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Impact of Mindfulness on Cognition and Affect in Voice Hearing: Evidence from Two Case Studies

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Background: There is a small body of research indicating that mindfulness training can be beneficial for people with distressing psychosis. What is not yet clear is whether mindfulness effects change in affect and cognition associated with voices specifically. This study examined the hypothesis that mindfulness training alone would lead to change in distress and cognition (belief conviction) in people with distressing voices. **Method:** Two case studies are presented. Participants experienced long-standing distressing voices. Belief conviction and distress were measured twice weekly through baseline and mindfulness intervention. Mindfulness in relation to voices was measured at the start of baseline and end of intervention. **Results:** Following a relatively stable baseline phase, after 2–3 weeks of mindfulness practice, belief conviction and distress fell for both participants. Both participants' mindfulness scores were higher post treatment. **Conclusion:** Findings show that mindfulness training has an impact on cognition and affect specifically associated with voices, and thereby beneficially alters relationship with voices.

Keywords: Mindfulness, voices, belief conviction, distress.

Introduction

Cognitive behavioural interventions assume reciprocal relationships between cognition, affect, and behaviour. We need to understand these relationships if we are to develop effective clinical

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interventions. In their analysis of "where the action is in cognitive therapy", Barber and DeRubeis (1989) hypothesized that CBT reduces distress through processes of deactivation and compensation. Deactivation involves the development and preferential access of alternatives to distressing cognitions (i.e. the problem thought no longer occurs). In compensation, the original thought persists, but the person learns to respond differently so as to reduce distress and disturbed behaviour. More recent theories of psychotherapeutic change have also highlighted the role of relationship with internal experience. Teasdale and colleagues argue that CBT for depression is effective by teaching patients to "decentre" from thoughts and feelings to disrupt problematic thinking patterns and prevent common states of dysphoria triggering relapse (Teasdale et al., 2002). Mindfulness Based Cognitive Therapy (MBCT: Segal, Williams and Teasdale, 2002) for depression grew out of this insight – that is, it teaches people to be mindful of dysphoria, automatic negative thoughts and images when they enter awareness (an example of compensation).

Concerns have been expressed about the use of meditation-based practices with people experiencing psychosis. Although mainly based on a number of single cases lacking experimental rigor, these concerns raise the question of how we can develop safe and beneficial mindfulness interventions for people with psychosis (see Chadwick, 2006, p.81). Acceptance and Commitment Therapy (ACT), which has much in common with mindfulness, has been shown to reduce conviction in beliefs associated with psychotic sensations, as well as distress (Bach and Hayes, 2002). ACT uses behavioural methods of change alongside mindfulness based interventions.

The present study reports two single cases testing the hypothesis that mindfulness training *alone* will change not only distress but also meaning (conviction in beliefs) specifically associated with voices. Based on the cognitive model, distress and belief conviction are the focus of therapeutic change, and are therefore assessed as the primary outcome measures.

Method

Participants

Two men participated. Both met DSM IV diagnostic criteria for paranoid schizophrenia with current auditory hallucinations. Both lived in supported accommodation, took antipsychotic medication, and received standard care from mental health services in the UK involving weekly home visits. Neither had any prior experience of mindfulness or meditation. Participant A was a 51-year-old man who became unwell in his early 20s, since when he had heard critical and occasionally threatening voices. The voices were attributed to family members, perceived as malevolent and powerful, and elicited low mood, anger and anxiety. He responded with attempts to stop the voices and distract himself, but these strategies were ineffective in reducing his distress. Participant B was a 63-year-old man with a history of paranoia and voices from his late 20s. He had spent some time at a regional secure unit in the past, but had presented minimal risk since his last acute admission over 10 years ago. At the time of assessment, he was unsure whether the voices he heard were benevolent or malevolent. They usually elicited anxiety and confusion, and his main coping reactions were attempts to stop the voices or take his mind off them.

Measures

Participants completed twice weekly visual analogue measures of distress and belief conviction ("how distressing are your voices?" and "how much do you believe what the voices say?") on an 11-point scale grounded at either end as 0 (not at all) to 10 (extremely/totally). Ratings of distress were related to reported affect at assessment (for participant A – low mood, anger and anxiety; for participant B – anxiety). Ratings were made at the end of sessions, and once at home midway between sessions (to check for session-effects and generalization). To monitor level of mindfulness in relation to voices, at the start of baseline and end of intervention participants completed The Southampton Mindfulness of Voices Questionnaire (SMVQ: Chadwick, Barnbrook and Newman Taylor, 2007), a 16-item measure with acceptable reliability and validity. Items are scored 0–6, giving a possible range of 0–96.

Procedure and intervention

Inclusion criteria were: to meet DSM IV diagnostic criteria for schizophrenia (assessed by the participant's consultant psychiatrist); to experience distressing voices; to be meditation naïve; to have a commitment to practice. The first two men referred through our routine clinical pathway for psychological intervention met criteria and took part in the study. Following initial assessment, the aims and practice of mindfulness were described. It was explained that mindfulness was a relatively new approach to coping with voices, and that if they chose to learn the skill, we would monitor any impact using twice weekly questionnaires. The two men were then guided through a brief (2–3 minute) practice, and both agreed to a 12-session mindfulness intervention. Following assessment, the baseline period was used to monitor key variables and to develop the therapeutic relationship. These sessions involved discussion of the experience of voice hearing with no attempt to effect change. At the start of the intervention phase, the rationale for practising mindfulness in relation to voice hearing was rehearsed and agreed once more. The content of sessions followed Chadwick's (2006) approach, developed specifically for people with current distressing psychosis, and with due consideration given to earlier reports raising concerns about mindfulness with psychosis. Therapy ran for an hour each week, and included two short, simple practices with frequent guidance from the therapist. Each practice was followed by discussion of the participant's use of mindfulness, as well as a review of practice over the previous week. Guided practice involved initial grounding in the body followed by mindfulness of the breath and of all sensations entering awareness, including thoughts, feelings, images and voices. The therapy consisted solely of guided mindfulness practice and Socratic enquiry about the practice. Participants were given audio recordings of the guided practice, and encouraged to practise between sessions. Measures were repeated at a 4 or 6-week follow-up.

Results

Belief conviction and distress were plotted over time for the two participants. These measures showed some variability for both participants over baseline (weeks 1–3; data points 1–6) although there was no evidence of systematic change. Mindfulness intervention began at week four. As might be expected, there was no immediate change in the outcome measures. Three to four weeks later, reductions in ratings, and increases in variation are seen for both participants.

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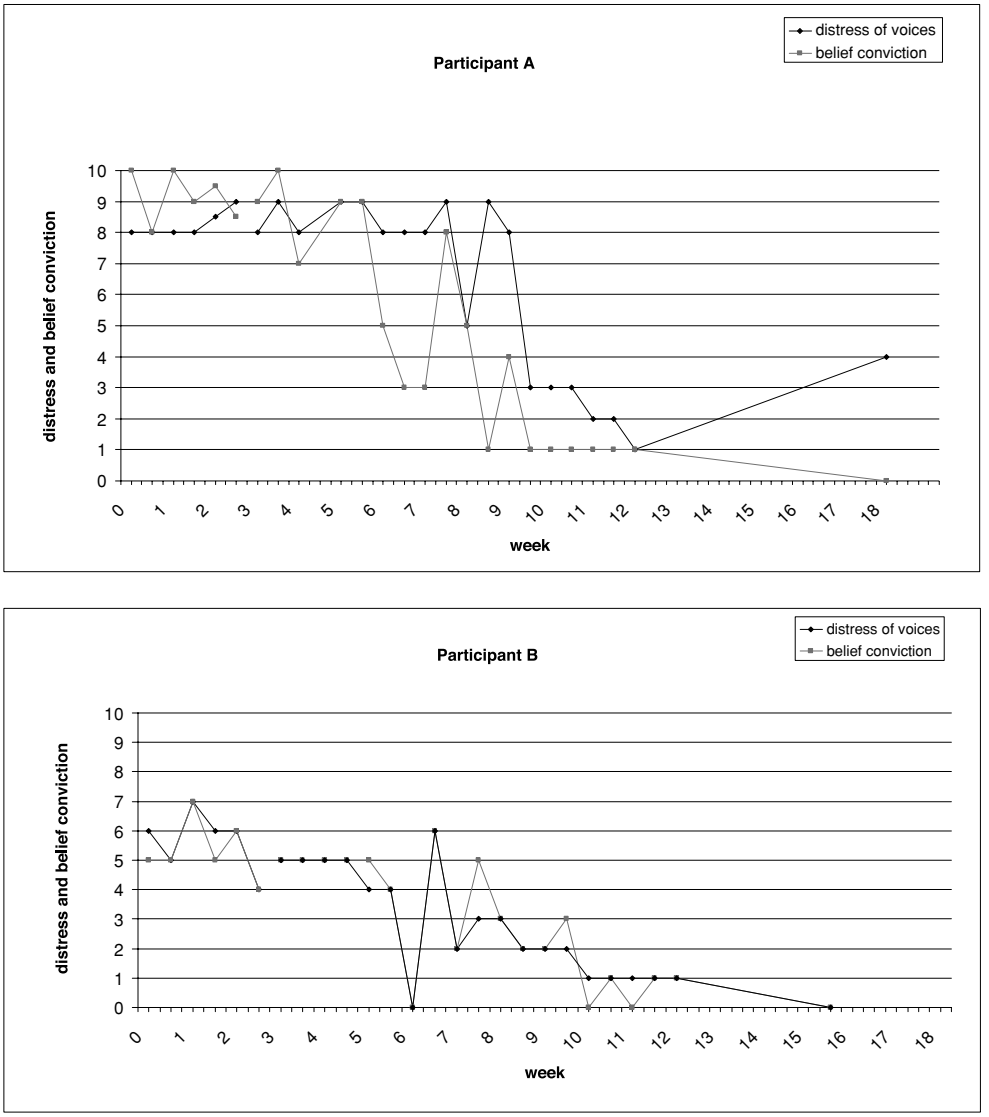

Figure 1. Measures of cognition and affect associated with voice hearing over time

Cognition and affect change together. Variation reduces from week 10. At follow-up, there is evidence of some increase in distress for participant A; participant B maintains gains for both belief conviction and distress. Scores on the SMVQ show an increase in mindfulness of voices for participant A (initial assessment, 37, end of intervention, 59, follow-up, 52; all scores within 2 *SDs* of the mean for outpatient clinical population, see Chadwick et al., 2007) and B (initial assessment, 51, end of intervention, 67, follow-up 70; scores for end of intervention and follow-up falling above 2 *SDs* of the mean for this group). Subjectively, the participants

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described being less overwhelmed by their experiences, and more confident in their ability to live with the voices. With ongoing practice, participant A experienced letting go of habitual angry rumination, trying to understand why the voice (whom he believed to be someone in his life) was treating him like this. He was then able to notice how the voice would move from foreground to background, to accept that it was there, and to get on with other things. Participant B described learning to let go of attempts to work out what the voices were saying (why, what they meant, whether they were targeting him) and allowing them just to be present, whilst he was able to get on with other tasks.

Discussion

These two case studies show the impact of mindfulness on two key dimensions of relationship with distressing voices – distress and belief conviction. Cognitive and affective change occurred not through verbal challenge and behavioural experiment, but through mindfulness practice alone. This is consistent with the hypothesis that with distressing psychosis, changing how a person relates to psychotic sensations also has the effect of changing the meaning ascribed to these sensations (Chadwick, 2006). Both participants continued to experience voices, but reported responding differently to them – an example of compensation (Barber and DeRubeis, 1989).

Following the cognitive model, distress and belief conviction were assessed as the primary outcome measures. The lack of symptom-based measures, and specifically frequency of voices, is a limitation however, both at intervention and at follow-up. Interestingly, clinical observation indicated no reduction in voice frequency for the two men, and this might usefully be assessed in further research. The lack of a measure of mindfulness practice between sessions is also a limitation. Finally, numerical change in outcome measures does not necessarily indicate clinically relevant change, and it cannot be assumed that these findings would generalize – with self-report measures demand characteristics can never be totally ruled out. These too should be addressed in future work.

There is a small body of research to show that mindfulness training can be therapeutic for people with distressing psychosis (Abba, Chadwick and Stevenson, 2008; Chadwick, Newman Taylor and Abba, 2005), and that ACT, which has a strong mindfulness component, reduces rehospitalization (Bach and Hayes, 2002). The present case studies add to this by illustrating the process whereby mindfulness training alone yields therapeutic changes in cognition and affect specifically associated with voice hearing.

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