Indian J Psychiatry. 2019 Sep-Oct;61(5):465–471. doi: 10.4103/psychiatry.IndianJPsychiatry_573_18

Beliefs about voices and their relation to severity of psychosis in chronic schizophrenia patients

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PMCID: PMC6767829 PMID: 31579183

Abstract

Background:

Auditory hallucinations may persist in a subset of chronic psychotic patients in spite of treatment. It is important to understand the personal meaning and significance of voices in these patients. In spite of its relevance, only a limited literature is available.

Aim:

This exploratory study aimed to assess the beliefs regarding voices in treatment-seeking patients with chronic schizophrenia having persistent auditory verbal hallucinations (AVHs) and assess their relation to the severity of psychosis.

Materials and Methods:

We recruited thirty adult patients with chronic schizophrenia as per the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition with both lifetime and current significant AVHs (≥50% days/month). Co-occurring psychiatric disorders were ruled out using the Mini International Neuropsychiatric Interview-7.0.0. Patients were assessed using a semi-structured proforma, Beliefs about Voices Questionnaire-Revised (BAVQ-R), Psychotic Symptom Rating Scale (PSYRATS), Scale for the Assessment of Positive Symptoms (SAPS), Scale for the Assessment of Negative Symptoms (SANS), and Clinical Global Impression-Schizophrenia (CGI-SCH)-severity.

Results:

The median age of the patients was 32 years (interquartile range [IQR]: 23.8–40.5). The median duration of illness and treatment was 7 years (IQR: 3.4–15.0) and 3 years (IQR: 1.9–10.5), respectively. Higher BAVQ-R scores were found on “malevolence,” “omnipotence,” and “emotional and behavioral resistance.” These beliefs had a significant positive correlation with PSYRATS hallucination subscale, but not with the severity of psychosis (SAPS, SANS, and CGI-SCH). The sample had lower scores for “benevolence” and “engagement” subscales of BAV-Q.

Conclusion:

Overall, the study sample believed AVH to be more malicious and omnipotent rather than benevolent, and resisted the voices, engaging only minimally with them. These beliefs were not related to the severity of psychosis, but were related to the severity of hallucinations. Assessing the beliefs regarding AVH in larger, diverse samples may help to plan behavioral interventions.

Key words: Auditory hallucinations, beliefs, experiences, schizophrenia

INTRODUCTION

Auditory hallucinations (AHs) are one of the common psychiatric symptoms occurring across a range of disorders, most commonly in schizophrenia (up to three-fourths of patients).[1,2] In routine clinical settings, AHs are an important criterion for diagnosis, and their uncontrollable and intrusive nature may disrupt the daily functioning of patients.[3] Patients may act on the voices, sometimes leading to risk for their own or other's lives.[4] Majority of patients' hallucinations respond to antipsychotic medications, but voices may continue in a subset of patients at a similar or somewhat reduced intensity in spite of adequate compliance to treatment. Chronic patients who continue to experience AHs may harbor certain beliefs associated with their voices and may

even share a relationship with them. From a phenomenological perspective, it is important to understand the voices in terms of their personal meaning and significance to the patients.[5,6,7]

A recent 2016 systematic review of international literature summarizing different methods of investigation of AHs (e.g., phenomenology, descriptive psychopathology, psychological, cognitive neurobiology, and neuroimaging) found only 113 papers on AHs, and it was noted that phenomenological studies among them were very few in number.[8] Majority of studies on hallucinatory experiences done in healthy/at-risk individuals are a mere description of phenomenon.[9,10,11,12] Limited literature is available in terms of how the chronic psychotic patients feel about the voices and how they engage or behave with them. There is a need to focus on the phenomenological aspects of auditory verbal hallucinations (AVHs) and how they are associated with the severity of psychosis, or the course of treatment.

The phenomenology of AVH can be conceptualized on three dimensions, namely, a perceptual dimension (experienced as someone speaking to the patient), a cognitive dimension (experienced as an inability to inhibit, or ignore the voices), and an emotional dimension (experienced as the "voices" having primarily a negative, or sinister, emotional tone).[13] Patients may find the experience of AHs distressing, annoying, or incriminating.[14] In some reports, AHs have been reported as positive, enhancing their self-esteem.[12]

A recent study by Luhrmann *et al*. on twenty patients each from India (Chennai), Ghana, and California, USA, found that South Indian patients were more likely to describe voices as providing useful guidance, whereas African patients were more likely to describe them as morally good and powerful, which was seen to be in contrast to Western patients who viewed them as intrusive and unreal. Indian patients had a rich relationship with voices compared to Western sample who reported violent commands, suggesting that there is a need to study and document the beliefs across patient populations from diverse geographical settings.[15,16]

Not much prior research from India has focused on the beliefs associated with voices. Few studies have explored only the content or impact of voices. An Indian study by Kumari *et al*. compared hallucinations in affective and nonaffective groups (thirty each) and found that those in nonaffective group experienced more negative impact of voices along with emotional consequences on their lives, which leads to distress and disruption.[17] In another study, the "severity of hallucinations" and "problem-solving coping" contributed significantly to the degree of distress due to hallucinations in schizophrenia. Attitudes did not seem to play any role, and beliefs associated with voices were not assessed in this study.[18]

In general, there are limited studies on the phenomenology of AVH in spite of it being a common symptom. Available studies have focused on samples with mixed diagnosis, and there is a dearth of studies from Indian subcontinent in this regard. There is some suggestion to indicate the need to study diverse populations to document their beliefs about voices. Therefore, the present study was planned as an exploratory study on treatment-seeking patients of chronic schizophrenia with persistent, significant AVH. The study aimed to understand their beliefs associated with "voices" and to assess for relationship of those beliefs to the severity of psychosis.

MATERIALS AND METHODS

Ethical clearance was obtained from the institute's ethics committee. Written informed consent was obtained from the patients prior to inclusion in the study.

Thirty individuals, aged 18–50 years, both males and females, diagnosed with schizophrenia according to the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) criteria experiencing AHs, with a total duration of illness more than 2 years, were considered for the study. Patients were included only if they had the presence of significant AVHs, which were operationally defined as voices being present for at least 50% of days in the current month, lasting for several minutes at a time, and being present during previous course or exacerbation/s of illness as per history from patient or treatment records. This meant that they were not aggressive or unmanageable but had AHs which had not remitted completely during the course (despite continuing medications). They were stable enough to not require inpatient or aggressive management, despite meeting the criteria for schizophrenia.

We excluded patients those who had (1) uncertain or unclear history of AHs or had nonverbal or elementary hallucinations, (2) current history of major psychiatric disorder (except schizophrenia) and lifetime history of any major psychiatric disorder (except schizophrenia and major depression) as per the Mini International Neuropsychiatric Interview (MINI)-7.0.0, (3) clinical history of mental retardation, (4) current/lifetime history of psychiatric comorbidity or substance use disorder as per the MINI-7.0.0 (except nicotine dependence), (5) history of significant neurological/medical illness or significant head injury, (6) hearing impairment or organic causes of hallucinations (as per clinical history), and (7) unwillingness to take part in the study. Medication intake by patients or patients being in psychotherapy was not an exclusion criterion.

The following instruments were then applied for the assessment of patients who were finally recruited in the study:

- Semi-structured pro forma: This instrument comprised of the sociodemographic details such as age, gender, and education along with clinical details such as age of onset of illness and duration of illness
- Beliefs about Voices Questionnaire-Revised (BAVQ-R): It is a 35-item scale with the following five subscales: malevolence, benevolence, omnipotence, resistance, and engagement. There are six items each in malevolence, benevolence, and omnipotence subscales and nine and eight items in resistance and engagement subscales, respectively. The resistance and engagement subscales are further divided into emotion (four items each in emotional resistance and emotional engagement) and behavior (four and five items in behavioral resistance and behavioral engagement, respectively) categories. The items are graded from "0" (disagree) to "3" (strongly agree) on a Likert scale. The interrater reliability of the scale is 0.86.[19] The scale was translated in Hindi for application in Indian patients
- Psychotic Symptom Rating Scale (PSYRATS): It is a 17-item scale with two subscales, namely, hallucination subscale (11 items) and delusion subscale (6 items). The hallucination subscale has the following 11 items: frequency, duration, location, loudness, beliefs re-origin of voices, amount of negative content, amount of distress, intensity of distress, disruption, and control. The delusion subscale has the following 6 items: amount of preoccupation, duration of preoccupation, conviction, amount of distress, intensity of distress and disruption. Each item was graded on a Likert scale from "0" (=absent) to "4" (=severe). The interrater reliability of the scale is 0.813[20]
- Scale for the Assessment of Positive Symptoms (SAPS): It is a widely used, 34-item scale with four domains to measure positive symptoms in schizophrenia, namely, hallucinations, delusions, bizarre behavior, and positive formal thought disorder, on a 6-point Likert scale. It has a high validity and an interrater reliability of 0.7–1.0.[21] The global scoring was used for the SAPS by adding the scores on item numbers 7, 20, 25, and 34, with a maximum possible score of 20[21,22]
- Scale for the Assessment of Negative Symptoms (SANS): It is another commonly used, 25-item scale with five domains to measure negative symptoms in schizophrenia, namely, affective blunting, alogia, avolition-apathy, anhedonia-asociality, and attention. It is a 6-point Likert scale and has a high validity and an interrater reliability of 0.67–0.9.[23] The global scoring was used for the SANS by adding the scores on item numbers 8, 13, 17, 22, and 25, with a maximum possible score of 25[22,23]
- Clinical Global Impression-Schizophrenia scale (CGI-SCH scale): The severity of illness, graded on a Likert scale from "1" (normal) to "7" (most severely ill), was used in the study. The interrater reliability of the scale is 0.73–0.82 (for positive, negative, cognitive, and global scores) and 0.64 (for depressive scores).[24]

RESULTS

A sample of thirty patients with DSM-5 schizophrenia with long-standing illness and having significant current AVHs (operationally predefined criteria) constituted the study sample.

Sociodemographic and clinical characteristics [Tables 1 and 2]

Table 1.

Sociodemographic and clinical characteristics (*n*=30)

	Median (IQR) or, *n* (%)
Sociodemographic variables	
Age (years)	32.0 (23.8-40.5)
Gender	
Male	19 (63.3)
Female	11 (36.7)
Marital status	
Never married	16 (53.3)
Married	14 (46.7)
Separated/divorced	-
Education	
Up to 10^{th}	14 (46.7)
Above 10^{th}	16 (53.3)
Occupational status	
Professionals	1 (3.33)
Skilled workers	1 (3.33)
Unskilled workers	5 (16.7)
Unemployed	9 (30.0)
Others	14 (46.7)
Total family income (INR per month)$^{\alpha}$	
≤10,000	6 (20.0)
>10,000	24 (80.0)
Religion	
Hindu	28 (93.3)
Others	2 (06.7)

	Median (IQR) or, *n* (%)
Clinical variables	
Age of onset (years)	22.5 (17.0-28.0)
Duration of illness (years)	7.0 (3.4-15.0)
Duration on treatment (years)	3.0 (1.9-10.5)
Past history of depression	9 (30)
Family history of psychosis	3 (10)
History of nicotine use[#]	4 (13.3)
Premorbid personality	
Well adjusted	19 (63.3)
Schizoid traits	7 (23.3)
Others	4 (13.3)

[#]All substance use disorders (except nicotine) excluded by Mini International Neuropsychiatric Interview-7.0.0, [α]70 INR=I USD. IQR – Interquartile range

Table 2.

Beliefs about voices and severity of psychosis in chronic, treatment-seeking patients with schizophrenia (*n*=30)

Study variables	Median score (IQR)
BAVQ-R	
BAVQ-R (malevolence) (0-18)	11.5 (8.8-15.0)
BAVQ-R (benevolence) (0-18)	0.5 (0.0-4.0)
BAVQ-R (omnipotence) (0-18)	13.0 (11.0-15.0)
BAVQ-R (emotional resistance) (0-12)	8.0 (6.0-10.0)
BAVQ-R (behavioral resistance) (0-18)	10.0 (6.8-12.3)
BAVQ-R (emotional engagement) (0-12)	0.0 (0.0-2.5)
BAVQ-R (behavioral engagement) (0-12)	0.0 (0.0-3.3)
PSYRATS	
PSYRATS-delusional subscale (0-24)	12.0 (9.5-16.3)
PSYRATS-hallucination subscale (0-44)	30.0 (22.0-33.0)
SAPS	
SAPS global score (0-20)	6.5 (5.0-8.0)
SANS	
SANS global score (0-25)	5.5 (0.0-12.0)
CGI-SCH	
CGI-SCH severity (1-7)	5.0 (4.0-5.0)

IQR – Interquartile range; BAVQ-R – Beliefs about Voices Questionnaire-Revised; PSYRATS – Psychotic Symptom Rating Scale; SANS – Scale for Assessment of Negative Symptoms; CGI-

SCH – Clinical Global Impression-Schizophrenia; SAPS – Scale for Assessment of Positive Symptoms

The median age of the patients was 32.0 (interquartile range [IQR]: 23.8–40.5) years. Majority of them were male, were educated above tenth grade, were Hindu by religion, and had a family income of more than INR 10,000/month. Around half of the sample were married, and nearly one-third were unemployed. The median duration of illness and treatment was 7.0 (IQR: 3.4–15.0) years and 3.0 (IQR: 1.9–10.5) years, respectively [Table 1].

Table 2 summarizes the subscale scores on the BAVQ-R. Higher scores were obtained for malevolence (11.5; IQR: 8.8–15.0), omnipotence (13; IQR: 11.0–15.0), emotional resistance (8.0; IQR: 6.0–10.0), and behavioral resistance (10.0; IQR: 6.8–12.3). On the other hand, lower scores were observed for benevolence (0.5; IQR = 0–4.0), emotional engagement (0; IQR: 0–2.5), and behavioral engagement (0; IQR: 0–2.3). Table 2 also shows the median scores on PSYRATS, SAPS, SANS, and CGI-SCH severity scales.

Relationship between Belief about Voices Questionnaire-Revised scale and clinical variables [Table 3]

Table 3.

Relationship between beliefs about voices and severity of psychosis

BAVQ-R subscales	ρ (*p* value)			
	SANS score	SAPS score	CGI SCH	PSYRATS-H
Malevolence (0-18)	−0.092 (0.628)	0.085 (0.655)	0.023 (0.904)	0.297 (0.111)
Benevolence (0-18)	−0.025 (0.896)	−0.022 (0.909)	0.193 (0.308)	−0.162 (0.393)
Omnipotence (0-18)	0.162 (0.392)	0.123 (0.519)	−0.031 (0.871)	0.513 (0.004)*
Emotional resistance (0-12)	−0.026 (0.890)	0.280 (0.135)	−0.120 (0.527)	0.496 (0.005)*
Behavioral resistance (0-18)	0.227 (0.228)	0.051 (0.790)	0.095 (0.619)	0.508 (0.004)*
Emotional engagement (0-12)	−0.193 (0.308)	−0.049 (0.797)	−0.012 (0.951)	−0.026 (0.893)
Behavioral engagement (0-12)	−0.158 (0.403)	−0.060 (0.754)	−0.019 (0.922)	−0.076 (0.688)

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*Statistically significant at $p<0.05$. Statistical analysis by Spearman's correlation. SAPS – Scale for Assessment of Positive Symptoms; SANS – Scale for Assessment of Negative Symptoms; CGI-SCH – Clinical Global Impression Scale For Schizophrenia (severity rating); PSYRATS-H – Psychotic Symptom Rating Scale (H-Hallucination subscale); BAVQ-R – Belief about Voices Questionnaire

Table 3 summarizes the relationship of beliefs about voices (BAVQ-R) with various clinical variables. No significant correlations were found with age, gender, years of education, duration of illness, and duration on treatment (not tabulated). No significant correlation was observed with the severity of psychosis (i.e., SAPS, SANS, and CGI-SCH severity scores). A significant positive correlation was, however, observed between PSYRATS-H (hallucination subscale) and BAV-Q subscales for omnipotence (ρ =0.513, *P* = 0.005), emotional resistance (ρ =0.496, *P* = 0.005), and behavioral resistance (ρ =0.508, *P* = 0.004).

DISCUSSION

The study focused on hallucinatory experiences and associated beliefs about voices among chronic schizophrenia patients who are under regular treatment and explore their relationship with the severity of hallucinations and severity of psychosis. The sample had a median duration of 7 years for psychosis, with a median duration of 3 years of being on treatment from a health-care facility. Care was taken to recruit patients with significant, persistent AVH (operationally predefined). The SAPS global score was on lower side (6.5 out of the maximum possible of 20) for the sample possibly due to a differential and better response of other psychotic symptoms to treatment relative to hallucinations. The study has several strengths in the form of rigorous selection criteria, the MINI to rule out comorbidities, use of standard assessment instruments, and a focus on a homogeneous sample of chronic psychotic patient population. Further, this particular subset of patients are most likely to be candidates for behavioral interventions in clinical settings, making this as a preliminary study geared to understand their beliefs and experiences.

The findings reveal that the sample was more likely to experience AVH as malevolent (voice trying to harm or persecute) and considered the voices to be omnipotent (i.e., considering the voices powerful, knowing everything about the patient, not being able to control the voices, and fearing that the voices will kill if disobeyed). Omnipotence of voices has been discussed as voices being extraordinarily powerful. Often along with being omnipotent, the voices are also omniscient, i.e., the patients believe that the voices know everything about them or going on in their mind. This is considered by the patients as a superhuman quality, and they see themselves as being trapped in their power. Understanding such omnipotence of voices may help in adapting the cognitive therapy (CT) to the nature of hallucinations reported by patients.[25] The sample resisted the voices emotionally (i.e., voices making the patient feel down, anxious, angry, or frightened) as well as behaviorally (patient trying to stop the voice, asking the voice to leave, preventing it, and reluctant to obey). Not many patients found the voices to be benevolent (i.e., did not consider voices to be helpful, protective, giving special power, or helping achieve a life goal) and did not tend to engage with them, either emotionally or behaviorally. Overall, the study sample experienced the voices as

more malevolent than benevolent and resisted the voices rather engaging with them. In available literature on understanding beliefs about AVH, there are only a few studies; some of them are qualitative and some have included varied set of diagnosis having AVH as a symptom, limiting a direct comparison with many of them.[12,15,16,26,27] However, it might still be worthwhile to review what is known about AVH experiences and beliefs in international as well as Indian context, to contextualize the above findings.

A recent cross-cultural, qualitative study on twenty patients from Chennai (in South India) had described the voices to be a useful guide, and patients shared a rich relationship with their voices, unlike the Western patients in the same study.[15,16] However, the present study sample (from North India) did not find the voices to be particularly benevolent and consequently did not replicate the results of that previous study. Another qualitative study[26] described the experience of 13 patients with psychosis (of which eight had schizophrenia), where the predominant theme which emerged had a negative or persecutory connotation for voices. Patients considered voices as harmful and very powerful.[26] This is broadly in consonance to the findings in the present study. Another study suggested mixed content (negative, positive, and neutral or ambiguous) across patients who experienced hallucinations.[12,27]

Several international studies have attempted to understand the beliefs about voices in schizophrenia with respect to voices in other disorders or with respect to psychological aspects such as coping or schemas. In a study from the UK, 45 patients with AVH (23 – schizophrenia, 10 – borderline personality, and 12 – both disorders) were assessed using the BAV-Q with no group differences in beliefs about the malevolence or omnipotence of voices, or in behavioral resistance or engagement. The main differential appears to be the affective response, with schizophrenia patients reporting significantly greater emotional engagement with their voices.[28] In a recent study from Australia, 34 voice hearers with a diagnosis of schizophrenia or schizoaffective disorder assessed using the PSYRATS, BAV-Q, and Brief Core Schemas scale revealed that the beliefs about voices were correlated with both negative voice content and schemas, particularly those related to self.[29]

Literature also points to negative consequences and negative impact of the beliefs on patient's mood and cognition. For example, a higher emotional resistance (but not behavioral resistance) to voices was associated with higher depression scores.[30] More malevolent beliefs (but not benevolent) predicted attentional impairments in patients.[31] On the other hand, available studies also indicate that patients with AVH (including those with malevolent voices) are generally open and keen to discuss about their experiences of hearing voices,[26] a fact that can be utilized in the behavioral intervention sessions for persistent voices in chronic psychotic patients.

The relationship between beliefs about voices and hallucinations has not been reported earlier. There was a significant positive relationship of patient's beliefs (specifically with omnipotence, emotional, and behavioral resistance) with the severity of hallucinations (PSYRATS-H). The first finding is that an increase in the severity of AVH was seen to be associated with more beliefs of omnipotence of the voices (e.g., perceived power of voices). The severity of the voices in terms of their dimensions of frequency, duration, loudness, location, distress, etc., is understandably more likely to be associated with their perceived powerful nature (or omnipotence). The second finding is that a higher emotional and behavioral resistance was noted toward the voices as their severity scores increased on the PSYRATS-H. This could be due to enhanced distress associated with more severe voices and consequent attempts at resisting them both emotionally and behaviorally. The BAVQ-R did not have a significant relationship with the global score on the SAPS; however, it is to be noted that the present study used only the global score on the SAPS (with one item no. 7 specifically pertaining to voices and the rest three items related to other aspects of psychosis). The BAVQ-R did not have any significant relationship with age, education, or other demographic factors. In future studies, there is a need to study other relevant clinical factors (e.g., insight) or sociocultural factors which may impact the beliefs about voices.

The findings have implications for clinical behavioral interventions which can be planned after a better understanding of the beliefs and experiences of treatment-seeking patients who continue to have prominent AHs. Certain aspects can be focused on nonpharmacological interventions for AHs. The therapist may gain some useful perspectives about beliefs for voices which can then be used for nonpharmacological therapies for persistent AH.[32] For example, patients with higher engagement with the voices might benefit from distraction techniques. On the other hand, patients who show higher scores on malevolence/ omnipotence/resistance may benefit from therapies teaching them better coping with the symptom, like adaptive cognitive behavior therapy (CBT). Chadwick and Birchwood[19] developed and evaluated 8-session-group CBT for 22 participants where the measures of omnipotence, control, and process were taken at assessment and at the first and last group sessions. The groups achieved a significant reduction in conviction in beliefs about omnipotence and control. Certain participants showed important spontaneous changes in behavior. Process measures suggested that participants valued the groups and benefited from them. Such treatments may prove a useful addition to the existing psychological interventions.[19] In an earlier work on a smaller sample, the same group of authors had discussed the application of an adapted version of CT for drug-resistant voices, where the beliefs about the voices' omnipotence, identity, and purpose were systematically disputed with stable reductions in distress and increased adaptive behavior.[25] From a research perspective, studies with larger sample size, with patients recruited from community clinics, may be taken up in future. Studies using qualitative as well as quantitative methods may be more useful. Future studies should also be

planned over a longitudinal period to identify the change in beliefs over the course of time or treatment.

The present study adds to the limited published literature on the experiences of AVH among chronic psychotic patients from India. A homogenous sample of chronic schizophrenia with frequent and persistent AVH was taken for assessments using standard scales. Limitations include a relatively smaller sample, though it was deemed to be sufficient for an exploratory study. The findings cannot be generalized to first-episode psychosis, psychotic mood states, or community samples. The types of hallucinations, for example, voices discussing or command voices, were not considered, which may have provided additional information. Absence of a control group with a different psychiatric disorder (such as major depressive disorder and bipolar disorder) leaves open the possibility that the hallucinatory experiences may or may not vary across groups of disorders. All patients were receiving psychotropic medications as usual which were not interfered with for ethical reasons, and the potential effect of these medications on the experiential aspects is unknown. Another limitation is that the BAVQ-R was translated in Hindi for use but was not validated in this language before application.

CONCLUSION

This study is one of the few studies in Indian patient population to assess the beliefs about hallucinatory experiences in patients with chronic schizophrenia. The study sample found voices to be more malicious and omnipotent and resisted them. The sample did not consider the voices to be benevolent with very minimal engagement with them. These beliefs were related to the severity of hallucinations but had no relation to the severity of overall psychosis.

Financial support and sponsorship

The Indian Council of Medical Research selected the MD thesis (first author) for award of the thesis grant 2015, which is duly acknowledged. This paper is based on a part of that thesis study. This research did not receive any other specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Conflicts of interest

There are no conflicts of interest.

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