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A Pilot Study Investigating the Use of Psychological Formulations to Modify Psychiatric Staff Perceptions of Service Users with Psychosis

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Background: Psychiatric staff play a key role in the lives of people with psychosis and the quality of staff and service user relationships is associated with relapse and recovery. One factor that might determine the capacity of staff to form positive therapeutic relationships is their appraisals of service users' mental health problems. **Method:** A pilot intervention was implemented with psychiatric staff that involved helping them develop psychological formulations for individual service users. Staff perceptions of service users' mental health problems were measured before and after the intervention using Likert scales. Data at the two time points were collated for 30 staff. **Results:** There was a significant increase in staff perceptions of the degree of control service users and themselves had over problems, an increase in the degree of effort they felt service users were making in coping, reductions in blame, and more optimism about treatment. Staff also reported an increase in understanding of service users' problems, more positive feelings towards service users, and an increase in confidence in their work. **Conclusions:** Results from this pilot are promising, but findings warrant replication in controlled studies. It is also important to establish whether changes in staff perceptions influence the actual nature of staff-service user relationships.

Keywords: Psychosis, psychiatric staff, formulations, perceptions.

Introduction

Relationships with psychiatric staff are often of central importance to people with psychosis as wider social networks can diminish as a consequence of mental health problems (Randolph, 1998). It is therefore not surprising that the quality of staff and service user relationships is a key determinant of recovery and relapse (Penn et al., 2004). There is limited research investigating factors predicting the quality of therapeutic relationships in psychosis and the findings from the few studies in this area are inconsistent. Some researchers report significant positive associations between relationship quality and symptoms (Moore and Kuipers, 1992; Oliver and Kuipers, 1996). These findings have not been confirmed by all studies, but there is more agreement about a positive association between poorer relationships and worse patient functioning (Finnema, Louwerens, Slooff and van den Bosch 1996; Barrowclough et al., 2001). There is some evidence that staff characteristics, such as desire to leave the work place and

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openness to experience, are associated with relationship quality. However, research examining staff predictors of relationships is even more limited than that examining patient predictors (Van Audenhove and Van Humbeeck, 2003).

Research with the relatives of people with schizophrenia has shown that relatives' beliefs about the nature of mental health symptoms play an important role in influencing the emotional climate of relationships. Relatives who are critical and hostile are more likely to believe that service users are responsible for their problems, that they could do more to control symptoms, and that problems are more likely to endure (Barrowclough and Hooley, 2003). Criticism and hostility are conceptualized as the carer's attempts to modify or change behaviours (Wearden, Tarrier, Barrowclough, Zastowny and Rahill, 2000). This research draws on Weiner's (1985) theory of attributions, which emphasizes that emotional and behavioural reactions to events are determined by the individual's attributional appraisal of situations. For example, the belief that the individual can control his/her behaviour is associated with anger. Conversely, the belief that the person has an illness is associated with a perceived lack of personal control to the person and helpful behaviour on the part of the observer.

Consistent with research with relatives, one study involving patients with schizophrenia and staff in a psychiatric inpatient setting found that criticism was associated with staff perceptions of symptoms as being under the service user's control and more stable (Barrowclough et al., 2001). Negative symptoms, such as poor motivation and reduced social functioning, and behaviours such as violence and aggression are also more likely to be associated with staff criticism than positive symptoms, such as hallucinations and delusions. These findings are possibly associated with the fact that positive symptoms are more likely to be attributed to an "illness" and therefore beyond the individual's control (Moore, Ball and Kuipers, 1992; Barrowclough et al., 2001).

Psychological formulations provide a framework for drawing together a range of different factors that might contribute to the development and maintenance of problems (Kinderman, 2005). Developing psychological formulations of service users' needs with psychiatric staff teams may encourage them to develop more benign appraisals of "problem behaviours" and feel more equipped in dealing with them. The process of developing formulations with teams has been described previously (Davenport, 2002; Summers, 2006). Qualitative interviews with staff involved suggested positive benefits in terms of staff understanding, care planning, staff-service user relationships, staff satisfaction and team working (Summers, 2006).

One previous study of training and supervision in cognitive behavioural formulation for staff involved in the care of service users who were homeless found that staff reported reduced hopelessness and decreased stress levels following the programme (Maguire, 2006). However, as this programme also involved individual therapy for service users, it is unclear whether the positive impact on staff perceptions was specifically related to the staff training and supervision in formulations. To our knowledge, there are no published studies examining the effect of formulations on other types of staff appraisals, including causal attributions and beliefs about the degree to which service users are to blame for or can control their mental health problems.

We therefore aimed to develop formulations of individual service users' mental health needs with staff teams and explore the effects of the formulation process on staff appraisals. We predicted that following the development of formulations, staff would make more benign appraisals of service users' mental health problems. More specifically, on the basis of previous

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research with both relatives and staff, we predicted that staff would be less likely to attribute control or responsibility to service users for their mental health problems and less likely to predict that problems would endure. On the basis of previous research investigating the development of formulations with staff teams, we predicted that staff would report more understanding of service users' problems, less negative feelings towards working with service users, and more confidence in their work. We also explored changes in staff perceptions of their own control over service users' problems, as although appraisals of personal control have been associated with over involved responses in relatives (Barrowclough and Hooley, 2003), over involvement is less common in the context of staff and patient relationships (Van Audenhove and Van Humbeeck, 2003). Increased perceptions of control might reflect increased confidence in working with difficult behaviours.

Method

Participants

The sample comprised 30 staff from three psychiatric rehabilitation units in Greater Manchester. All units provided 24-hour care to service users with severe and enduring mental health problems, who often had multiple care needs and a history of disengagement from mainstream services. Fifty percent ($n = 15$) were female, the mean age was 39.87 ($SD = 8.01$) years and 90% were White British ($n = 27$). Staff had a mean of 9.14 ($SD = 8.01$) years of experience in mental health, had known individual service users for a mean number of 2.64 ($SD = 1.45$) years, 53.3% ($n = 16$) were registered mental health nurses and 46.7% ($n = 14$) were mental health support workers. Formulations were developed for seven patients who were residents in the rehabilitation units. All service users had a diagnosis of schizophrenia recorded in their case notes and were male. Their mean age was 49.3 ($SD = 10.1$) years and the mean illness duration was 20.4 ($SD = 8.1$) years.

Measures

Staff perceptions were measured using Likert scales (range = 0–10) based on the Brief Illness Perception Questionnaire (IPQ; Broadbent, Petrie, Main and Weinman, 2006) and the Illness Perception Questionnaire for Schizophrenia (Lobban, Barrowclough and Jones, 2005). Individual scale items were selected that reflected perceived causes and control over mental health problems, as well as their stability. Measures of staff understanding of problems, negative feelings towards service users and confidence in their work were also included. Likert measures of illness perceptions have been shown to have good test re-test reliability over time periods of 3 and 6 weeks, and good concurrent validity with more lengthy measures of perceptions (Broadbent et al., 2006)

Procedures

Formulation meetings were attended by groups of between four and eight staff members and consisted of 1½–2-hour meetings carried out over shift handover periods. All staff who were on shift at the time the interventions were carried out were invited and attended. Pre- and post-measures were administered with 30 different staff from these services immediately prior to the

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intervention and at the end of the staff member's shift (between 1–6 hours post-intervention). Demographic information was recorded pre-intervention, but responses on questionnaires were anonymized and returned in sealed envelopes to minimize response bias. No staff refused to complete measures.

The intervention was carried out by a clinical psychologist and involved helping staff to understand psychological factors that might be involved in the development and maintenance of service users' problems. Each intervention was focused on a specific service user selected by the staff team and began by identifying needs or "problem behaviours" the staff were currently struggling with or wanted to understand. Staff identified a range of behaviours, including aggression, paranoid delusions, poor motivation, social withdrawal, poor self-care and "attention seeking", with more than one problem being identified for each service user. Following the identification of a problem list, the psychologist helped staff to think about significant events in the service user's life, including those he had experienced prior to and following his diagnosis. This process was facilitated by reviewing case notes.

Using Socratic questioning, staff were then asked to think about the possible impact of these experiences on the service user's belief system. Beck's (1976) cognitive model was used to structure this discussion and develop a preliminary longitudinal formulation. The formulation was used to generate hypotheses about possible triggers of psychological distress for the service user and his preferred ways of coping, which were often related to the problem behaviours initially identified. The identification of coping strategies was followed by a discussion of their possible effects on problem maintenance and staff and service user interactions. Maintenance formulations were based on cognitive behavioural models, although interpersonal theories, including cognitive analytic theory (Ryle and Kerr, 2002) and attachment theory (Bowlby, 1982) were used to help formulate the role of staff and service user interactions. The sessions concluded by ensuring that "problem behaviours" could be understood in the context of the formulation and a discussion of the implications for support plans (See Appendix for case example). Only one formulation meeting was carried out for each service user and only one patient was reviewed at each meeting.

Data analysis

Prior to carrying out the analyses, data sets were screened for normality using Kolmogorov-Smirnov tests and outliers using z scores. None of the variables differed significantly from the normal distribution at the .01 level and there were no significant outliers. Changes in staff appraisals were assessed using repeated measures *t*-tests, which are fairly robust in samples of this size (Field, 2000). All data were analysed using SPSS for windows version 13.

Results

There were significant changes in staff perceptions of service users' problems on all the dimensions assessed and as predicted in the majority of cases the direction of changes in mean ratings seemed to indicate that staff had more helpful attitudes towards working with service users following the intervention. Post-intervention staff rated service users as putting more effort into getting well, being less likely to have caused their problems themselves and being less likely to blame for their problems. Staff ratings for the likely duration of problems decreased, whereas ratings for treatment efficacy increased. Staff also reported that they had a

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Table 1. Changes in staff perceptions from pre- to post-intervention

Item (Scale 0–10)	Mean score pre-intervention (*SD*)	Mean score post-intervention (*SD*)	*t* (*df*)	*p*
How much control do you feel your client has over his/her mental health problems?	4.47 (1.53)	5.30 (1.78)	−3.17 (29)	.004
How much control do you feel you have over your client's mental health problems?	4.17 (1.58)	5.67 (1.40)	−6.17 (29)	<.001
How much effort do you think your client is making to get well?	5.13 (2.05)	6.73 (1.72)	−6.87 (29)	<.001
To what extent do you think your client's mental health problems were caused by his/her own behaviour?	3.70 (2.12)	2.60 (2.30)	2.88 (29)	.007
How much do you think your client is to blame for his/her mental health problems?	2.70 (2.56)	1.30 (1.66)	4.11 (29)	<.001
How long do you think your client's mental health problems will continue?	7.00 (2.36)	6.40 (2.22)	2.43 (29)	.022
How much do you think your client's treatment can help with his/her mental health problems?	5.67 (2.11)	6.70 (1.44)	−3.62 (29)	.001
How well do you feel you understand your client's mental health problems?	5.07 (2.21)	6.73 (1.44)	−5.69 (29)	<.001
Please rate how negatively you feel about your client	3.93 (1.93)	2.43 (1.17)	5.64 (29)	<.001
Please rate how confident you feel in working with your client	6.10 (2.28)	7.27 (1.74)	−4.00 (29)	<.001

better understanding of service users' problems, rated their feelings towards service users as being less negative and reported greater confidence in working with service users. However, contrary to predictions, mean scores suggested that, post-intervention, staff were more likely to perceive that service users had greater control over problems. Similarly, following the intervention, staff reported that they themselves had more control over service users' problems (See Table 1).

Discussion

The study demonstrated statistically significant changes in staff perceptions of service users' problems in all domains assessed. These findings extend previous research by providing empirical evidence to support the impact of formulations on a broad range of staff appraisals of

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service users' problems, even in the absence of individual therapy with clients (Maguire, 2006; Summers, 2006). Contrary to predictions, there were actually increases in staff perceptions of service users' control over problems. There were also increases in staff members' perceptions of their own control over problems. Previous research with relatives has suggested that when relatives believe that service users have high levels of control over their problems they demonstrate greater criticism and hostility, whereas when relatives believe that they themselves have high levels of control over problems they demonstrate over involved responses (Barrowclough and Hooley, 2003). Participants in the present study were asked to think about control in terms of how easy it would be for them or the service user to improve problems. It is therefore possible that increases in perceptions of control may reflect greater confidence in addressing the person's problems rather than judgements of intentionality, responsibility or blame. The direction of changes in other staff perceptions measured in this study would seem to support this hypothesis.

Previous research with relatives of service users with schizophrenia has found that relatives with a more coherent understanding of the service user's mental health problems felt more able to control them, and increased control over symptoms was associated with more optimistic attitudes towards treatment (Lobban et al., 2005). It is therefore possible that the intervention enhanced staff members' understanding of problems, which impacted on their sense of control and perceptions of the feasibility of change. There were improvements in staff perceptions of their level of understanding of service users' needs, which also suggests the alternative perspective offered by the formulation enhanced staff knowledge and did not result in increased confusion.

Improvements in staff optimism are likely to have a positive impact on relationships with service users. Many service users with mental health problems may feel hopeless and an essential ingredient in promoting recovery is to create a hope inspiring environment (Perkins, 2001). Previous research has also found associations between perceptions of illness being stable and criticism in both relatives (Barrowclough and Hooley, 2003) and staff (Barrowclough et al., 2001), suggesting that increased optimism about change may lead to reduced criticism.

The study primarily focused on assessing changes in staff cognitive appraisals of problems. We did, however, include one measure assessing the degree of positive versus negative feelings the staff member had towards the service user. Decreases in the degree of negative feelings reported are in line with positive changes in relation to cognitive appraisals. Changes in staff feelings towards clients may have important clinical implications as previous research suggests that service users are aware of staff negative feelings towards them (Barrowclough et al., 2001).

This research was a pilot study assessing whether it was possible to influence staff perceptions via formulations. We recognize that staff completed the questionnaire twice in a very short space of time and may well have been aware of "desired" changes in their perceptions. Significant changes in staff perceptions may therefore have been simply due to the demand characteristics of the situation. Similarly, in the absence of a control group, it is possible that positive findings were attributable to non-specific factors. As formulations were carried out for only seven patients, with groups of staff completing measures for the same patients, non-independence of data is a further potential confounding factor. The study also carried out multiple tests, thus increasing the probability of type 1 errors. Although using Bonferonni corrections may have controlled for this threat to validity, given the exploratory nature of the study adopting such a conservative approach may have led to important findings

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being missed (Perneger, 1998). Given the above limitations, the study needs to be replicated using more rigorous designs. This might include incorporating a baseline period of assessment or a control group, such as a general forum for staff to discuss interactions with service users. This might additionally include longer follow-ups, and a sufficiently large sample to permit more sophisticated analyses to adjust for "clustering" within staff and multiple testing. The formulations were also developed with staff in 24-hour supported settings, similar to those described in previous papers (Davenport, 2002; Summers, 2006). The extent to which findings generalize to more diverse settings or members of staff with different backgrounds and experiences therefore needs to be assessed.

Changes in staff perceptions may well have an impact on staff and service user interactions given previous research suggesting associations between appraisals and the emotional climate of relationships (Barrowclough and Hooley, 2003). However, the effect of the intervention on staff and service user relationships was not assessed in this study and although findings were statistically significant, their clinical significance is unclear. Future studies should directly measure the impact of the intervention on relationships from both staff and service user perspectives. Previous studies that have tried to reduce staff criticism and hostility via improving staff knowledge of the symptoms of schizophrenia have had limited success (Finemma et al., 1996; Willetts and Leff, 1997).

The process of developing individualized formulations may be more effective than standardized psychoeducational approaches in changing staff appraisals and interactions with service users, in the same way that successful family interventions require the therapist to tailor the approach to each family's unique needs (Barrowclough and Tarrier, 1992). Further thought may, however, have to be given to how formulations influence support plans, as in Summer's (2006) qualitative study the most frequently cited limitation of formulations was their lack of impact on patient care. Ensuring that initial benefits derived from formulations are translated into practice may necessitate developing and revising formulations with teams on a regular basis. Indeed, formulations only provide a working hypothesis of service users' needs and should be tested and modified over time (Kinderman and Lobban, 2000).

Despite these caveats, the results of this pilot study are promising and highlight the need for more controlled studies of the impact of formulations not only on staff perceptions but also on staff and service user relationships. Frontline staff often have limited access to psychological expertise and the provision of training or supervision to other professional groups may be an effective use of scarce clinical psychology resources within the NHS (British Psychological Society, 2002). The preliminary results of this study suggest that psychological formulations may be an effective way of providing increased access to psychological support.

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Appendix: Case example

John was 42 years old and had a diagnosis of schizophrenia. He had been a resident in the rehabilitation unit for 6 months and staff were experiencing difficulties in engaging him in a therapeutic relationship and in rehabilitation programmes. The meeting began by generating a list of significant events in John's life, which are summarized in Figure 1. The staff were then asked to think about the possible impact of these events on John's belief system, triggers for psychological distress, possible ways of coping, and the consequences of these for staff and patient relationships. For example, it was hypothesized that John had had limited opportunities to develop positive relationships in his life and therefore had negative

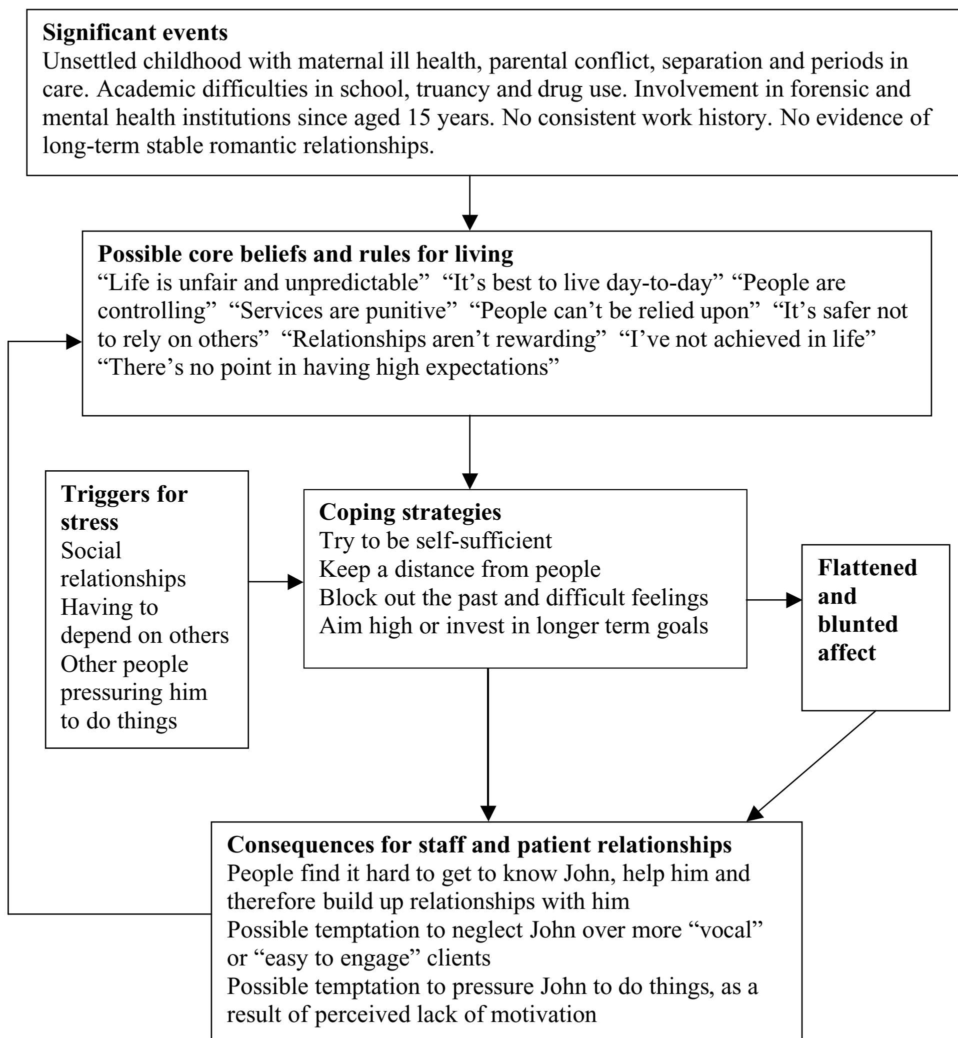

Figure 1. Diagrammatic formulation for case example

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expectations of others. These negative expectations may lead him to withdraw from others and strive for self-sufficiency. In turn, these response styles may mean it is hard for staff to get to know and support John in his recovery, thus reinforcing his negative expectations of relationships. It was also hypothesized that John's limited opportunities to obtain socially valued goals may have led him to develop low expectations and not invest in longer term goals. These coping strategies may mean John does not see the point or purpose in engaging in rehabilitation programmes or taking alternative steps to move his life forward, thus reinforcing negative expectations about his ability to achieve. In addition, staff noted that John's affect was significantly flat or blunted. It was hypothesized that emotional blunting may be one way in which John copes with distressing past experiences, but that this too may make it harder to engage him in social relationships and rehabilitation programmes. The meeting concluded by discussing implications for support plans. For example, it was agreed that opportunities to develop rewarding relationships with staff and achieve small steps in his recovery may help John to change negative beliefs about others and negative expectations about his capacity to achieve goals. However, the team recognized that it may take considerable time and perseverance to modify John's beliefs due to his long history of negative experiences. In developing rewarding relationships and challenging his negative expectations, the team agreed that it would be essential to allow John to get to know them at his own pace and avoid attempts to pressure him to do things. Overly enthusiastic attempts at engaging him in social or therapeutic activities might reinforce his beliefs that other people are controlling and social interactions are not rewarding.

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