients with Bipolar I Mood Disorder at present in Mania were studied. Of these, 29 were males and 21 were females.

Prevalence of psychotic features in patients with Bipolar I Mood Disorder in Mania:

Psychotic features were defined as the occurrence of delusions and hallucinations.

Of the 50 patients studied, 29 patients i.e. 58% were found to have psychotic features, as seen in Figure 1.

Of the 29 male patients, 16 (55.2%) had psychotic features, while out of the 21 females, 13 (61.9%) had psychotic features. Thus, the prevalence of psychotic features was more in females.

Types of psychotic features:

Of the 29 patients who had psychotic features, 19 i.e. 66% had mood congruent psychotic features, while 10 i.e. 34% had mood incongruent psychotic features.

Types of delusions and hallucinations:

All of the 29 patients with psychotic features had one or more type of delusion.

Of these, 15 patients (51.7%) had only delusions and 6 patients had a single type of delusion while 23 patients had more than one type of delusion.

In this study, 14 patients (48.3%) had hallucinations along with delusions. None of the patients had hallucinations in the absence of delusions. 54% had grandiose delusions while 46% had delusions of reference and another 46% had delusions of persecution. Delusions of control were seen in 8% subjects and somatic delusions were seen in 4% cases.

All these 14 patients had only auditory hallucinations. None of the patients had visual hallucinations or hallucinations in any other modality.

Socio-demographic profile of patients with psychotic features in Bipolar I Mood Disorder in Mania:
The socio-demographic variables of all patients are discussed in Table 1

Table 1: The socio-demographic profile of patients with psychotic features in Bipolar I Mood Disorder in Mania

Domain	No. of patients (n=29)
Mean Age	31.72 years $\pm$ 10.30 years
18–30 years	19 (65.5%)
31- 50 years	10 (34.5%)
Sex	
Males	16 (55.2%)
Females	13 (44.8%)
Education	
Illiterate	3 (10.3%)
Primary	5 (17.2%)
Secondary	10 (34.5%)
S.S.C.	3 (10.3%)
H.S.C.	2 (6.9%)
Graduate	6 (20.7%)
Post Graduate	0
Occupation	
Unemployed	11 (38%)
Housewife	5 (17.2%)
Service	13 (44.8%)
Self Employed	3 (10.3%)
Students	3 (10.3%)
Marital Status	
Unmarried	13 (44.9%)
Married	12 (41.4%)
Separated or Divorced	4 (13.8%)
Widowed	0
Socio-Economic Status	
Lower	1 (3.44%)
Upper Lower	16 (55.1%)
Lower Middle	10 (34.4%)
Upper Middle	2 (6.89%)
Upper	0

The illness related variables of patients with psychotic features in Bipolar I Mood Disorder in Mania:
   a. Age at onset: Of the 29 patients with psychotic features, 10 (34.5%) of the patients had an adolescent age of onset while 19 (65.5%) of the patients had and adult age of onset.

b. Family History: A positive family history of mental illness was present in 12 (41.4%) patients with psychotic features. Among these, a family history of mood disorder could be reliably ascertained in 7 (58.3%) of the patients, while a family history suggestive of schizophrenia was noted in 2 (16.6%) of the patients.

c. Also, 2 (16.6%) of the patients reported a family history of some mental illness but could not give accurate information about the nature of the mental illness neither were they able to produce any medical records and hence the exact diagnosis could not be confirmed.

d. History of Substance Use: In our study, 16 (55.2%) patients had a positive history of substance abuse. Of these, 12 were males and 4 were females. Nicotine use was seen in 10 cases while 6 cases showed alcohol and 3 cases showed both alcohol and nicotine use.

e. Scores on the Young Mania Rating Scale (YMRS): The mean score on the YMRS was 41.51$\pm$ 8.05.
    - 4 (13.8%) patients had a score between 20 -30
    - 6 (20.7%) patients had a score between 31- 40
    - 19 (65.5%) patients had a score of 41 and above

f. Scores on the Brief Psychiatric Rating Scale (BPRS): The mean score on the BPRS was 46.31 $\pm$ 7.20

g. Scores on The Global Assessment of Functioning (GAF) Scale: None of the patients had a GAF score higher than 41-50. (Table 3)

Table 2: Scores on the GAF Scale

Score on the GAF Scale	Percentage of patients
11 – 20	14%
21 – 30	49%
31 – 40	34%
41 – 50	3%

Comparison of the two groups of patients i.e. patients with Bipolar I Mood Disorder in Mania with and without psychotic features:

The socio-demographic profile of both groups was compared using the chi square test and the results are as shown in Table 3.

There was a significant difference in the socio-economic status between the two groups with the psychotic symptoms group faring poorly on the Kuppuswamy scale. There was no significant difference between the two groups on any other parameter in the socio-demographic profile.

The illness related variables between the two groups were compared using the t test and the results are as shown in Table 4. As seen from the table below, the patients with psychotic features had significantly higher scores on the YMRS and the BPRS as compared to the patients without psychotic features. The two groups did not differ significantly on any other illness related parameters.

DISCUSSION

A total of 50 patients with Bipolar I Mood Disorder at present in Mania were studied. Of these, 29 were males and 21 were females. In this study, 29 patients i.e. 58% of the patients were found to have psychotic symptoms i.e. delusions and hallucinations. Goodwin and Jamison [4] also found a prevalence of psychotic features to be 58% in Bipolar I Mood Disorder. Other studies done in the past [18-19] have also found rates similar to the present study. However, one study has reported a much higher incidence of 80% [20], while another study [21] has reported much lower rates of 42.6%. There could be few reasons for this discrepancy. The present study used a narrow definition of psychosis. Formal thought disorder and disorganized behavior were not included even though they are often considered psychotic. Analysis of the structure of psychosis has suggested that delusions and hallucinations may be independent of thought disorder and disorganization.

Table 3: Comparison of the two groups on the socio-demographic profile

Domain	With psychotic features (n=29)	Without psychotic features (n=21)	Statistics (p value)
Age			
18 – 30 years	19 (65.5%)	11 (52.3%)	0.349 NS
31 – 50 years	10 (34.5%)	10 (47.7%)	
Sex			
Males	16 (55.2%)	13 (61.9%)	0.634 NS
Females	13 (44.8%)	8 (38.1%)	
Education			
Illiterate	3 (10.3%)	1 (4.76%)	0.684 NS
Primary	5 (17.2%)	4 (19.04%)	
Secondary	10 (34.5%)	9 (42.9%)	
SSC	3 (10.3%)	4 (19.04%)	
HSC	2 (6.9%)	0	
Graduate	6 (20.7%)	3 (14.3%)	
Marital Status			
Unmarried	13 (44.9%)	10 (47.7%)	0.198 NS
Married	12 (41.4%)	11 (52.3%)	
Separated or Divorced	4 (13.8%)	0	
Socio-Economic Status			
Lower	1 (3.44%)	3 (14.3%)	0.002*
Upper Lower	16 (55.1%)	5 (23.8%)	
Lower Middle	10 (34.4%)	3 (14.3%)	
Upper Middle	2 (6.89%)	10 (47.7%)	

(*significant, p < 0.05), (NS – not significant) (Chi square test used)

Table 4: Comparison of the two groups on the illness related variables

Domain	With psychotic features (n=29)	Without psychotic features (n=21)	p value
Age of onset			
Adolescent	10 (34.5%)	7 (33.33%)	0.933 NS[a]
Adult	19 (65.5%)	14 (66.66%)	
Positive family history			
Present	12 (41.4%)	4 (19.4%)	0.095 NS[a]
Absent	17 (58.6%)	17 (80.09%)	
Co-morbid substance use			
Present	16 (55.2%)	10 (47.6%)	0.598 NS[a]
Absent	13 (44.8%)	11 (52.4%)	
YMRS Scores (Mean ± SD)	41.51 ± 8.05	36.62 ± 6.43	0.026*[b]
BPRS scores (Mean ± SD)	46.31 ± 7.20	37.33 ± 6.35	0.001*[b]
Scores on GAF Scale			
11 – 20	4 (14%)	1 (4.76%)	0.239 NS[a]
21 – 30	14 (49%)	6 (28.6%)	
31 – 40	10 (34%)	13 (61.9%)	
41 – 50	1 (3%)	1 (4.76%)	

(*significant, p < 0.05), [a] Chi square test used, [b] independent sample t test used

Discussion:

Secondly, patients with mood incongruent psychotic symptoms are often diagnosed as schizophrenia [18] rather than Bipolar I mood disorder and may have got excluded from some of the studies on the subject.

Among the patients with psychotic features, 66% had mood congruent psychotic features while 34% had mood incongruent psychotic features. A study [20] had also reported the prevalence of mood incongruent psychosis in mania to be 38%. However, there are vast differences in the rates of mood congruence observed in other studies with a study showing rates as low as 16.5 % [18] and another study showing rates as high as 77.4% [22].

In this study, all the 29 patients with psychotic features had delusions. None had hallucinations alone. A study done by Black [23] has reported that among psychotic patients, bipolar mania patients were more likely than other diagnostic groups to have delusions only and less likely to have hallucinations only.

In the present study, 14 out of the 29 psychotic patients i.e. 48.3% had hallucinations along with delusions. These findings are very similar to a study done by Bowman and others [24] which found the prevalence of hallucinations to be 48% in psychotic manic patients.

Only auditory hallucinations were reported in our study. This finding is in keeping with a study done by Brandon and others [20] which found that auditory hallucinations were the most prevalent in manic states. However, this study also reported a prevalence of 20% for visual hallucinations. No patient was noted to have visual hallucinations in our study. As the present study had excluded any patient suspected to have an organic etiology, this could have contributed to this finding.

In the present study, grandiose delusions were the most common, followed by those of reference and persecution. Similar findings were reported in a study [20] i.e. grandiose delusions were the most common (66%) followed by those of reference (56%) and persecution (31%), delusions of thought broadcasting (16%), Thought control (15%), somatic (7%) and bizarre (5%). A study also observed grandiose delusions to be the most common type of psychotic symptom [5].

In the present study, statistical analysis showed that there was no difference between the two groups on the socio-demographic variables except for socio-economic status. This is in keeping with other studies [25].

A study done by Tohen and others [26] found that although there is good syndromal recovery in affective psychosis, the return to premorbid functional status is poor. These findings suggest that psychotic symptoms in mania carry a grave functional prognosis. This could have contributed to the significantly lower socio-economic status among patients with psychotic features in our study.

There was no significant difference in the age of onset and the occurrence of psychotic features in our study. An Indian study [27] had reported that symptom presentation in youth was similar to the adult onset cases. This is in contrast to a study which found that psychotic manic patients had an earlier age of onset as compared to non psychotic patients [18]. However, younger age of onset has not been associated with psychosis in all studies. Mc Elroy and others [28] found that compared with adults, adolescent patients displayed a significantly lower rate of psychotic features.

One of the reasons for this variation could be a result of difficulty in recall of the patients and their relatives. The present study considered age of onset as the age at which patient first reported being ill or family members first noticed symptoms or impaired functioning. If none could be recalled then patient's first contact with health services was used. Earlier research has shown that a substantial number of years may separate those phases.

In our study, 41% of the patients with psychotic features had a family history of mental illness as opposed to 19.04% of patients without psychotic features but this difference was not statistically significant. A study [29] found that psychotic features in mania were unrelated to a family history of mental illness. However, this is in contrast to some of the past research [30] which found that significantly more families of psychotic probands than families of non-psychotic probands (64% versus 28%) contained at least one relative who had affective disorder with psychotic symptoms. Another study [25] found that family history of bipolar disorder was significantly more common in patients with non-psychotic bipolar disorder compared to patients with a history of psychosis.

These differences could probably be explained by the different methodologies used in different studies. In this study, a detailed family history was first taken from the care-givers and confirmed wherever possible with the available past medical records.

In our study, there was no significant difference in the occurrence of substance use between the two groups. This is in contrast to a study done [18] which reported that psychotic patients used more substances than others.

In this study, patients with psychotic features had significantly higher scores on the YMRS and BPRS as compared to the patients without psychotic features. No such associations were noted with the GAF scores. Past research has also shown that psychotic features had significantly higher BPRS –psychosis subscale scores [20] and significantly higher baseline mania scores [20] and more severe symptom ratings [28], compared with the non psychotic group.

CONCLUSIONS

The prevalence of psychotic features (delusions and hallucinations) was 58% in this study. Among the patients who had psychotic features, 51.7% had only delusions. None of the patients had hallucinations alone. Of the psychotic patients, 48.3% had both delusions and hallucinations. 66% of the psychotic patients had mood congruent psychotic features. The rest i.e. 34% had mood incongruent psychotic features. The most common type of delusions were grandiose delusions that were seen in 54% of the psychotic patients, followed by delusions of reference and persecution which were seen in 46% of the patients. Auditory hallucinations were the only type of hallucinations noted. There was no significant difference between the two groups (psychotic versus non-psychotic patients) as regards to socio-demographic variables of age, sex, education, employment and marital status. The patients having psychotic features had significantly lower socio-economic status than the non-psychotic patients. The two groups did not differ significantly as regards to illness related variables age of onset, family history of mental illness or substance use. Patients with psychotic features had significantly higher scores on the Young Mania rating scale (YMRS) and the Brief Psychiatric rating scale (BPRS) as compared to non-psychotic patients. So such differences were noted as regards to the scores on the GAF scale.

Psychosis is quite common in Bipolar I Mood Disorder in Mania, with approximately half the patients possessing a lifetime history of psychotic symptoms during a manic episode. Our findings suggest that psychotic symptoms are a component of severe manic episodes that, independently of the manic syndrome, contribute substantially to the overall severity of the illness. This implies that rather than independent treatment of mania and psychosis, vigorous treatment of underlying mania may, at least in some patients, bring about a resolution of psychosis.

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