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Psychosocial Treatments for Schizophrenia

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Abstract
This article focuses on the importance of psychosocial interventions for individuals with schizophrenia. We present recent research in the areas of cognitive behavior therapy, social skills training, family interventions, supported employment, and cognitive remediation. We consider issues within those domains of treatment, such as symptom remission versus functional recovery, the limitations of pharmacotherapy, and the potential for psychosocial interventions to address both family and patient issues.

Keywords
schizophrenia, psychosis, psychosocial treatment

For individuals with schizophrenia, recovery from psychotic symptoms is common after the first episode, with 75% to 90% achieving remission from the positive psychotic symptoms—that is, hallucinations, thought disorder, and delusions—1 year after treatment. Even when best practices are adhered to, there are limitations to the effectiveness of medications. Rates of compliance with taking medication are low even in those who are sick for the first time. Some patients are characterized as “slow responders”—that is, medications take longer than expected to have an effect for these individuals. Others are at risk of experiencing limited effect of the medications even when they adhere to the treatment. Even with ideal pharmacotherapy, relapse rates are very high after the first year of follow-up. In addition, functional recovery remains a major challenge. By functional recovery, we are referring to social relationships and the ability to socialize, make friends, finish school, or attend work. The illness remains disabling and problematic for patients and their families as so often symptom improvement is not always matched with functional improvement. Thus, to help achieve improved outcomes, it is critical that we develop treatment approaches to complement pharmacotherapy. Progress in the research and development of such interventions for schizophrenia can easily be overshadowed by progress in psychopharmacology. Empirical testing of such interventions takes time and money, is labor intensive, and does not lead to a highly profitable product. There are fewer data available to assess the efficacy of such interventions, and they are not widely tested beyond the settings in which they were developed.

Goals of Psychosocial Interventions
To achieve the goals of the psychosocial treatments used in schizophrenia, it is necessary to take into account not only the symptoms of the illness but also the impact of the illness on an individual. This includes isolation from families and friends; damage to social and working relationships; depression and demoralization; and an increased risk of self-harm, aggression, and substance abuse. Persistent symptoms that remain after the early recovery phase are an additional problem and add to the already disrupted developmental trajectory, particularly for young people who are experiencing their first episode of psychosis. Since the overall goal is to enhance both symptomatic and functional recovery, these interventions should be available to everyone and especially to those who are recovering from their first episode. Psychosocial interventions have a very important place in the treatment of schizophrenia. In fact, most schizophrenia treatment guidelines now have specific recommendations about including psychosocial and psychological interventions.

What Psychosocial Interventions Are Available?
The terms psychological interventions and psychosocial interventions tend to be used interchangeably. In schizophrenia, psychological interventions—for example, cognitive behavior therapy (CBT)—sometimes used for schizophrenia have usually been developed to target the positive symptoms and include psychological strategies such as reattribution, which involves having the individual consider alternatives to his or her current belief system. Psychosocial interventions target...
areas not directly linked to symptoms but may include some psychological strategies. In this article, we will use the term *psychosocial* as a general term to describe the treatments that may aim at improving symptoms but to some degree focus on functional outcome. A range of psychosocial interventions is available. The major ones are CBT, social skills training (SST), family interventions, cognitive remediation, and supported employment. We will present the most recent and relevant research on each of these interventions—in many cases, a recent review or meta-analysis (i.e., combining the results of several studies) that contains the most up-to-date information.

**CBT**

Traditionally, CBT has been used to treat depression and anxiety, and it has more recently been adapted to treat psychosis. CBT is now gaining recognition as an effective treatment in schizophrenia. Delusional thought processes have been traditionally thought of as being qualitatively different from nondelusional processes, although some features of these delusions appear to be consistent across both psychotic and nonpsychotic conditions. These features of delusions include conviction, significance, intensity, and inflexibility—features that are the focus of CBT interventions. CBT conceptualizes symptoms within a stress-diathesis framework, in which behavior is viewed as the product of biological factors, such as genetics, and potentially stressful life experiences or other stressors such as substance abuse.

To date, more than 30 randomized controlled trials of CBT for schizophrenia have been published, demonstrating moderate effect sizes on average ($d = 0.37$; Wykes, Steel, Everitt, & Tarrier, 2008). Although this is promising, outcome in most CBT studies has been limited to positive symptoms (delusions, hallucinations, thought disorder, bizarre behavior) and occasionally negative symptoms (for example, apathy, avolition, poverty of content and thought, flat affect), despite the fact that CBT for psychosis can potentially affect other domains such as depression or anxiety. Several studies in the meta-analysis by Wykes et al. have begun to address functional outcome but only as a secondary outcome to outcome of symptoms. Some excellent work has demonstrated a successful use of CBT to prevent relapse (Gumley et al., 2003) and to reduce command hallucinations, which are among the most distressing and high-risk symptoms (Trower et al., 2004).

CBT is used for those experiencing their first episode of psychosis. To help with the many concerns of these young patients, a modular approach has been described (Addington & Gleeson, 2005). This is a hierarchical patient-oriented approach to treatment that draws on a diverse array of texts and treatment protocols using empirically supported intervention strategies that have been written up as manuals. The modules in this approach utilize CBT techniques to address such factors as engagement, education, adaptation, comorbid anxiety and/or depression, coping strategies, relapse prevention, and reduction of positive and negative symptoms.

Thus, research appears to support the implementation of CBT as an excellent addition to pharmacotherapy, as it may improve symptoms, reduce relapse, and potentially enhance functional capacity and overall life quality. This is a rapidly expanding area of research and has proved to be a promising and dynamic treatment modality.

**SST**

Deficits in social skills are a significant characteristic of schizophrenia, and this is one of the most salient problems addressed through psychosocial intervention in this population. SST is a promising treatment strategy that has grown tremendously over the last few decades. This strategy, which began with the social skills model of Robert Liberman (see Liberman et al., 1986) incorporates three elements seen as the defining features of social competence or interactions: receiving skills (social perception), processing skills (social cognition), and finally how the individual responds (behavioral responding or expression). Within this framework, social skills are a set of learned abilities and therefore provide opportunity for modification through SST. Current SST protocols target these elements through goal setting, modeling, role playing, positive reinforcement, corrective feedback, and community-based homework assignments (Bellack, Mueser, Gingerich, & Agresta, 2004; Corrigan, Mackain, & Liberman, 1994). A recent meta-analysis by Kurtz and Mueser that reviewed many high-quality randomized controlled trials suggests much more positive results. Significant effect sizes for improvements in skill acquisition ($d = 1.20$), assertiveness ($d = 0.92$), social interaction ($d = 0.52$), and reducing general psychopathology ($d = 1.08$) have been noted (Kurtz & Mueser, 2008).

The stress–vulnerability model of schizophrenia suggests that coping skills such as social skills and associated social support could reduce the contribution of stress to psychotic symptomatology. Treatment that increases one’s ability to cope by increasing social skills has therefore been investigated as a means to improve functional outcome with this population. Kurtz and Mueser (2008) identified content mastery—defined as the integration of factual information with procedural and analytic skills—and skill acquisition as those aspects of social skill most associated with improvement in functioning after SST. They found measures of social performance and activities of daily living (such as interacting appropriately with others at the supermarket or balancing one’s checkbook) to be more moderately associated with improvement. There was a moderate to small effect size in reductions in negative symptoms ($d = 0.40$) and a small effect size in the risk of relapse ($0.23$). Overall, SST provides the foundation for further social competence (Kopelowicz, Liberman, & Zarate, 2006), which increases functional capacity in those with schizophrenia and improves their ability to cope with stressful life events.

**Family Interventions**

A diagnosis of schizophrenia can have devastating consequences for family members, who may feel burdened and
experience significant distress, anxiety, depression, and economic strain. In fact, taking on responsibilities over and above pre-existing family roles often results in increased psychiatric morbidity among family caregivers. Traditionally, family interventions were specifically designed to address the problems observed in patients with a chronic course of schizophrenia and their families during the post-hospitalization period. These programs consisted mostly of psychoeducation, were often inadequately designed, were fitted more for those who had been chronically ill for many years, and reflected at times limited understanding of the course of schizophrenia. More recently, family interventions for individuals with schizophrenia have been assessed either for their benefit in reducing relapse for the individual or for their effectiveness at reducing family members’ stress. A meta-analysis conducted by Pilling et al. (2002) highlights the benefits of family interventions over other treatments such as basic pharmacology in reducing relapses, re-admissions to hospital, and symptoms. Important elements that should be part of family interventions include (a) illness education, (b) crisis intervention, (c) emotional support, and (d) training how to cope with symptoms associated with the illness (Lehman et al., 2004).

More recently, working with the family at the start of the illness has been advocated. The goals of early intervention with the family are to maximize the family’s adaptive functioning to the illness; minimize any disruption to family life caused by the onset of schizophrenia; and minimize the risk of long-term grief, stress, and burden experienced by the family. What is also important is to help the family understand the impact of psychosis on the family system and on individual family members, and help them understand the interaction between the family and the course of psychosis. Using this model, Addington, McCleery, and Addington (2005) observed, over the course of 2 to 3 years, a significant reduction in the distress of the families. Although the support was available for up to 3 years, families required minimal sessions, suggesting that what families need is not necessarily an intensive intervention but one that is long term. Interestingly, it was the family’s appraisal of how the illness impacted everyone, not the severity of the illness, that had most impact on family outcome.

A recent innovative approach with families addressed the problem of substance abuse in schizophrenia. This trial examined the effectiveness of an integrated treatment of CBT and motivational interviewing. Motivational interviewing involves evaluating all family members’ desire to change and trying to increase their actual motivation to change. Results showed significantly greater improvement in patients’ general functioning and the number of days they were abstinent from substances (Barrowclough, et al., 2001).

These findings and recommendations emphasize the fact that family intervention is a proven-effective evidence-based treatment for reducing relapse and symptoms in schizophrenia. Family work can be with individual families or in groups of families, and there is no evidence that one is necessarily more effective than the other.

**Supported Employment**

The onset of schizophrenia often occurs at critical times of development and thus can have a major impact on a young person’s future education and vocational development. Thus, employment is pivotal for the process of recovery in schizophrenia and for improved social and economic functioning. The most empirically validated approach to vocational rehabilitation is supported employment combined with skills training. This approach is based on a “place then train” philosophy guided by the following six principles: (a) eligibility is based on the consumer’s choice, (b) supported employment is incorporated with other treatments, (c) competitive employment is the goal, (d) a job search begins almost immediately after interest in employment, (e) follow-up support systems are continuous, and (f) the preferences of the consumer are essential. Thus with individuals with schizophrenia, the individual placement and support model has been shown to be more effective than the use of regular community employment agencies. Overall, supported employment has been shown to improve the employment outcomes of persons with severe mental illness, although many clients who receive this service still fail to achieve their vocational goals (McGurk & Mueser, 2004).

**Cognitive Remediation**

Impairments in cognitive function are a core feature of schizophrenia. A range of studies strongly supports the association between cognitive deficits and functional outcomes such as work, social relationships, and independent living. To address the problem of cognitive impairment in schizophrenia, a range of cognitive remediation initiatives (i.e., cognition-enhancing and compensatory) developed for treatment of traumatic brain injury has been adapted and evaluated in patients with schizophrenia. These training initiatives involve either paper-and-pencil tests or individual computerized exercises that target specific cognitive skills (e.g., attention, memory, psychomotor speed) and require continuous training over a number of weeks and months. Whereas cognition-enhancing approaches train subjects with laboratory tasks in order to improve specific abilities in different cognitive domains (e.g., learning, attention, memory), compensatory approaches attempt to bypass cognitive deficits and teach strategies to compensate for them by relying on aids or similar processes. In a recent meta-analysis of cognitive remediation in schizophrenia, McGurk and colleagues (McGurk, Twamley, Sitzer, McHugo, & Mueser, 2007) reported moderate improvements ($d = 0.41$) in some aspects of cognition, improvements that were consistent across reviewed studies. In contrast, there was considerable variability between studies on effects of cognitive remediation on social functioning. In other words, studies that implemented cognitive remediation alone did not report significant effects on social functioning ($d = 0.05$), whereas studies that provided adjunctive rehabilitation programs did ($d = 0.47$). What is most interesting is that, although improvement in cognitive functioning
in schizophrenia does not spontaneously improve functional outcomes, the empirical evidence suggests that it may improve response to psychiatric rehabilitation and vocational training.

**Summary**

Results in areas of SST, CBT, family interventions, supported employment, and cognitive remediation are all promising. Outcomes in psychosocial treatment studies in schizophrenia are, as in pharmacotherapy research, highly variable. However, it needs to be emphasized that there is evidence that psychosocial treatments do enhance functioning beyond the improvements that result from medication alone. Much of the research has involved individuals with a more chronic course of schizophrenia, but many of these treatments are now being assessed with individuals at the first episode of schizophrenia. Future work will involve further testing of these interventions in early stages of schizophrenia to determine if they will improve the longer-term outcome of the disorder. Additionally, these treatments need to be assessed in combination to determine the cumulative effects. Finally, further research will begin to determine which treatments may be more effective for which people.

**Recommended Reading**


**Declaration of Conflicting Interests**

The authors declared that they had no conflicts of interest with respect to their authorship or the publication of this article.

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