

A Comparative, Cross-Sectional Study of Psychotic Mania and Nonpsychotic Mania at a Tertiary Care Hospital

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Abstract:

Background: Despite the fact that mania is a mood disorder and typically manifests as an elevated or irritable mood, increased goal-directed activity, pressure in speech, and flight of ideas, it can also show signs of psychosis, including Schneiderian first-rank symptoms. The goal of the current study was to compare and examine any discrepancies between groups with psychotic mania and those without it.

Methods: For a total of 60 patients, we examined the sociodemographic and clinical characteristics of 30 patients with psychosis and 30 patients without psychotic mania. We conducted structured diagnostic interviews using the Mini International Neuropsychiatric Interview and evaluated the severity of mania using the Young's Mania Rating Scale (YMRS).

Results: Both the length of the hospital stay and Young's Mania Rating Scale scores (Mann-Whitney U = 785.5; $p < 0.05$) were significantly different between the two groups. In the course of correlation analysis, a negative association between the age of onset and the quantity of psychotic mania episodes was discovered ($p = -0.477$; $p = 0.008$). Additionally, a mediocre correlation between hospital stay length and YMRS scores ($p = 0.331$; $p = 0.010$) was found.

Conclusion: Compared to nonpsychotic mania, psychotic mania tends to be more intense and necessitates a longer hospital stay. In order to change the course of the condition and lessen the socio-occupational damage, specialist early interventions are required in situations where there is a negative link between the age of onset and the number of episodes of psychotic mania.

Keywords: Age of Onset, Bipolar Disorder, Nonpsychotic Mania, Psychotic Mania.

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Introduction

A serious mental illness called bipolar affective disorder is linked to high rates of long-term morbidity, comorbidity, hospitalization, and impairment. [1] The greater morbidity and mortality are caused by suicide, accidents, and unfavourable consequences from the use of drugs for illnesses and conditions that coexist. [2] Bipolar disorder has been identified as the sixth biggest cause of disability-adjusted life years in the globe among people aged 15 to 44 years, particularly due to its early start and chronic nature over the life span. [3]

Along with heightened/irritable mood, increased goal-directed activity, pressure in speaking, and flight of ideas, manic episodes have also been associated with psychotic symptoms. Goodwin and Jamison [4] found that roughly 58% of patients had a history of at least one psychotic symptom after reviewing 26 papers on psychotic symptoms in mania. At least 68% of bipolar disorder patients

report having psychotic symptoms, which are often recorded. Notably, signs of psychosis can appear in up to 50% of individuals who are experiencing manic episodes. [6] Additionally, 8–23% of manic cases have been reported to have Schneiderian first-rank symptoms. [7] Additionally, it was discovered that psychotic bipolar patients had more social dysfunction and working impairment than nonpsychotic bipolar patients. [8] Therefore, it is crucial to research the differences between psychotic and nonpsychotic manias because, if there are any, a different therapeutic strategy may be required.

The current study was conducted with the following goals: (a) to describe the sociodemographic and clinical characteristics of psychotic mania and nonpsychotic mania; and (b) to compare the variations in the sociodemographic and clinical variables between the two clinical groups.

Materials and Methods

This study was conducted from October 2021 to September 2022 in Department of Psychiatry, Sri Krishna Medical College and Hospital, Muzaffarpur, Bihar which is a tertiary care hospital. The study included consecutive in-patients who met the ICD-10 criteria for psychotic or nonpsychotic mania and were at least 18 years old. [9] If the patient lacked the necessary understanding, a close relative provided written informed consent.

The MINI (The Mini International Neuropsychiatric Interview English Version 5.0.0) clinical interview served as the foundation for the diagnosis. [10] Patients with a history of schizophrenia, organic mental illness, mental retardation, or other similar psychotic diseases were eliminated. After the individuals met the requirements for inclusion and exclusion, the pertinent sociodemographic and clinical data were gathered using a data sheet that was created especially for the purpose. A formal diagnostic interview was conducted using the Mini International Neuropsychiatric Interview. Numerous multicenter clinical trials and epidemiological research have employed this method. The intensity of mania at intake was determined using the Young's Mania Rating Scale (YMRS), one of the most popular rating measures for evaluating manic symptoms. [11] The data

collected was entered into MS Excel. The categorical variables were displayed as proportions or percentages. Standard deviation and mean were used to express continuous variables. The association between categorical and continuous variables was investigated using the chi-square test and Fisher exact test, while the association between categorical and continuous variables was investigated using the Student t-test and Mann-Whitney U test. Statistical Package for the Social Sciences (SPSS 22.0 version) was used to conduct additional analysis on the data. [12]

Results

Using successive sampling, a total of 60 individuals were enrolled in the study: 30 patients with nonpsychotic mania and 30 patients with psychotic mania. Men made up a larger portion of our sample ($n = 37$) than women ($n = 23$). Compared to the nonpsychotic group (56.7%), approximately 73.3% of patients in the psychotic group had poor educational status. 93.3 percent of the participants were members of nuclear families. According to BG Prasad's classification, the majority of the participants in the sample belonged to socioeconomic class 1, or class 1. Between the psychotic and nonpsychotic mania groups, there was no statistically significant difference in terms of sociodemographic characteristics such as age, gender, educational attainment, family structure, and socioeconomic level (Table 1).

Table 1: Comparison between psychotic and nonpsychotic mania

Variables	Nonpsychotic mania n (%)	Psychotic mania n (%)	Test (Chi-square/Fisher exact)	Significance
Gender			0.635	0.426
• Male	20(33.33%)	17(28.33%)		
• Female	10(16.66%)	13(21.66%)		
Education				0.553*
• Illiterate	6(10.0%)	10(16.66%)		
• Primary school	11(18.33%)	12(20.0%)		
• High school	10(16.66%)	6(10.0%)		
• College	3(5.0%)	2(3.33%)		
Family type				0.612*
• Nuclear	29(48.33%)	27(45.0%)		
• Joint	1(1.66)	2(3.33%)		
• Other	0	1(1.66%)		
Socioeconomic status				0.727*
• 1	22(36.66%)	24(40.0%)		
• 2	5(8.33%)	5(8.33%)		
• 3	3(5.0%)	1(1.66%)		
Substance use			1.148	0.284
• Present	17(28.33%)	21(35.0%)		
• Absent	13(21.66%)	9(15.0%)		

*Fisher exact.

The psychotic mania group had considerably higher Young's Mania Rating Scale scores than the nonpsychotic mania group (Mann-Whitney $U = 785.5$; $p < 0.05$). Between the groups with psychotic and nonpsychotic mania, there was a statistically

significant difference in the length of hospitalization (Mann-Whitney $U = 587.0$; $p = 0.04$). Statistics showed that there were differences in the number of episodes among categories of recovery (Mann-Whitney $U = 455.0$; $p = 0.012$).

Between the psychotic and nonpsychotic mania groups, there was no statistically significant difference in terms of clinical characteristics such number of episodes, age of onset, and drug use (Table 2). Grandiose delusions predominated in patients with psychotic mania (68%) and were

followed by persecutory delusions (24%), and referential delusions (8%).

In the psychotic group of patients, 46.66% of patients reported having auditory hallucinations. Most of them (23.3%) were in the second person.

Table 2: Comparison between psychotic and nonpsychotic mania according to statistical analysis

Variables	Nonpsychotic mania (Mean±SD)	Psychotic mania (Mean±SD)	Mann Whitney U	Significance
YMRS score	23.67±5.448	33.0±6.125	785.5	<0.05*
Age at onset	30.93±13.50	29.50±11.65	433.0	0.801
Duration of hospital stay	9.87±5.94	13.57±8.76	587.0	0.041*
No. of episodes	4.50±8.39	5.33±6.89	559.5	0.102

*Significant

We discovered a negative connection between the age of onset and the number of episodes of psychotic mania group during a correlation analysis to determine the strength of a linear association between variables ($p = -0.477$; $p = 0.008$). Additionally, a mediocre correlation between hospital stay length and YMRS scores was found ($p = 0.331$; $p = 0.010$). Age of onset and number of episodes in the nonpsychotic mania group did not significantly correlate with one another ($p = 0.057$; $p = 0.766$).

Discussion

Despite the fact that both men and women are equally susceptible to developing bipolar disorder, more males than women made up our sample. Similar to the research conducted by Kessler et al., there were no statistically significant gender differences between the two groups with psychotic and nonpsychotic mania. [13] In our group, nonpsychotic mania was more common in men than psychotic mania, and psychotic mania was more common in women than nonpsychotic mania, which was consistent with Yildiz and Sachs' findings. [14]

Similar to a study by Kennedy et al., the peak age of mania onset in our sample was within the age range of 20 to 40 years. [15] The mean age of commencement of the first episode of disease in the research population was 26.3 years, according to Grover et al. Bipolar Disorder Course and Outcome research from India (BiD-CoIN study). [16] Similar to a research by Carter et al., there was no discernible difference in the age of onset between patients with psychotic mania and nonpsychotic mania. [17] Additionally, the psychotic mania group showed a negative connection between age of onset and number of episodes. As psychosis is neurotoxic [19], early age of onset may cause more cognitive impairment and increase the number of episodes in the psychotic mania group. Whether early age of beginning represents a biological susceptibility is still not entirely known. [20] Comparing the number of episodes between the

two groups of mania revealed no discernible difference; similar results were found in a Turkish study. [21] The YMRS scores for psychotic and nonpsychotic mania differed statistically significantly, and there was a positive connection between the YMRS score and length of hospital stay ($p = 0.331$; $p = 0.010$). Our findings are consistent with prior research in that patients with high YMRS scores at intake stayed in the hospital for a longer period of time. [22,23] individuals with psychotic mania experienced incomplete recovery at a higher rate than individuals with nonpsychotic mania. According to our study, patients who experienced complete inter-episodic recovery had fewer episodes overall and had a distinct distribution of episodes across categories of recovery. Higher kynurenine levels in the CSF fluid, high DHEA-S levels, and subtle brain changes in psychotic bipolar patients, as well as prolonged hospital stays and unsuccessful recovery, may be caused by significantly more biological anomalies. Our findings concur with those of a research conducted in Lebanon. [26] Because they frequently receive inadequate preventative medical care, persons with mental illness are generally more likely to develop medical comorbidities. [27] Surprisingly, in our study, the majority of patients (81.7%) did not have any medical comorbidities, and just a few people did.

Our study participants also displayed Schneiderian first-rank symptoms, which is consistent with other studies [28]. Grandiose delusions predominated in patients with psychotic mania (68%) and were followed by persecutory delusions (24%), and referential delusions (8%). In the psychotic group of patients, 46.66% of patients reported having auditory hallucinations. Most of them (23.3%) were in the second person. In their study, Keck et al. [5] discovered that 25% of the patients experienced hallucinations, the most frequent of which were auditory hallucinations. Compared to the nonpsychotic mania group, the psychotic mania group required a lengthier hospital stay. This can be related to the illness's greater intensity in the

psychotic group. The sample size in our study was somewhat smaller. Since the sample only included hospitalized individuals, the conclusion cannot be applied to bipolar patients in the general population. This study has a cross-sectional design, which has limitations of its own. Data on compliance and recovery were derived from patient, physician, and family reports that could have been biased by recall.

Conclusion

Compared to nonpsychotic mania, psychotic mania tends to be more intense and necessitates a longer hospital stay. In order to lessen the socio-occupational impairment, it is evident that treating psychotic mania requires a unique yet aggressive strategy. It may be worthwhile to investigate whether early intervention may change the course of the condition since the age of onset adversely linked with the number of psychotic mania episodes.

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