

Adherence and competence assessment in studies of CBT for psychosis: current status and future directions

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All good quality trials of psychological interventions need to check formally that therapists have used the techniques prescribed in the published therapy manuals, and that the therapy has been carried out competently. This paper reviews methods of assessing adherence and competence used in recent large-scale trials of Cognitive Behaviour Therapy (CBT) for psychosis in the UK carried out by our research groups. A combination of the Cognitive Therapy Rating Scale and specific versions of the Cognitive Therapy for Psychosis Adherence Scales provides an optimal assessment of adherence and competence. Careful assessment of the competence and adherence can help identify the procedures actually carried out with individuals within trials. The basic use of such assessments is to provide an external check on treatment fidelity on a sample of sessions. Such assessment can also provide the first step towards moving research towards making sense of CBT for psychosis as a complex intervention and identifying which techniques work for which problems of people with psychosis, at which stages of disorder?

Key words: cognitive behaviour therapy, psychosis, adherence, competence, randomised trials.

Introduction

Recent meta-analyses show that cognitive behaviour for psychosis is an effective intervention that addresses a variety of problems (Wykes *et al.* 2008). However, cognitive behaviour therapy for psychosis is a complex intervention. To address the diverse and heterogeneous problems presented by people with psychosis, most manuals offer a rich package that includes a range of techniques. The original target for CBT for psychosis was distressing positive symptoms of psychosis; however, cognitive behaviour packages also typically include techniques to target outcomes such as relapse prevention, reduction in emotional disturbance and reduction in social disability (Fowler, Garety & Kuipers, 1995). Interventions also need to be adapted to address the differences in presentations at different stages of psychosis. CBT for young people with At-Risk Mental States (French & Morrison, 2004) has differences to CBT for people with treatment-resistant or relapsing psychosis (Fowler, Garety & Kuipers, 1995). Also interventions for people with early psychosis who have recovered from acute psychotic symptoms but still have social recovery problems (Fowler *et al.* 2009) will need to be different from interventions that target the problems of people with early psychosis recovering from their acute psychotic episode (TARRIER *et al.* 2004). This variation

presents a challenge for researchers seeking to standardize therapy and assess whether therapy has been delivered competently and as prescribed in the manuals. Detailed assessment tools are required not only to assess the quality of the therapy but also to check on which specific techniques prescribed in the manuals have actually been delivered to individuals.

In this paper, we review the studies undertaken in this area by our research groups. We review assessment tools, describe their use in clinical studies and outline how such studies can provide a basis to undertake studies which seek to test hypotheses relating to understanding which techniques work for whom in psychosis. We also highlight how the use of such scales can assist training and supervision.

Definitions of competence and adherence

Treatment fidelity entails both therapist adherence; 'the extent to which a therapist used interventions and approaches prescribed by the treatment manual and avoided the use of interventions proscribed by the manual' (Waltz *et al.* 1993), and therapist competence; the 'level of skill...[that is]...the extent to which the therapists took the relevant aspects of the therapeutic context into account and responded to these contextual variables appropriately' (Waltz *et al.* 1993). Formal tests of treatment fidelity provide the basis for research into processes of therapy, and are the starting point for attempts to understand the mechanisms of change underpinning complex interventions

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such as CBT for psychosis. They provide clearer differentiation between therapeutic approaches, facilitate the interpretation of varied outcomes in the same 'brand' of therapy and where assessed allow inferences about the influence of the manualized treatment upon outcome. Measures of treatment fidelity are equally important for dissemination, as they provide a clear definition of the treatment under study for programmes of training and supervision.

Rigorous and independent checks of fidelity in the field of CBT for psychosis are relatively recent. The early randomized controlled trials of CBT gave priority to ensuring consistency of treatment within trials through ongoing supervision of the fidelity of the intervention. Kuipers *et al.* (1997) held peer supervision sessions between expert therapists, while Tarrier *et al.* (1998) had an independent rater judge whether a sample of sessions involved cognitive therapy or supportive counselling (the control condition) as did Turkington, Kingdon and Turner (2002). The therapy provided in these trials was mainly carried out by the authors of the original manuals, and was therefore likely to be of good quality and consistent with the manual, but these approaches provided no formal way of quantifying adherence or competence. As the field has matured there has been consensus towards using the Cognitive Therapy Rating Scale (CTRS) as the formal assessment of competence and to use variants of the Cognitive Therapy for Psychosis Adherence Scale (CTPAS) to assess adherence.

Assessing therapeutic competence using the CTRS

The CTRS is the standard rating scale to assess the delivery of cognitive therapy, it was first described by Beck *et al.* (1979) and subsequently revised by Blackburn *et al.* (2001). It has 12 items that cover three general areas including the establishment and maintenance of an effective psychotherapeutic relationship (e.g. interpersonal effectiveness, pacing and eliciting emotional responses), structuring of therapy (e.g. agenda setting and checking feedback) and items the use of specific cognitive and behavioural methods (e.g. collaboration, guided discovery, eliciting key cognitions, conceptual integration and specific cognitive and behavioural techniques). These items rate core aspects of delivery of high-quality therapy which are equally relevant for cognitive behaviour therapy for psychosis as for cognitive behaviour therapy for other disorders. The focus on establishment and maintenance of a good working psychotherapeutic relationship and the collaborative guided discovery style of cognitive therapy is particularly important in cognitive therapy for psychosis and indeed achieving this in itself can often be a challenge

when working with difficult to engage psychotic patients. The ratings on the CTRS are flexible, and allow the possibility of scoring therapists working with challenging cases and working with difficult client presentations in a sophisticated manner. The scale therefore has widespread applicability to rate the competence and quality of therapy delivered even in the context of challenging psychotic presentations.

The scale is rated from tape recordings or videos. Typically, in trials in addition to internal ratings used for supervision, a random sample of tapes will be sent to expert cognitive therapists and the ratings of these independent raters will be reported. The first study to formally use the CTRS was that by Sensky *et al.* (2000). In this study, Independent raters assessed a representative sample of therapy tapes from the control and experimental conditions with the CTRS. Competence was satisfactory, and significantly more cognitive techniques were used in the experimental condition. The scale has been used in most subsequent trials both in supervision to ensure therapists are maintaining therapy quality, and in the final report to justify that trained therapists used in trials were, as a group, delivering therapy to internationally recognized standards of therapy quality. To date there have been few formal reports which have used the CTRS to examine associations between therapy quality and outcome. This may be an interesting possibility for the future especially in effectiveness trials where there may be variations in therapy quality provided.

The CTRS is a general cognitive therapy competency scale, and some have highlighted the differences between CBT for psychosis and CBT for other disorders. Haddock *et al.* (2001) adapted the scaling of the Cognitive Therapy Scale (CTS), for use in psychosis. The adapted scale, (the CTS-Psy) alters the scaling system to take account of alterations which CBT therapists working with psychotic patients may use, although the items retain the original focus on the use of key generic cognitive skills. The CTS-Psy was the main competence tool used in the Socrates study of CBT in the acute stages of first-episode psychosis (Tarrier *et al.* 2004). These adaptations may be useful but other researchers have retained use of the original CTRS, suggesting that the original scale already has flexibility to allow satisfactory ratings of the quality of CBT in psychosis. Both the CTS-Psy and the CTRS are applicable in psychosis.

The CTPAS

The CTRS is now probably accepted as the gold standard assessment of competence or quality of cognitive

therapy. However, CBT for psychosis differs from other types of CBT in substantive ways. As noted by Startup, Jackson & Pearce (2002) the clearest way in which CBT for psychosis is different is in content. CBT for psychosis requires therapists to address psychotic symptoms and help them understand the nature of their psychotic disorder. Since CBT in general does not use these techniques it is possible to get a high score on the CTRS without actually using CBT for psychosis techniques at all. For example a skilled therapist can potentially, and appropriately, get a satisfactory score on the CTRS by simply assessing or maintaining a good collaborative psychotherapeutic relationship and assessing and formulating, or by addressing anxiety or depression, but not addressing psychotic symptoms directly. This was observed in the fidelity study used in the Tayside Fife trial of CBT for treatment resistant psychosis (Durham *et al.* 2003). The externally rated fidelity check in this study highlighted that while the trial therapist were rated as highly competent on the CTRS, only four of the 13 available tapes appeared to suggest the use of specific CBT for psychosis techniques as described in the Fowler, Garety & Kuipers, (1995) manual. These observations highlighted the need for the use of a specific adherence tool that rates the techniques which are specific to CBT for psychosis.

Startup, Jackson & Pearce (2002) developed the CTPAS as a measure of adherence in CBT for psychosis as part of the North Wales trial of CBT in acute psychosis (Startup, Jackson & Bendix, 2004) that was based on the use of Fowler, Garety & Kuipers (1995) the cognitive behaviour manual. The item content was based on the techniques described in the manual. The scale lists 12 therapeutic activities considered to be core components of the manual. These include:

- (a) Recognizing problems: relating to promoting insight and helping the client to recognize that he/she was experiencing problems.
- (b) Assessing psychotic experiences: assessing the antecedents, consequences, quality and impact of the client's psychotic experiences.
- (c) Enhancing self-regulatory strategies: helping improve coping strategies.
- (d) Evidence for delusional beliefs: assess the evidence for delusional beliefs.
- (e) Columbo style: carefully but non-intrusively questioning about the details of delusions and hallucinations.
- (f) Developing a narrative perspective: helping the client construct a narrative account of their experiences underpinning delusional ideas and developing and exploring this narrative.
- (g) Verbal challenge of delusions: challenge of the clients beliefs by reasoning.
- (h) Validity testing: encouraging behavioural experiments of delusional ideas or thoughts relating to hallucinations.
- (i) Developing a model of psychosis: working with the client to develop a shared understanding of the nature of the clients psychotic thinking and behaviour.
- (j) Normalizing: helping the client to recognize that their symptoms are similar to those of many people both non-clinical and other people with psychosis.
- (k) Resolving ambivalence: helping the client resolve ambivalence about different possible courses of action.
- (l) Keeping well: help the client develop strategies for the active management of his/her psychotic problems in the future.

A detailed manual provided definitions of each item, and illustrative examples of both adherent and non-adherent therapy for each item. The frequency of each item within a given session was rated on a seven-point scale. The scale was designed to be used to externally rate audio-tape recordings of therapy sessions, and therapists ratings of their own session. Startup, Jackson & Pearce (2002) reported that the original 12 item CTPAS had satisfactory internal consistency and inter-rater reliability and that principal components analysis indicated two main factors 'focus on delusions' and 'focus on problems'.

Rollinson *et al.* (2007a, b) subsequently revised this scale for use in the Cognitive therapy in Prevention of Relapse Trial Psychological prevention of Relapse in Psychosis (PRP) (Garety *et al.* 2008). The subsequent revised version of the scale (the R-CTPAS) contained 21 items that together allow all six components of the Fowler, Garety & Kuipers (1995) therapy model to be assessed, including items to rate work on social disability, schemas and depression and anxiety (Rollinson *et al.* 2007a, b). These items reflected the specific focus on relapse prevention work that was the primary focus of the PRP trial. A revised scoring system incorporates a measure of both therapist competence and adherence. The scale manual was also extended to provide an account of each therapeutic activity, criteria for assessing whether minimum competence criteria were met and examples of therapy dialogues above and below the minimum competence threshold. Treatment fidelity and treatment process research was an important aspect of the PRP trial (Garety *et al.* 2008). All therapy sessions were recorded subject to participant consent. Systematic samples of session recordings of each client were sent to external raters within the trial for monitoring of drift on a regular basis throughout the trial, this provided 185 observer-rated sessions. A further sample of 36 selected sessions was then rated by external expert raters to provide a reliability check on the internal ratings. Therapists

also rated their own sessions, providing self-report data on 1028 sessions pertaining to 84 of the 133 participants allocated to CBT. Psychometric analysis of the scale was carried out using observer ratings (Rollinson *et al.* 2007a, b). Good inter-rater reliability was also established, both across raters on the PRP trial and with external raters scoring tapes from other. A principal components analysis suggested the presence of three subscales; engagement and assessment work, formulation and schema level work and relapse prevention work. These subscales accounted for 36.74% of the variance within the total sample, and had alpha reliability coefficients of 0.55, 0.35 and 0.5, respectively.

These subscales were subsequently used to inform a summative coding frame that collated individual items into two simple summary scores reflecting the presence of different levels of therapeutic activity – ‘engagement and assessment work’ or ‘active intervention’ identified by individual item ratings on the R-CTPAS. Satisfactory reliability was established in identifying the presence of ‘engagement and assessment’ or ‘active intervention’ between therapist self-ratings using CTPAS and external tape ratings using CTPAS. From ratings of over a thousand therapy sessions across the treated group it was possible to reliably derive a single summative score was determined for the therapy delivered for each participant–therapist dyad to reflect the content of the sessions they received over the course of therapy. This showed considerable variation in the therapy provided. Of the 102 participants for whom sufficient data were collected, 42 (41.8%) were rated as receiving a full therapeutic dose of CBT while 39 (38.24%) were rated as receiving primarily engagement and assessment work or ‘partial therapy’. A further 21 (15.8%) attended only five sessions or less so were rated as having not received a dose of therapy at all. These observations have important clinical implications. They suggest that even very high-quality cognitive therapists who can clearly demonstrate skills in the use of cognitive therapy using the CTRS may still not necessarily be able to deliver full doses of cognitive therapy techniques to a substantive minority of patients with treatment-resistant and relapsing psychosis. This variation in delivery of therapy may be an important contributor to outcome.

In summary, the development of the CTPAS has been an important and useful development. The use of this scale allows reliable identification that therapists are not just delivering generic CBT skills adequately, but as importantly that they are delivering the specific techniques prescribed in the manual. It has been shown that it is possible to make reliable ratings of tapes using this scale. It has also been shown that it is possible for therapists to rate their own

sessions using this scale, and also that summative scores of sessions using therapists ratings have adequate reliability with external tape ratings. A useful practical application of the R-CTPAS has been to allow comparison of therapy content across different settings. One such study compared therapy content in the PRP research trial with that seen in routine clinical practice in three different settings both in the UK and the USA (Rollinson, *et al.* 2007a). Overall, the level of competence as rated by the R-CTPAS did not differ between the two settings. However, there was a significant tendency for sessions in the research trial to be more likely to involve schema work, to use specific relapse prevention interventions and to more clearly use formulation-based interventions. This study suggested that case managers who received training workshops and some supervision but who have not received formal training in CBT could deliver some elements of CBT for psychosis (partial therapy) but were not able to deliver some of the more active techniques (full therapy).

In summary, three separate studies have indicated that there may be variations within therapy delivered by cognitive behaviour therapists (Durham *et al.* 2003; Rollinson *et al.* 2007a, b; Garety *et al.* 2008). Observations from the CTPAS showed that only in certain cases was full therapy including active cognitive techniques consistently delivered; in other cases therapists were only able to deliver a partial form of the therapy involving a more basic set of the techniques. Our hypothesis was that the subgroup which engaged with and received full CBT-P would have better outcomes than those who received partial therapy or who dropped out. We have subsequently analysed the relationship between therapy delivery and outcome using the PRP dataset taking advantage of a novel statistical approach which overcomes biases in subgroup analysis. The results were wholly consistent with this hypothesis. Treatment was effective in the PRP study if, and only if, clients received full therapy. By contrast participants who only received therapy consisting predominantly of engagement and assessment work did not benefit, and neither did those who dropped out (Dunn *et al.*, submitted). These findings are potentially very important. They deserve replication and highlight the importance of studying therapy adherence in future studies.

Adherence scales for at risk mental states and early psychosis

A specific adherence tool has been developed for cognitive therapy for at-risk mental states (the Cognitive Therapy for at Risk Psychosis Adherence Scale (CTRPAS)). This derives from the CTPAS but is an

instrument designed to assess the adherence to the CBT manual for at-risk mental states (French & Morrison, 2004). Many of the items that address specific techniques to address psychotic symptoms (normalizing, generating alternatives, etc.) have similarities to those of the CTPAS, but here the focus is on the management of at-risk mental state symptoms that are below the threshold of psychosis. The targeting of behavioural activity in safety behaviours and social isolation is clearer. This adherence scale has been used in the Early Detection and Intervention Evaluation for people at high risk of psychosis (EDIE) trial (Morrison *et al.* in press) and in associated trials in Australia. A development in the use of adherence ratings in the EDIE has been an attempt to reliably identify adherence using expert ratings of case notes of sessions using the CTRPAS. This may be a useful and cost effective approach to the rating of adherence as it does not require the intensive and costly demands of therapy ratings that may not be feasible for large numbers of sessions. Reliability with external tape ratings and therapist's own ratings is currently being established. Methods for rating adherence to a therapy for people who have residual social disability after first episode psychosis are also in development (Fowler *et al.* 2009). Here again the emphasis is different. Techniques to manage psychotic symptoms (including treatment-resistant and low-level residual symptoms) may be used (in particular promotion of self-regulatory strategies). However, in this therapy the priority is increasing meaningful behavioural activity. The adherence scale emphasizes management of emotional dysfunction (in particular depression and social anxiety) and draws from the CTRPAS in focusing on social isolation and safety behaviours and low-level psychotic phenomena. The expected balance of techniques rated as present is therefore quite different than for CBT for treatment-resistant psychosis. It is possible and even likely that different techniques may be associated with different outcomes future adherence studies in CBT psychosis need to carefully ensure they are assessing those domains most relevant to their primary outcome.

Conclusion

The study of adherence and competence in trials of CBT for psychosis is maturing. Initially, the main aim was simply to demonstrate that the trial was carried out with sufficiently competent therapists and could therefore be regarded as a trial of CBT for psychosis. The first step in establishing treatment fidelity was to establish the presence of the use of adequately competent cognitive therapists by experts rating samples of tapes using the CTRS. However,

subsequent observations of cognitive therapy in psychosis trials (Durham *et al.* 2003; Rollinson 2007a, b; Garety *et al.* 2008) suggest that this is not sufficient. Even high-quality cognitive therapists who meet standards on CTRS may not necessarily be able to fully deliver the prescribed techniques of CBT for psychosis with challenging non-engaging cases. Ratings of both competence scales (CTRS) and adherence scales (CTPAS) need to be undertaken. Clearly, cognitive therapy for psychosis is a complex treatment carried out with a challenging client group often including non-engaging participants. Careful assessments of treatment fidelity are important in making sense of this complexity. Only by identifying exactly which procedures are carried out with which patients can we move on from the basic outcome question. Does it work? Toward the more clinically informative questions of which techniques work for which patients under which conditions?

References

- Beck AT, Rush AJ, Shaw BE, Emery G (1979). *Cognitive Therapy of Depression*. Guilford, New York.
- Blackburn I, James IA, Milne DL, Baker C, Standart S, Garland A, Reichelt FK (2001). The Revised Cognitive Therapy Scale (CTS-R). Psychometric properties. *Behavioural and Cognitive Psychotherapy* 29, 431–446.
- Dunn G, Fowler D, Rollinson R, Freeman D, Kuipers E, Smith B, Steel C, Onwunere J, Jolley S, Garety P, Bebbington P. The effect elements of CBT for psychosis. (Manuscript submitted for publication).
- Durham RC, Guthrie M, Morton RV, Reid DA, Treiving LR, Fowler D, McDonald RR (2003). Tayside-Fife clinical trial of cognitive-behavioural therapy for medication-resistant psychotic symptoms – results to 3-month follow-up. *British Journal of Psychiatry* 182, 303–311.
- Fowler D, Garety P, Kuipers E (1995). *Cognitive Behavioural Therapy for Psychosis: Theory and Practice*. Wiley: Chichester.
- French P, Morrison T (2004). *Early Detection and Cognitive Therapy for People at High Risk of Developing Psychosis: A Treatment Approach*. Wiley, Blackwell, Chichester.
- Fowler D, Hodgekins J, Painter M, Reilly T, Crane C, Macmillan I, Muford M, Croudace T, Jones PB (2009). Cognitive behaviour therapy for improving social recovery in psychosis: a report from the ISREP MRC Trial Platform study (Improving Social Recovery in Early Psychosis). *Psychological Medicine* 39, 1–10.
- Garety PA, Fowler D, Freeman D, Bebbington P, Dunn G, Kuipers E (2008). A randomised controlled trial of cognitive behavioural therapy and family intervention for the prevention of relapse and reduction of symptoms in psychosis. *British Journal of Psychiatry* 192, 412–423.
- Kuipers E, Garety P, Fowler D, Dunn G, Bebbington P, Freeman D, Hadley C (1997). London East Anglia randomised controlled trial of cognitive-behavioural

- therapy for psychosis. 1. Effects of the treatment phase. *British Journal of Psychiatry* **171**, 319–327.
- Haddock G, Devane S, Bradshaw T, McGovern J, Tarrier N, Kinderman P, Baguley I, Lancashire S, Harris N** (2001). An investigation into the psychometric properties of the Cognitive Therapy Scale for Psychosis (CTS-Psy). *Behavioural and Cognitive Psychotherapy* **29**, 221–233.
- Morrison AP, Stewart S, French P, Bentall RP, Birchwood M, Byrne R, Davies L, Fowler D, Gumley AI, Jones P, Lewis S, Murray G, Patterson P, Dunn G**. Early Detection and Intervention Evaluation for people at high risk of psychosis 2. *Trial Rationale, design and baseline characteristics*.
- Rollinson R, Haig C, Warner R, Garety P, Kuipers E, Freeman D, Bebbington P, Dunn G, Fowler D** (2007a). The application of cognitive behavior al therapy for psychosis in clinical and research settings. *Psychiatric Services* **58** (10), 1297–1302.
- Rollinson R, Smith B, Steel C, Jolley S, Onwumere J, Garety P, Kuipers E, Freeman D, Bebbington P, Dunn G, Startup M, Fowler D** (2007b). Measuring Adherence in CBT for Psychosis: a psychometric Analysis of an adherence scale. *Behavioural and Cognitive Psychotherapy* **36**, 173–178.
- Sensky T, Turkington D, Kingdon D, Scott JL, Scott J, Siddle R, O'Carroll M, Barnes T** (2000). A randomized controlled trial of cognitive-behavioral therapy for persistent symptoms in schizophrenia resistant to medication. *Archives of General Psychiatry* **57** (2), 165–172.
- Startup M, Jackson M, Pearce E** (2002). Assessing therapist adherence to cognitive-behaviour therapy for psychosis. *Behavioural and Cognitive Psychotherapy* **30**, 329–339.
- Startup M, Jackson MC, Bendix S** (2004). North Wales randomized controlled trial of cognitive behaviour therapy for acute schizophrenia spectrum disorders: outcomes at 6 and 12 months. *Psychological Medicine* **34** (3), 413–422.
- Tarrier N, Lewis S, Haddock G, Bentall R, Drake R, Kinderman P, Kingdon D, Siddle R, Everitt J, Leadley K, Benn A, Grazebrook K, Haley C, Akhtar S, Davies L, Palmer S, Dunn G** (2004). Cognitive-behavioural therapy in first-episode and early schizophrenia. 18-month follow-up of a randomised controlled trial. *British Journal of Psychiatry* **184**, 231–239.
- Turkington D, Kingdon D, Turner T** (2002). Effectiveness of a brief cognitive-behavioural therapy intervention in the treatment of schizophrenia. *British Journal of Psychiatry* **180**, 523–527.
- Wykes T, Steel C, Everitt B, Tarrier N** (2008). Cognitive behavior therapy for schizophrenia: effect sizes, clinical models, and methodological rigor. *Schizophrenia Bulletin* **34**, 523–537.
- Waltz J, Addis ME, Koerner K, Jacobson NS** (1993). Testing the integrity of a psychotherapy protocol-Assessment of adherence and competence. *Journal of Consulting and Clinical Psychology* **61** (4), 620–630.