SERIES EDITOR: PAULETTE M. GILLIG, MD, PhD
Professor of Psychiatry, Department of Psychiatry,
Boonshoft School of Medicine, Wright State University, Dayton, Ohio

COGNITIVE BEHAVIOR THERAPY FOR PEOPLE WITH SCHIZOPHRENIA

by ANN K. MORRISON, MD
Associate Professor, Department of Psychiatry, Wright State University Boonshoft School of Medicine, Dayton, Ohio

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ABSTRACT

This article summarizes the current literature on the use of cognitive behavioral therapy for people with schizophrenia for the primary symptoms of illness, the secondary social impairments, comorbid disorders, and for enhancing the effectiveness of other treatments and services, such as medication and vocational support. Ways in which cognitive behavioral therapy techniques can be incorporated into the current mental health system is suggested. It should be acknowledged that a few recent reviews and studies have called into question the quality of the evidence or the true effectiveness of cognitive behavioral therapy in schizophrenia and other severe mental disorders and comorbid conditions.

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ADDRESS CORRESPONDENCE TO: Ann Morrison, Department of Psychiatry, Boonshoft School of Medicine, Wright State University, 627 S. Edwin C. Moses Blvd., Dayton, OH 45408-1461; E-mail: ann.morrison@wright.edu

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INTRODUCTION

There has been renewed interest in psychosocial interventions, including psychotherapy, in the treatment of schizophrenia. In recent years, this has included adapting cognitive behavioral therapy (CBT) techniques previously used mainly in the treatment of mood and anxiety disorders for use with individuals with more severe mental disorders.[1] The core symptoms of schizophrenia in many people have proven to be resistant to treatment

with medication alone and can be targeted for treatment with CBT.[2] Impairments in major role function due to negative symptoms,[3] some of which have proved especially recalcitrant to pharmacologic agents,[4] can be addressed with CBT to improve relationships with family and friends and success at work. People with schizophrenia often struggle with comorbid mood and anxiety disorders, including past traumas,[5] which can be successfully treated with CBT.[6–8] Disseminating and implementing these treatments into a system of care that has, for more than a decade, focused on pharmacologic treatments and community support services has proven challenging especially in the United States.[9]

This article will summarize the current literature on the use of CBT for people with schizophrenia for the primary symptoms of illness, the secondary social impairments, comorbid disorders, and enhancing the effectiveness of other treatments and services, such as medication and vocational support. Ways in which CBT techniques can be incorporated into the current mental health system will be suggested. It should be acknowledged, however, that a few recent reviews and studies have called into question the quality of the evidence or the true effectiveness for CBT in schizophrenia and other severe mental disorders and comorbid conditions.[1,10–12]

CBT: A REVIEW OF THE LITERATURE

Treating people with schizophrenia using CBT is not an entirely new approach. Beck,[13] in 1952, described successfully treating a delusional belief held by a patient with schizophrenia using CBT. Initial systematic efforts to use CBT for the treatment of schizophrenia focused on the treatment of acute symptoms experienced by inpatients.[14]

Studies by Drury et al[14] showed that cognitive therapy reduced positive symptoms at a faster rate during the initial 12-week period following hospital admission, and the overall amount of positive symptoms were reduced during this time compared to those patients that received an equal amount of activity therapy and support. There was no difference in the decrease in negative symptoms between the groups during the initial 12-week period. At nine-month follow up, the group that received cognitive therapy continued to have significantly fewer positive symptoms than the control group. At this follow up, there was no difference in negative symptoms. In addition, Drury et al[15] found more rapid improvement in clinical recovery as measured by increased insight, less dysphoria and "low level" psychotic thinking, and less disinhibition.

The majority of the studies following Drury's group work with acutely ill patients focused primarily on treating the chronic and persistent symptoms of schizophrenia. Approximately half of people (47%) with schizophrenia exhibit clear psychotic features and 22 percent experience weak or sporadic psychotic features.[16] These studies have been primarily done in the United Kingdom where there has been broader dissemination of the approach, likely at least in part due to formal endorsement by the National Institute for Clinical Excellence.[17] Tai and Turkington[18] summarize the results of the CBT studies and reviews of these studies with the following points:

1. Randomized controlled trials (RCTs) have shown moderate effect sizes for positive and negative symptoms at the end of therapy and with sustained effects.
2. CBT has been effective in clinical as well as research settings.
3. Hallucinations and delusions respond to CBT.
4. Negative symptoms respond initially, and improvement remains at medium-term follow up.

Tai and Turkington[18] acknowledge that 1) CBT is not as effective when people do not view themselves as having a mental health problem, have delusional systems, or have extreme primary negative systems; and 2) when people have comorbid disorders, such as substance misuse, because they are more difficult to engage and treat. However, CBT does show promise even in these more complex clinical situations.

Factors that have seemed to predict improvement with CBT have been identified in several studies. In Drury et al,[14,15] early work with acutely psychotic inpatients, female gender, shorter duration of illness, and shorter duration of untreated illness predicted better outcomes. Tarrier et al,[19] in a stable, outpatient population with persistent symptoms, also found shorter duration of illness and less severe symptoms predicted the greatest improvement. More recently, Brabban et al[20] cited female gender and low level of conviction in delusions as predicting positive response to CBT.

CBT: THEORY AND TECHNIQUES

Several leaders in the field of CBT for treatment of schizophrenia have provided summaries of the theorectical background and therapeutic techniques.[21–23] Tarrier and Haddock[21] note the recognition of coping strategies as a buffer against psychotic decompensation and that CBT could enhance these coping strategies already being employed by people with schizophrenia. They describe the following characteristics of coping training:

1. Emphasis on the normal and general process of dealing with adversity (psychosis is an example of adversity)
2. Use of overlearning, simulation, and role playing
3. Addition of coping strategies together to progress toward *in-vivo* implementation
4. Provision of a new response set

to ongoing problems
5. Coping skills that often begin with external verbalization, which then diminishes as the procedure becomes internalized
6. Behavioral coping skills that are learned through graded practice or rehearsal.

Specific cognitive and behavioral techniques Tarrier and Haddock[21] advocate are attention switching, attention narrowing, increased activity levels, social engagement and disengagement, modification of self-statements, and internal dialogue.

Other types of interventions described by this group are de-arousing techniques, increasing reality or source monitoring, and belief and attribution modification.

Turkington et al[23] emphasize that the establishment of therapeutic alliance, common to all successful therapies but developed in an overtly collaborative manner emphasizing the patients perspective, is a hallmark of CBT in general. However, they emphasize that patients with schizophrenia may be less amenable to any attempts by the physician to view their problems as biomedical in origin. For instance, if the patient describes his or her problem as "depression," "stress," a "misunderstanding" with family members, or even an "odd sensation" in his or her head, it is better to use these as openings into how the physician might help the patient minimize these symptoms rather than insist that the patient endorse a diagnosis of schizophrenia. They point out that it is not necessary that the patient share the physician's view about the origin of his or her symptoms to work together to diminish the symptoms' impact on the person. One technique, normalizing psychotic symptoms such as auditory hallucinations, is somewhat discordant with the biomedical model. For instance, to help engage the patient, the physician may point out that many people hear voices under certain circumstances, such as sleep deprivation or grief.

Turkington et al[23] summarize the main techniques as follows:

1. Develop a therapeutic alliance based on the patient's perspective
2. Develop alternative explanations of schizophrenia symptoms
3. Reduce the impact of positive and negative symptoms
4. Offer alternatives to the medical model to address medication adherence.

To reduce the impact of positive symptoms, "peripheral questioning," a technique in which the person is queried about the specifics of his or her delusional beliefs in order to understand how he or she arrived at his or her conclusions, may be used. This is then linked with graded reality testing to introduce doubt and postulate other explanations. For example, a patient with the belief that he or she has invented machines that will solve many of the world's problems might be asked about how and when the idea came to him or her, what the early phases of design entailed, whether he or she has taken any steps to file for patents, and whether others have helped him or her in the endeavors. The idea is to look for any gaps in his delusional system that might provide the therapist in-roads into freeing up the conviction the patient has in his beliefs. "Inference chaining," in which the personalized meaning of a systematized delusion, is explored to decrease the distress engendered by the delusion.

The review by Beck and Rector[22] provides theoretical underpinnings in the use of CBT for schizophrenia. They describe a neurocognitive impairment in the premorbid state that makes the individual vulnerable to aversive experiences (such as school failure). These lead to dysfunctional beliefs (such as "I'm inferior") and the dysfunctional cognitive appraisals and maladaptive behaviors (such as social withdrawal). These lead to additional aversive experiences that subsequently increase psychophysiological stress. They note that people at risk for schizophrenia have impairments in neurocognition (attention problems, impaired working memory, and executive function), which they lump together as "cognitive insuffiency." This insufficiency can result in inadequate performance, which leads to increased stress. They hypothesize that the increased stress and the resulting increase in corticosteroids contributes to the development of delusions and hallucinations. They propose that loss on integrative functions impairs other functions, such as self-reflection, self-monitoring, and correction of misinterpretations, which lead to delusional beliefs, impaired insight, and reality testing.

Beck and Rector[22] review particular symptoms of schizophrenia and the way in which a cognitive assessment may be used to help diminish symptoms. For instance, delusions they note can be characterized by the cognitive patterns of externalizing, internalizing, and intellectualizing biases; categorical thinking; emotion-based and somatic-based reasoning; and inadequate cognitive processing, such as jumping to conclusions. The self-centered focus, external locus of causation, and tendency to relate irrelevant events to themselves lead the individual to arrive at false conclusions.[22] In the review, the authors describe how hallucinations and negative symptoms can be understood and treated in a cognitive context. Premorbid attitudes toward social affiliation coupled with low expectancies for pleasure, success, acceptance, and perception of limited resources produce and maintain negative symptoms.[22] Patients with schizophrenia often have long established habits of looking for slights, believing that others do not like them, and anxiety about dealing with conflict with friends and family, which may lead to worsening of

psychotic symptoms. People with schizophrenia may need to be coached through even simple tasks, such as sharing chores with roommates, setting limits on the access that sexual partners of roommates have to common living areas, and agreeing to rules about appropriate behavior in these share areas. Individuals with schizophrenia may be particularly sensitive to off-hand comments made by roommates, such as mentioning plans to spend time with others, as being evidence that the roommates do not care for them or want them out of the apartment.

With respect to treatment, Beck and Rector[22] describe using typical CBT techniques: building trust and engagement; working collaboratively to understand the meaning of symptoms; understanding the patient's interpretation of past and present events, especially those that the patient feels are related to the development and persistence of his or her current problems; normalizing these experiences and educating the patient about the stress-vulnerability model; and socializing the patient to the cognitive model, including the relationship between thoughts, feelings, and behaviors. Elucidating the emotional and behavioral consequences when a delusion is activated leads to exploration of the evidence, initially with more peripheral interpretations. Beck and Rector[22] advocate addressing negative symptoms, such as amotivation, anergia, anhedonia, and social withdrawal, with behavioral self monitoring, activity scheduling, mastery and pleasure ratings, graded task assignments, and assertiveness training. Again, for patients whose lives may have been severely limited for many years, these behavioral schemes may have to be undertaken at a more modest pace than the clinician is used to when working with less impaired patients. Patients with schizophrenia may have to be instructed to spend extremely small amounts of time in a social situation and the situation may have to be one with which they still have some comfort. For instance, a patient with schizophrenia may need to be coached on how to approach an office staff person, whom he or she has known for years, with a request that will keep him or her engaged in more than minimal conversation. Some patients have so long ago abandoned hobbies and interests that the therapist and patient may be hard pressed to find something in their current repertoire from which to choose for developing an activity schedule to enhance mastery and pleasure. Still, patients will often agree to experiment with reengaging their interests in music, gardening, or painting, for example, with enough support and practical help in overcoming obstacles, such as budgeting for supplies. Advocacy groups, drop-in centers, clubhouses, and other nonclinical services can provide less threatening and more accepting environments for patients to explore these activities. Table 1 summarizes some of the target symptoms and CBT techniques used to ameliorate these problems.

TABLE 1. Targets and techniques of cognitive behavioral therapy for schizophrenia

TARGET	TECHNIQUE
Positive symptoms	Alternate explanations to patient
Hallucinations	Normalizing Enhancing coping strategies
Delusions	Inference chaining Peripheral questioning
Negative symptoms	Behavioral interventions
Avolition Amotivation Anhedonia Affective blunting	Behavioral self monitoring Activity scheduling Mastery and pleasure ratings Social skills training

FIRST PSYCHOTIC EPISODE AND CBT

Following a person's first experience of psychosis, whether it develops acutely or more insidiously, the initial focus of treatment will be the initiation of antipsychotic medication, usually a second-generation agent. For most individuals, adhering regularly to medication for a long-term illness proves daunting. The Clinical Antipsychotic Trials of Intervention Effectiveness (CATIE) study[24] reported discontinuation rates ranging from 68 to 82 percent over an 18-month period. Working with patients on both their automatic thoughts and beliefs about the meaning of taking psychotropic medication and developing behavioral routines and cues may be helpful in improving adherence; however, the earlier promise of compliance therapy (a brief, cognitively based intervention using motivational interviewing techniques) has not been replicated recently.[25] Behavioral management of some side effects, such as weight gain and the accompanying metabolic sequelae or sedation and inactivity, may also prove useful.[26] Antipsychotics substantially decrease relapse rates for people with schizophrenia. In one multisite collaborative study, which included groups receiving placebo alone,

placebo and major role therapy, antipsychotic alone, and antipsychotic and major role therapy, the placebo-alone group had a 72.5-percent relapse rate at one year compared to a 32.6-percent relapse rate for drug alone.[27] Cumulative relapse rates for all placebo-group patients versus all drug-group patients were 67.48 percent versus 32.91 percent.[27] Therefore, maximizing adherence is an important step in improving clinical outcomes. While adherence remains a vexing problem, review of the adherence literature indicates that those interventions that go beyond education are likely to be more effective.[25]

However, even with excellent adherence to antipsychotic medications, many individuals experience both relapse and residual symptoms. Cannon and Jones[28] estimate the general outcomes at five years for people with schizophrenia to be 35 percent poor, 29 percent intermediate, and 36 percent good. They note that 14 to 19 percent develop chronic, unremitting, psychotic symptoms. A more recent first-episode psychosis study reported a similar 15.1 percent of people had persistent psychosis at two years.[29] These persistent symptoms are often the target of CBT. Patients often cite ineffectiveness as a reason for discontinuation of antipsychotic medication at higher rates in most cases than side effects.[24] Therefore, the ability of CBT to decrease these symptoms may have the additional benefit of improving medication adherence.

MIDCOURSE TREATMENT OF SCHIZOPHRENIA AND CBT

Treatment of residual symptoms of schizophrenia of both positive and negative types remains a focus for treatment with CBT through the midcourse of illness. Once people with schizophrenia have had resolution of initial, acute symptoms, which are typically the most responsive to antipsychotic medication, they often still suffer significant social impairments, especially from negative symptoms, such as avolition, anhedonia, amotivation, and affective blunting. The prevalence of the deficit syndrome (primary and enduring negative symptoms that are not secondary to positive symptoms or treatments) is estimated to be 15 to 20 percent of people with schizophrenia.[30] The prevalence of all persistent negative symptoms (primary and secondary) is probably higher.[30] These can be addressed directly by well-established CBT techniques, such as activation strategies. Teaming an exploration of distorted cognitions with behavioral activation may be especially helpful in improving anhedonia and the lack of social interaction secondary to this, as it has been shown that people with schizophrenia have difficulty predicting, but not experiencing, enjoyment of activities.[22,31] Exploring automatic thoughts can be particularly helpful in uncovering a residual positive symptom, such as paranoia, masquerading as a negative symptom. Patients may deny a superficial inquiry into whether they were “paranoid or suspicious” but eliciting more detail about the last time they passed on a social opportunity may reveal residual beliefs that they will be mistreated or plotted against by family members or that others are only pretending to accept them temporarily so that they can reject or harm them more in the future. Not venturing onto one’s porch may be a reflection of living in a bad neighborhood, reliving a past assault when taking a walk, or concern that one is under surveillance from the streetlights.

In addition to the positive and negative symptoms attributable to schizophrenia itself, impairment in role function can be due to the secondary assumptions that patients make about themselves, their future, and the reaction of others to them based on their experience of illness. Many individuals with schizophrenia have been unable to complete their educational plans, hold down a steady job to provide for themselves, form lasting relationships including sexual intimacy, and have fractured relationships with their families through years of struggle with the disorder. These multiple experiences of failure and loss, not surprisingly, can cement negative core beliefs, an obvious target for CBT. The same techniques that one would use to combat these core beliefs and the automatic thoughts that arise from them in depression can be used to help the person with schizophrenia. Patients themselves will often spontaneously express these expectations of failure ironically, often when they are doing well, in the form of “I know this cannot last,” or “something bad is going to happen.” These can be reasons for not taking additional steps toward independence, such as pursuing work, with people reporting, “I tried that before and I could not handle it.” Since these fears are often based, at least in part, on an accurate assessment of the past, one must be careful not to trivialize or dismiss them. However, the physician can look for positive experiences to discuss with the patient to counteract those negative ones, such as recent success with volunteer work, having people with whom the patient can discuss challenges, and finding a medication that had helped the individual concentrate better and feel less anxious. These positive experiences can help diminish the degree to which individuals with schizophrenia hold to the negative expectations. Dissecting these past experiences might provide further information that specifically can be used to contradict current negative thoughts and beliefs.

COMORBID CONDITIONS AND CBT

People with schizophrenia often have comorbid disorders, such as substance use, depression, and anxiety.[5] The impact that anxiety symptoms have on quality of life and interaction with psychotic symptoms, including contributing to distress and impairment, for people

with schizophrenia has been described.[32] These problems may also be successfully managed with CBT. For some problems, such as posttraumatic stress disorder (PTSD) or specific phobias, CBT may be the treatment of choice. However, there is evidence that clinicians who treat people with schizophrenia are reluctant to use CBT, especially in the treatment of trauma.[33] This is unfortunate, especially as the high prevalence of trauma and PTSD in patients with schizophrenia and related disorders is increasingly recognized.[25] Two recent studies, one open and one randomized and controlled, have shown improvement in PTSD symptoms in patients with severe mental illness.[7,8]

Specific phobias may be overlooked as an obstacle in people with schizophrenia because the individuals may describe their problems as "paranoia" (e.g., they are fearful of going to the dentist or doctor, traveling to see family, driving, or visiting friends who have birds). By using either systematic desensitization or, in some cases, flooding (if the patient will tolerate this), these fears can be overcome. Patients with schizophrenia, however, may require significant support and assistance with implementing the behavioral plan. Community support specialists or behavioral therapists (if available) may need to assist the patient with exposure experiences.

People with schizophrenia often complain of social unease or anxiety in absence of frankly psychotic beliefs about people. These also can be addressed with CBT. Again, working with the usual techniques of identifying and challenging distorted thoughts, such as "everyone is looking at me," "I'll make a mistake and everyone will notice," or "they'll think I'm stupid," and developing a hierarchical method of exposure to gradually more anxiety-provoking situations can diminish these symptoms. The conventional treatment and services available in community mental health centers, such as group therapies and community support services, can be utilized for these exposure experiences, but one needs to identify the individual's specific thoughts and fears to address them effectively. For instance, if one simply accompanies an individual to the grocery store without identifying that the anxiety the individual feels is caused by fear of scrutiny when scanning a debit card or having to ask where an item is shelved, then an opportunity to transition the person to independent shopping may be lost. Symptoms of social anxiety may inhibit people with schizophrenia not just from basic day-to-day tasks, such as grocery shopping, but may prevent them from taking more advanced challenges, such as pursuing school or work.

People with schizophrenia frequently find themselves struggling with substance use disorders. Schizophrenia has the highest comorbidity rate with substance abuse (47%) than any other mental disorder.[34] Many psychosocial interventions, such as social skills training, target substance abuse by teaching patients skills to decrease substance use, including practicing refusal.[35,36] These programs utilize some of the same techniques used in more specific CBT, such as role playing and contingency planning. A more formal study of CBT in patients with schizophrenia and substance use disorders has shown promise.[37] Table 2 summarizes some of the comorbid conditions that might be addressed with specific CBT techniques.

TABLE 2. Strategies for comorbid conditions of schizophrenia

COMORBIDITY	STRATEGIES
Substance use disorders	CBT/motivational interviewing
Depression	CBT
Panic disorder	CBT
Specific phobia	Exposure/systematic desensitization
PTSD	CBT/exposure
OCD	CBT/exposure-response prevention

Key: CBT—cognitive behavioral therapy; PTSD—posttraumatic stress disorder; OCD—obsessive compulsive disorder

PROMOTING FURTHER RECOVERY AND RESILIENCY

The earlier discussion focused on the use of CBT for acute or persistent primary symptoms of schizophrenia or targeting co-occurring conditions, such as PTSD or substance use. An additional target for CBT has been to help with the disabilities that arise from peoples' experience of demoralization and failure, especially in the area of major role function. Earlier hopes that the newer antipsychotics would not only have fewer side effects but

also be more effective in treating negative symptoms and thus enhance the functional capacity of people with schizophrenia have not been realized. Unemployment rates and social isolation of people with schizophrenia remain very high. Despite having also made advancements in the development of vocational approaches more suited to people with severe mental disorders, such as supported employment, many people find themselves unable to fill the hours of the day with any meaningful activity. An Indiana study showed an improvement in vocational outcomes when weekly CBT group and individual sessions were used over standard vocational support in patients with schizophrenia spectrum disorders.[38] The individuals receiving CBT worked more weeks and more hours and had better work performance over the 26-week study compared to those receiving standard vocational support.

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A necessary condition for promoting recovery is that people have the resiliency to continue to struggle against a devastating illness. Suicide remains a real risk for patients with schizophrenia. Although the lifetime risk of suicide has been reassessed recently as lower than past estimates (4.9% vs. 10%),[39] decreasing this risk is a preeminent concern of physicians, families, and people with schizophrenia. To date, among the commonly used treatments for schizophrenia, only clozapine has shown consistent benefit in deceasing suicidality.[40] Here too CBT has shown some promising results recently.[41] In one study, 90 patients were randomized to either CBT or befriending groups, which received 19 individual treatment sessions over nine months.[41] Both groups experienced significant decreases in positive and negative symptoms of schizophrenia and depression, but only the CBT group continued to improve at follow up. Only the CBT group experienced a significant decrease in suicidal ideation.[41]

SUMMARY

CBT, having been adopted as a standard treatment in the United Kingdom for individuals with schizophrenia, is finally gaining more interest and acceptance in the United States as an adjunctive treatment for people with schizophrenia. Initially developed to treat acute symptoms, more recent studies have focused on treating persistent positive and negative symptoms in patients with incomplete remission on antipsychotics alone. Additional targets in recent years have been comorbid conditions of depression, anxiety (including PTSD), and substance use disorders. Also, there is hope that broader use of CBT in rehabilitation settings may lead to improvement in overall function, which has not occurred despite many new drug therapies for patients with schizophrenia.

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