

Uniqueness of Auditory Hallucinations in Bipolar Disorder and Depressive Disorder: A Comparative Study

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ABSTRACT

Background: Although auditory hallucinations are regarded pathognomonic of psychotic disorders, that does not rule out its presence in conditions such as mood disorders. Auditory hallucinations have been reported in 15% of bipolar disorder and 25% depressive disorder patients. **Aim:** To compare the uniqueness of auditory hallucinations in bipolar affective disorder and depressive disorder patients. **Methods:** By purposive sampling eighty nine patients were included for both bipolar affective disorder and depressive disorder, and were assessed using Characteristics of Auditory Hallucination Scale. **Results:** Characteristics of auditory hallucinations in depressive disorder patients were significantly difference from bipolar affective disorder patients in the domains of frequency, self-control, clarity, tone, distractibility, and distress. **Conclusion:** Auditory hallucinations of bipolar affective disorder and depressive disorder vary in nearly all domains.

Keywords: mood disorder, affective disorder, major depressive disorder, hallucinations, psychotic disorder

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Introduction

Hallucinations are the most significant type of false perceptions, which can be simply described as a perception without an object, which can occur in any of the sensory modalities, as well as in somatic sensations. The most significant hallucination, however, is auditory hallucination: it holds supreme diagnostic significance. They can take various forms. One such is unstructured sounds, where the patient may hear vague and indistinct sounds which may be difficult to describe, for example, sounds of machinery, instruments. Another type is hearing clear and distinct voices; usually having a derogatory or commanding nature, but may also be pleasing and mood-congruent in hyperthymic states; constituting a few words or a more complex form [1].

These voices may be of self, in which case the patient hears his own thoughts being spoken to him aloud; or of one or more males or females whom the patient may or may not recognise, in which case they may either be speaking to him

or passing a running commentary on his actions, or may comprise two or more voices arguing or discussing about him in third person. There are various aspects using which auditory hallucinations can be elaborated, viz., structured or unstructured form, single words or complex sentences, identity of voices, number of voices, content, location, external or internal, bilateral or unilateral, effect on emotion and congruent or incongruent to affective state [1].

While the most accepted reason for auditory hallucinations remains striatal dopaminergic overactivity, recent studies have emerged with a few more reasons, especially to account for auditory hallucinations in non-psychotic illnesses. Glutamatergic overactivity in the temporal and frontal lobes, elevated serotonin levels, stark reduction in usual levels of sensory stimuli which produces a compensatory hypersensitive state, states of hypervigilance and psychologically traumatic events may also be responsible for producing auditory hallucinations in individuals [2].

Auditory hallucinations in affective disorders are certainly less common as compared to psychotic disorders, but that does not rule them as an exclusively psychotic phenomenon observed only in patients with schizophrenia and schizophrenia-spectrum disorders; as they are commonly encountered in various other organic and psychiatric conditions as well, and even in general population at rates estimating a range of 0.6% to 84% [3].

The prevalence of auditory hallucinations in bipolar affective disorder encompasses a wide range, with varying studies suggesting differently. A meta-analytic study reports a range of 11.3-67.7%, and further digresses to suggest a prevalence of 12.8%-67.3% in mixed or manic phases of the illness, and 7.1% to 59.4% in depressive phases, with the highest occurrence being in the mixed phases, followed by manic and then depressive phases of the illness. For patients of unipolar depression, the range which may experience auditory hallucinations is 5.4%-40.6% [3-5].

The mood-congruence nature of these hallucinations in affective illnesses is a common assumption, which has also been established by some studies. However, evidential potentiation of this assumption remains uncertain as studies also suggest that up to 34.4% of patients with BPAD experience mood-incongruent hallucinations: with bipolar in mania topping the list, and unipolar depression being the least likely amongst all [3]. Accordingly, feelings of anger and anxiety are the most common emotional reactions to the hallucinations in such patients, and 29% of the voices may be pleasant and induce feelings of happiness [4,6]. Auditory hallucinations in unipolar depression are associated with the highest levels of anxiety and distress, as compared to other affective and psychotic illnesses [7,8].

Second person auditory hallucinations are the type commonly heard in bipolar and depressive illnesses, and the voices are softer and briefer [3]. In bipolar illnesses: their presence is associated with an earlier onset of illness and a worse prognosis; and two-thirds of them have accompanying delusions. Insight is also poorer in such cases. Mood-stabilisers alone shave a poorer treatment outcome when auditory hallucinations complicate affective disorders; but the auditory hallucinations by themselves are responsive to treatment with antipsychotics, and even more so than in psychotic illnesses [6-8].

Despite adequate information about the attributes of auditory hallucinations in the affective illnesses, there is a dearth of studies which distinguish auditory hallucinations in between the affective states of bipolar disorder and depressive disorder, making it a lacuna which this study attempted to fill by comparing the uniqueness of auditory hallucinations in bipolar affective disorder and depressive disorder patients.

Materials and Methods

This cross-sectional study was undertaken at a tertiary care Psychiatric center located at Ranchi, Jharkhand. Permission of Institutional ethical committee was obtained prior to starting the study.

Sample

For this study 89 patients of bipolar affective disorder and 89 patients with depressive disorder, fulfilling the inclusion and exclusion criteria for bipolar affective disorder and depressive disorder were included by purposive sampling, from amongst the in-patients.

Inclusion Criteria

- Patients diagnosed as bipolar affective disorder or depressive disorder as per the diagnostic criteria for research of ICD-10
- Aged between 13-60 years
- Provision of a written informed consent by self, except in samples less than 18 years of age, in which guardians were to provide the same.

Exclusion Criteria

- Current neurological disorder
- History of epileptic seizures, substantial brain damage or neurosurgical operations.

Tools of Assessment

Socio-demographic data sheet

To record the demographic and clinical characteristics of the patients.

Characteristics of Auditory Hallucination Questionnaire (CAHQ):

A 7-item questionnaire which assesses auditory hallucinations experienced in the last 24 hours. It employs a Likert-type scale ranging from 1 to 5, with higher scores signifying higher morbidity. The test-retest reliability is 0.74 [9,10].

Procedure

Patients fulfilling inclusion and exclusion criteria were included in the study after explaining the objectives and procedure of the study and obtaining written informed consent. All patients underwent a detailed physical examination to rule out any neurological disease. Sociodemographic and clinical information was collected and then the Characteristics of Auditory Hallucination scale was applied on each patient, and scored as applicable. The data so collected was tabulated and analyzed statistically.

Results

Sociodemographic attributes showed no significant differences in between the two groups (Table 1). The duration of illness was found to be significantly more in bipolar illnesses, and the age of onset was significantly higher in depressive disorders (Table 2). Intensity of auditory hallucinations was the only attribute showing no significant difference in both the groups. Frequency and clarity of auditory hallucinations were significantly more in bipolar disorder. Self-control, tone, distractibility, and distress were significantly more in depressive disorder (Table 3).

Discussion

Socio-demographic and clinical characteristics

A significant difference was observed in the age of onset, with depressive disorder having a later onset of than bipolar disorder. Undisputedly, the mean age of onset of illness in depression is well established at 40 years, and that of bipolar illnesses is 30 years [11].

Also, the mean duration of illness is significantly more in bipolar affective disorder as compared to depressive disorder. An estimated 41% of bipolar patients experience multiple

Table 1: Comparison of socio-demographic variables of patients of bipolar disorder and depressive disorder

| Variables | | Bipolar disorder N=89 (Mean/N± SD/%) | Depressive disorder N=89 (Mean/N± SD/%) | P |
|----------------------|--------------------------|---|--|-------|
| Age | (in years) | 34.51± | 35.60±13.40 | 0.548 |
| Education | Illiterate/up to class 9 | 58 | 65 | 0.334 |
| | Matriculate | 24 | 16 | |
| | Graduate | 6 | 8 | |
| Sex | Male | 72 | 70 | 1.00 |
| | Female | 17 | 19 | |
| Occupation | Employed | 52 | 47 | 0.548 |
| | Unemployed | 37 | 42 | |
| Socioeconomic status | Lower | 63 | 70 | 0.212 |
| | Middle/upper | 26 | 19 | |
| Marital status | Married | 59 | 54 | 0.874 |
| | Unmarried | 30 | 35 | |

**Significant at p<0.05 level (2-tailed)

Table 2: Comparison of clinical variables between patients of bipolar disorder and depressive disorder

| Variables | Bipolar disorder (Mean/N± SD/%) | Depressive disorder (Mean/N± SD/%) | P | |
|---------------------------------------|---------------------------------------|--|-------|-------|
| Duration of illness (in months) | 74.52±70.21 | 19.91±31.64 | 0.000 | |
| Age of onset (in years) | 28.00±6.86 | 34.43±12.32 | 0.000 | |
| Past history of psychiatric illness | Present | 7 | 9 | 0.757 |
| | Absent | 82 | 80 | |
| Family history of psychiatric illness | Present | 12 | 16 | 0.429 |
| | Absent | 77 | 73 | |
| Family history of medical illness | Present | 5 | 8 | 0.275 |
| | Absent | 84 | 81 | |

**Significant at p<0.05 level (2-tailed)

Table 3: Comparison of characteristics of auditory hallucination between patients of bipolar and depressive disorder

| Variables | Bipolar disorder (Mean/N±SD/%) | Depressive disorder (Mean/N±SD/%) | p value |
|-----------------|--------------------------------|-----------------------------------|---------|
| Frequency | 2.9888±.94742 | 2.600±2.6000 | 0.001 |
| Intensity | 0.94742±.6888 | 2.7714±.87097 | 0.762 |
| Self-control | 2.9326±.90199 | 4.3143±.92537 | 0.000 |
| Clarity | 3.2809±.92918 | 2.6571±.81447 | 0.000 |
| Tone | 2.6854±.84740 | 4.3429±.75921 | 0.000 |
| Distractibility | 2.8202±.87337 | 3.6857±.94090 | 0.000 |
| Distress | 0.96839±.84694 | 4.3857±.87299 | 0.000 |

**Significant at p<0.05 level (2-tailed)

episodes of illnesses, whereas 28% of depressed patients experience the same. Moreover, comorbid medical and psychiatric illnesses are more in bipolar disorder, further complicating their course and recovery [12].

Characteristics of auditory hallucination between depression and bipolar disorder

The attributes of auditory hallucinations showing significant difference in between bipolar and affective illnesses were frequency, self-control, clarity, tone, distractibility and distress. The only attribute which was similar in both the illnesses was intensity of auditory hallucinations. The intensity of auditory hallucinations is the same in both bipolar and depressive illnesses: softer, as compared to psychotic illnesses [3].

The frequency of auditory hallucinations was higher in bipolar disorder, implying that the voices were heard more often in bipolar illnesses. While decisive rates of prevalence are difficult to ascertain due to wide range of variability amongst different studies (as has already been mentioned above), literature strongly asserts the proclivity that bipolar illnesses have for auditory hallucinations in contrast to depressive illnesses [3,4].

Patients of affective illnesses have more voluntary control on auditory hallucinations, than patients of psychotic disorders. Symptoms suggestive of passivity are more characteristic of schizophrenia, in which breach of ego boundaries is a Schneiderian characteristic. This probably renders this domain extraneous in affective illnesses, and can explain the lack of sufficient literature to support the claim that our study made in suggesting significantly higher scores of self-control over auditory hallucinations in depressive illnesses [13]. Not to forget, a higher score in self-control is proportional to poorer voluntary control, and

our study thereby inferred that patients with depression were less likely to be able to reduce or halt the auditory hallucinations.

Similarly, the clarity of auditory hallucinations in schizophrenia is higher and the voices are more structured; with studies establishing that complexity of the speech is inversely proportional to prognosis [11]. Our study inferred clarity of the auditory hallucinations to be significantly higher in bipolar disorders. Studies have asserted that bipolar patients are even able to discern the type of auditory hallucinations they are experiencing, and have estimated rates which suggest that 21% may hear commentaries on their routine activities and habits, 19% voices are of conversing nature; whereas depressed patients are unable to distinguish similarly [12].

Tone was significantly higher in depressive illnesses, suggesting higher distress than in bipolar disorders, which may have lesser distress or even be comforting. Depressive disorders had significantly higher distractibility than bipolar disorders, implying poor ability to hold or focus attention, than in bipolar disorders. Extrapolating for distress from the aforementioned two parameters suggests that auditory hallucinations cause higher distress in depressive illnesses, and our study suggested the same, as the distress parameter of the scale was significantly higher for depression. Evidential support for these claims is ample. Distractibility due to auditory hallucinations is significantly higher in affective disorders when compared to psychotic disorders, and in depressive disorder when compared to bipolar disorder [3,5,12] This could be due to the disruptive effect of negative content of the voices heard in depression, in which they are more likely to be accusatory and derogatory, even more so than in schizophrenia. Negative voices are twice as likely to be heard in depressive illnesses than bipolar illnesses.

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