

Cognitive-Behavioral Therapy for Medication-Resistant Symptoms

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Abstract

Cognitive-behavioral therapy for psychosis is described. It draws on the cognitive models and therapy approach of Beck and colleagues, combined with an application of stress-vulnerability models of schizophrenia and cognitive models of psychotic symptoms. There is encouraging evidence for the efficacy of this approach. Four controlled trials have found that cognitive-behavioral therapy reduces symptoms of psychosis, and there is some evidence that it may contribute to relapse reduction. Studies that have examined factors that predict treatment response are reviewed. There is preliminary evidence that a good outcome is partially predicted by a measure of cognitive flexibility or a "chink of insight." People who present with only negative symptoms may show poorer outcome. However, there is no evidence that intelligence or symptom severity is associated with outcome. Implications for selecting patients and for optimal duration of treatment are discussed. Finally, the importance of taking account of the heterogeneity of people with psychosis, so that individual treatment goals are identified, is discussed.

Keywords: Cognitive-behavioral therapy, psychosis, schizophrenia, medication-resistant, outcome.

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In recent years, particularly in the United Kingdom, there has been a growing interest in developing cognitive-behavioral therapy for those people with psychosis who continue to experience psychotic symptoms despite efforts to treat those symptoms with antipsychotic medication. It is estimated that between one-quarter and one-half of people with a diagnosis of schizophrenia experience medication-resistant persistent symptoms such as delusions and hallucinations, which cause distress and interference with functioning (Fowler et al. 1995). The need for an effective psychological intervention for psy-

chotic symptoms also arises from the reluctance of many patients to take long-term medication, with its unpleasant and even disabling side effects, and the fact that relapse occurs commonly, even in patients who do adhere to medication regimes (Roth and Fonagy 1996).

Unlike certain other psychological interventions for people with schizophrenia spectrum disorders (hereafter referred to as "psychosis"), such as social skills training or cognitive remediation approaches, cognitive-behavioral therapy takes as its central focus the experiences of psychosis (i.e., the symptoms) and the person's attempts to understand them. In recent years, three books have been published providing detailed descriptions of cognitive-behavioral therapy for people with psychosis (Kingdon and Turkington 1994; Fowler et al. 1995; Chadwick et al. 1996). There are some differences of emphasis, but there is agreement concerning the goals and main methods of therapy; indeed, there has been a fruitful cross-fertilization of ideas. The principal aim of cognitive-behavioral therapy for medication-resistant psychosis is to reduce the distress and interference with functioning caused by the psychotic symptoms. The thoughts, beliefs, and images experienced by people are the core material with which cognitive-behavioral therapists work. The approach draws extensively on the cognitive therapy of Beck and colleagues (e.g., Beck et al. 1979), both in terms of therapeutic style and of content. In terms of style, the therapist works collaboratively, setting agendas and therapy goals, and takes an actively enquiring stance toward the clients' accounts of their experiences. The content of therapy involves identifying thoughts and beliefs, reviewing evidence for these beliefs, encouraging self-monitoring of cognitions, relating thoughts to mood and behavior, and identifying thinking biases. However, the standard cognitive therapy approach must be modified to effectively address the particular problems of psychosis, including

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the special difficulties of establishing a therapeutic relationship, the complexity and severity of the problems presented, the need to take account of neurocognitive deficits, and the importance of working on the subjective understanding of psychosis. In this article, we will describe cognitive-behavioral therapy for psychosis, review the evidence for its effectiveness, and discuss which patients might benefit from this approach.

Cognitive-Behavioral Therapy

Theoretical Background. A number of theoretical models and hypotheses provide a theoretical underpinning to cognitive-behavioral therapy for psychosis. In general, psychoses are viewed as heterogeneous and multifactorial and as best understood within a biopsychosocial framework. It is assumed that there are different degrees to which biological vulnerability, psychological processes, and the social environment have contributed in the individual case to the expression of psychosis (Garety and Hemsley 1994; Fowler et al. 1995). This is consistent with widely accepted "stress-vulnerability" models (Zubin and Spring 1977; Strauss and Carpenter 1981). These posit that the individual has an enduring vulnerability to psychosis, possibly but not necessarily of genetic or neurodevelopmental origin, a vulnerability that may be heightened by childhood experiences, whether social, psychological, or biological. The psychosis becomes manifest on subsequent exposure to a range of additional stresses, which again may be social, psychological, or biological, such as adverse environments, major life transitions, or drug misuse. A further set of factors may be important in maintaining the illness in the longer term (such as the meaning attributed to psychotic experiences, loss of social roles, or the use of medication). In applying the stress-vulnerability framework in the context of cognitive-behavioral therapy, the key implication is that there are different factors exerting their influence in different cases and at different times. The therapist aims to develop an individual account of a person's vulnerabilities, stresses, and responses, and to help the person to modify cognitions and behavior accordingly (Fowler et al. 1998). "Personal Therapy," an approach developed and evaluated in the United States by Hogarty and colleagues, also draws on the stress-vulnerability framework and in some respects is similar to the cognitive-behavioral approaches developed in the United Kingdom (Hogarty et al. 1995, 1997). Personal therapy emphasizes working on the identification of the experience of stress and its modification, with a clear focus on enhancing personal and social adjustment and on relapse prevention; this emphasis is shared by cognitive-behavioral therapy. However, personal therapy directs less attention to the symptoms of psychosis. Cognitive-behavioral

therapy, because it is grounded in cognitive models of psychotic symptoms, focuses on such symptoms as a key component of therapy.

The core symptoms and experiences of psychosis are manifest as disturbances of cognition, both in basic cognitive processes concerned with information processing, resulting in anomalies of perception and experience of the self (e.g., hallucinations), and in conscious appraisals and judgments leading to unusual beliefs (delusions). Cognitive psychology, applying an understanding of cognitive processes involved in the general population, has found evidence of disruptions and biases in processes that are thought to contribute to the development and persistence of psychotic symptoms (Garety and Freeman 1999).

There are several competing cognitive theories to explain psychotic symptoms (Nuechterlein and Subotnik 1998). Theorists such as Hemsley (1994) and Frith (1992) have suggested that some of the primary anomalous experiences associated with delusions result from cognitive neuropsychological deficits and probably a brain dysfunction. For example, Frith (1992) has proposed that a deficit in the self-monitoring of thoughts and intentions to act (a cognitive process occurring outside conscious awareness) gives rise to the symptoms of thought insertion and alien control. Others have suggested that delusions may arise as reasonable attempts to explain puzzling anomalous experiences (Maher 1988), while Garety and Hemsley (1994) have identified that delusions are associated with a "jumping to conclusions" style of reasoning that may play a role in their formation or persistence. Still other theorists have suggested that delusions are motivational in origin and may serve the function of defending a person against threats to self-esteem (Freud 1915; Bentall et al. 1994). We have argued that it is probable that there is no single pathway to delusions or other psychotic symptoms. In some cases, careful assessment may suggest that one type of process may satisfactorily explain the presence of the symptom, but in other cases symptoms appear to be the product or final common pathway of several interacting processes, be they biological, psychological, or social.

Cognitive accounts have also considered how psychotic experiences, however they arise, may be negatively appraised by individuals. These experiences may then result in emotional disturbance, such as depression or anxiety, or in negative evaluations of the self, which jointly contribute to the development and maintenance of symptoms and distress (Chadwick and Birchwood 1994; Close and Garety 1998). The hypothesized role of emotional processes such as depression and anxiety in the maintenance and the onset of psychosis leads to the direct application of cognitive therapy techniques for these problems (Birchwood and Iqbal 1998; Freeman and Garety 1999).

Cognitive-behavioral therapy for psychosis draws on accounts of cognitive and emotional processes, in psychosis, in people with emotional problems and in the general population. The central assumption is that people with psychosis, like all of us, are attempting to make sense of the world and their experiences. The meanings attributed to their experiences and the way they process their experiences, together with their earlier personality development, will influence the expression and development of symptoms, emotional responses, and behavior. Helping people to become aware of the processes that influence their thoughts and emotions and to reevaluate their views of themselves and the psychosis is therefore central to therapy. Cognitive-behavioral therapy combines approaches based on these cognitive models with interventions grounded in the stress-vulnerability model.

However, in placing cognitive accounts of psychosis within broader stress-vulnerability models, it is clear that there is a role for a range of different interventions for people with psychosis. We see individual cognitive therapy as only one approach in an array of potentially beneficial methods of treatment and support, including biological treatments (i.e., antipsychotic medication) and many psychosocial interventions, which are discussed in this special issue.

The Therapeutic Approach. The broad aims of cognitive-behavioral therapy for people with medication-resistant psychosis are threefold (Fowler et al. 1995): (1) to reduce the distress and disability caused by psychotic symptoms, (2) to reduce emotional disturbance, (3) and to help the individual arrive at an understanding of psychosis that promotes his or her active participation in reducing the risk of relapse and levels of social disability. The general approach is concerned with understanding and making sense, and with achieving collaboration between the individual and the therapist, rather than employing didactic, interpretative, or confrontational styles. It is important to note that psychodynamically oriented therapies have different goals and methods than cognitive-behavioral therapy. These goals and methods have not been demonstrated to be effective for people with schizophrenia in well-controlled trials; one possible reason for this is that traditional psychodynamic approaches are too emotionally intense for at least some patients (Gunderson et al. 1984; Mueser and Berenbaum 1990).

Cognitive-behavioral therapy is a structured and time-limited therapy, although the duration and frequency of therapy sessions will vary according to the nature and severity of the patient's problems. In patients with relatively stable medication-resistant symptoms, we have generally offered 9 months of therapy, on a weekly or biweekly basis, averaging about 20 sessions. However,

this may range from 12 to 30 sessions, over 6 months to more than 1 year, as needed. Booster sessions may also be offered over a longer time period, or we may offer a brief period of more intense work if problems reemerge. Our recent therapy trial (Kuipers et al. 1997) was conducted on the basis of 9 months of therapy. Cognitive-behavioral therapy is normally offered alongside a range of other treatments and services, such as medication, day or vocational services, and case management. Indeed, optimal care requires integration of such interventions (Fenton and McGlashan 1997). However, engagement in services is variable. Cognitive-behavioral therapy can be offered to people who do not engage in other services or who do not take medication.

We have conceptualized therapy as a series of six components or stages (table 1), although we do not intend that they should be viewed as an inflexible linear sequence. In practice, engagement issues (the first "stage") may be readdressed at various times as required, while the work described in the final "stage" may be considered earlier. The six stages should therefore be seen as a guiding framework to be applied flexibly (Fowler et al. 1995). In describing the therapeutic techniques, we will also highlight the particular adaptations of cognitive-behavioral therapy required by working with this client group.

Table 1. Stages of cognitive-behavioral therapy for psychosis

Stage	Task
1.	Engagement and assessment
2.	Coping strategy work
3.	Developing an understanding of the experience of psychosis
4.	Working on delusions and hallucinations
5.	Addressing mood and negative self-evaluations
6.	Managing the risk of relapse and social disability

Building and maintaining a therapeutic relationship: Engagement and assessment. Cognitive-behavioral therapy begins with a period of building and establishing a collaborative therapeutic relationship in which enabling the client to feel understood is of paramount importance. While establishing a therapeutic alliance is an important predictor of therapy success in general (Horvath and Symonds 1991), it is particularly relevant to working with people with psychosis. In the initial stages of therapy, people with psychosis may be suspicious, may be angry with mental health services, or may deny the relevance of therapy for their problems. If attention is not

paid to these issues, early dropout is likely. Our solution is a flexible approach to therapy, which is accepting of the client's beliefs and emotions and starts by working from the client's own perspective. Particularly at this stage, we emphasize checking and discussing carefully with clients how they experience the sessions and their thoughts about the therapist's role. If a client finds sessions arousing or disturbing, we recommend shortening sessions or changing the topic to a less distressing subject. The primary aim is to ensure that the sessions are tolerable, always explicitly discussing this with the client. The occurrence of psychotic symptoms during the session, such as hallucinations or paranoid ideas, are acknowledged and gently discussed. This collaborative and gentle style clearly contrasts with the past conventional wisdom, which held that it was important to confront and not collude with a person's delusions. Clinical experience and research evidence indicate, however, that the direct challenging of beliefs as false, unlikely, or unfounded, with counterarguments, is not helpful. Indeed, such an approach will generally increase the strength of conviction and will potentially lead to distress and dropout (see Milton et al. 1978).

Gradually the therapist moves from empathic listening to more structured assessment interviewing, in which the therapist attempts to clarify the particular life circumstances, events, and experiences that provided the context for the onset of psychosis and makes a detailed analysis of specific distressing symptoms and other problems. Over a period of approximately six sessions (although this can be longer or shorter), the therapist carries out a detailed assessment, covering past history and present circumstances, while also aiming to develop rapport and trust. By the end of this period, some preliminary shared goals for therapy should be developed. These must be relevant to the client and expressed in the client's own terms, while being compatible with what the therapy can hope to achieve. For example, goals might be "to feel less paranoid while out of the house," "to cope better with the voices when at the day center," or "to feel less upset and angry with myself if the day goes badly." Such limited goals can be elaborated or changed as therapy progresses. The intervention that follows will be individualized and will focus on problems identified in collaboration with the client.

Cognitive-behavioral coping strategies. Work on coping strategies follows directly from the assessment, in which current distressing symptoms and experiences have been identified, such as episodes of hearing voices and feeling anxious or suspicious when out. A range of cognitive and behavioral strategies, including activity scheduling, anxiety reduction, and attention control, has been shown to reduce the occurrence or duration of such problems (Fowler and Morley 1989; Tarrier 1992). Yusupoff

and Tarrier (1996) describe these methods as essentially pragmatic and emphasize identifying what works in the individual case by undertaking a detailed assessment of existing strategies and of the antecedents and consequences of current symptoms. The goal is to manipulate any factors that contribute to symptom maintenance. Finding an approach that is helpful generally requires trial and error, since opposite strategies may be effective for different individuals or for different contexts (e.g., in response to hallucinations, an effective strategy might be either talking to someone or, alternatively, withdrawing from social contact). Developing an effective coping strategy can bring particular relief in cases where symptoms are experienced as overwhelming and uncontrollable, resulting, for example, in self-harm or disturbed behavior. The aim is to foster feelings of control and hope and to provide practical help in the early stages of therapy.

Implementing a new coping strategy may involve asking the client to undertake a homework task, such as keeping a record of the occurrence of the target symptom. Here adjustments to standard cognitive-behavioral practice may be needed. Clients with low IQ, literacy problems, or the specific neurocognitive deficits found in psychosis (such as deficits in memory or planning) may have difficulties with such tasks. Our approach is to take account of the client's cognitive abilities and to tailor tasks accordingly. For example, self-monitoring diaries can be set up to minimize literacy demands by use of prepared recording sheets with individualized multiple-choice questions, while prompt cards can aid memory for use of a self-instruction strategy.

Developing a new understanding of the experience of psychosis. Discussion of the experience and meaning of psychosis is an important element of cognitive-behavioral therapy. Most patients, at this stage of therapy, maintain strong conviction in their delusions and would be regarded as having poor insight in the formal sense (i.e., they do not recognize that they have a mental illness or do not recognize the contribution of specific symptoms to their illness). However, it is our experience that, nonetheless, the experience of psychosis is recognized by most as some kind of personal dysfunction, however caused, for which an explanation is required. A key first step in helping a client reevaluate beliefs is to construct a new model of events that is acceptable and makes sense to the client. This can provide the foundation for reevaluation of more specific ideas and beliefs subsequently. This work is similar to the "psychoeducation" component of other psychosocial approaches to psychosis, such as family work (reviewed by Penn and Mueser 1996). However, in cognitive-behavioral therapy, the focus is not so much on "education about schizophrenia" as on developing an individualized account that draws on knowledge of psychosis but

aims to make sense of the particular history and perspective of the client. Constructing a new model of psychosis therefore starts with exploring the client's current understanding of the disease, building on the acknowledgment, however tentative, of the experience of personal dysfunction. We explore the questions of whether clients see themselves as ill, stressed, or, perhaps, suffering from schizophrenia. We discuss their views of what caused their problems and what helps them. We ask how they view the future. Building on the clients' views and the information gained from the assessment, the therapist will aim tentatively to offer an individualized formulation, within a broad stress-vulnerability framework, but emphasizing an explanation of the person's subjective experience of psychosis. The formulation will make links between the client's life history and any identified vulnerability factors, stressful events that may have been precipitating factors at the onset of psychosis, and processes that may be maintaining the symptoms. Evidence that psychotic experiences occur in the general population under certain stressful conditions (e.g., sensory and sleep deprivation) is used to "normalize" psychosis (Kingdon and Turkington 1994). Depending on the ability and interest of the client, we discuss biopsychosocial theories of psychosis and cognitive models of symptoms. The possible mechanisms of antipsychotic medication are often usefully discussed and set within the broader stress-vulnerability framework. In fostering a new or fuller understanding of the experience of psychosis, the therapist aims to reduce the guilt or denial associated with it and to provide a rationale for engaging in behaviors that reduce the risk of relapse and enhance functioning.

Working on delusions and hallucinations. It is not assumed that simply discussing a formulation will lead to delusional belief change. Where delusions and beliefs about voices are well-established, they are typically maintained by repeated misinterpretations of specific events, by ongoing anomalous experiences, and by cognitive and behavioral patterns that preferentially seek out confirmation and prevent disconfirmation of existing beliefs (Garety and Hemsley 1994). For example, there is strong evidence that some people with delusions "jump to conclusions" on the basis of little evidence and that they have a biased attributional style in which other people are blamed for negative events (Bentall 1994; Garety and Freeman 1999). The beliefs may also serve the function of protecting self-esteem, and at the least, will have made subjective sense of disturbing or puzzling experiences. Therefore, the emotional consequences of changing strongly held beliefs need to be explored. After discussing in general terms how events may be misinterpreted as a result of cognitive biases and how inner experiences

(thoughts or images) may be misattributed to external sources, a detailed analysis of day-to-day experiences and judgments is made. In each session, over a number of weeks or months, these are reviewed and alternatives generated. Chadwick et al. (1996) have provided a full account of this work with delusional beliefs, while Chadwick and Birchwood (1994) have developed approaches to auditory hallucinations that show that changing the beliefs held about voices (e.g., about their identity or powerfulness) will reduce distress.

This central work of identifying and changing the distressing and disabling delusions and hallucinations, by a systematic process of reviewing the evidence and generating alternatives, draws on standard cognitive approaches. However, there are some differences of method. First, as will have been noted, we only undertake this work once the therapeutic relationship is firmly established. By this we mean that the therapy should have progressed at least to the point that agreed goals have been articulated (as at the end of stage one) and preferably also that there has been some discussion of a model of psychotic experience on which the more detailed examination of individual symptoms can draw. It may therefore often be that this detailed discussion of delusions and hallucinations will take place in the second half of therapy. Second, the approach is gentle and nonconfrontational: the therapist must carefully judge whether and how far to challenge the client's interpretations. Also, perhaps more commonly than in standard cognitive therapy, the therapist may supply alternative interpretations rather than always seek to ensure the client generates them. This helps to compensate for the cognitive inflexibility or impairment of some clients. Third, despite our best efforts, some clients firmly resist reevaluating their beliefs; in these cases, we aim to "work within" the delusions, identifying possible ways of reducing distress and disability despite the continuance of the belief. For example, one of us worked with a person who believed that the voice of God commanded her to jump out of the window. She had, in fact, more than once jumped out of an upstairs window, causing serious harm. However, she was not willing or able to reevaluate the evidence for the belief that she had a special relationship with God and heard his voice. Instead, it was possible to retain the belief that God talked to her in this way, but to discuss whether a benevolent God would wish her to do herself harm. The consequences of acting and not acting on such commands were explored, together with anxiety-reduction strategies to manage the high levels of arousal she experienced at such times.

Addressing negative self-evaluations, anxiety, and depression. Low self-esteem is common in people

with medication-resistant symptoms of psychosis (Freeman et al. 1998). Furthermore, links between the content of delusions or hallucinations and the characteristics of threatening and traumatic events in earlier life may have been identified in the assessment and formulation stages. These links may indicate that a patient has long-standing unresolved difficulties and associated negative self-evaluations (e.g., believing him or herself to be evil or worthless). Such self-evaluations are likely to be factors in the maintenance of delusions and voices, for example, by being congruent with and thereby appearing to confirm the accuracy of abusive voices (Close and Garety 1998). After negative evaluations have been identified, standard cognitive therapy approaches are often applicable, to review the history of the development of these ideas over the life span and to reevaluate the evidence. Many people with psychosis have experienced very adverse life events and circumstances, including the psychosis itself and its consequences. In such cases, reappraisal may take the form of assisting the client to view him or herself as not, for example, "a total failure" or "a worthless person," but as someone who has struggled heroically with adversity.

The impact of the experience of psychosis is also relevant not only to specific evaluations, but also more generally to depression and anxiety. Birchwood et al. (1993) have documented how people experience demoralization and feelings of loss of control as a result of the onset of psychosis, while McGorry et al. (1991) have identified traumatic reactions to onset. Anxiety is often severe in people with psychosis, but is often overlooked (Freeman and Garety 1999). Standard cognitive approaches of identifying automatic thoughts and dysfunctional assumptions and exploring alternative appraisals are recommended.

Managing risk of relapse and social disability. The final stage of therapy involves reviewing the work done and looking to the future. The understanding clients have of psychosis (discussed earlier) influences their engagement with services and supports and their attitudes toward medication. This is reviewed and discussed further as appropriate. Although aspects of social functioning will have been discussed throughout therapy (e.g., difficulties in social and family relationships, work, or other activities), short- and medium-term plans are discussed further, in light of what has been learned in therapy. The approach is not didactic, but aims to help the person weigh the advantages and disadvantages of different strategies and plans. At this stage, if the client is vulnerable to symptom exacerbations or relapses, it is helpful to review what has been learned about the specific individual precursors of relapse and to discuss again strategies to reduce the risk of relapse (Birchwood 1996).

Outcome Research

Over the past 10 years there has been a growing number of published reports of evaluations of cognitive-behavioral therapy with people with medication-resistant symptoms. Some reports have focused on working with a particular symptom, such as delusions (Chadwick and Lowe 1990; Alford and Beck 1994) or hallucinations (Morrison 1994; Haddock et al. 1996). Some also use a more restrictive range of therapeutic techniques than described above, such as the earlier coping strategy enhancement work of Tarrier and colleagues (1993). In general, these more specific approaches are increasingly being integrated into a more comprehensive therapeutic approach, along the lines of the description of the therapy above.

The studies discussed here concern cognitive-behavioral therapy with people with "medication resistant" psychosis. There is variability in the way the concept of medication resistance is defined, or if it is defined at all. Generally, the studies do offer some criteria. For example, Kuipers et al. (1997) specify that the psychotic symptoms must have persisted for at least 6 months despite trials at recommended dosage of at least two antipsychotic medications. In practice, the participants in these studies have often experienced persisting symptoms for much longer than 6 months, and most have been in contact with services for many years.

Bouchard et al. (1996) reviewed 15 studies of "cognitive restructuring" in the treatment of schizophrenia, most of which were individual case studies or small case series using cognitive-behavioral approaches with medication-resistant delusions or hallucinations. Of these, they considered five studies, including one small controlled trial (Garety et al. 1994), to be both methodologically rigorous and also performed with people with schizophrenia. Bouchard et al. (1996) focused on changes in positive symptoms as the main measure of outcome. They concluded that these studies suggest that cognitive approaches are effective to reduce or eliminate delusions and hallucinations in people with schizophrenia. In a detailed examination of the studies, however, they found that the effect may be greater on delusions than hallucinations, the former reliably showing substantial changes.

Randomized controlled trials, despite having limitations (such as generalizing from research to clinical settings), are more conclusive than case reports or case series as valid tests of the efficacy of various forms of therapy. Two randomized controlled trials with patients with medication-resistant psychosis have recently been completed (Kuipers et al. 1997, 1998; Tarrier et al. 1998, in press). A systematic review of cognitive-behavioral therapy for psychosis, just published, includes these studies together with two other studies of cognitive-behavioral therapy

with acute inpatients (Jones et al. 1998). This is a small data base from which to draw conclusions; our knowledge base will be much improved when further ongoing and new studies publish their reports (Kingdon 1997).

Table 2 shows details of the published randomized controlled trials, together with two earlier controlled trials undertaken by the same two research groups. The most consistent finding is that there are significant benefits in terms of symptom reduction, particularly in positive symptoms, as a result of cognitive-behavioral therapy. This is found in all cases where the cognitive-behavioral therapy plus standard treatment group is compared with a standard-treatment-only control group. These benefits are sustained at followup, up to 1 year posttreatment. In one study (Kuipers et al. 1998), there was some evidence of further improvement in the cognitive-behavioral therapy group after treatment, while the control group reverted to baseline. There is also a preliminary indication that cognitive-behavioral therapy may reduce days in hospital. Effects are not only apparent in positive symptoms, although these findings are less consistent: Tarrrier et al. (1998) showed a reduction in negative symptoms, while Garety et al. (1994) found reductions in depression scores. Overall, therefore, there is good evidence, from controlled trials, that cognitive-behavioral therapy is effective in terms of psychotic symptom reduction, and there is preliminary evidence that it may contribute to relapse reduction. These same conclusions are drawn by Jones et al. (1998) in their recent systematic review of cognitive-behavioral therapy for schizophrenia, a review which also includes two trials of therapy in the acute episodes (Drury et al. 1996; Kemp et al. 1996). However, social functioning has not been found to improve, despite it being targeted in therapy. Furthermore, in the study where cognitive-behavioral therapy was compared with another psychosocial intervention, supportive counseling (Tarrrier et al., in press), there are few advantages, particularly at followup, to cognitive-behavioral therapy.

It is a truism, but noteworthy nonetheless, that statistical significance does not equate to clinical significance. Both Kuipers et al. (1997) and Tarrrier et al. (1998) examined clinically significant changes. Kuipers et al. defined a reliable clinical change as a change of five points or greater on the Brief Psychiatric Rating Scale (BPRS). (This equates to an improvement of at least 20% on the scale score.) At followup, 15/23 in the cognitive-behavioral therapy group showed a reliable clinical improvement compared with 4/24 of the control group (Kuipers et al. 1998). Tarrrier et al. (1998) found a significant advantage of the cognitive-behavioral therapy group over the other two groups (supportive counseling and standard treatment) at the end of treatment in terms of 50 percent or greater improvement in positive symptoms, with supportive counseling in an intermediate position.

Predictors of Good Outcome From Cognitive-Behavioral Therapy

Research studies, and particularly randomized controlled trials, have demonstrated that people with medication-resistant symptoms of psychosis can benefit from cognitive-behavioral therapy. However, not all people show improvements. In the studies reviewed above, only about 50 to 60 percent of participants receiving therapy benefit significantly, while up to 50 percent show limited or no improvement. Which clients will respond to cognitive-behavioral therapy is therefore an important clinical question. It also has theoretical relevance: variables that predict outcome may direct our attention to the processes of therapeutic change and thus help us to understand how cognitive-behavioral therapy works and who it helps.

A small number of studies have examined this question. Tarrrier et al. (1993) examined the effect of pretreatment scores on treatment outcome; those with higher symptom scores improved more, a result that could simply reflect regression to the mean. This finding was not replicated by Tarrrier et al. (1998); they found that shorter duration of illness and less severe symptoms at entry to the study predicted improvement. However, neither of these studies investigated the variables that specifically predicted improvement in response to cognitive-behavioral therapy. Rather, these were the variables that were associated with improvement in general, whichever intervention was offered.

Two small case study series report interesting findings that may point to factors that are more specific to cognitive approaches. First, Chadwick and Lowe (1990) used a cognitive intervention with six clients with delusions and a diagnosis of schizophrenia. During the baseline phase, they tested the participants' response to a hypothetical contradiction of their delusions—a plausible but contradictory hypothetical occurrence—where they were asked if this would alter their belief in any way (Brett-Jones et al. 1987). Chadwick and Lowe reported that the response to hypothetical contradiction seemed of potential benefit in predicting outcome. Four of the clients who were most responsive to hypothetical contradiction were also the most sensitive to the intervention, whereas the two clients whose delusional conviction scores were least changed by the intervention also entirely rejected the possibility of belief disconfirmation.

A second series of six single cases investigated delusional phenomenology in detail over time and in response to cognitive therapy (Sharp et al. 1996). Six individuals with a diagnosis of delusional disorder were treated, of whom three showed a positive response to treatment, defined in terms of a reduction in delusional belief conviction. The Maudsley Assessment of Delusions Schedule

Table 2. Controlled trials of cognitive-behavioral therapy with medication-resistant psychosis

Study	Diagnosis (total n)	Duration of illness	Design	Treatment conditions	Treatment duration (mean n of sessions) and followup	Outcome
Tarrier et al. 1993	Schizophrenia (27)	12.2 yrs (SD = 9.2)	Controlled trial (nonrandom allocation)	1. Cognitive-behavioral coping strategy enhancement + standard treatment 2. Problem solving + standard treatment 3. Standard treatment waiting list	5 wks (? sessions) Followup at 6 mos	Both treatment groups significantly improved in total symptoms over standard treatment group CB coping strategy group showed greater improvements in delusions and anxiety
Garety et al. 1994	Schizophrenia and schizoaffective disorder (20)	For CBT group, 16.5 yrs (range 6-30)	Waiting list, nonrandom allocation	1. CBT + standard treatment 2. Standard treatment waiting list	6 mos (15 sessions) No followup	Significant improvements in CBT group in total symptoms (BPRS), delusions (conviction and action), depression, and subjective appraisal of problems
Kuipers et al. 1997, 1998	Schizophrenia-spectrum psychoses (60)	13.1 yrs (range 1-33)	RCT	1. CBT + standard treatment 2. Standard treatment	9 mos (18 sessions) Followup at 9 mos	Significant improvement in CBT group over standard treatment in total symptoms (BPRS), delusions (distress), and hallucinations (frequency) Economic evaluation indicates cost of CBT offset by reduced use of services, particularly inpatient days
Tarrier et al. 1998	Schizophrenia (87)	14.2 yrs (SD = 9.9)	RCT	1. CBT + standard treatment 2. Supportive counseling + standard treatment 3. Standard treatment	10 wks (20 sessions) Followup at 12 mos	CBT and supportive counseling showed significant improvement over standard treatment for positive symptoms and negative symptoms CBT showed significant improvements maintained at 12 months' followup, for positive symptoms Some advantages for CBT over supportive counseling at end of treatment, but not at followup

Note.—BPRS = Brief Psychiatric Rating Scale; CBT = cognitive-behavioral therapy; RCT = randomized controlled trial; SD = standard deviation.

(MADS), a multidimensional assessment of delusional phenomenology, was used, modified for weekly administration (Wessely et al. 1993). Although the study did not set out to investigate predictors of outcome, an analysis of the correlations between different dimensions of delusions during baseline and intervention phases yielded some interesting data. Strikingly, strong correlations were found between delusional conviction and the "belief maintenance factors" during the baseline phase. This subscale assesses the reasons individuals give for holding their beliefs and their ability to consider an alternative view. These belief maintenance factors covaried with therapeutic improvement, changing as the individuals who responded to cognitive therapy came to doubt their delusions. Sharp et al. (1996) suggest that their study demonstrates that these factors do truly maintain the delusional belief and must change for therapy to be effective. If this is so, then these variables may also be relevant to predicting change.

Building on these earlier studies, our group set out to investigate which factors predicted a positive response to cognitive-behavioral therapy in the context of a randomized controlled trial with 60 participants (Kuipers et al. 1997, described above). The predictors of outcome study investigated whether response to therapy was predicted by demographic variables, IQ, insight or other aspects of cognitive functioning, current symptom presentation, symptom severity, or responses to MADS items at the initial assessment (Garety et al. 1997). Since this is the first comprehensive study of this kind we will consider it in some detail. Outcome was defined as improvement on the BPRS. Using analysis of variance and covariance, tests were conducted for differential effects of predictor variables as opposed to overall prognostic effects common to both groups. The study found that the variables that predicted response to treatment differed between the cognitive-behavioral therapy plus standard treatment group and the standard-treatment-only control group.

A positive response to cognitive therapy was predicted at baseline by the following four variables: (1) the response to the MADS "possibility of being mistaken," where acknowledging that another view of the delusion may be possible is associated with better outcome; (2) scores on a test sensitive to frontal lobe damage, the Cognitive Estimates Test, where a higher error score predicts good outcome; (3) the number of admissions in 5 years, where having more admissions is associated with better outcome; and, finally, (4) insight-approached significance, where better insight correlated with better outcome. These variables were entered into a multiple regression model. Because the MADS variable only applies to people with delusions, two analyses were conducted—for the group with delusions and for the larger total group (which included patients with hallucinations or other psychotic symptoms without delusions).

The first analysis found that two variables, accounting for a total of 74 percent of the variance, predicted outcome to cognitive-behavioral therapy. These variables were the MADS "possibility of being mistaken" and the number of admissions in 5 years. The second analysis found that the predictor variables for the whole group were insight and the number of admissions in 5 years, accounting for 52 percent of the variance.

Outcome was less predictable in the control group. A positive response to standard treatment only (the control group) was predicted at baseline by poorer social functioning and greater hopelessness. However, these variables together accounted for only 24 percent of the variance. A number of baseline variables did not predict outcome in either group. These included demographic and clinical variables, intelligence and other cognitive functioning measures, affect, symptom severity, or measures of the strength of delusional conviction or preoccupation.

The findings of this study offer intriguing pointers to understanding treatment response to cognitive-behavioral therapy. Most notably, response to therapy for those patients with delusions (the majority) was strongly predicted by a combination of the response to the MADS question about the possibility of being mistaken and having had a greater number of recent admissions. The MADS finding confirms our hypothesis, based on earlier work by Chadwick and Lowe (1990) and Sharp et al. (1996), that a response, at baseline, to the "mistaken" question, which admits of the possibility of an alternative view of the delusion, would predict a good response. It seems that cognitive-behavioral therapy for delusions may be more effective where there is a "chink of insight." It is important to note that this does not imply that those who responded well were not deluded. They met well-established criteria for delusions, including asserting their beliefs with high conviction. Furthermore, outcome was not predicted by delusional conviction, which was carefully assessed. For those without delusions, a conventional measure of insight predicted a positive response to therapy. It certainly makes sense that the capacity to discuss and review alternative ways of viewing one's situation inherent in this therapy is predicted by some awareness that one may have a mental illness and an awareness of its social consequences. Furthermore, the fact that good outcome is predicted by a cognitive measure also suggests that a good outcome in cognitive-behavioral therapy is due at least in part to the specific effects of cognitive therapy on delusional thinking.

Despite the finding that having a chink of insight predicts outcome, it is important to note that IQ did not predict outcome. From this study, it appears that high IQ, or intact cognitive functioning, is not required for cognitive-behavioral therapy to be effective. In fact, the results sug-

gested that poorer cognitive functioning in some respects (the responses on the Cognitive Estimates Test) predicted better outcome. It is possible, although this is highly speculative, that this therapy may provide compensatory methods which assist in reevaluating beliefs for those people whose cognitive biases may tend to lead to delusions.

The other variable that predicted outcome in response to therapy was the number of recent admissions. We had not anticipated this from our review of the literature. Two possible explanations warrant consideration. First, a greater number of admissions over a 5-year period may suggest that the psychosis is unstable and has proved more disruptive to the individual. This, in turn, may heighten motivation for change. Alternatively, a more unstable psychosis may be inherently more modifiable by cognitive therapy, perhaps because it is less firmly entrenched in a person's belief system. However, as a novel finding, without a clear theoretical basis, this result needs to be replicated before it is incorporated into our understanding of cognitive-behavioral therapy for psychosis.

Although the finding that an identifiable cognitive flexibility concerning their delusions, which was present in 50 percent of patients, predicted better outcome at the end of treatment, the prediction did not hold as strongly at 9-month posttherapy followup (Kuipers et al. 1998). At this stage, we found that those participants who admitted the possibility that they might be mistaken responded more quickly and to a greater extent to therapy than the others, but that the others appeared to benefit in the end, albeit to a lesser extent, from the therapy. From these data, it seems we cannot conclude that certain people will not benefit from cognitive-behavioral therapy, although we may be able to predict which people will benefit more quickly and to a greater extent.

Finally, there is some evidence that points to one group of people with psychosis who may not respond well to cognitive-behavioral therapy, and that explains our emphasis on working with positive symptoms. In developing the work described above, one of us (Fowler) conducted pilot studies with 19 patients with schizophrenia (Fowler 1992). This group consisted of 7 patients presenting with negative symptoms only, 10 with positive symptoms, and 2 with mixed positive and negative symptoms only. Fowler found that the subgroup with negative symptoms only responded poorly, in that they did not report changes in the subjective experience of their symptoms. There were severe difficulties in establishing and maintaining a therapeutic relationship with this group, in part because distress about their symptoms was not always present. It was, as a result, rarely possible to implement structured cognitive-behavioral procedures. Sporadic signs of improvement were not maintained and formal measures showed no consistent or

reliable therapy gains. As a result of this pilot work, we have not included people with only negative symptoms in our subsequent studies. In general, cognitive-behavioral therapy for psychosis has targeted people with persistent positive symptoms.

New Developments of Cognitive-Behavioral Therapy

Although most of the work in cognitive-behavioral therapy for psychosis has been targeted at people with medication-resistant positive symptoms, a recent innovation has been the formal application of this approach to the acute episodes of psychosis (Drury et al. 1996). The aims of this are to hasten the resolution of positive symptoms and to promote full recovery, reducing the severity of residual symptoms. It is also hoped that by reducing the distress associated with the psychotic episode itself, subsequent traumatic responses and depression may be lessened. Drury et al. (1996) report a randomized controlled trial of an intensive psychosocial intervention, including individual cognitive-behavioral therapy combined with cognitive group therapy and a brief family intervention, delivered during approximately 12 weeks of an inpatient admission. The results are impressive. The patients in the cognitive therapy condition showed a significantly faster and more complete recovery from their psychotic episodes. At 9-month followup, 95 percent of the cognitive therapy group and 44 percent of the activity control group reported no or only minor hallucinations or delusions. The cognitive therapy group also had a significantly shorter stay in hospital. This is an exciting study, which indicates that intensive multimodality cognitive-behavioral work with people during their acute episodes may be beneficial and cost-effective. Further research is now being conducted, particularly targeting people with early episodes of psychosis (see McGorry 1998).

Applying Cognitive-Behavioral Therapy Outside the Research Context

A number of questions arise when considering how to offer cognitive-behavioral therapy to people with medication-resistant psychoses in the setting of ordinary clinical services. These concern selection of patients, frequency and duration of therapy, components of therapy to emphasize, and integration of therapy with other interventions.

It is apparent that cognitive-behavioral therapy for medication-resistant psychosis is most effective for the key targets of therapy: persistent positive symptoms. To engage patients, we have found it helpful to identify with them how their symptoms are distressing or interfere with their own

goals. In the clinical setting, we therefore focus our resources on those people who report distress or interference with achieving their goals as a result of experiencing positive symptoms. As indicated above, this excludes people who only experience negative symptoms. It also suggests that those patients who report no distress or personal difficulties may not engage well with therapy, for example those patients whose delusions are mainly grandiose in content, especially if they also deny problems arise from their beliefs or experiences. Clinically, it is likely that a good time to offer therapy is when a person expresses some interest in having some further help. This is also consistent with the finding discussed earlier that people with a "chink of insight" may do better. However, it is important to emphasize again that this does not mean that we cannot work effectively with people who are fully convinced of their delusions or who are formally rated as having poor insight.

Our research has focused on people with medication-resistant symptoms, and in practice, they have had many years of illness. Starting to work with people earlier, within the first 5 years since onset, is both therapeutically and theoretically indicated. We are currently working with this typically younger group and think that the extension of the work to this group offers promise.

In terms of the duration and frequency of therapy, although the duration of therapy in the research studies has varied, most have offered a median of approximately 20 sessions. In clinical settings, it is our experience that therapy is best delivered over a period of between 6 months and 1 year, preferably starting weekly and reducing to biweekly for the greater part of the period. However, monthly sessions may be offered toward the end and continued for selected patients for a much longer period, if resources allow. Although there is no research to confirm this, it is possible that people with a vulnerability to relapse or very unstable belief systems may be helped by such continued contact. Alternatively, it may be practicable to make a full and careful transition to another mental health worker who is in regular contact with the patient and who can offer cognitively informed ongoing support.

As we have emphasized, given the heterogeneity of the problems presented by people with psychosis, cognitive-behavioral therapy involves a detailed assessment, an individualized formulation, and individually selected therapy goals. It follows that for each person the therapy will focus on specific elements of the six "stages" listed above. Although it is clear that the first stage, developing a therapeutic relationship, is common to all, it is not known which of the other elements are necessary or most effective in particular cases. In practice we find that for medication-resistant symptoms the stages of developing an understanding of psychosis and working on delusions and hallucinations form the core of the work, while develop-

ing coping strategies and work on negative self-evaluations or mood disturbance may be less relevant to certain patients. Nonetheless, the disappointing lack of clear benefits in the studies in reducing depression suggests that further work is needed to improve the therapeutic approach to achieve this. For people with a more favorable response to medication but a relapsing course, there will be a stronger emphasis on the specific issues described above in the sixth stage: working on relapse prevention and enhancing social functioning.

People with medication-resistant psychoses are generally in contact with a variety of mental health services. Although most patients are prescribed antipsychotic medications concurrently with therapy, an area yet to be researched is how cognitive-behavioral therapy interacts with medication or with other forms of psychosocial intervention. In practice, it seems that cognitive-behavioral therapy can be helpful in facilitating patients' engagement with other services, such as vocational or social programs; it may also enhance medication or other treatment adherence in individual cases (although this has not been demonstrated). Of particular interest for patients living with families is whether the outcome is improved when this individual approach is offered in addition to a family intervention, which has previously been shown to be beneficial (Penn and Mueser 1996). This has not been systematically studied. Especially with younger patients, whose psychosis is of recent onset, a combined individual cognitive-behavioral and family approach may be beneficial and we are currently piloting this in the clinical setting.

Conclusions

Cognitive-behavioral therapy is emerging as an effective approach for the relief of symptoms not optimally helped by antipsychotic medication. This therapy has been shown to reduce positive psychotic symptoms, and there is evidence that it may contribute to relapse reduction (Jones et al. 1998). One study has shown that improvements were sustained or even increased at followup, suggesting that the approach can transmit skills of self-management (Kuipers et al. 1998). It is also likely to prove cost-effective, especially if the evidence that it delays relapse proves robust. However, not all patients are helped by this approach. Further work is needed on this question; at present, it appears that people who report distress as a result of their symptoms and who show what we have called a "chink of insight" may engage more readily or, possibly, benefit more quickly or to a greater extent. Finally, although we have discussed medication-resistant psychosis, there is some evidence that cognitive approaches can help people with

acute and early psychosis. Indeed, an intervention that focuses on the beliefs and the understanding that a person develops in the context of the experience of psychosis is very likely to be more helpful if offered early. However, given the complexity and heterogeneity of psychosis, optimal care will require offering a range of interventions described in this special issue of the *Schizophrenia Bulletin* as desired by patients and their caretakers and as judged appropriate. Cognitive-behavioral therapy should be considered as one possible component of a comprehensive treatment plan.

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