Beliefs about voices and their effects on coping strategies

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Cognitive behavioural techniques are increasingly used as adjuncts to medication in the treatment of auditory hallucinations for people with schizophrenia. There are now literally hundreds of nurses trained in the use of cognitive behavioural interventions for psychosis. However, there is still disagreement about the nature of the cognitive processes that lead to deficits or biases in patients' processing of information about their psychotic experiences. Using Chadwick & Birchwood's Beliefs About Voices Questionnaire (BAVQ), the investigator collected data regarding voices from a sample of men and women being treated for schizophrenia by secondary mental health services. The investigator then carried out a cross-lagged panel analysis of the data. The investigator found, as predicted, positive relationships between a resistive coping style and an attribution of malevolence to voices, and between an engaging coping style and an attribution of benevolence to voices. Coping and attributional styles were not necessarily stable over time. There was a non-significant difference between women's and men's attributions and coping styles. There was less fluctuation over time in the women's scores on the BAVQ. This research shows that one cannot assume that either coping or attributional style becomes more stable over time. However, while there are strong relationships between attributions and coping styles, and particularly between malevolence and resistance and benevolence and engagement, these relationships are not necessarily mutually exclusive and some people in the study believe their voices to be both malevolent and benevolent. These findings suggest that clinicians need to make a very careful assessment of attribution and coping with regard to hallucinations and that systematic reassessment is very important. Further research is necessary in both the phenomenology of

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attribution and coping, but also to relate these variables to other aspects of schizophrenic illnesses.

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INTRODUCTION

There is little doubt that drug treatments alone have only limited effects on many people who suffer from schizophrenia and a poor clinical outcome is likely to be associated, in part at least, with psycho-social factors (van Os *et al.* 1997). In addition, many people with schizophrenia suffer unremitting residual psychotic symptoms which can lead to great distress (Silverstein & Harrow 1978, Curson *et al.* 1988). It is estimated that 25% of people with schizophrenia continue to experience psychotic symptoms despite using medication (Davis & Casper 1997). This has a debilitating effect on sufferers' level of functioning, and quality of life may also be severely impaired (Browne *et al.* 1996). In addition, there is a reduced life expectancy and increased risk of suicide (Drake & Cotton 1986).

The use of cognitive behavioural therapy (CBT) as an intervention for drug-resistant psychosis has been developed over the past 10 years, particularly by psychologists. However, increasingly, CBT for psychosis is taught to other mental health professionals as an adjunctive treatment (Gournay & Birley 1998). Nurses are often in the forefront of those attending the Thorn training programme, which includes a module on psychological interventions. Yet, the efficacy of such interventions remains largely untested, and the means by which cognitive behavioural interventions achieve any clinical improvement are not well understood. In a Cochrane library review of CBT for psychosis, only four small controlled trials were identified (Jones *et al.* 1999). These trials indicated that cognitive behaviour therapy was indeed successful in reducing relapse rates, but the reviewers highlighted the need to test these interventions when delivered by a less experienced practitioner group, such as community psychiatric nurses.

The major intervention studies conducted to date consist of the following treatment components (Jones *et al.* 1999):

- The establishment by the patient of a link between thoughts, feelings and actions with regard to their psychotic symptomatology.
- The correction of misperceptions and irrational beliefs.
- The promotion of alternative ways of coping with psychosis.

Despite the positive findings reported, it is unclear whether one of the above components of CBT is particularly efficacious, and what the effect on treatment would be if the balance of the combination of components were to be changed. In short, the nature of the relationship between the attributional process which follows a psychotic experience, and the development of coping strategies, is not well understood. A greater understanding of this process could enable clinicians to target interventions more precisely.

Interest in people's attempts to control or dampen their psychotic experiences began in the 1920s (Mayer-Gross 1920). Since then it has been shown that people who hear voices often appear to develop complex, naturalistic coping strategies (Boeker *et al.* 1984, Brenner *et al.* 1987, McNally & Goldberg 1997). In a survey of talk-show callers, Romme & Escher (1989) found that the personal interpretation of the experience of hearing voices played an important part in the use of coping and self-management. Although specific treatment programmes of instruction in coping have helped to reinforce and supplement existing skills (Tarrier *et al.* 1993), Allen *et al.* (1985) found that some patients have difficulty using their skills successfully outside clinical sessions.

Romme *et al.* (1992) found that coping in their sample of people who heard voices comprised distraction, ignoring, selective listening and setting limits. Engagement with the voices was an element of coping. Conversely, Nayani & David (1996), in a phenomenological study, explored respondents' coping strategies, defined in terms of controlling their hallucinations. Respondents seemed to find that unpleasant voices were easier to control. It was clear that environmental cues as well as mood states influenced repetitions and stereotyped experiences of voices.

The process by which people attribute meaning to the voice-hearing experience is complex, and often very individual. Delusional beliefs and attributions about auditory hallucinations may be seen as attempts to explain unusual experiences. Candido & Romney (1990) and Bentall *et al.* (1991) found that people who are paranoid or deluded tend to attribute the cause of bad events to external factors and make judgements with excessive confidence, compared to depressed control groups. Chadwick & Birchwood (1994) also found that this attribution of events to external circumstances by people with auditory hallucinations produces negative consequences, such as fear and compliance with the voices. Recently, Soppitt & Birchwood (1997) showed that depression was linked to both derogatory voice content and malevolent beliefs and/or resistant coping strategies.

Equally complex are the influences of illness behaviours, including background and personal circumstances, features of the physical and social environment and symptoms (Moos & Tsu 1977). Studies of some of the factors involved in stress and coping have considered the relevance of attributions (Lazarus & Launier 1978, Roskies & Lazarus 1980). They suggest that the significance of an event is determined by the meaning attributed to it through cognitive appraisal. Secondary appraisal then occurs, involving the adoption of coping strategies according to the reaction of the individual to the event in primary appraisal. Thus coping depends on the nature of the attribution made (Takai *et al*. 1990). For people with schizophrenia, when the initial attribution made is based on faulty information processing (Bentall 1990), secondary appraisal, and therefore coping, are based on misjudgements of reality.

This proposed relationship between attribution and coping implies that, for a psychological treatment to be as effective as possible, modification of attribution of symptoms should be coupled with coping strategy enhancement. The majority of studies have tended to concentrate on either developing coping skills (Tarrier *et al*. 1993), or on applying cognitive behavioural treatments to delusional beliefs (Chadwick & Lowe 1990, Garety *et al*. 1994). However, most studies of attributional change have been single cases or small samples from which it is difficult to generalize conclusions. As a result anodyne recommendations about treatment are made. For example, Fowler *et al*. (1995) concluded that psychotherapeutic interventions with people with psychosis should be rooted in collaborative work with the individual to promote awareness and acceptance of the psychosis. More recently, larger scale randomized controlled trials of CBT for psychosis have demonstrated significant clinical improvements (Drury *et al*. 1996, Kuipers *et al*. 1998, Tarrier *et al*. 1998). However, it remains unclear which aspects of the CBT interventions were particularly potent, and how the relationship between cognitive and behavioural aspects of the work contributed to the overall success of the programmes. The present study attempts to achieve greater specificity about the potential targets for cognitive-behavioural intervention by attending to the phenomenology of experiences of auditory hallucinations.

METHOD

Design

The design of the investigation involved an assessment on two occasions from the same group of respondents, using the same measure on each occasion. This design thus allowed for measurement of the correlation between attributional and coping variables both cross-sectionally and over time.

Sample

The sample consisted of 26 people with schizophrenia who were receiving either in-patient or out-patient treatment from an inner London hospital and a psychiatric unit attached to a district general hospital. The mean age of the sample was 37·6 years, ranging between 19 and 65 years of age. The mean age of onset of schizophrenia was 22·9 and the mean duration of illness was 15·1 years. There were 13 male and 13 female respondents. The following inclusion criteria were employed: aged 18–65, diagnosis of schizophrenia, in receipt of treatment from specialist psychiatric services, history of hearing voices for a minimum of 6 months, voices present despite neuroleptic medication, consenting to the study, able to complete the questionnaire at times 1 and 2, not suffering organic brain disease, no current psychological treatment, no primary diagnosis of drug or alcohol use, and no coexisting physical illness.

Measure

The investigator asked clinicians to invite patients who had given informed consent to participate in the study to complete the Beliefs About Voices Questionnaire (BAVQ) (Chadwick & Birchwood 1994), a 30-item questionnaire, during routine consultations. Ease of administration was an important consideration. The BAVQ has several advantages in this respect. Questions require a simple yes/no answer, the questionnaire takes only 5 minutes to complete and can be administered without the need for extensive training, and it is not intrusive. An incidental advantage to the clinician is that it has been found to ease communication about voices without causing distress (Chadwick & Birchwood 1995).

Chadwick & Birchwood (1994) used the dimensions of malevolence, benevolence, engagement and resistance to categorize cognitive, behavioural and affective responses to voices. They developed the BAVQ to further establish these dimensions as markers of the voices' characteristics (Chadwick & Birchwood 1995). Items 1–12 measure cognitive reaction and enable categorization of attribution about the voices into two groups: malevolent and benevolent. Item 13 measures the perceived power of the voice. Items 14–30 measure behavioural and affective responses that are categorized as either resistive or engaging. For the purposes of this study the investigator took these responses as analogues of coping styles. On psychometric investigation, the BAVQ has proved to be a valid and reliable measure of malevolence, benevolence, resistance and engagement, with high test–retest and internal reliability correlation (Chadwick & Birchwood 1995).

Procedure

The investigator asked key-workers and named nurses of respondents selected to take part in the study to inform patients about the study using a standardized information sheet, to obtain written consent and then to ask their patients to complete the BAVQ. The same staff re-administered the questionnaire to the same respondents after an interval of 4 weeks. Demographic data and information regarding age at onset and duration of illness was taken from case notes.

RESULTS

Table 1 presents the mean and range for each of the dimensions measured by the BAVQ. These scores are similar to those presented by Chadwick & Birchwood (1995) in their psychometric evaluation of the questionnaire, although there are some differences. The mean scores for benevolence, resistance and engagement were higher in the present study, possibly reflecting the difference in gender distribution between the studies. Within the present study, the minimum score recorded for resistance was 3, rather than the 0 reported by Chadwick & Birchwood (1995).

The relationship between attribution and coping was measured by categorizing malevolent and benevolent beliefs as attributional styles, and resistance and engagement with the voices as coping strategies. Scores for each category were calculated at time 1 and time 2. In order to measure the strength of association between the attributional and coping factors, the investigator analysed results using cross-lagged correlations (Campbell & Stanley. 1963). Correlations were calculated using Pearson correlation coefficients (see Figure 1). Results are presented to include the correlation coefficient score (r), 95% confidence intervals, and significance level (P).

Before the study began the investigator predicted that the study would find positive relationships between malevolence and resistance, and benevolence and engagement, and negative relationships between malevolence and engagement, and benevolence and resistance. These predictions were largely supported by the findings. The relationship between benevolence and engagement was particularly strong, both at times 1 and 2, and over time, with the weakest association occurring between variables benevolence time 2 and engagement time 1 ($r = 0{\cdot}69$ (0·42, 0·85), $P < 0{\cdot}001$). This seems to indicate that benign attribution of voices is strongly associated with coping strategies which encourage involvement with voices. The relationship between malevolence and resistance was less strong, but positive correlations were also found, with stronger associations across time than between malevolence and resistance at time 1. This suggests that there is an association between hearing voices which are felt to be destructive and unpleasant, and resistive (perhaps avoidant) coping strategies.

Although each variable appeared to be positively correlated over time, attribution and coping did not remain static over time, with malevolence showing the greatest instability ($r = 0{\cdot}58$ (0·25, 0·79), $P < 0{\cdot}01$) and benevolence the least change over time ($r = 0{\cdot}77$ (0·55, 0·89), $P < 0{\cdot}001$). Engagement and resistance fell between these two extremes.

Despite the strong positive correlations between malevolence and resistance, and benevolence and engagement, these relationships were not found to be mutually exclusive. High levels of negative correlation were not always found when expected to occur. Malevolence time 1/benevolence time 2, and malevolence time 2/benevolence time 2 showed a confidence interval of between 0·20 and 0·77, which suggests that there was a degree of negative correlation between these variables, but benevolence time 1/malevolence times 1 and 2 showed only a weak negative relationship, with a confidence interval 0·00 to 0·70, which was too wide-ranging to infer any significant relationship. This suggests that some people believed their voices to be both malevolent and benevolent simultaneously, or did not believe them to be either malevolent or benevolent.

The negative relationship between benevolence and resistance appeared to be stronger than that between malevolence and engagement, with higher levels of negative correlation. It appears that people with a malevolent

Table 1 Scores achieved in dimensions of the BAVQ at times 1 and 2 (n = 26)

Variable	Mean score	SD	95% C.I.	Minimum	Maximum
Malevolence time 1	3·19	2·14	2·33, 4·05	0	6
Malevolence time 2	2·92	1·96	2·13, 3·71	0	6
Benevolence time 1	2·25	2·26	1·34, 3·16	0	6
Benevolence time 2	2·50	2·32	1·56, 3·44	0	6
Resistance time 1	6·35	2·00	5·54, 7·17	3	9
Resistance time 2	6·58	1·92	5·80, 7·36	3	9
Engagement time 1	3·27	2·60	2·22, 4·32	0	8
Engagement time 2	3·00	2·88	1·84, 4·14	0	8

Figure 1 Pearson correlation coefficients (number of cases = 26; 95% confidence interval in parentheses).

	Malevolence Time 1	Malevolence Time 2	Benevolence Time 1	Benevolence Time 2	Resistance Time 1	Resistance Time 2	Engagement Time 1	Engagement Time 2
Malevolence Time 1	1.00 P= 0.							
Malevolence Time 2	0.58 (0.25, 0.79) P= 0.002	1.00 P= 0.0						
Benevolence Time 1	–0.43 (0.06, 0.70) P= 0.029	–0.35 (0.00, 0.65) P= 0.083	1.00 P= 0.0					
Benevolence Time 2	–0.54 (0.20, 0.76) P= 0.005	–0.56 (0.23, 0.77) P= 0.003	0.77 (0.55, 0.89) P= 0.000	1.00 P= 0.0				
Resistance Time 1	0.52 (0.18, 0.75) P= 0.007	0.70 (0.44, 0.85) P= 0.000	–0.54 (0.20, 0.76) P= 0.004	–0.70 (0.44, 0.85) P= 0.000	1.00 P= 0.0			
Resistance Time 2	0.60 (0.29, 0.80) P= 0.001	0.63 (0.33, 0.81) P= 0.001	–0.33 (0.00, 0.63) P= 0.101	–0.59 (0.27, 0.79) P= 0.001	0.71 (0.45, 0.86) P= 0.000	1.00 P= 0.0		
Engagement Time 1	–0.33 (0.00, 0.63) P= 0.104	–0.41 (0.04, 0.69) P= 0.036	0.87 (0.73, 0.94) P= 0.000	0.69 (0.42, 0.85) P= 0.000	–0.55 (0.22, 0.77) P= 0.003	–0.32 (0.00, 0.62) P= 0.113	1.00 P= 0.0	
Engagement Time 2	–0.53 (0.19, 0.76) P= 0.006	–0.51 (0.16, 0.74) P= 0.008	0.72 (0.47, 0.86) P= 0.000	0.84 (0.68, 0.92) P= 0.000	–0.61 (0.30, 0.80) P= 0.001	–0.61 (0.30, 0.80) P= 0.001	0.73 (0.47, 0.86) P= 0.000	1.00 P= 0.0

attributional style were more likely to have an engaging coping style than people with a benevolent attributional style were to have a resistive coping style. However, anomalies appeared in both instances (benevolence time 1/resistance time 2, $r = -0{\cdot}33$ (0·00·63), $P = 0{\cdot}101$, and malevolence time 1/engagement time 1, $r = 0{\cdot}33$ (0·00, 0·63), $P = 0{\cdot}104$), suggesting that, on occasions, people who hear benevolent voices will try to resist them, and people who hear malevolent voices will attempt to encourage them.

Resistive and engaging coping styles were also not mutually exclusive over time, with the relationship between engagement at time 1 and resistance at time 2 demonstrating only a weak negative correlation ($r = -0{\cdot}32$ (0·00, 0·62). $P = 0{\cdot}113$). Thus, it appears that coping styles may fluctuate between resistance and engagement over time.

A non-significant, yet notable difference was detected between the scores of men and women (see Figure 2). The mean of women's scores on all the attribution and coping variables were higher than the corresponding mean scores for men, and fluctuated less over time.

DISCUSSION

This study concerns an area which is of increasing relevance for mental health nurses. Current programmes such as Thorn (Gournay & Birley 1998) emphasize the structured assessment of symptoms, and this study highlights that the hallucinations experienced by people with schizophrenia require very careful consideration. These findings suggest that the relationship between the beliefs about voices and the coping style adopted is strong but on occasions, very complex. The results indicate that within a sample of in- and out-patients with schizophrenia who hear voices, there are strong correlations between types of belief systems, and coping strategies employed to deal with the experience of hearing voices. This is particularly true of people who hear benevolent voices and attempt to engage the voices, supporting earlier findings that some people with schizophrenia may actually find satisfaction in the psychotic experience (Roberts 1991).

This strong association between coping and hearing pleasant voices was also found by Nayani & David (1996). Similarly, those who experience malevolent voices

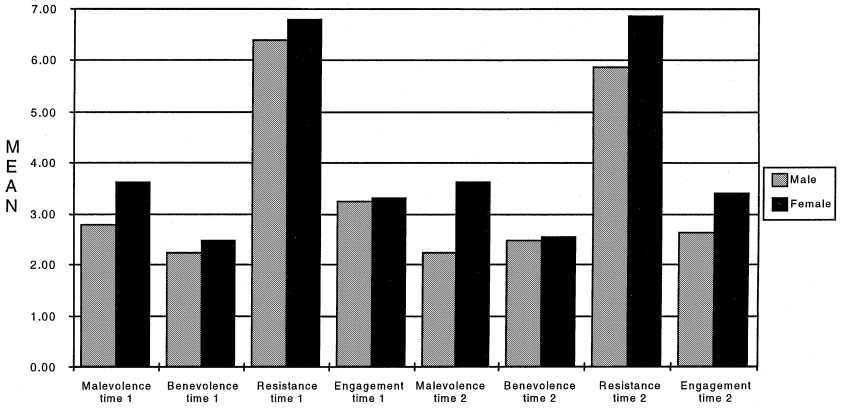

Figure 2 Mean attribution and coping scores for men and women at times 1 and 2.

appear, unsurprisingly, to employ resistive coping strategies. Anomalies did occur within the findings of the present study, with results suggesting that some people in the sample held conflicting beliefs about their voices and that both beliefs and coping strategies fluctuated over time. Thus, the relationship between coping and attributional styles is not as simple as might be assumed and the complexity of the relationship has implications for ensuring that treatment strategies are responsive to ambiguous beliefs. When teaching and applying psychological interventions, these temporal variations need to be considered carefully, and regular assessments made. Thus, a nurse in a community mental health setting who is using cognitive behavioural techniques should recognize that careful reassessment of symptoms is necessary in order to deliver effective interventions.

The design of the study does not allow any causal inference to be drawn, but previous studies have strongly implied that coping styles depend on the nature of attributions (Thurm & Haefner 1987, Takai *et al.* 1990). The use of a panel design allowed for measurement of temporal variations in the respondents' beliefs and coping styles. The investigator found that both may change over time. This indicates that irrespective of the treatment regimen, any form of psychological treatment should be based on regular assessment, and must be flexible according to the fluctuating needs of the individual in treatment. Further research with larger samples might use a wider battery of measures and it is possible that more sophisticated statistical procedures, such as structural equation modelling, may help develop models which demonstrate causation.

While the results of studies of cognitive behaviour therapy for psychosis (e.g. Garety *et al.* 1997, Kuipers *et al.* 1998) are promising, there is great need for further research concerning the specificity of interventions aimed at changing attributional styles and coping, and at the same time, a need to measure the effects on these variables by medication alone. Currently, CBT is generally delivered by highly trained and experienced psychologists. Given the adoption of CBT techniques by nurses, through programmes such as Thorn, it is important that further research into this area includes evaluations of nurse-delivered interventions (Jones *et al.* 1999). It is essential that such nurses recognize the complexities of attributional constructs, and their relationships with coping strategies.

The differences in results between men and women are consistent with earlier findings that women tend to report more florid and more positive symptoms than men (Goldstein & Link 1988, Flor-Henry 1990). Women generally have better premorbid functioning and quality of life than men (Shtasel *et al.* 1992), which may account for higher reported levels of coping behaviour, be it resistive or engaging.

CONCLUSIONS

This small-scale study highlights the significance of a relationship between attribution and coping for clinical practice and for research. Clearly, the temporal and phenomenological variations in both attribution and the use of coping strategies require regular assessment. In future, research needs not only to concentrate on these specific cognitive phenomena but also to place these phenomena in the context of other psychological, social and behavioural variables.

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