Safety-seeking behaviours and verbal auditory hallucinations in schizophrenia

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ABSTRACT

Verbal auditory hallucinations can have a strong impact on the social and professional functioning of individuals diagnosed with schizophrenia. The safety-seeking behaviours used to reduce the threat associated with voices play a significant role in explaining the functional consequences of auditory hallucinations. Nevertheless, these safety-seeking behaviours have been little studied. Twenty-eight patients with schizophrenia and verbal auditory hallucinations were recruited for this study. Hallucinations were evaluated using the Psychotic Symptom Rating Scale and the Belief About Voice Questionnaire and safety behaviours using a modified version of the Safety Behaviour Questionnaire. Our results show that the vast majority of patients relies on safety behaviours to reduce the threat associated with voices. This reliance on safety behaviours is mostly explained by beliefs about origin of voices the omnipotence attributed to hallucinations and the behavioural and emotional reactions to the voices. Safety-seeking behaviours play an important role in maintaining dysfunctional beliefs with respect to voices. They should be better targeted within the cognitive and behavioural therapies for auditory hallucinations.

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1. Introduction

Psychotic symptoms may have significant consequences on behaviour, even if this was originally underestimated (Buchanan et al., 1993; Wessely et al., 1993). Auditory hallucinations can interfere with the social (Favrod et al., 2004) and professional functioning of individuals who experience them (Goghari et al., 2013). They may also interfere with compliance to medication treatment plans (Moritz et al., 2013).

Behaviours subsequent to beliefs associated with psychotic symptoms can contribute to the maintenance of those initial beliefs. Salkovskis (1991) has shown that safety-seeking behaviours are a crucial factor in maintaining anxiety disorders. He suggested that anxious individuals attempt, through these behaviours, to obtain a certain safety with respect to perceived threats. However, the use of these safety-seeking behaviours prevents the individual from learning to attribute the absence of a negative consequence to the fallacy of their beliefs about the threat in the first place. The individual believes instead, wrongly, that a catastrophe has been avoided because of their safety-seeking behaviours. Safety-seeking behaviours can be defined as preventative actions completed in order to achieve safety (Freeman et al., 2001) preventing from taking into consideration the lack of threat which would allow the reduction of anxiety (Gaynor et al., 2013).

In early research, Freeman et al. (2001) identified safety-seeking behaviours in individuals suffering from persecutory delusions. They put together a questionnaire (Safety Behaviour Questionnaire—SBQ) and identified the following behavioural categories: avoidance strategies, "in-situation" threat management strategies, escape behaviours: leaving a threatening situation, strategies of compliance, help-seeking strategies, confrontation strategies, also called aggression strategies and "delusional" strategies.

A first study (Freeman et al., 2001) with 25 patients experiencing symptoms along the schizophrenia spectrum demonstrated that the strategies the most commonly used are the following: avoidance (92%); in-situation behaviour strategies (68%); help-seeking (36%); escape (36%); compliance (24%); confrontation (20%); delusional strategies without any apparent logic (8%). A high score on the SBQ

questionnaire, notably on the avoidance scale, is associated with a high level of anxiety. A high score for compliance is associated with low self-esteem. In a second study, Freeman et al. (2007) studied a group of 100 participants with persecutory delusions and a diagnosis of schizophrenia or schizoaffective disorder. The results of this study showed that safety-seeking behaviours occurred in 96% of all participants. They replicate the proportions described above with a few variations. Again, relying on safety behaviours is associated with anxiety and depression. A third study observed safety-seeking behaviours with individuals presenting verbal auditory hallucinations (Hacker et al., 2008). This study included 30 participants with schizophrenia. The strategies the most often used were the following: avoidance (76.7%); in-situation behaviour strategies (70%); confrontation (53.3%); compliance (50%); help-seeking (40%) and escape (23.3%). This study differentiated safety-seeking strategies (found in 10% of patients) from help-seeking strategies. Safety-seeking strategies include in-situation support such as active help from external parties which would have prevented the threat from producing itself. All the same, these strategies overlap with help-seeking ones. The results of this study show that using safety-seeking behaviours is strongly associated with the omnipotence and malevolence attributed to voices. Certain aspects of the voices such as the degree and quantity of negative content as well as voice volume are significantly linked to the use of safety-seeking strategies as a means to reassure one-self. However, there exists a small literature on the omnipotent quality of voices and how that is linked to functional outcomes (Chadwick and Birchwood, 1994; Mawson et al., 2010; Peters et al., 2012). Finally, a fourth study (Gaynor et al., 2013) compared safety-seeking behaviours in a group of patients requiring care (clinical group), and a group of patients without care (non-clinical group). The study included 67 participants in all. The 39 patients in the non-clinical group had never been treated or had never sought help for their psychotic experience. The 28 patients in the clinical group were being treated for psychotic disorders at the time of the study. The two groups did not differ in terms of psychotic symptoms, but the non-clinical group presented less distress, depression or anxiety compared to the clinical group. Patients under treatment estimated to be more at risk of a threat and relied more on safety-seeking behaviours compared to the participants of the non-clinical group. Relying on safety-seeking behaviours was associated with the estimation of risk of danger and with distress. Threat evaluation and reliance on safety behaviours seemed to maintain distress, a characteristic of the clinical group. These four studies were conducted in England.

The interest of this study is to replicate in a French-speaking context previous studies. We hypothesise that patients who hear voices engage in the safety behaviours and that safety behaviours are driven by an increased conviction in beliefs.

2. Method

2.1. Participants

Participants were ambulatory patients followed by the Department of Psychiatry at the Lausanne-Vaud University Hospital and the HorizonSud Foundation in Marsens, Switzerland. To participate in the study, participants had to be between 18 and 65 years old, meet the criteria for a schizophrenia or schizoaffective disorder diagnosis as well as present with verbal auditory hallucinations. The study protocol was accepted by the Vaud Cantonal Ethics committee on human-subject research and the participants signed an informed consent form as well as demonstrated their capacity for consent (Jeste et al., 2007).

2.2. Measures

Data were collected using the following:
The safety-seeking behaviours questionnaire, SBQ (Freeman et al., 2001) was adapted for auditory hallucinations using the research by Hacker et al. (2008). This

questionnaire measures the frequency of safety-seeking behaviours. During a semi-structured interview, participants were asked to describe the actions or behaviours which they had used over the past month in an attempt to confront, minimise or stop threats experienced through verbal auditory hallucinations. In the version used, the first question situated the participant in a general way. Next, the evaluator asked more specific questions for each category of safety-seeking behaviour. An action was considered a safety-seeking behaviour if the interviewee indicated that s/he had performed said action with the aim of reducing risks leading to feared outcomes. Next, if the interviewee did not describe a safety-seeking behaviour, examples were then proposed. If the interviewee accepted a proposition, the evaluator verified how the behaviour reduced the threat before accepting it. Once a safety behaviour was identified, the interviewee was invited to measure its frequency over the course of the last month. The frequency scale involved the following anchor points: 1) Appeared at least once or occasionally. 2) Appeared at least once a week. 3) Appeared several times a week. 4) Appeared daily. Categories included avoidance, in-situation strategies, escape, compliance, help-seeking, and confrontation. Scores were calculated by multiplying the number of safety-seeking behaviours by their frequency. The total score was the sum of the different sub-scores. At the end of the interview, interviewees were asked to score (on a scale of 0 to 10) the effectiveness of their safety behaviours at reducing threat.

Suffering and interference with life were rated on a scale of 0 to 10. The SBQ has a good inter-rater agreement, acceptable test–retest reliability and validity (Freeman et al., 2001, 2007; Hacker et al., 2008). Essentially, in this study, participants' *ad verbatim* responses to the initial questions were classed into different categories by two pairs of evaluators. Results gave kappas higher than 0.80 between two pairs of evaluators on 87 observations.

The French version of the auditory hallucinations scale of the Psychotic Symptom Rating Scales (PSYRATS) (Haddock et al., 1999; Favrod et al., 2012) was used to measure verbal auditory hallucinations and delusions. Each item was measured on a scale from 0 to 4. Each item is explained using a description. The auditory hallucination scale includes 11 items: frequency, duration, location, loudness, beliefs about the origin of voice, negative content, degree of negative content, degree of distress, intensity of distress, disruption of life and control over voices. The delusion scale includes six items. The French version of the PSYRATS has an excellent inter-rater reliability and showed concurrent validity (Favrod et al., 2012).

Beliefs concerning hallucinations were evaluated using the Beliefs About Voices Questionnaire (Chadwick and Birchwood, 1995; Favrod et al., 2004). This is a self-administered questionnaire. It measures an individual's beliefs concerning verbal auditory hallucinations. It includes a scale for omnipotence, malevolence, benevolence, resistance and engagement. The French version of the BAVQ showed a good internal consistency as well as construct and concurrent validity (Favrod et al., 2004; Monestes et al., 2014).

2.3. Statistical analyses

Statistical analyses were carried out using IBM SPSS Statistics, Version 21. Correlations were calculated using bilateral Pearson product-moment correlation coefficients. Bonferroni adjustment has been set to the number of correlations to protect against type 1 error at $p < 0.003$. A hierarchical regression analysis was used to treat the role of beliefs, certain characteristics of verbal auditory hallucinations and reactions to voices versus other predictive variables when assumptions of normality were met. Bonferroni adjustment has been set to the number of correlations to protect against type 1 error at $p < 0.002$.

3. Results

Twenty-eight participants were recruited. There were 10 women and 18 men. Average age was 36.5 years (S.D.: 9.6). Antipsychotic medication dose in Chlorpromazine equivalents was 478 mg (S.D. 206.4) (Andreasen et al., 2010) with the same treatment for 4.9 years (S.D.: 5.3). Twenty-seven participants met the criteria for schizophrenia and one for schizoaffective disorder; 11 live in an independent living situation, two with their parents, five in supervised living and 10 in group homes; 21 participants work in supported employment situations, the others are unemployed. Five participants did not completed compulsory school, 10 completed compulsory school but did not obtained a professional diploma, six completed a professional apprenticeship and seven participants have secondary training. Six participants have a previous history of psychological treatment of psychotic symptoms. The average participant score on the PSYRATS hallucination scale was 24.9 (S.D. 7.4). Seven participants heard voices at least once a week, 14 at least once a day, five at least once an hour and two reported hearing voices on a nearly continual basis.