DEVELOPMENT AND INITIAL EVALUATION OF A PSYCHOSOCIAL INTERVENTION FOR INDIVIDUALS RECOVERING FROM A FIRST EPISODE OF NON-AFFECTIVE PSYCHOSIS

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ABSTRACT

EVAN J. WALDHETER: Development and initial evaluation of a psychosocial intervention
for individuals recovering from a first episode of non-affective psychosis
(Under the direction of David Penn, Ph.D.)

Background: Despite the effectiveness of medication in reducing symptoms in first

episode psychosis, persistent functional impairments are common, and are associated with

increased risk for relapse and poor long-term prognosis. Adjunctive psychosocial

interventions are needed to address these functional impairments and to assist with illness

self-management and psychological adjustment. The Graduated Recovery Intervention

Program (GRIP) is a novel cognitive-behavioral therapy program designed to facilitate

functional recovery in people who have experienced an initial episode of psychotic illness.

Methods: The treatment development process of GRIP, including treatment

conceptualization, manual development, and pilot testing, is described. Results: Preliminary

data from an open feasibility trial of GRIP are presented. Findings suggest clinical and

psychosocial benefits associated with GRIP. Qualitative feedback indicates that the

treatment was well-received by clients and therapists. The retention rate of 67%, however,

was somewhat lower than expected. Conclusions: Initial data on the efficacy of GRIP are

encouraging, although the study design and small sample size preclude more robust

conclusions at this time. A randomized controlled trial of GRIP, currently in progress, is

seeking to improve treatment retention based on client feedback from the open trial, and will

generate more data on the efficacy and tolerability of this novel intervention.

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CHAPTER 1

INTRODUCTION

The psychotic disorders are the most severe and disabling of all mental illnesses. The most common cause of psychosis is schizophrenia, which is categorized as a non-affective psychotic disorder in order to distinguish it from affective psychotic disorders, such as bipolar disorder or major depression with psychotic features (American Psychiatric Association, 1994). Schizophrenia typically emerges in late adolescence or early adulthood, and is characterized by an array of distressing and impairing symptoms, including "positive symptoms" (i.e., hallucinations, delusions), "negative symptoms" (e.g., affective flattening, avolition, and alogia), disorganized thought, speech, and behavior, general cognitive impairments (e.g., attention, memory, executive functioning), and social/occupational dysfunction (American Psychiatric Association, 1994; Mueser & McGurk, 2004). In the United States alone, schizophrenia currently afflicts more than two million people and has a lifetime prevalence of 1%, with 200,000 new cases diagnosed each year (Cornblatt, Green, & Walker, 1999; Torrey, 1995).

Individuals with schizophrenia progress through a series of phases, reflecting changing signs and symptoms as the illness progresses over time. The "premorbid phase" represents the time period prior to onset of the illness, and there is compelling research documenting the presence of early cognitive, social, and motor impairments in many people that later develop schizophrenia (Lieberman, Perkins et al., 2001; Walker, Kestler, Bollini, &

Hochman, 2004). This phase is particularly meaningful because the level of premorbid functioning is a strong predictor of treatment response and long-term outcome in people with schizophrenia and other psychotic disorders (Edwards, McGorry, Waddell, & Harrigan, 1999; Huber, Gross, & Schüttler, 1975; Malla, Norman, Manchanda, Ahmed et al., 2002; Malla et al., 2004; Perkins et al., 2004). The "prodromal phase" represents the period prior to the emergence of frank psychotic symptoms. This stage of the illness is characterized by increasing cognitive dysfunction, affective disturbance, and behavioral changes (e.g., social isolation), as well as a deterioration in role functioning (i.e., performance at school or work). Depression is common during this phase, as are negative symptoms, restlessness, anxiety, and irritability. Further, the individual may report unusual perceptual experiences and beliefs, and/or behave in an odd or eccentric manner (Häfner, Löffler, Maurer, Hambrecht, & an der Heiden, 1999; Yung & McGorry, 1996). The duration of the prodromal phase varies widely; on average it lasts approximately two years, but it can range from several days to as long as five years in some individuals (Häfner et al., 1999; Lieberman, Perkins et al., 2001).

The emergence of florid psychotic symptoms (e.g., hallucinations, delusions) marks the beginning of the "active (or acute) phase." During this time, psychotic symptoms, disorganized thought processes, and behavioral disturbances are most severe, and acute hospitalization is often required to manage symptoms and ensure the safety of the individual and/or others (ORYGEN Youth Health, 2004). Following remission of acute symptoms, individuals enter the "residual (or recovery) phase," in which attenuated positive and/or negative symptoms may be present, and cognitive difficulties and/or social functioning deficits often persist (Edwards et al., 2002; Grant, Addington, Addington, & Konnert, 2001; Hill, Schuepbach, Herbener, Keshavan, & Sweeney, 2004; Mayerhoff et al., 1994). This

phase can last for years, and its duration varies significantly among individuals. The level of

clinical stability during this phase is highly variable and relapse prevention is a key goal of

treatment (EPPIC, 2001).

With respect to long-term course, psychotic disorders are generally associated with a

broad heterogeneity in outcomes (Harrison et al., 2001). Among all the psychotic disorders,

schizophrenia appears to be the most pernicious. Schizophrenia is, on average, associated

with a worse long-term outcome than other major mental illnesses, including major affective

disorders and severe personality disorders (McGlashan, 1988). Harrison et al. (2001) state

that schizophrenia is best seen developmentally as an episodic disorder, with a minority of

individuals achieving complete recovery (i.e., no residual symptoms and/or functional

deficits, no need for ongoing treatment). Indeed, long-term follow-up studies reveal that

schizophrenia tends to be a chronic and frequently debilitating disorder, with a large

proportion of individuals experiencing multiple relapses and persistent social and

occupational impairments over the course of their lifetime (Davidson & McGlashan, 1997;

Harrison et al., 2001; Hegarty, Baldessarini, Tohen, Waternaux, & Oepen, 1994; McGlashan,

1988; Svedberg, Mesterton, & Cullberg, 2001; Wiersma, Nienhuis, Slooff, & Giel, 1998). In

addition to symptomatic and functional impairments, schizophrenia is also associated with

increased rates of suicide, infectious disease and other physical illnesses, substance abuse and

dependence, homelessness and/or dangerous living conditions, victimization, and psychiatric

comorbidities such as depression, anxiety, and post-traumatic stress disorder (PTSD) (e.g.,

Birchwood, 2003; Harrison et al., 2001; McGlashan, 1988; Mueser & McGurk, 2004;

Mueser & Rosenberg, 2003; Wiersma et al., 1998).

Schizophrenia has been included among the world's top ten most disabling medical conditions (Murray & Lopez, 1996) and is therefore associated with high societal costs. In the early 1990s, the total direct (e.g., hospitalizations, medication) and indirect (e.g., lost wages) costs of treating schizophrenia in the United States were estimated between $32.5 billion and $65 billion (Knapp, Mangalore, & Simon, 2004; Wyatt, Henter, Leary, & Taylor, 1995). Healthcare analysts have estimated that the costs of treating schizophrenia are typically between 1.5-3% of a country's total national healthcare expenditures (Knapp et al., 2004). Further, a significant proportion of the costs associated with schizophrenia can be attributed to the high rates of relapse and re-hospitalization (Kane, 1999; Knapp et al., 2004; Wasylenki, 1994; Weiden & Olfson, 1995). Indeed, it is believed that at least 50% of the costs associated with treating schizophrenia could be saved through better relapse prevention efforts (Wasylenki, 1994).

The Need for Early Intervention in Psychosis

In an effort to improve the long-term outcome for individuals with schizophrenia and related psychotic disorders, research over the last two decades has increasingly focused on early identification and intervention for psychosis (e.g., Birchwood, Todd, & Jackson, 1998; Falloon et al., 1998; Kirch, Keith, & Matthews, 1992; Lieberman & Fenton, 2000; Malla & Norman, 2002; McGlashan, 1998; McGlashan & Johannessen, 1996; McGorry, 1992; Stephenson, 2000; Wyatt & Henter, 2001). An initial impetus for this movement was the recognition of several failures in the standard treatment of early psychosis, such as long delays in the provision of effective treatment, traumatic and demoralizing initial treatment experiences, minimal engagement of patients with the healthcare system, and poor continuity of care (Edwards & McGorry, 2002). It was widely acknowledged that current methods of

treatment for individuals with recent-onset psychosis were inadequate and possibly even harmful, and there was increasing speculation that more effective intervention strategies tailored to this specific phase of the illness may result in decreased morbidity and mortality over the long-term (McGlashan & Johannessen, 1996). This approach has been bolstered by several critical findings, which are described below.

Association between Duration of Untreated Psychosis and Outcome

Most studies have found that the sooner that antipsychotic treatment is initiated after the emergence of active psychosis, the better the clinical outcome (see reviews by Lieberman, Perkins et al., 2001; Norman & Malla, 2001). Indeed, most studies find that a shorter duration of untreated psychosis (DUP) is associated with shorter times to remission, higher rates of remission, and/or higher levels of remission (i.e., greater reduction in symptoms), even after controlling for other factors such as premorbid functioning, age of onset, or gender (Black et al., 2001; Harrigan, McGorry, & Krstev, 2003; Larsen, Moe, Vibe-Hansen, & Johannessen, 2000; Lieberman, Perkins et al., 2001; Loebel et al., 1992; Malla, Norman, Manchanda, Ahmed et al., 2002; Norman & Malla, 2001; Perkins et al., 2004; Rabiner, Wegner, & Kane, 1986; Ücok, Polat, Genc, Cakir, & Turan, 2004; Wyatt & Henter, 2001). Further, this effect may be strongest in patients with a DUP of less than six months (Carbone, Harrigan, McGorry, Curry, & Elkins, 1999; Malla, Norman, Manchanda, Ahmed et al., 2002).

The evidence supporting a relationship between DUP and *long-term* outcome is more equivocal. Several recent studies have reported a significant relationship between shorter DUP and better long-term outcome, in terms of both symptomatic and functional status (Altamura, Bassetti, Sassella, Salvadori, & Mundo, 2001; Bottlender et al., 2003; Meagher et

al., 2001; Wyatt, Damiani, & Henter, 1998; Wyatt & Henter, 2001). Other researchers, however, have failed to find such an association (Barnes et al., 2000; Craig et al., 2000; Ho, Andreasen, Flaum, Nopoulos, & Miller, 2000; Lehtinen, Aaltonen, Koffert, Räkköläinen, & Syvälahti, 2000). It should be noted that, even in studies detecting a significant relationship, DUP has only been found to explain a limited amount of variance with respect to long-term outcome (e.g., 15%; Meagher et al., 2001). Thus, some researchers have attributed negative findings in this area to methodological factors such as small sample sizes and limited statistical power (Harrigan et al., 2003).

While more research is needed to clarify the relationship between DUP and long-term outcome, treatment delays currently represent a significant public health concern, as mean DUP tends to be one year or more (Judge, Perkins, Nieri, & Penn, 2005; Lieberman & Fenton, 2000). In addition to potential clinical damage and accumulating morbidity, extended DUP is often associated with increased risks of self-harm, aggressive behavior, family distress, substance abuse, and victimization (McGorry, Krstev, & Harrigan, 2000). Thus, reducing delays in the provision of effective treatment for early psychosis has the potential for improving outcomes on many levels.

The Critical Period Hypothesis

Most research on psychotic disorders has found that the greatest amount of clinical and psychosocial deterioration occurs within the first five years of the onset of the illness (Birchwood et al., 1998; Davidson & McGlashan, 1997; Gupta et al., 1997; Harrison et al., 2001; Lieberman, Perkins et al., 2001; Lieberman et al., 1998; Madsen, Vorstrup, Rubin, Larsen, & Hemmingsen, 1999; McGlashan, 1988, 1998; McGlashan & Johannessen, 1996; Pelosi & Birchwood, 2003). There is compelling evidence that much of this deterioration

takes place during the prodromal phase, before the emergence of active psychosis (e.g., Birchwood et al., 1998; Caspi et al., 2003; Häfner et al., 1999; McGorry et al., 2000; Rabinowitz, De Smedt, Harvey, & Davidson, 2002). In addition, the active disease process appears to level off, or "plateau," after about five years in most individuals (Davidson & McGlashan, 1997; Huber et al., 1975; McGlashan, 1988; McGlashan & Johannessen, 1996).

Indeed, in long-term follow-up studies of individuals with schizophrenia, early (i.e., two-year) outcome has been the best predictor of long-term (i.e., 15-year) outcome (Harrison et al., 2001). These data, taken together with research on DUP, strongly suggest that pharmacological and psychosocial treatment delivered early in the course of psychosis is likely to have a stronger impact than comparable treatment delivered at later stages of the illness.

Relapse in Early Psychosis and the Development of Treatment Resistance

There is a very high risk of relapse following resolution of the first acute episode of psychosis. Across a variety of studies, relapse rates range from 15-50% within the first year after an initial episode (Birchwood et al., 1998; Gupta et al., 1997; Rabiner et al., 1986), 30-70% within the first two years (Birchwood et al., 1998; Davidson & McGlashan, 1997; McGlashan & Johannessen, 1996), and up to 80-85% within the first five years (Kane, 1999; Robinson, Woerner, Alvir, Bilder et al., 1999; Shepherd, Watt, Falloon, & Smeeton, 1989; Wiersma et al., 1998). In general, the risk of relapse in early psychosis is significantly higher following medication discontinuation (Bradford, Perkins, & Lieberman, 2003; Gitlin et al., 2001).

Relapse can be extremely traumatic for an individual with respect to clinical and psychosocial trajectory, and can evoke feelings of hopelessness, despair, and lack of control

over one's illness (Birchwood, 2003; Birchwood & Spencer, 2001; Leete, 1987). In addition, there is evidence suggesting that treatment resistance may develop over time with each subsequent relapse (Lieberman et al., 1998; Shepherd et al., 1989; Stephenson, 2000; Wiersma et al., 1998). Lieberman (1999) reports that only 10-15% of patients are treatment-resistant at the onset of illness, but that 30-60% eventually become treatment-resistant over time. The time to remission tends to increase with each subsequent relapse in many patients, as does the likelihood of incomplete recovery.

These findings are consistent with research reporting progressive neuroanatomical and neuropsychological changes in at least a subset of patients with schizophrenia beginning with the first episode (e.g., Ho et al., 2003; Lieberman, 1999; Lieberman, Chakos et al., 2001; Lieberman et al., 1998; Madsen et al., 1999; Stephenson, 2000). Most of this neurobiological deterioration appears to occur within the first five years following illness onset, consistent with clinical observations (Keshavan, 1999; Lieberman et al., 1998). Further, these progressive brain changes are most likely to be found in patients with a poor long-term outcome, characterized by persistent negative symptoms and significant functional impairments (Ho et al., 2003; Lieberman, Chakos et al., 2001). Given these findings, some researchers have postulated that schizophrenia is, in part, a neurodegenerative disease, and that periods of untreated active psychosis may be neurotoxic, leading to progressive deterioration and reduced capacity to respond to treatment (Lieberman, 1999). Other researchers have acknowledged the presence of significant neuroanatomical abnormalities and neuropsychological dysfunction as early as the first episode, but have not detected progressive, irreversible changes in most patients. They have argued against a "neurodegenerative" explanation of schizophrenia, and in favor of a "neurodevelopmental"

explanation, which links the disease to early (pre- and perinatal) and/or late (peri-adolescent) abnormalities in brain development (Fannon et al., 2000; Ho et al., 2003; Hoff et al., 2000; Vita, Dieci, Giobbio, Tenconi, & Invernizzi, 1997; Weinberger & McClure, 2002). There have been recent efforts to bring these models together, with proponents of such a unitary approach suggesting that the pathophysiology of schizophrenia may best be explained as a combination of both neurodevelopmental abnormalities as well as neurodegenerative processes in at least a subset of individuals (Keshavan, 1999; Lieberman, 1999; Pantelis et al., 2003).

Despite discrepant findings regarding underlying neurobiological processes, it is clear that sustained and targeted intervention in early psychosis is essential in order to facilitate recovery from the first episode, reduce the risk of relapse and re-hospitalization (and associated societal costs), minimize personal suffering/trauma and psychosocial deterioration, and maximize therapeutic engagement during this critical period in the course of the illness (Birchwood et al., 1998; Lieberman & Fenton, 2000; McGlashan & Johannessen, 1996; Stephenson, 2000).

Pharmacotherapy and Phenomenology of First Episode Psychosis

Low doses of atypical antipsychotic medications have been suggested as first-line treatment for first episode psychosis, with recommended maintenance treatment for at least one to two years following remission of symptoms (Bradford et al., 2003; Falloon et al., 1998; Lieberman et al., 2003; Lieberman et al., 1998; McGorry, Killacket, Elkins, Lambert, & Lambert, 2003; Remington, Kapur, & Zipursky, 1998; Sanger et al., 1999). Indeed, most individuals experiencing their first episode of psychosis are typically quite responsive to treatment with antipsychotic medication (Lieberman et al., 1992; Lieberman et al., 1993;

Remington et al., 1998; Robinson, Woerner, Alvir, Geisler et al., 1999; Sheitman, Lee, Strauss, & Lieberman, 1997). A reduction of psychotic symptoms has been reported in 50-65% of individuals within the first three months of treatment (Power et al., 1998; Tohen et al., 2000), 65-75% within six months (Tohen et al., 2000; Whitehorn, Brown, Richard, Rui, & Kopala, 2002), and up to 96% within one year (Bradford et al., 2003; Lieberman et al., 2003; Malla, Norman, Manchanda, Ahmed et al., 2002; Robinson, Woerner, Alvir, Geisler et al., 1999). In addition, early and sustained treatment with atypical antipsychotics may offer neuroprotective effects, minimizing the potential for further clinical and/or psychosocial deterioration (Lieberman, Perkins et al., 2001; Lieberman et al., 2005; Stephenson, 2000; Wyatt, 1991).

Clearly, pharmacotherapy is the cornerstone of treatment in first episode psychosis; however, several issues temper the beneficial effects of medication. First, individuals with first episode psychosis are highly sensitive to the effects of antipsychotic medication and are particularly likely to experience unpleasant side effects such as weight gain and extrapyramidal symptoms (Bradford et al., 2003; Remington et al., 1998; Sanger et al., 1999). For example, in a Canadian study of 118 first episode patients taking atypical antipsychotic medication for one year, a large proportion of patients experienced significant weight gain, particularly within the first six months following treatment initiation (Addington, Mansley, & Addington, 2003). Indeed, 60% of this sample was rated as "overweight" by the end of the study, compared with 36% of the sample at baseline. Further, this weight gain occurred despite the provision of psychoeducation about the risks of weight gain and encouragement to maintain a healthy lifestyle. Side effects such as weight gain in young people experiencing early psychosis are more likely to lead to reduced self-esteem,

associated physical health complications (e.g., diabetes), and increased medication non-adherence (Addington, Mansley et al., 2003).

Second, many individuals experiencing early psychosis are non-adherent with their prescribed medication regimen (Perkins, 1999; Verdoux et al., 2000). In a study of 200 individuals being treated for a first episode of psychosis, Coldham and colleagues (2002) found that, by one year following treatment initiation, almost 60% of individuals were either "non-adherent" or "inadequately adherent." Medication non-adherence was associated with the presence of more psychotic symptoms, lower quality of life, more substance use, poorer insight, and a greater number of relapses. Indeed, medication non-adherence has been noted as one of the most significant predictors of relapse (Robinson, Woerner, Alvir, Bilder et al., 1999). For example, Gitlin and colleagues (2001) followed 53 clinically stable individuals recovering from early psychosis who agreed to have their medication discontinued. By one year following the discontinuation of medication, 78% of the sample had relapsed (defined as significant exacerbation of symptoms or re-hospitalization), and by two years, 96% had experienced a relapse. Based on findings such as these, it is widely agreed that medication non-adherence and factors predisposing individuals to be non-adherent (e.g., side effects, low insight/denial, lack of efficacy, stigma, cognitive difficulties, substance use, greater symptom severity, inadequate support or supervision) need to be key targets of treatment, especially in early psychosis (Addington, Mansley et al., 2003; Birchwood et al., 1998; Fenton, Blyler, & Heinssen, 1997; Gray, Wykes, & Gournay, 2002; Kane, 1999; McGorry, 1992; Robinson, Woerner, Alvir, Bilder et al., 1999).

Third, despite treatment with antipsychotic medications, many individuals experience persistent, treatment-resistant symptoms. It has been estimated that up to 20% of individuals

being treated for their first episode of psychosis will experience persistent positive symptoms, such as hallucinations and delusions (Edwards et al., 2002; Edwards, Maude, McGorry, Harrigan, & Cocks, 1998). In addition, many individuals (i.e., 50% or more) will experience residual negative symptoms following a first episode, and approximately 5-10% of individuals will experience primary, enduring negative symptoms beginning with the first episode (Lieberman et al., 1992; Mayerhoff et al., 1994). Indeed, current pharmacological treatments are significantly more effective at treating the positive symptoms of psychosis, and are less effective at treating negative symptoms (Bradford et al., 2003; Gupta et al., 1997; Ho, Nopoulos, Flaum, Arndt, & Andreasen, 1998). This is particularly problematic because the presence of primary and enduring negative symptoms (i.e., the "deficit state") has been associated with higher levels of overall psychopathology, greater impairments in social functioning, a lower quality of life, and a more pessimistic prognosis (Edwards et al., 1999; Ho et al., 1998; Malla et al., 2004).

Fourth, a large number of individuals recovering from a first episode of psychosis abuse alcohol and drugs. Approximately 20% of individuals with recent onset psychosis abuse illicit drugs and/or alcohol on average; this rate is about twice that of healthy control samples (Hambrecht & Häfner, 1996; Sorbara, Liraud, Assens, Abalan, & Verdoux, 2003). Alcohol and cannabis abuse are particularly problematic among young people with psychosis (Edwards, Hinton, Elkins, & Anthanasopoulos, 2003; Green et al., 2004). Indeed, previous studies have documented cannabis abuse and/or dependence in up to 70% of individuals with first episode psychosis (e.g., Power et al., 1998). Cannabis and other substance use in people with psychotic disorders is associated with higher levels of symptomatology, increased treatment non-adherence, poorer treatment response, and higher rates of relapse and re-

hospitalization (Elkins, Hinton, & Edwards, 2004; Green et al., 2004; Linszen, Dingemans, & Lenior, 1994; Sorbara et al., 2003). In general, substance use in psychosis can significantly increase an individual's biological vulnerability to develop symptoms, and can directly interfere with the effects of antipsychotic medications (Bellack & DiClemente, 1999; Mueser & McGurk, 2004); thus, it should be viewed as a significant barrier to recovery (Spaniol, Wewiorski, Gagne, & Anthony, 2002).

Fifth, emotional dysfunction is common in first episode psychosis, and increases the risk for relapse (Birchwood, Spencer, & McGovern, 2000). Following an initial episode of psychosis, over 50% of individuals report significant depression and/or social anxiety, and over 30% report symptoms of PTSD (Birchwood, 2003; Mueser & Rosenberg, 2003). Indeed, the emergence of a psychotic disorder can be extremely jarring to an individual, not only forcing him or her to cope with the confusion and uncertainty of the present, but to potentially re-evaluate future plans and goals and struggle to adapt to his or her illness (McGlashan, 1994; McGorry, 1992).

The presence of depression following a psychotic episode (i.e., post-psychotic depression; PPD) has been found in at least 50% of individuals recovering from their first episode and is more common in patients experiencing early psychosis than in patients with more chronic psychotic disorders (Addington, Addington, & Patten, 1998). In addition, the presence of PPD significantly increases the risk of suicide, which is especially high following a first episode (Addington, Williams, Young, & Addington, 2004; Birchwood, Iqbal, Chadwick, & Trower, 2000; Power, 2004). People who develop PPD are more likely to have experienced greater feelings of loss, humiliation, entrapment, and self-criticism following a first episode of psychosis, and are more likely to display greater insight and foresee lower-

status roles for themselves in the future (Iqbal, Birchwood, Chadwick, & Trower, 2000; McGorry, 1992).

Finally, significant functional impairments are present at the first episode of psychosis, and are likely to emerge in the prodromal phase of the illness (Addington, Young, & Addington, 2003; Grant et al., 2001; Häfner et al., 1999). Indeed, the typical emergence of psychosis in late adolescence/early adulthood results in affected individuals' being developmentally "out-of-sync" with their peers, and is likely to cause a significant disruption in the normal psychosocial trajectory (EPPIC, 2001). This is powerfully illustrated in the first-person account of an individual with schizophrenia describing her first episode: "During my late teens and early 20s, when my age demanded that I date and develop social skills, my illness required that I spend my adolescence on psychiatric wards. To this day I mourn the loss of those years" (Leete, 1987, p. 487).

Functional impairments in early psychosis include impoverished social networks and deficits in interpersonal functioning (Erickson, Beiser, Iacono, Fleming, & Lin, 1989; Grant et al., 2001), as well as poor academic and occupational functioning (Gupta et al., 1997; Svedberg et al., 2001). Consistent with these impairments, reduced quality of life is typical of first episode samples (Ho et al., 1998; Priebe, Roeder-Wanner, & Kaiser, 2000; Shtasel et al., 1992). In fact, subjective quality of life may be lower in individuals with first episode psychosis compared with more chronic patients (Priebe et al., 2000).

There is also strong evidence that functional deficits persist despite symptom remission in early psychosis (Sheitman et al., 1997). For example, Tohen and colleagues (2000) followed 257 individuals recovering from an initial episode of psychosis for six months, and measured levels of both symptomatic and functional recovery. While 77% of

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individuals achieved symptomatic recovery by six months, only 30% of individuals were able to achieve functional recovery (i.e., return to baseline levels of vocational and/or residential status). Similarly, Whitehorn and colleagues (2002) followed 103 first episode patients during their recovery from acute psychosis, and found that 66% of patients had achieved symptomatic recovery by six months, while only 30% of the sample had achieved functional recovery. In a longer-term follow-up study, Robinson and colleagues (2004) tracked 118 first episode patients for five years, and found that almost 50% of individuals achieved sustained symptom remission, while only 25% achieved sustained functional recovery during that same time period. In another long-term follow-up, Svedberg et al. (2001) found that 73% of their sample had significant occupational impairments and 64% had ongoing deficits in overall social functioning at five years following the first episode.

Thus, functional impairments are pervasive and disabling in early psychosis, and remain relatively stable over the course of the illness, despite symptomatic recovery following treatment with antipsychotic medication (Priebe et al., 2000; Robinson, Woerner, Alvir, Geisler et al., 1999). This is particularly concerning as deficits in social functioning and impoverished social networks have been associated with greater risk for relapse and poorer long-term prognosis (Birchwood et al., 1998; Erickson et al., 1989; Hoffmann & Kupper, 2002). A primary goal of treatment in the management of first episode psychosis, therefore, should be to improve social and occupational functioning and to increase subjective quality of life (Falloon et al., 1998; McGorry et al., 2003; Spencer, Birchwood, & McGovern, 2001).

Psychosocial Treatment of First Episode Psychosis

The foregoing discussion indicates that pharmacotherapy is necessary but not sufficient in the effective management of early psychosis, especially with respect to preventing relapse, facilitating psychological adjustment, and assuring functional recovery. Consequently, there has been growing interest in employing adjunctive psychosocial interventions in early psychosis to address these and other areas of concern for individuals recovering from a first episode (Falloon et al., 1998; Spencer et al., 2001). Indeed, psychosocial interventions are now recommended as a best practice in the management of first episode psychosis (International Early Psychosis Association Writing Group, 2005; McGorry et al., 2003).

There has been a surge of research on psychosocial interventions in early psychosis over the last 15 years, and published results have been promising (see reviews by Haddock & Lewis, 2005; Malla, Norman, & Joober, 2005; Penn, Waldheter, Perkins, Mueser, & Lieberman, 2005). In general, the literature on psychosocial interventions for first episode psychosis can be conceptualized as constituting two broad categories: 1) studies evaluating comprehensive (i.e., multi-element) interventions, which typically include community outreach/early detection efforts (to reduce DUP), in- and outpatient individual, group, and/or family therapy, and case management, in addition to pharmacological treatment, and 2) studies evaluating specific psychosocial interventions (e.g., individual cognitive behavioral therapy). The extant literature on psychosocial interventions for early psychosis is reviewed below in light of these two categories, with an emphasis on studies of specific interventions.

Multi-element Interventions

Multi-element programs offer a comprehensive array of specialized in- and outpatient services designed for individuals experiencing first episode psychosis, and emphasize both symptomatic and functional recovery. Further, many of the issues that are particularly problematic among young individuals experiencing psychosis (e.g., substance abuse, suicidality, engagement with the mental health system) are addressed through a variety of targeted therapeutic approaches. Table 1 provides general information about several multi-element programs and their respective components (for a full description of these and additional programs, see Edwards, Harris, & Bapat, 2005; Edwards & McGorry, 2002). The Early Psychosis Prevention and Intervention Centre (EPPIC) in Australia is an exemplar of multi-element care for early psychosis. The Prevention and Early Intervention Program for Psychosis (PEPP) and Calgary Early Psychosis Treatment Program (EPTP) are additional examples of established early intervention centers (Edwards & McGorry, 2002). Further, there have been several large-scale efforts to evaluate the effectiveness of multi-element treatment approaches for early psychosis delivered in the context of existing systems of care (e.g., Cullberg, Levander, Holmqvist, Mattsson, & Wieselgren, 2002; Johannessen, Larsen, McGlashan, & Vaglum, 2000; Nordentoft, Jeppesen, Kassow et al., 2002).

The multi-element model of care for early psychosis has only been in existence for a little over a decade, but has already garnered significant research support across a variety of programs. It should be noted that randomized controlled designs are the exception rather than the rule in multi-element research (e.g., Craig et al., 2004; Nordentoft, Jeppesen, Kassow et al., 2002). Indeed, Edwards et al. (2005) describe the difficulties in conducting experimental research with multi-element programs, including community concerns

regarding withholding comprehensive services from patients and negative feelings of staff who are providing control conditions. While additional programs are currently being evaluated in randomized controlled designs (e.g., EPPIC; Edwards & McGorry, 2002), the majority of published research in this area has utilized quasi-experimental and pre-post designs to evaluate a program's effectiveness. Accordingly, one cannot control for factors such as cohort effects or selection bias (in the case of non-randomized group assignment, including historical control groups) or spontaneous remission and/or therapeutic attention (in the case of single-group, pre-post studies). Thus, findings should be viewed with caution. Nevertheless, data emerging from these interventions have been encouraging.

In general, multi-element interventions for early psychosis have been associated with positive and negative symptom reduction and/or remission (Addington, Leriger, & Addington, 2003; Malla, Norman, Manchanda, McLean et al., 2002; Malla, Norman, Manchanda, & Townsend, 2002; Malla, Norman, McLean, & McIntosh, 2001; McGorry, Edwards, Mihalopoulos, Harrigan, & Jackson, 1996; Nordentoft, Jeppesen, Kassow et al., 2002; Power et al., 1998), improved quality of life and social functioning (Addington, Young et al., 2003; Carbone et al., 1999; Malla, Norman, Manchanda, & Townsend, 2002; Malla et al., 2001; McGorry et al., 1996; Nordentoft, Jeppesen, Kassow et al., 2002), improved cognitive functioning (Malla, Norman, Manchanda, & Townsend, 2002), reduced DUP (Larsen et al., 2001), low rates of hospital admissions (Craig et al., 2004; Cullberg et al., 2002; Malla, Norman, Manchanda, McLean et al., 2002; McGorry et al., 1996), improved insight (Mintz, Addington, & Addington, 2004), high treatment satisfaction (Cullberg et al., 2002), less time spent in the hospital (Cullberg et al., 2002; McGorry et al., 1996), decreased substance abuse (Addington & Addington, 2001), fewer self-harm behaviors (Addington et

al., 2004; Nordentoft, Jeppesen, Abel et al., 2002; Power et al., 1998), and reduced trauma secondary to psychosis and hospitalization (McGorry et al., 1996). It should be noted that the foregoing results primarily refer to one-year outcomes; longer-term benefits conferred by multi-element programs have not been widely reported. Finally, a recent study suggests that these comprehensive and specialized first episode services are likely to yield superior outcomes (e.g., shorter DUP, fewer inpatient admissions, less time in the hospital) when compared with generic mental health services (Yung, Organ, & Harris, 2003).

One important caveat regarding multi-element interventions is that the scope of these programs makes them difficult to implement on a widespread basis, particularly in countries whose public health care systems do not support the necessary infrastructure, such as the United States (Jarskog, Mattioli, Perkins, & Lieberman, 2000). Indeed, given the wide range of services offered in these programs, it would be helpful to isolate the "effective ingredients" when evaluating a program's utility. Understanding which elements are critical can help inform program development in areas currently lacking such specialized early psychosis services, and there should be a focus on developing and evaluating treatments that can be integrated into the existing mental health system. Studies evaluating specific psychosocial interventions can be quite helpful in this regard, and will be the focus of the remainder of this report.

Specific Psychosocial Interventions

The studies reviewed below evaluated the effectiveness and relative utility of specific psychosocial interventions, rather than assessing the effects of a comprehensive, multi-element intervention as a whole. These interventions were offered in addition to pharmacological treatment and, in some cases, other services as well (e.g., case

management). Examination of Table 2 reveals that several randomized controlled trials have been conducted with respect to individual cognitive-behavioral therapy (CBT) in early psychosis, but less controlled research has evaluated group and family interventions. Findings from many of these studies have been promising; results are discussed in more detail below.

Individual therapy. Individual therapy for first episode psychosis has been examined both for facilitating recovery from acute psychosis as well as for improving longer-term outcome following remission of acute psychosis. With respect to the former, the Study of Cognitive Reality Alignment Therapy in Early Schizophrenia (SoCRATES) was a large, multi-site randomized-controlled trial of CBT in the treatment of recent onset acute psychosis. Based on a pilot study by Haddock et al. (1999), Lewis and colleagues (2002) randomly assigned 309 individuals who had either a first (83%) or second psychiatric admission for psychosis to either 5-week CBT and routine care, 5-week supportive counseling (SC) and routine care, or 5-week routine care alone (RC). While all groups improved over the course of treatment, there was a trend for the CBT group to improve the fastest. Further, auditory hallucinations improved significantly faster in the CBT group relative to the SC group. There were no significant group differences, however, in symptoms at the end of treatment. At 18-month follow-up, Tarrier and colleagues (2004) found significant advantages for both CBT and SC in reducing positive symptoms relative to RC. Further, auditory hallucinations responded better to CBT relative to SC. However, there were no group differences in relapse rates, with overall rates of relapse being high across the total sample. Tarrier et al. hypothesized that factors such as short duration of treatment, failure of treatment effects to generalize outside the hospital, and potential exposure to

environmental stressors post-discharge may explain the lack of an impact on relapse conferred by CBT or SC. Nevertheless, these results suggest that individual therapy (i.e., CBT or SC) may have beneficial long-term effects on positive symptom reduction in early psychosis.

Promising results have also been reported with respect to CBT conducted during the period of recovery following reduction of acute psychotic symptoms. Jackson and colleagues (1998) conducted a prospective study of Cognitively-Oriented Psychotherapy for Early Psychosis (COPE) with 80 individuals in the EPPIC program who were experiencing non-affective and affective first episode psychosis. COPE promotes adjustment to one's illness, helps individuals resume developmental tasks, and focuses on overall recovery, in addition to targeting secondary morbidity (i.e., depression, anxiety). Forty-four individuals voluntarily received COPE as part of their outpatient care, 21 refused but received all other EPPIC services, and 15 individuals received inpatient care only with no additional services following discharge (i.e., "control group"). At the end of treatment, COPE patients performed significantly better than the control group on measures of insight and attitudes toward treatment, adaptation to illness, quality of life, and negative symptoms, but only significantly out-performed the refusal group with respect to adaptation to illness. There were no significant differences in relapse rates between the three groups. At one year following treatment, the COPE group maintained significantly better adaptation to their illness relative to the refusal group; however, group differences were not maintained for other outcomes, and there were no group differences in relapse rates or time to re-admission (Jackson, McGorry, Henry et al., 2001). At four year follow-up, no significant group differences remained (Jackson et al., 2005). The authors hypothesized that poor follow-up

rates may have weakened power to detect group differences. While these findings are based on a quasi-experimental design and need to be interpreted with caution, results suggest that individual CBT may have short-term (i.e., at least one year) benefits with respect to assisting patients adjust to their illness following first-episode symptom remission.

Individual CBT approaches have been developed to target specific challenges facing patients experiencing first episode psychosis, such as suicidality, substance abuse, and persistent symptoms. In a study focusing on suicidal ideation and behavior in early psychosis, Power and colleagues (2003) randomly assigned 56 suicidal individuals with non-affective and affective first episode psychosis in the EPPIC program to either "LifeSPAN therapy" or "no LifeSPAN therapy"; both groups continued to receive all other EPPIC services. LifeSPAN therapy is based on COPE as well as cognitive therapy for suicide, and emphasizes distress management, problem-solving skills, identification of warning signs, and development of an after-care plan. In addition, low self-esteem and feelings of hopelessness are specifically targeted. In this study, both groups improved on ratings of suicidal ideation and number of suicide attempts. However, the results showed an advantage for LifeSPAN therapy on self-reported hopelessness and quality of life at both 10-weeks post-treatment and six-month follow-up. Power et al. concluded that adding CBT to treatment for first episode psychosis may lead to significant improvements in factors associated with suicide, such as hopelessness.

Results from the SoCRATES trial indicate that suicidal behavior in individuals with recent onset acute symptoms decreased sharply in all groups (both treatment and controls) after hospital admission and treatment (Tarrier, Haddock, Lewis, Drake, & Gregg, 2006). Furthermore, there were no significant differences in suicidal behavior between the three

groups (CBT, supportive counseling, and routine care) at 6 weeks, 3 months, and 18 months. Therefore, it may be that CBT interventions which specifically target hopelessness, self-esteem, and other suicidal antecedents will have a stronger impact on suicidal behavior than generic CBT interventions.

Edwards and colleagues at EPPIC have developed CBT-based interventions targeting substance use and persistent psychotic symptoms (Edwards, Wade, Herrman-Doig, & Gee, 2004; Elkins et al., 2004). The "Cannabis and Psychosis" (CAP) intervention focuses on reducing problematic cannabis use in individuals with first episode psychosis, and consists of psychoeducation, motivational interviewing, goal setting, and discussion about goal achievement and relapse prevention. In a randomized controlled trial, cannabis-using individuals receiving EPPIC services were randomized to either 10 sessions of CAP therapy in addition to standard care or 10 sessions of psychoeducation in addition to standard care. Both groups demonstrated a significant decrease in cannabis use at 6 months, and there were no clear advantages for CAP over psychoeducation alone (Edwards et al., 2006; Edwards et al., 2003). Edwards et al. suggest that the control condition may have been too 'active' to detect any differences in the study, and that cannabis-focused interventions may have maximum impact for individuals who are cannabis-dependent. However, these results suggest that straightforward interventions such as psychoeducation should be further investigated as a means to reduce cannabis use in early psychosis.

Motivational interviewing has also been adapted with some success for substance abuse in early psychosis. Kavanagh et al. (2004) randomized 25 inpatients with early psychosis (those who had been ill fewer than 3 years with fewer than 2 episodes of psychosis) to receive either standard care or a brief motivational intervention called "Start

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Over and Survive" (SOS). This treatment was comprised of 3 hours of individual treatment over the course of 6-9 sessions that were completed in 7-10 days. Follow-ups were obtained at 6 weeks and 3, 6, and 12 months. At 6 months, all patients treated with SOS had positive outcomes (defined as either being abstinent, having non-problematic substance abuse across all substances, or a reduction of at least 50% in the use of all problematic substances plus reductions of associated problems), whereas only 58% of patients receiving standard care had positive outcomes. These differences were no longer significant at 12 months, and results are tempered by the fact that more SOS participants lived with a family member or partner, which was also associated with better outcomes. Though implications of this trial are limited by its small sample size and should be interpreted with caution, it appears that individual psychosocial interventions to address substance abuse in early psychosis are feasible and promising.

Edwards and colleagues at EPPIC have also developed "Systematic Treatment of Persistent Psychosis" (STOPP), given that approximately 20% of individuals with first episode psychosis may experience persistent psychotic symptoms (Edwards et al., 2002). STOPP is based on COPE, and is designed to facilitate recovery in patients experiencing persistent positive symptoms. A randomized controlled trial evaluating the relative and combined effects of the atypical antipsychotic clozapine and STOPP in the treatment of individuals with persistent symptoms is currently being conducted at EPPIC (Edwards et al., 2004).

Other randomized-controlled studies of individual CBT for first episode psychosis have demonstrated benefits over routine care with respect to fewer days spent in the hospital (Jolley et al., 2003), and reduced psychotic symptoms, fewer hospital admissions, increased

insight, and better treatment adherence (Wang et al., 2003). Thus, the foregoing findings

suggest that individual CBT may provide some benefit in the treatment of first episode

psychosis, particularly in the areas of positive symptom reduction, adaptation to one's illness,

and improvements in subjective quality of life. Most studies have not shown individual

therapy to be effective in reducing relapses or re-hospitalizations. Finally, long-term findings

are mixed; follow-up data reported thus far have demonstrated some long-term benefits

associated with individual therapy (e.g., Tarrier et al., 2004), although also suggest that some

initial treatment gains may not persist over time (e.g., Jackson et al., 2005).

Group and family therapy. Unlike individual therapy, there are no randomized-

controlled studies examining the efficacy of group treatment for first episode psychosis.

Quasi-experimental research has demonstrated benefits of group therapy with respect to

prevention of illness-related deterioration and disability, especially for individuals with poor

premorbid functioning (Albiston, Francey, & Harrigan, 1998). Additional uncontrolled

studies have reported improved treatment adherence (Miller & Mason, 2001) and increased

treatment satisfaction (Lecomte, Leclerc, Wykes, & Lecomte, 2003) associated with group

participation. However, given the uncontrolled nature of these studies, findings need to be

interpreted with caution.

While there is a substantial research base documenting the efficacy of family therapy

for chronic schizophrenia (Pilling, Bebbington, Kuipers, Garety, Geddes, Orbach et al.,

2002), there are few well-controlled studies of family therapy for first episode psychosis.

Further, several of these studies have yielded disappointing results. For example, Linszen

and colleagues (1996) randomly assigned 76 outpatients with non-affective recent-onset

psychosis to 12 months of behavioral family therapy (focusing on communication and

problem-solving skills training) and individual-oriented treatment (focusing on relapse prevention and psychoeducation), or individual-oriented treatment without family therapy. Both groups had recently been discharged after three months of inpatient treatment emphasizing integrated psychosocial and pharmacological treatment, and were currently receiving outpatient medication management. After one year, there was no differential effect of the family treatment on relapse; both groups had similar relapse rates, and the overall relapse rate for the sample was low (i.e., 16%). Five-year follow-up also found no added benefit of family treatment over individual treatment on relapse rates, and found that 65% of patients in the total sample with non-chronic symptoms relapsed at least once over the course of five years. In addition, this study found no differential effect of family treatment on social functioning or expressed emotion. However, individuals who received family treatment spent significantly less time in hospitals and/or shelters (Lenior, Dingemans, Linszen, De Haan, & Schene, 2001; Lenior, Dingemans, Schene, Hart, & Linszen, 2002). A similar study by the same research group also found no differential effect of family treatment on relapse rates or expressed emotion (Nugter, Dingemans, Van Der Does, Linszen, & Gersons, 1997). Finally, a recent randomized controlled trial comparing routine care with a brief family intervention emphasizing psychoeducation, support, and advice reported no added benefit of the family intervention on the number of days that patients spent in the hospital or on family satisfaction with services over a nine-month follow-up (Leavey et al., 2004).

Some research on family therapy for early psychosis has demonstrated more positive results. For example, Zhang and colleagues (1994) randomly assigned 83 outpatients with first episode psychosis to 18 months of family therapy and routine care, or routine care alone. The family therapy intervention consisted of family groups and individual family therapy

sessions, and emphasized psychoeducation, identification of warning signs, stress

management, importance of attributing maladaptive behavior to illness (rather than

personality or "laziness"), communication-skills training and reduction of high expressed

emotion (i.e., decreasing familial criticism, hostility, and overinvolvement). There was

contact with families at least once every three months, and families that did not attend

appointments were visited in their homes. Results showed that the family intervention was

associated with a significantly lower rate of hospital readmissions and fewer days spent in the

hospital. Indeed, Zhang et al. concluded that patients not receiving the family intervention

were 3.5 times as likely to be re-admitted to the hospital during the study period as patients

who did receive family therapy. This effect remained even after controlling for differences

in medication compliance. Further, patients receiving family therapy that were not re-

admitted to the hospital demonstrated significant improvements in positive symptoms and

social functioning. Additional research has reported similar favorable outcomes associated

with family treatment, such as fewer hospital admissions, less time spent in the hospital, and

symptom reduction (Lehtinen, 1993).

Thus, while some research has found family interventions in early psychosis to be

beneficial with respect to reducing relapse and improving clinical and functional status (e.g.,

Zhang et al., 1994), other findings have not been as encouraging (e.g., Linszen et al., 1996).

More empirical work needs to be done before any firm conclusions can be made.

Finally, Drury and colleagues (1996a, 1996b) specifically evaluated the effects of a

multi-modal therapy approach combining individual and group CBT with family therapy in

the treatment of recent onset acute psychosis. In a randomized controlled trial, the

combination treatment, compared with basic support and recreational activities, yielded faster

and greater improvements of positive symptoms, reduced recovery time by 25-50%, and led to improvements in insight, dysphoria, and "low-level" psychotic thinking (e.g., suspiciousness). In a five-year follow-up, Drury et al. (2000) reported enduring positive effects for the combination therapy group relative to the control group; however, these benefits were predominantly observed in individuals who had experienced at most one relapse over the course of follow-up. Long-term benefits in this sub-sample included fewer positive symptoms, less delusional conviction and thought disorder, and better subjective "control over illness." While these findings are positive, this study has been criticized for methodological flaws in its design, such as non-blinded assessments (Tarrier, 2005) and baseline differences in medication dosages between the two groups (Turkington, Dudley, Warman, & Beck, 2004).

Psychosocial Treatment of First Episode Psychosis: Conclusions

The findings reviewed suggest that adjunctive psychosocial interventions with patients experiencing early psychosis may be beneficial across a variety of domains, and can assist with symptomatic and functional recovery. With respect to current research on specific psychosocial interventions in particular, support for individual CBT in early psychosis is modest yet encouraging, especially regarding symptom improvements (particularly positive symptoms), adaptation to one's illness, and increased subjective quality of life (Jackson, McGorry, Henry et al., 2001; Power et al., 2003; Tarrier et al., 2004). No firm conclusions can yet be drawn from the literature on group and family therapies for this population. Group therapy is a widely used treatment modality for early psychosis, but no randomized controlled trials have been conducted. Research findings on family therapy in early psychosis have been mixed, with some studies documenting benefits with respect to

symptoms, social functioning, and likelihood of re-hospitalization (e.g., Zhang et al., 1994), and other studies reporting less favorable results (e.g., Linszen et al., 1996). One possible interpretation of these findings is that family interventions are indeed beneficial to individuals in early psychosis, although may not add significant benefit above and beyond concurrent individual therapy.

Thus, available evidence suggests that individual CBT may play a role in facilitating recovery from a first episode of psychosis. Nevertheless, the targets of existing individual therapy approaches for this population are quite narrowly defined, and each treatment only addresses one or two areas of concern for individuals recovering from a first episode, such as symptoms (e.g., Lewis et al., 2002) or substance use (e.g., Edwards et al., 2003). Of course, these are important foci in therapy; however, as discussed above, individuals with first episode psychosis experience many challenges, all of which can impede progress towards recovery. Existing treatments may not be comprehensive or flexible enough to meet the needs of this population.

In addition, current single-element treatments fail to effectively target functional recovery after a first episode. As discussed above, it has been well documented that significant functional deficits (e.g., interpersonal relationships, occupational functioning) are prevalent early in the course of psychosis, persist despite symptom remission, and are associated with a poor long-term prognosis (Birchwood et al., 1998; Grant et al., 2001; Tohen et al., 2000). These deficits need to be a major focus of treatment in early psychosis (Addington & Gleeson, 2005).

In summary, in order to optimize the likelihood of successful recovery, individual therapy for first episode psychosis needs to take an integrative approach to psychosocial

treatment, drawing on a variety of empirically-validated treatment approaches to address the variety of challenges that individuals with first episode psychosis may experience, such as medication non-adherence, high relapse risk, substance use, residual positive and negative symptoms, stigma and injuries to self-esteem, and functional impairments. To date, there are no standardized individual treatments that comprehensively target all of these areas of concern in a single intervention.

Facilitators of Recovery from First Episode Psychosis

The foregoing discussion has highlighted the limitations of existing psychosocial treatments with respect to addressing the variety of challenges facing individuals with first episode psychosis, in particular functional deficits. To be sure, all of these challenges are likely to be barriers to recovery. Further, targeting these areas in the context of a therapeutic intervention is consistent with the literature examining facilitators of recovery, or predictors of good outcome in schizophrenia and other psychotic disorders. Indeed, if one is to develop a truly effective and comprehensive treatment for individuals recovering from a first episode of psychosis, it is essential to consider all relevant predictors of outcome, particularly those that are potentially malleable and responsive to psychosocial intervention.

"Recovery" from severe mental illness has been defined in different ways in recent years. Nevertheless, most definitions emphasize three broad elements of meaningful recovery: illness-management (i.e., through medication adherence, increased understanding of one's illness, and effective coping regarding symptoms, stress, and the threat of relapse), optimism and a sense of control over one's illness, and functional recovery (i.e., meaningful relationships, meaningful roles at work or school, independent living, leisure/recreation time) (Liberman, Kopelowicz, Ventura, & Gutkind, 2002; Noordsy et al., 2002; Spaniol et al.,

2002). In general, in order to facilitate the recovery process, clients should be encouraged to set personally relevant goals, problem-solve regarding potential barriers, and enhance their self-efficacy (Hoffmann & Kupper, 2002; Mueser et al., 2002; Noordsy et al., 2002).

There have been a number of factors identified as specific facilitators of recovery, or predictors of good outcome, in schizophrenia and early psychosis, in particular (see Table 3). Some of these are fixed, or unchangeable by the time an individual presents for therapy following resolution of an initial psychotic episode; however, many of these predictors are malleable and thus potential targets of treatment. Fixed facilitators of recovery include: good premorbid functioning (Addington, van Mastrigt, & Addington, 2003; Gupta, Rajaprabhakaran, Arndt, Flaum, & Andreasen, 1995; Hoffmann & Kupper, 2002; Huber et al., 1975; Malla, Norman, Manchanda, Ahmed et al., 2002; Malla et al., 2004; Perkins et al., 2004; Rabinowitz et al., 2002), female gender (Szymanski et al., 1995), later age of illness onset, higher socioeconomic status (Spaniol et al., 2002), shorter DUP (Lieberman, Perkins et al., 2001; Norman & Malla, 2001), and a better initial response to antipsychotic medication (Hoffmann & Kupper, 2002; Liberman et al., 2002; Lieberman et al., 1993).

There are several facilitators of recovery in early psychosis that are malleable and potentially amenable to psychosocial intervention. These include basic illness-management strategies (e.g., medication adherence, relapse prevention efforts), abstinence from substance use, effective management of residual positive and negative symptoms, optimism and high self-esteem, pursuit of personally relevant goals, and good social/occupational functioning (Edwards et al., 2004; Erickson et al., 1989; Hoffmann & Kupper, 2002; Liberman et al., 2002; Linszen et al., 1994; Noordsy et al., 2002; Spaniol et al., 2002). These predictors of favorable outcome are discussed in greater detail below.

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Factors associated with effective illness self-management, including medication adherence, skills for coping with stress, a relapse prevention plan, and basic knowledge of mental illness, have all been identified as facilitators of recovery in psychosis (Birchwood & Spencer, 2001; Hoffmann & Kupper, 2002; Mueser et al., 2002; Noordsy et al., 2002; Spaniol et al., 2002). In particular, close adherence to one's prescribed medication regimen has been consistently associated with better outcomes across the psychotic disorders (Bradford et al., 2003; Gitlin et al., 2001; Robinson, Woerner, Alvir, Bilder et al., 1999). Non-adherence is common in early psychosis (e.g., Coldham et al., 2002) and is mediated by a variety of factors, such as limited insight, side effects, psychotic symptoms (e.g., paranoia or grandiosity), cognitive disorganization, comorbid substance use, limited financial resources, and negative beliefs about treatment (Fenton et al., 1997; Gray et al., 2002; McGorry, 1992). Efforts to improve medication adherence are likely to result in significantly reduced rates of relapse and associated treatment resistance (Gitlin et al., 2001; Lieberman et al., 1998).

Substance use in people with schizophrenia has been associated with increased symptomatology, greater rates of relapse, poorer treatment response, increased medication non-adherence, impaired social functioning, elevated levels of anxiety and depression, occurrence of antisocial behavior, homelessness, victimization, and the loss of social support and financial resources (Addington & Addington, 1998; Bellack & DiClemente, 1999; DeQuardo, Carpenter, & Tandon, 1994; Drake, Mueser, Brunette, & McHugo, 2004; Elkins et al., 2004; Green et al., 2004; Hambrecht & Häfner, 1996; Kovasznay et al., 1993; Linszen et al., 1994; Mueser & McGurk, 2004; Silver & Abboud, 1994). Consistent with these data, abstinence from substance use has been determined to be a powerful facilitator of recovery in

psychosis, and has been deemed a key target of psychosocial interventions (Barrowclough et al., 2001; Bellack & DiClemente, 1999; Hoffmann & Kupper, 2002; Mueser & Bond, 2000; Spaniol et al., 2002). Indeed, in a qualitative study of recovery from schizophrenia, Spaniol and colleagues emphasized the fact that comorbid substance abuse, when present, tended to dominate the clinical picture, became the predominant disabling condition even during active phases of psychosis, and was a formidable obstacle on the road to recovery for the majority of individuals in their sample.

Residual positive and negative symptoms have been associated with greater levels of overall distress and social/occupational impairment, as well as lower subjective quality of life (Edwards et al., 2002; Edwards et al., 1999; Malla et al., 2004; Mayerhoff et al., 1994). Reduction of persistent symptoms has been associated with highly significant reductions in depression and hopelessness among individuals with schizophrenia (Tarrier, 2005), and is likely to be a significant facilitator of improved occupational functioning (Racenstein et al., 2002). Indeed, in their operationalization of recovery from schizophrenia, Liberman and colleagues (2002) note sustained symptom remission as a key criterion. Thus, residual positive and negative symptoms represent an important and malleable target of psychosocial interventions, and effective management of these symptoms is deemed critical to the recovery process (Hoffmann & Kupper, 2002).

The experience of an initial psychotic episode can do significant damage to an individual's self-esteem, sense of agency, hopes, dreams, and aspirations. As described above, depression following resolution of a first episode is very common, and is most often associated with feelings of loss, entrapment, humiliation, and self-criticism (Addington et al., 1998; Birchwood, 2003; Iqbal et al., 2000). Low self-esteem has also been linked to

increases in symptomatology and social/occupational functioning impairments. For example, in a study of individuals with recent onset psychosis, negative self-evaluation mediated the relationship between familial criticism and exacerbation of positive symptoms (Barrowclough et al., 2003). This is consistent with earlier work demonstrating the relationship between low self-esteem and the formation and maintenance of psychotic symptoms (e.g., persecutory delusions or auditory hallucinations with negative content; Garety, Kuipers, Fowler, Freeman, & Bebbington, 2001; Kinderman & Bentall, 1996). In addition, Roe (2003) found that changes in self-esteem over one year following hospital discharge were significantly associated with overall functioning and outcome at the end of the year among a sample of individuals with chronic non-affective and affective psychotic disorders. Finally, Bassett and colleagues (2001), in a survey of individuals recovering from their first episode of psychosis, found that primary barriers to occupational functioning included low self-confidence, low self-esteem, and stigma. Indeed, the stigma of severe mental illness is pervasive in society, and young people experiencing the early phases of psychosis are particularly vulnerable to its pernicious effects on self-esteem and self-concept (Birchwood et al., 1998; Edwards & McGorry, 2002; EPPIC, 2001; McGorry, 1992; Torrey, 1995).

These findings converge with the emphasis in the treatment literature on boosting self-esteem, fostering hope and optimism, and encouraging adaptation to one's illness, particularly following a first episode (Birchwood et al., 1998; Jackson et al., 1998; Jackson, McGorry, Henry et al., 2001; Leete, 1987; McGlashan, 1994; McGorry, 1992, 2004). The maintenance of hope and enhancement of self-esteem have been identified as critical facilitators of recovery in psychosis, and represent potentially malleable targets for

psychosocial intervention (Barrowclough et al., 2003; Hall & Tarrier, 2003; Hoffmann &

Kupper, 2002; Lecomte et al., 1999; Noordsy et al., 2002; Roe, 2003). Consistent with this,

the pursuit of personally relevant goals following a first episode is imperative as both a

source and reinforcer of social agency, self-esteem, and optimism (McGorry, 1992; Mueser

et al., 2002; Noordsy et al., 2002). Indeed, Noordsy et al. emphasize the powerful role that

goal-setting can play in the development and maintenance of motivation to recover from

severe mental illness.

Finally, the prospects of a successful recovery after an initial episode of psychosis are

significantly challenged by the presence of pervasive and enduring deficits in functional

abilities that persist despite symptom reduction (Grant et al., 2001; Gupta et al., 1997; Ho et

al., 1998; Robinson et al., 2004; Tohen et al., 2000). In a broad sense, functional abilities

comprise academic/occupational functioning, interpersonal functioning, pursuit of leisure

activities, and adaptive living skills (Liberman et al., 2002; Noordsy et al., 2002). Deficits in

these domains may be secondary to factors such as poor premorbid functioning, repeated

relapse, active substance use, residual symptoms, cognitive impairments, low self-esteem, or

stigma, and/or may be primary features of the disease process and associated deterioration

(Addington, Young et al., 2003; Bassett et al., 2001; EPPIC, 2001; Hambrecht & Häfner,

1996; Lieberman, 1999; Lieberman, Chakos et al., 2001; Lieberman & Fenton, 2000;

McGlashan & Johannessen, 1996; McGorry et al., 2000; Perkins et al., 2004; Rabinowitz et

al., 2002; Racenstein et al., 2002; Salyers & Mueser, 2001).

Hoffman and Kupper (2002) have described social competency and interpersonal

functioning as one of the best predictors of clinical outcome. Others have also emphasized

the vital role that improved social/occupational functioning plays both as a key facilitator of

the recovery process and as a key outcome measure, or goal of treatment (Addington, Young et al., 2003; Birchwood et al., 1998; Erickson et al., 1989; Liberman et al., 2002; Malla, Norman, Manchanda, & Townsend, 2002; Mueser et al., 2002; Mueser & McGurk, 2004; Noordsy et al., 2002; Spaniol et al., 2002; Spencer et al., 2001). Indeed, psychosis strikes most people in their late teens and early 20s, during a time of significant developmental growth and psychosocial changes, such as identity formation and individuation from the family, strengthening of connections with peers and exploration of romantic relationships, and pursuit of academic/occupational aspirations (Erikson, 1968; Leete, 1987). Young people experiencing their first psychotic episode are therefore at risk for lagging significantly behind their peers regarding important milestones, and need phase-specific therapeutic intervention designed to minimize further psychosocial deterioration and assist with the re-learning and/or development of age-appropriate social skills and roles (EPPIC, 2001; Henry, 2004).

In summary, taking facilitators of recovery and barriers to recovery in early psychosis into account, the following domains should be addressed in a comprehensive and effective psychosocial treatment: illness-management (including psychoeducation, medication adherence strategies, and a focus on relapse prevention), substance use, residual symptoms, self-esteem, and functional recovery (e.g., social/occupational functioning). Given the heterogeneity inherent to psychotic disorders and early psychosis in particular, the treatment should be flexible and tailored to the presenting concerns of the client (Malla & Norman, 2002; Spaniol et al., 2002). Above all else, clients recovering from their first episode should be encouraged to adapt to their illness, develop increased self-efficacy and hope, and move forward by setting and achieving meaningful goals.

Introduction of a New Psychosocial Intervention for First Episode Psychosis

The foregoing has highlighted the need for early intervention in psychosis, explained that psychosocial treatment is a critical adjunct to pharmacotherapy, described the limitations of existing psychosocial treatments, and specified the targets of an effective psychosocial intervention for individuals recovering from an initial episode of psychosis. Taking all of these factors into account, Penn and colleagues (2005) developed a preliminary version of *The Graduated Recovery Intervention Program* (GRIP) for first episode psychosis. GRIP is a comprehensive yet flexible individual therapy program that addresses the primary areas of concern for individuals with early psychosis, and aims to facilitate functional recovery following a first episode. It is comprised of therapeutic strategies and techniques that are based on principles of CBT (Beck, 1995; Kingdon & Turkington, 2004) and have been empirically-validated in the treatment of individuals with chronic schizophrenia. A brief overview of the nature and aims of GRIP, a description of its specific treatment phases, and empirical support for each of its elements and prescribed treatment techniques, is provided below.

Treatment Logistics and Clinical Foci

GRIP is a modular-based intervention that is administered on an individual, weekly basis for up to 36 sessions over nine months. It is designed for adolescents (older than 18 years old) and adults who are recovering from an initial episode of non-affective psychosis. It is comprised of four treatment phases: (1) engagement and wellness-management, (2) substance use, (3) residual symptoms, and (4) functional recovery.

All clients should receive the ten sessions of Phase 1 (engagement and wellness-management), and a minimum of two sessions of psychoeducation on substance use and its

relationship to recovery in Phase 2. Therefore, a minimum of 12 therapy sessions is devoted

to the first two phases of GRIP. If a client currently has substance use problems, he or she

will receive up to eight additional sessions of treatment during Phase 2.

After Phase 2, the clinician can either move to Phase 3, if residual positive and/or

negative symptoms are present (and are distressing and/or impairing), or directly to Phase 4,

which focuses on functional recovery. Therefore, if a client does not have substance use

problems or residual symptoms, he or she will receive up to 24 sessions of work on

functional recovery. Indeed, functional recovery has been identified as a primary goal of

psychosocial treatment for first episode psychosis (Grant et al., 2001; Hoffmann & Kupper,

2002; Malla, Norman, Manchanda, & Townsend, 2002; McGorry, 2004; Noordsy et al.,

2002; Spencer et al., 2001). Accordingly, it is the primary outcome variable for GRIP.

General Characteristics and Features of GRIP

Session structure and treatment techniques prescribed in GRIP are based on principles

of CBT. As will be described more fully in the following section on specific phases of

GRIP, cognitive-behavioral therapy approaches have been well-documented as being

efficacious in the treatment of schizophrenia (e.g., Gould, Mueser, Bolton, Mays, & Goff,

2001; Rector & Beck, 2001; Tarrier, 2005). Consistent with the general format of CBT,

sessions in GRIP are structured in the following way: greeting/check-in, bridge from

previous session, discussion of agenda for current session, review of previous week's

homework assignment, discussion of new material, assignment of new homework, and

summary/wrap-up (Beck, 1995).

Homework is an important feature of CBT, and it is an essential component of GRIP.

Work done outside of the therapy sessions is critical to generalizing skills and concepts

discussed in the therapist's office to a client's daily life. Further, assignment of and compliance with homework assignments has been statistically associated with treatment outcome. In a meta-analysis of 27 studies of CBT for a variety of clinical problems, Kazantzis and colleagues (2000) reported a weighted mean effect size of .36 for the relation between use of homework assignments and outcome, and .22 for the relation between homework compliance and outcome. Thus, there is both theoretical and empirical support for the use of between-session assignments in facilitating positive change in GRIP.

In the spirit of promoting generalization and maximizing retention of therapeutic gains, clients will be asked to identify a person with whom they live or interact on a regular basis to serve as an "indigenous supporter" (Tauber, Wallace, & Lecomte, 2000). This individual will serve as a bridge between the therapist's office and the client's daily life. The nature of the relationship between the client and supporter is flexible; however, clients will be encouraged to meet regularly with their supporters to discuss material addressed in therapy, review homework assignments, and practice relevant skills. Supporters will be encouraged to provide expressive and instrumental support to clients, and to continuously promote generalization of therapy material to the client's natural environment. They will serve as an adjunct member of the client's treatment team, and will be kept "in the loop" regarding therapy progress.

There is empirical support for the use of indigenous supporters in the treatment of psychotic disorders. In a study of 85 individuals with severe mental illness (75% with non-affective psychosis) who were receiving treatment in illness-management and social skills training, Tauber et al. (2000) found that clients working with an indigenous supporter had significantly better interpersonal functioning at both six- and 12-month follow-up than clients

without such support. Further, both clients and supporters were pleased with the nature of their relationship and enjoyed meeting regularly. It is hoped that enlisting the assistance of indigenous supporters in GRIP will not only promote generalization of skills, but that it will also help to keep clients engaged with treatment services, which is a significant problem in this population, yet is essential to assuring positive outcomes (EPPIC, 2001; Linszen, Lenior, De Haan, Dingemans, & Gersons, 1998; McGorry, 2004).

Specific Phases of GRIP

Following is a description of each of the specific phases of GRIP (see Table 4), with accompanying background and empirical support for pertinent therapeutic techniques.

Phase 1: Engagement and wellness-management. The goals of this phase are: (1) engage the client in treatment, (2) provide psychoeducation regarding psychosis and antipsychotic medication, (3) identify therapy goals, (4) enhance medication adherence, and (5) develop a relapse prevention plan.

Effective engagement with clients is essential, and is the first task of the GRIP therapist. This process can be rather difficult with young people recovering from a first episode of psychosis due to a variety of factors, including minimal prior experience with the mental health system, denial of one's illness, negative stereotypes of mental illness, and normative adolescent (or young adult) resistance to authority (EPPIC, 2001; ORYGEN Youth Health, 2004). Nevertheless, first impressions during this phase are critical at shaping clients' perceptions of the mental health system and determining their likelihood of continued engagement with treatment (Birchwood et al., 1998). Indeed, the establishment and maintenance of a strong therapeutic alliance is a very important and highly valued element of GRIP, given both the specific needs of a first episode population as well as the general

empirical finding that a stronger alliance is associated with better treatment outcomes in both psychotic and non-psychotic populations (Frank & Gunderson, 1990; Horvath & Symonds, 1991; Martin, Garske, & Davis, 2000; Mojtabai, Nicholson, & Carpenter, 1998; Penn et al., 2004).

Initial engagement consists of introducing the overall aims and purpose of GRIP (i.e., "pursuing goals, staying out of the hospital, and enhancing quality of life"), describing logistical issues (e.g., frequency, duration of meetings), explaining the roles of homework and collaborative agenda-setting, getting to know the client, and eliciting the client's personal narrative of his/her illness, including what led up to hospitalization, the nature of his/her symptoms, and his/her understanding of and personal reaction to these events. In addition, the client will be asked to identify somebody who can serve as an "indigenous supporter" during the course of therapy (Tauber et al., 2000).

Psychoeducation is another early component of GRIP. The majority of individuals recovering from an initial episode of psychosis are greatly confused and anxious about their experience. One primary task of therapy is to assist clients in making sense of their experience and in developing a healthy "explanatory model" of their illness (McGorry, 1992). The provision of accurate information is critical in this regard. The early phases of GRIP are comprised of psychoeducation on psychosis (i.e., symptoms, possible causes, strategies for recovery) and antipsychotic medications (i.e., effectiveness at reducing symptoms and relapse risk, possible side effects). This is an interactive process that strives to use the client's own experiences in order to broaden understanding of psychosis and psychiatric treatment. In addition, given the diagnostic uncertainty inherent to this phase of the illness, the term "psychosis" is emphasized over diagnostic labels such as schizophrenia

or schizoaffective disorder (Spencer et al., 2001). The objective for this phase of treatment is to correct any misperceptions that the client may have about psychosis, emphasize the high likelihood of recovery following a first episode, introduce the stress-vulnerability model, and describe the benefits of treatment adherence (EPPIC, 2001; Henry, 2004; Kingdon & Turkington, 2004; Turkington et al., 2004). Overall, there is consistent empirical support for the ability of psychoeducation to improve knowledge about mental illness and medication in patients with psychotic disorders (Mueser et al., 2002).

Functional recovery is a key objective of GRIP, and one key prerequisite for successful functional recovery is the identification and pursuit of goals (Noordsy et al., 2002). Short-term and long-term goals are identified early on in treatment in order to encourage an adaptive and healthy forward-looking focus during recovery, and to provide benchmark(s) with which to measure therapeutic progress. A variety of techniques are employed to assist with goal-setting, including the provision of potential functional goal targets and the use of "scaling" (i.e., identifying discrepancy between current functioning and ideal functioning). This is a collaborative and client-driven process. Once general goals have been identified, the therapist and client work together to reduce large goals into smaller, more manageable, and behaviorally-specific steps. Pursuit and attainment of these goals are the driving force behind GRIP, and this goal-oriented focus is carried through to all phases of treatment. Indeed, the pursuit of goals is a primary vehicle for promoting hope, optimism, and a focus on the future. Ideally, therapy strives to help the client get "back on track" regarding his/her developmental trajectory and long-term aspirations (Hoffmann & Kupper, 2002; McGorry, 1992, 2004; McGorry et al., 2003; Noordsy et al., 2002; Spaniol et al., 2002).

Medication adherence following resolution of an initial psychotic episode is critical to minimizing the potential for symptom exacerbation and relapse (Gitlin et al., 2001; Robinson, Woerner, Alvir, Bilder et al., 1999). For clients who are already motivated to adhere to their prescribed medication regimen, behavioral tailoring (i.e., finding concrete ways to simplify one's daily regimen and/or incorporate taking medication into one's daily routine) will be used to further strengthen adherence and minimize the potential for missed doses. Given the high rates of medication non-adherence following resolution of a first episode (e.g., Coldham et al., 2002), it is likely that many clients may not be keen on taking medication. To address this, motivational interviewing will be employed. Motivational interviewing explores a client's ambivalence or resistance to taking medication, encourages consideration of the pros and cons of medication adherence, and highlights the potential benefits of taking medications with respect to achieving personally relevant goals (Miller & Rollnick, 2002). Both behavioral tailoring and motivational techniques have received strong empirical support with respect to improving medication adherence among individuals with psychotic disorders (see reviews by Gray et al., 2002; Mueser et al., 2002; Zygmunt, Olfson, Boyer, & Mechanic, 2002).

The final objective of Phase 1 of GRIP is to develop a relapse prevention plan. This is particularly important given the high risk of relapse following resolution of a first episode of psychosis (e.g., Gupta et al., 1997; McGlashan & Johannessen, 1996; Wiersma et al., 1998). Birchwood and colleagues (2000) have written extensively about relapse prevention in early psychosis, and delineate several key aspects of developing an effective plan. First, it is important to identify a client's "relapse signature." This corresponds to identifying those warning signs and symptoms that a client experienced prior to experiencing an acute

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psychotic episode. Common examples of early warning signs include increasing paranoia, difficulties concentrating, feeling depressed, anxious, or irritable, difficulty sleeping, social withdrawal, and/or neglecting personal hygiene. It is also essential to identify any specific psychosocial triggers that may have precipitated a psychotic episode. Following the identification of relevant warning signs and triggers, the client and therapist collaboratively develop a "relapse drill," or action plan to respond to the onset of warning signs (Birchwood & Spencer, 2001). This plan includes a variety of coping strategies that the client finds helpful (e.g., meditation, anxiolytic medication, positive self-statements) as well as the names and phone numbers of people to contact for help (e.g., case worker, therapist, physician). These steps will be followed for all GRIP clients in order to develop a personalized and comprehensive relapse prevention plan. Relapse prevention efforts are part of best-practice recommendations in the management of first-episode psychosis (McGorry et al., 2003; Spencer et al., 2001). Further, a recent randomized controlled trial demonstrated the utility of targeting early warning signs with cognitive and behavioral techniques in reducing relapse rates, as well as improving symptoms and overall functioning (Gumley et al., 2003).

 Phase 2: Substance use. All clients in GRIP receive two sessions of psychoeducation on the harmful effects of substance use on psychosis. If the client has current substance use problems, he/she will receive up to eight additional sessions targeting this behavior. Thus, the primary goals for this phase of treatment are: (1) educate the client about the dangerous effects of alcohol and drugs, (2) build motivation to reduce substance use (if applicable), and (3) teach the client skills for coping with high-risk situations involving substances (if applicable).

At the beginning of this phase, therapists will assess a client's current level of substance use and provide psychoeducation about the negative effects that substances can have on individuals recovering from a psychotic episode. As in Phase 1, this process is interactive and client-driven, with the therapist supplementing or clarifying the client's existing knowledge base. The stress-vulnerability model is revisited, and substances are described as a primary mechanism of increasing one's vulnerability to the re-emergence of symptoms and potential re-hospitalization (Elkins et al., 2004; Mueser & McGurk, 2004). Further, basic education regarding commonly used substances and their effects is provided (Mueser, Noordsy, Drake, & Fox, 2003).

Given the high rates of substance abuse among individuals with first episode psychosis, it is likely that many clients will have current substance use problems (Edwards et al., 2003). To address this, the therapist will conduct a functional analysis of the client's behavior in order to identify factors predisposing the client to use substances or factors maintaining this behavior. In addition, therapists will employ motivational interviewing for clients who are resistant to reducing their substance use (Miller & Rollnick, 2002). Indeed, substance use is emphasized as a barrier to recovery and an obstacle to the client achieving his/her personal objectives. Goals identified in Phase 1 are utilized in this process and are used as support for the potential benefits of abstaining from substance use.

The final phase of this treatment module involves the therapist and client working together to develop a plan for maintaining abstinence (Bellack & DiClemente, 1999; Mueser et al., 2003). A "behavioral action plan" lists specific substance use goals (e.g., abstain from alcohol), associated maintenance factors or reinforcers of the problematic behavior (e.g., anxiety reduction), and targeted strategies that the client can use to counteract these factors

without resorting to substances (e.g., meditation, exercise). Related to this, clients will also develop a "substance use relapse prevention plan," which lists high-risk situations for substance use (e.g., boredom, parties) and healthy coping strategies (e.g., contact a friend, read a book, assert desire to abstain when faced with peer pressure). This plan will also contain contact information for people who can help the client when he/she is experiencing a craving to use substances. Therapists will help clients tailor these plans to their specific needs, and will problem-solve regarding potential obstacles or difficulties with implementation.

A large component of the substance use treatment offered in GRIP is collaborative problem-solving and behavioral skills training (e.g., assertiveness). This is consistent with recommended approaches for the psychosocial treatment of substance use disorders comorbid with psychosis (Bellack & DiClemente, 1999; Mueser et al., 2003). Indeed, cognitive-behavioral treatment for substance use among individuals with psychotic disorders, including motivational strategies and skills training, has received strong empirical support (Barrowclough et al., 2001; Bellack & DiClemente, 1999; Drake et al., 2004; Mueser & Bond, 2000; Mueser et al., 2003).

Phase 3: Residual symptoms. The primary goal of Phase 3 of GRIP is to reduce residual positive and negative symptoms that are distressing and/or impairing to the client. GRIP has separate modules for addressing: (1) delusions, (2) auditory hallucinations, and (3) negative symptoms.

CBT for psychotic symptoms has received increasing attention over the last 15 years, and several comprehensive treatment manuals have been written (Chadwick, Birchwood, & Trower, 1996; Fowler, Garety, & Kuipers, 1995; Kingdon & Turkington, 2004). Most of the

work on CBT for psychosis has originated in the UK, and unfortunately there has not been as much widespread enthusiasm or dissemination in the United States thus far (Mueser & Noordsy, 2005). Nevertheless, as will be discussed below, there is consistent evidence for the effectiveness of CBT in the treatment of residual psychotic symptoms (e.g., Gaudiano, 2005).

CBT for psychosis is heavily rooted in psychological models of psychotic symptoms and therapeutic techniques are based on these formulations. For example, researchers have postulated that delusions may result from a faulty reasoning style whereby individuals have a tendency to quickly "jump to conclusions" about anomalous experiences and have great difficulty generating alternative, more plausible explanations (Freeman et al., 2004; Garety & Freeman, 1999). There is also evidence that persecutory delusions in particular may be based on maladaptive attributional styles in which other people are consistently blamed for negative events, and that this may represent attempts to protect a fragile self-concept (Kinderman & Bentall, 1996). These theories suggest that treatment of delusions should strive to increase clients' cognitive flexibility and encourage a more logical, facts-driven, empirical cognitive style, as well as address underlying self-esteem concerns (Barrowclough et al., 2003; Garety, Fowler, & Kuipers, 2000).

With respect to auditory hallucinations, there is evidence suggesting that voices are typically reflective of internal mental phenomena (i.e., automatic thoughts) misattributed to external sources, and that much of the subjective distress that clients experience appears to stem from their dysfunctional interpretations of the voices (e.g., as external phenomena that are malevolent; Bentall, Haddock, & Slade, 1994; Rector & Beck, 2001). Therefore, based on techniques from traditional CBT, CBT for psychosis assists clients in modifying their

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maladaptive beliefs about the nature of their voices, which ideally results in a more positive

emotional response and greater sense of control (Garety et al., 2001; Kingdon & Turkington,

2004). Further, clients can be taught how to minimize exposure to environmental factors

precipitating voices and/or to employ healthier coping strategies in response to voices

(Tarrier et al., 1993).

Finally, negative symptoms are the least understood and most difficult residual

symptoms to treat. Behavioral approaches are often emphasized, particularly with respect to

symptoms such as avolition or anergia. Various clinical researchers assert that the

consequences of negative symptoms (e.g., social withdrawal, inactivity) need to be targeted

in treatment through techniques akin to "behavioral activation" in CBT for depression (Beck,

1995; Falzer, Stayner, & Davidson, 2004; Turkington et al., 2004).

GRIP prescribes a variety of cognitive-behavioral techniques based on the work cited

above. Treatment of delusions employs three strategies: generating alternative explanations

to a variety of situations, conducting behavioral experiments, and examining the internal

consistency of beliefs (Chadwick et al., 1996; Fowler et al., 1995; Kingdon & Turkington,

2004). Clients are encouraged to increase their cognitive flexibility starting with less

personal, non-emotionally-laden situations (e.g., generating many possible interpretations of

a photograph), and then advancing to situations with more personal relevance. This activity

can be done in the office or in vivo, in outside settings that may activate the delusional belief

system (e.g., paranoia activated around a group of people laughing). Another strategy for

addressing delusions involves conducting behavioral experiments, which are carefully

orchestrated tests of one's beliefs. For example, if a client has a delusion that others can read

his mind, a behavioral experiment may involve sitting in a public place and attempting to

mentally send a message to somebody, such as "look out, a brick is about to fall on you!" If the target person does indeed look up within a specified amount of time, the client's belief would be confirmed; if not, the belief would be disconfirmed. In all behavioral experiments, clear experimental parameters and criteria need to be established a priori. This can be a powerful method to help clients re-evaluate the validity of their beliefs, and therapists are encouraged to conduct such experiments outside of the therapy office to promote increased generalization. Finally, a third method for addressing delusions is to help the client examine the internal consistency of his/her belief (i.e., reality-testing), which involves systematically examining the logic behind one's belief, and determining the probabilities of individual components of the belief.

GRIP prescribes two primary strategies for addressing auditory hallucinations: coping strategy enhancement (Tarrier et al., 1993) and interpersonalizing voices (Chadwick et al., 1996). Coping strategy enhancement involves identifying the typical antecedents (e.g., stress, anxiety) and coping strategies for a client's voices (e.g., yell back at voices), as well as the consequences of this behavior (e.g., public attention). Clients are encouraged to consider the negative consequences of their current coping strategies and to work with the therapist to practice more adaptive coping strategies (both in-session and for homework). They are also encouraged to avoid situations that increase the likelihood of experiencing voices (i.e., antecedents). Another strategy for addressing auditory hallucinations involves interpersonalizing voices. Clients are encouraged to respond to their voices the way they might respond to another person (e.g., by not yelling back) and to modify their perceptions of the voices in order to reduce distress. A final way to address voices is through behavioral experiments. For example, not complying with commands made by voices can be a powerful

test of the possible feared consequences; when clients emerge unharmed, they may begin to re-evaluate their beliefs in the voices' omnipotence.

Finally, negative symptoms are addressed in GRIP through targeting the consequences of such symptoms, including low activity and social withdrawal (Falzer et al., 2004). Clients are asked to monitor times during the week when they are experiencing positive moods and note what they are doing. They are then encouraged to increase participation in those activities, as a way of breaking the cycle of inactivity and limited reinforcement. Indeed, the pursuit of personal goals is continuously encouraged as well, as is social re-integration (addressed more directly in the final phase of treatment).

Overall, CBT for psychosis has received considerable empirical support, and has been shown to be especially effective for reducing the frequency and severity of positive symptoms (see reviews by Birchwood, 1999; Dickerson, 2000; Garety et al., 2000; Gaudiano, 2005; Gould et al., 2001; Mueser et al., 2002; Pilling, Bebbington, Kuipers, Garety, Geddes, Orbach et al., 2002; Rector & Beck, 2001; Tarrier, 2005; Turkington et al., 2004). In meta-analytic reviews of the literature, CBT for psychosis has been associated with medium to large between-group effect sizes for post-treatment gains, ranging from .65-.91 (Gould et al., 2001; Rector & Beck, 2001). These gains tend to be maintained at follow-up. Further, stronger effects are seen for longer-term treatments, delivered over six months to a year (Garety et al., 2000; Pilling, Bebbington, Kuipers, Garety, Geddes, Orbach et al., 2002). Finally, most of the foregoing describes work done with chronically ill populations; however, as evident in the above review on psychosocial treatment for first episode psychosis, there is increasing use of CBT for psychotic symptoms in an early psychosis population, with

promising results (Haddock, Morrison, Hopkins, Lewis, & Tarrier, 1998; Lewis et al., 2002; Tarrier et al., 2004).

Phase 4: Functional recovery. The foregoing has emphasized that a majority of individuals recovering from a first episode will experience a variety of functional deficits despite symptomatic reduction with antipsychotic medication, and that these deficits are associated with poor long-term outcome and increased risk for relapse and re-hospitalization (Birchwood et al., 1998; Erickson et al., 1989; Svedberg et al., 2001). Thus, GRIP strives to facilitate functional recovery, and devotes Phase 4 to addressing several core functional deficits. The key objectives of this phase are to improve: (1) social skills and social support, (2) role functioning, (3) recreational activity, and (4) self-esteem. As with previous treatment phases, therapists have the flexibility to tailor GRIP to the client's specific needs and concerns.

Social skills training (SST) is a large component of this treatment phase, and targets deficits in specific social behaviors, such as poor eye contact or inappropriate voice volume. More complex deficits such as poor conversational ability or difficulties with assertiveness are targeted as well (Bellack, Mueser, Gingerich, & Agresta, 1997). SST is based on principles of modeling and operant conditioning, and generally consists of the following steps: (1) therapist identifies skill deficit(s), (2) therapist describes and models appropriate social behavior, (3) therapist and client role-play using relevant skill, (4) therapist provides feedback and positive reinforcement, (5) role-play is repeated, and (6) homework to practice the new skill is assigned. This process is tailored to the specific needs of the individual client, and is conducted in a highly structured, systematic, and repetitive manner to maximize learning and retention. Overall, SST for individuals with psychotic disorders has been shown

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to be effective at teaching clients appropriate social skills, with associated increases in self-efficacy and modest improvements in social functioning (Heinssen, Liberman, & Kopelowicz, 2000; Mueser & Bond, 2000; Penn & Mueser, 1996; for an exception, see Pilling, Bebbington, Kuipers, Garety, Geddes, Martindale et al., 2002, but see Mueser & Penn, 2004 for reaction to Pilling et al.).

In addition to deficits in social skills, clients may also lack adequate levels of social support. Consistent with this, a powerful research finding is that clients with psychotic disorders tend to rank making new friends and other social concerns as their highest priorities, above symptomatic relief (Coursey, Keller, & Farrell, 1995). Thus, barriers to social support will be identified and addressed in treatment. For example, for clients with limited opportunities to meet others, therapists can assist with brainstorming about good places in which to meet new people (e.g., local coffee shop, gym) and develop homework assignments in which clients attempt to make new social connections. Further, social skills training may be required if skills deficits represent primary obstacles to obtaining social support. This overall approach to building social support is a core component of illness-management and recovery programs for patients with chronic schizophrenia (Mueser et al., 2002).

As discussed above, clients recovering from an initial psychotic episode are often developmentally-stalled or off-track with respect to their peers. In order to address this, GRIP therapists will liaise closely with outside agencies as well as members of clients' treatment teams in order to help connect clients to appropriate services (e.g., supported employment). Thus, in this capacity the therapist may assume a secondary role as a case manager. In addition, therapists will work with clients on identifying and implementing

smaller tasks needed to achieve larger school- or work-related goals. For example, for a client who wishes to return to college, the therapist may assist the client with filling out an application, selecting courses from a course catalogue, and/or preparing for specific classes.

To facilitate recreation and leisure activity, the therapist works with the client to identify specific hobbies or interests that he/she has previously enjoyed. Alternatively, the therapist may ask the client to monitor times during the week when he/she is experiencing a positive mood and note what he/she is doing at the time. (This general process is similar to strategies employed in the treatment of negative symptoms.) Once a list of pleasurable activities has been compiled, clients are encouraged to engage in them for homework and to monitor their subjective experience.

Low self-esteem is pervasive in early psychosis and can interfere with social re-integration and the pursuit of functional goals (Bassett et al., 2001). To address this, GRIP prescribes an approach developed by Tarrier and colleagues in the UK, which aims to boost self-esteem by focusing attention on an individual's positive qualities (Hall & Tarrier, 2003). The basic steps involved are as follows: (1) clients are asked to produce a list of positive qualities they possess and to rate how much they believe they possess those qualities, from 0-100; (2) clients are then asked to provide specific and detailed behavioral examples of those qualities; (3) clients are then asked to re-rate how much they believe they possess those qualities. It is expected that ratings will be higher after clients have had time to think of behavioral examples illustrating their positive attributes. Therapists emphasize the fact that clients' positive beliefs about themselves are strengthened by focusing attention on these attributes, rather than dwelling on the negative. Thus, clients' self-esteem increases, and they learn that they have the ability to improve their self-concept and mood through re-directing

their attention to these positive qualities. Overall, preliminary data regarding the efficacy of this approach in boosting self-esteem has been promising (Hall & Tarrier, 2003).

Finally, the stigma of severe mental illness is pervasive, is likely to have a negative effect on self-esteem, and may serve as a barrier to functional recovery by inhibiting social re-integration (McGorry, 1992; Torrey, 1995). GRIP prescribes several techniques that can be used to combat the effects of stigma. Psychoeducation is critical in providing accurate information about mental illness and promoting the view that recovery can and does occur, contrary to some prevailing societal beliefs. Strategies such as putting clients in contact with other clients who have recovered from severe mental illness, and/or discussing individuals that have succeeded in the face of adversity can instill hope and optimism in clients who may be feeling discouraged and disheartened. Clients can be encouraged to be advocates for mental illness and educate friends and family members, which may be empowering for the client and enlightening for the audience. Further, therapists can assist clients with evaluating the pros and cons of self-disclosing their illness to others, and can practice this process through in-session role-plays.

In summary, GRIP prescribes a variety of evidence-based clinical approaches, including cognitive-behavioral techniques, motivational interviewing, and psychoeducation, with the primary aims of removing key barriers to recovery (i.e., medication non-adherence, substance use, residual symptoms) and facilitating functional recovery and psychological adjustment following an initial episode of non-affective psychosis.

Overview of Current Study and Hypotheses

The current study consisted of the development and initial evaluation of GRIP with respect to variables such as feasibility and clinical utility. There were two primary stages of the research: (1) manual development and (2) uncontrolled open trial.

In stage one, the preliminary GRIP manual was revised based on consultation with first episode researchers, clinicians, and consumers.

In stage two, an uncontrolled open trial of GRIP was conducted to evaluate clinical and psychosocial benefits, feasibility, tolerability, and qualitative therapist and client impressions of the treatment.

Primary hypotheses for the open trial of GRIP were as follows:

(a)   GRIP will be associated with clinically significant improvements (i.e., within-group effects) with respect to the primary outcome of social functioning.

(b)   GRIP will be associated with improvements (i.e., within-group effects) with respect to the secondary outcomes of symptomatology, substance use, attitudes toward medication, and personal goal achievement.

(c)   GRIP will be well-tolerated, favorably received, and feasible to implement in an outpatient clinic (based on therapist and client report).

The ultimate aim of the open trial was to inform additional revisions to the manual and lay the groundwork for a randomized controlled trial of GRIP to provide a more stringent test of its efficacy. This stepwise process is consistent with recent recommendations for the development of manualized treatments (Carroll & Nuro, 2002; Onken, Blaine, & Battjes, 1997; Rounsaville, Carroll, & Onken, 2001). Procedures for each stage of the current study are described in detail in the following section.

CHAPTER TWO

METHOD

GRIP Manual Development

The preliminary version of GRIP included recommended elements of standardized therapy manuals, including theoretical background and rationale for treatment, an overview of treatment, specified goals and defining features of treatment, treatment logistics, and summaries/outlines for treatment sessions (Carroll & Nuro, 2002). Further, GRIP was designed to address common critiques of manualized treatments, which include perceived underemphasis on non-specific factors and the therapeutic alliance, restrictions on clinical judgment and limited flexibility to tailor treatment based on clients' needs, and exclusion of clients with comorbid conditions such as substance use (Addis, Wade, & Hatgis, 1999; Carroll & Nuro, 2002).

The first stage of the study consisted of further development and revision of the GRIP manual based on input from researchers, clinicians, and consumers. Indeed, to bridge the gap between research and practice, it is recommended that clinicians and consumers be closely involved in the development of any new treatment (Addis et al., 1999; Dobson & Hamilton, 2002; Onken et al., 1997; Rounsaville et al., 2001; Street, Niederehe, & Lebowitz, 2000; Westen, 2002). The manual development team for GRIP consisted of the following researcher consultants: Jane Edwards, Ph.D. (Early Psychosis Prevention and Intervention Centre in Australia), Jean Addington, Ph.D. (Department of Psychiatry, University of

Toronto), and Alan Bellack, Ph.D. (Departments of Psychology and Psychiatry, University of Maryland). All are internationally renowned experts in the areas of early psychosis and/or psychosocial treatment of schizophrenia. Clinician consultants for GRIP included: Johanna Boobas, M.Ed., L.C.S.W. and Jennifer Nieri, L.C.S.W. Both are clinical social workers in the UNC Department of Psychiatry who regularly see clients and are closely involved with ongoing research in the department. Finally, the GRIP manual development team also consisted of three local consumer consultants (two men and one woman). These individuals were high-functioning, clinically-stable outpatients who recently experienced an initial episode of psychosis. All GRIP consultants were paid for their time and effort.

The preliminary version of GRIP was distributed to the consultants, who had one month to review and critique the manual. They were provided with standardized rating forms that asked them to rate and comment on numerous aspects of GRIP, including manual organization, content, therapeutic techniques, clinical vignettes, handouts and worksheets, procedures for liaising with indigenous supporters, and overall user-friendliness. Following the receipt of consultants' completed rating forms, each participated in teleconferences or face-to-face meetings to further elaborate on his/her comments, and all recommendations were compiled and considered by the study investigators. Consultant feedback was evaluated for common themes, and, in the case of contradictory suggestions, consensus agreement was reached through discussion with other GRIP investigators (e.g., Dr. Kim Mueser at Dartmouth Medical School). Suggestions deemed impractical or of limited utility by the study investigators were not incorporated. Based on this careful review of all consultant feedback, appropriate revisions were made to the GRIP manual, in preparation for the subsequent open trial.

Open Trial of GRIP

Research Design and Overview

GRIP was evaluated in an uncontrolled, pre-post design and was offered as an adjunct to routine care (i.e., antipsychotic medication and case management) at the UNC Hospitals Schizophrenia Treatment and Evaluation Program (STEP) and the Outreach and Support Intervention Services (OASIS) Clinic, a specialized program for early psychosis. This study was approved by the UNC Behavioral Institutional Review Board. Each participant was offered up to 36 sessions of GRIP.

At this stage of treatment development, it is recommended that only a few outcome variables be measured to assess preliminary efficacy (Rounsaville et al., 2001). Thus, the primary clinical outcome in this study was social functioning, which is the key target of GRIP. Secondary outcomes in this trial included symptoms, personal goal attainment, attitudes toward antipsychotic medication, and substance use. In addition, qualitative impressions of GRIP were assessed via feedback forms completed by both participants and therapists.

Clinicians in this study included three clinical social workers from the UNC Department of Psychiatry, and two clinical psychology doctoral students at UNC. The primary author of the GRIP manual (DLP; a licensed clinical psychologist) provided weekly supervision to all therapists. All sessions were audiotaped and reviewed by DLP to aid in clinical supervision and monitoring of treatment fidelity.

Participants

The sample was comprised of 10 individuals recovering from an initial psychotic episode. Table 5 summarizes the sample's demographic and clinical characteristics. Specific

inclusion/exclusion criteria were as follows: (1) age 18 and over, (2) meets DSM-IV criteria for schizophrenia-spectrum disorder, (3) recovering from first episode of functional psychosis (i.e., individuals with organic brain disorder were excluded), (4) less than one year of treatment for psychosis, (5) clinically stable (i.e., outpatient for at least one month), (6) IQ > 70, (7) willing and able to provide informed consent, and (8) currently receiving routine care at UNC STEP or OASIS clinics. Individuals with comorbid substance abuse were eligible for the study.

Measures

Baseline diagnostic screen. A diagnostic screen was conducted using the *Structured Clinical Interview for DSM-IV Axis I Disorders* (SCID-I; First, Spitzer, Gibbon, & Williams, 1996). Raters were trained to conduct the SCID-I to a gold standard of inter-rater reliability (i.e., kappa > .80).

Demographic and clinical information. The following information was obtained from participants via interview and chart review: date of birth, gender, race, marital status, level of educational attainment, approximate duration of untreated illness (i.e., from beginning of prodromal phase), approximate duration of untreated psychosis (i.e., from beginning of active psychosis), number of hospitalizations, and current medications.

Social functioning. The primary measure of social functioning was the *Social Functioning Scale* (SFS; Birchwood, Smith, Cochrane, Wetton, & Copestake, 1990), a 79-item self-report questionnaire designed to assess social and occupational functioning among outpatients with schizophrenia. In this study, the SFS was administered in an interview-based format to ensure that all questions were understood and answered by participants. Items are rated on Likert-type and frequency scales, and self-report ratings can be

supplemented with information from collateral sources (e.g., an indigenous supporter). The SFS assesses seven domains of social functioning: social engagement (e.g., how often do you start a conversation at home?), interpersonal behavior (e.g., how often are you able to carry out a sensible or rational conversation?), prosocial activities (e.g., how often do you go to a coffee shop?), recreation (e.g., hobbies), independence-competence (e.g., ability to do laundry), independence-performance (e.g., frequency of grocery shopping), and employment/occupational status. Sub-scale scores are produced for each of these domains and a total score is computed by summing all items. Factor analysis has demonstrated that a single factor accounts for over 50% of the variance in scores, and sub-scale scores are highly intercorrelated. Therefore, Birchwood et al. recommend using the total score as an overall index of psychosocial functioning. In this study, the SFS total score served as a primary outcome variable.

The SFS has demonstrated good internal reliability (a = .80 for total score). Further, there is high concordance between ratings made by patients and informants, with good inter-rater reliability (r = .94) and a large rater/self-report correlation (r = .78) (Birchwood et al., 1990; Dickerson, Ringel, & Parente, 1997). Construct and criterion-related validity as well as sensitivity of the SFS have been established through factor analysis and studies of patients, relatives, and community samples (Birchwood et al., 1990).

To supplement information from the SFS, the *Multidimensional Scale of Perceived Social Support* (MSPSS; Zimet, Powell, Farley, Werkman, & Berkoff, 1990) was administered. The MSPSS is a 12-item self-report questionnaire assessing the perceived adequacy of support from family, friends, and significant others. Items are rated on 5-point Likert scales and a total score is obtained by summing items. The MSPSS has demonstrated

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good psychometric properties across multiple studies. Internal reliability is good (a = .84-.92) and test-retest reliability is adequate (r = .72-.85). Construct validity has been established through factor analysis and studies of college undergraduates, younger adolescents, pregnant women, and medical residents.

Symptomatology. Symptoms were assessed with the *Positive and Negative Syndrome Scale* (PANSS; Kay, Opler, & Fiszbein, 1992). The PANSS is a widely used, semi-structured clinical interview designed to assess the severity of positive, negative, mood, and behavioral symptoms over the past week. On the basis of data gathered from the interview, ratings are made on 30 items using 7-point Likert scales, anchored by 1 (absent) to 7 (extreme). Four scaled scores are produced: Positive Symptoms, Negative Symptoms, General Psychopathology, and Total Score. In this study, raters were trained to conduct the PANSS to a gold standard of inter-rater reliability (i.e., intraclass correlation [ICC] > .80).

To supplement the PANSS, the *Calgary Depression Scale for Schizophrenia* (CDSS; Addington, Addington, & Maticka-Tyndale, 1993) was used to obtain a more sensitive measurement of depressive symptomatology among participants. The CDSS is a nine item semi-structured interview-based scale which was developed for use specifically with individuals with psychotic disorders.

Substance use. Alcohol and illicit drug use was assessed with the *Alcohol Use Scale* (AUS) and *Drug Use Scale* (DUS), respectively (Drake, Mueser, & McHugo, 1996). The AUS and DUS were developed to assess and track substance use among individuals with severe mental illness. On each scale, individuals receive a rating of 1-5, corresponding with diagnostic criteria for abstinence, use without impairment, abuse, dependence, or dependence

with institutionalization. Ratings are based on client self-report, clinician observation, and information from collateral sources (e.g., an indigenous supporter).

The AUS and DUS have demonstrated good psychometric properties (Drake et al., 1996). In longitudinal studies of individuals with severe mental illness living in the community, test-retest reliability for both scales has been excellent (i.e., close to 100%), and inter-rater reliability has also been good (kappa = .80-.95). Both scales have been shown to be valid instruments as well, with high ratings of sensitivity (e.g., 94.7%) and specificity (e.g., 100%).

Attitudes toward medication. The *Brief Evaluation of Medication Influences and Beliefs* (BEMIB; Dolder et al., 2004) was used to measure participants' attitudes toward antipsychotic medication. The BEMIB has been shown to reliably and accurately identify patients who are likely to be non-adherent with prescribed medication.

Personal goal attainment. A brief measure was developed in order to allow participants and therapists to rate progress toward goals in this study. Each goal is evaluated on a five point Likert-type scale, reflecting the degree to which the participant or therapist believes that progress has been made over the course of treatment. A rating of "5" indicates that the goal has been achieved, and a rating of "1" indicates that no progress has been made.

Qualitative feedback. Qualitative impressions of GRIP were ascertained via brief questionnaires (with Likert-type rating scales) administered to both therapists and participants following completion of the program. In addition, post-treatment interviews with participants (approximately 30 minutes) were conducted in order to gather more detailed qualitative feedback about the GRIP program.

Feasibility and Tolerability. The feasibility of administering GRIP was evaluated on

the basis of information obtained from therapists during the course of weekly supervision.

The tolerability of GRIP was evaluated through examination of participants' attendance

records as well as computation of early treatment termination rates (i.e., for clients who

terminated before 12 sessions; see below for definition of treatment completion).

Procedure

Participants were referred to the study by their primary treating clinicians in either the

UNC STEP or OASIS Clinics. Once participants completed the informed consent process,

they were screened for the presence of a non-affective psychotic disorder using the SCID-I.

Once a diagnosis of non-affective psychosis was confirmed (and other relevant

inclusion criteria were satisfied), research assistants assessed participants on the PANSS,

CDSS, AUS/DUS, SFS, MSPSS, and BEMIB. Participants received $30 for completing the

baseline assessment.

Following the baseline assessment, participants were offered up to 36 sessions of

GRIP. After 12 sessions of GRIP, clients and therapists assessed progress regarding personal

goal achievement, and discussed whether to continue with treatment. This decision was

collaborative, and depended on several factors, including: goal achievement, client's clinical

status, client's interest/investment in additional treatment, and the therapist's clinical

judgment. All clients were invited to continue with the rest of the program; however, for

clients who possessed limited motivation to continue, and/or who had achieved all of their

initial therapy goals, this served as a natural termination point. Given that the first 12

sessions of GRIP cover critical illness management and psychoeducational content, they

were deemed the "minimum effective dose" of the program. Thus, clients who completed 12

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or more sessions of GRIP were identified as "treatment completers," while clients who completed fewer than 12 sessions were identified as "treatment non-completers."

To ensure fidelity to the manual, Dr. David Penn listened to audiotapes of all sessions and provided weekly supervision to study therapists. A formal GRIP fidelity rating scale and coding manual was developed in concert with the open trial. This rating scale was based on the project investigators' clinical and research experience, as well as currently available fidelity scales for psychosocial treatments for psychotic and non-psychotic disorders (Baucom, 2005; Haddock et al., 2001; Penn & Perkins, 2005; Startup, Jackson, & Pearce, 2002). The final GRIP fidelity scale (see Appendix; Waldheter, Penn, & Mueser, 2007) provides an opportunity for coders to rate therapists' adherence to the manual as well as the overall quality of therapeutic intervention (i.e., competence).[1]

Baseline assessment procedures were repeated for post-test assessment, in which participants were assessed on the PANSS, CDSS, AUS/DUS, SFS, MSPSS, and BEMIB. For treatment non-completers, post-test assessment took place at 12 weeks following their first session. For treatment completers, post-test assessment took place immediately following treatment termination. All participants and therapists completed the goal attainment form, as well as qualitative feedback questionnaires. Finally, participants were asked about their experiences in therapy during a post-treatment interview (which was audiotaped). Participants received $30 for completing the post-test assessment.

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[1] The GRIP fidelity scale was completed towards the end of the open trial, and thus was not formally utilized to monitor fidelity for this phase of the project. It currently is being used in the randomized controlled trial of GRIP being conducted at the OASIS program. Consistent with standards used in treatment outcome research (D. Baucom, personal communication, April 4, 2005), 25% of all sessions are being coded for adherence and competence.

CHAPTER THREE

RESULTS

Manual Development

Briefly, highlights of the extensive manual revisions made as a result of this process include: (1) increased emphasis on risk assessment and prevention of suicidality (particularly emphasized by researcher consultants), (2) detailed guidelines for ongoing treatment of substance use and medication non-adherence (based primarily on discussions with Drs. Bellack and Mueser), (3) expanded coverage of motivational interviewing techniques (based primarily on discussions with clinician consultants), (4) emphasis on flexible treatment duration and guidelines for assessing progress (based on discussions with Dr. Addington), (5) guidelines for prioritizing and addressing multiple problems (e.g., persistent symptoms or functional deficits; based on discussions with clinician consultants), (6) addition of troubleshooting section and glossary of core therapeutic techniques (based on discussions with researcher and clinician consultants), and (7) re-designed handouts and worksheets (based on discussions with consumer and researcher consultants). Please see Table 6 for a summary of all revisions made to the treatment manual during this phase of the study.

Open Trial

Overview of Data Analyses

Given the small sample size of this study, formal inferential statistics were not appropriate. Rather, we calculated within-group effect sizes for continuous outcome

variables in order to evaluate the magnitude of pre-post change in our key clinical domains, including social functioning and social support (SFS, MSPSS), symptoms (PANSS, CDSS), and attitudes toward medication (BEMIB). Effect sizes were calculated in two ways: the conventional method examining pre-post change correcting for the pre-test standard deviation (Cohen, 1988), and an alternative method that accounts for the correlation between pre- and post-test values (Dunlap, Cortina, Vaslow, & Burke, 1996). Both methods generate a Cohen's *d* value that can be evaluated according to the following criteria: small (*d* = .20), medium (*d* = .50), and large (*d* = .80). Dunlap and colleagues recommend the use of the alternative method because it typically results in a more conservative estimate of within-group change (i.e., "corrected Cohen's *d*"); however, they acknowledge that there is no universally agreed upon method of calculating such parameters. Both effect size estimates are reported below for each of our outcome variables.

We also determined the proportion of participants who experienced a "clinically significant change" in their social functioning (i.e., SFS total score) and in psychotic and general symptoms (i.e., PANSS scores). Indeed, in this study, social functioning was the key target of our intervention (and thus the primary outcome variable), and psychotic symptoms were a critical secondary outcome (from both a clinical and empirical perspective, as symptoms are the most frequently reported outcome in other first-episode studies; e.g., Penn et al., 2005). Clinically significant change on the SFS was determined using criteria by Jacobson and Truax (1991), which currently is the most commonly used method of calculating clinical significance (McGlinchey, Atkins, & Jacobson, 2002). Further, McGlinchey and colleagues (2002), in a study comparing various methods of calculating clinical significance, stated that "the evidence of this study supports the [Jacobson and

Truax] method as a 'null' method that has yet to be rejected by an alternative method of superior performance" (p. 542). Clinically significant change on the PANSS was evaluated according to criteria typically used in schizophrenia research (e.g., 20% reduction in symptoms; Cather et al., 2005; Kane, Honigfeld, Singer, & Meltzer, 1988; Leucht et al., 2005).

To evaluate change in substance use, we examined individual changes from pre-test to post-test with respect to substance abuse or dependence on the AUS/DUS. In addition, we evaluated the level of personal goal attainment reported by participants and therapists at post-test on standardized measures. Finally, we reviewed qualitative feedback from participants and therapists about GRIP (i.e., on questionnaires and in audiotaped interviews). Transcripts of audiotaped interviews with participants were examined for common themes; these findings are summarized below.

Treatment engagement and baseline group differences between treatment completers and non-completers

One participant disengaged from all treatment services after 1 session of GRIP (due to exacerbation of psychotic symptoms); thus, pre-post data are available for 9 of 10 participants enrolled in the study.[2] Of these 9 individuals, 6 were "treatment completers" (i.e., completed at least 12 sessions) and 3 were "treatment non-completers" (i.e., completed fewer than 12 sessions). Therapists and clients provided the following reasons for early treatment discontinuation: difficulty balancing multiple treatment providers (e.g., psychiatrist, case manager, GRIP therapist) ($n = 1$), weekly time commitment and lack of

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[2] To account for this early study dropout, both "intent-to-treat" and "last observation carried forward" methods of analysis were considered. Given clinical/theoretical and statistical/empirical considerations (Lachin, 2000; Patterson et al., 2006), however, we decided to exclude this individual from analyses altogether.

motivation ($n = 1$), and paranoia regarding the treatment team and perception that therapy was not beneficial ($n = 1$).

Visual inspection and a 1-way analysis of variance (ANOVA) regarding baseline clinical and demographic data revealed several key (yet primarily non-significant) differences between completers and non-completers (see Table 7 for a summary). Briefly, non-completers were younger, had been ill for longer, reported more social dysfunction, perceived less social support ($p < .05$), and were more symptomatic than treatment completers at baseline. (Given the very small sample size, however, these analyses are more descriptive and hypothesis-generating, than conclusive.)

Finally, the mean number of sessions attended for the overall sample was 15.1 ($SD = 10.6$; range = 4-33). The mean number of sessions for completers was 20.2 ($SD = 9.4$; range = 12-33) and 5.0 ($SD = 1.0$; range = 4-6) for non-completers.

Clinical Outcomes

Within-group effect sizes for continuous variables. Table 8 provides pre-post means and standard deviations for the following measures: SFS, PANSS, MSPSS, CDSS, and BEMIB. A review of Table 9 reveals that, for all participants, small positive within-group effect sizes were observed for most measures, except for a large positive effect size observed for PANSS positive symptom scores ($p < .05$) and small negative effect sizes for MSPSS and BEMIB scores. This pattern of findings is essentially unchanged when corrected Cohen's *d* values are considered. Overall, these data indicate a small degree of improvement across most clinical domains when the total sample is considered.

An examination of outcomes for treatment completers vs. non-completers, however, may provide more meaningful information on the potential efficacy of GRIP (see Table 9).

On average, treatment completers demonstrated improvements on most measures, with a range of positive effect sizes from small (PANSS negative, CDSS, BEMIB), to medium (SFS total, PANSS general, total), to large (PANSS positive). Slight deterioration was observed on the MSPSS. For treatment non-completers, deterioration was observed in most domains, with a range of negative effect sizes from small (MSPSS), to medium (SFS total, PANSS total), to large (PANSS negative, general, BEMIB). Improvement was observed on PANSS positive and CDSS scores (i.e., small and medium effect sizes, respectively). It should be noted that a smaller degree of deterioration among non-completers was observed on several outcomes when considering the corrected Cohen's *d* estimates; these differences were particularly salient for PANSS negative and general scores.

Clinically significant change. Based on criteria from Jacobson and Truax (1991), one participant achieved a clinically significant improvement on the SFS total score. That is, this individual (a treatment completer) demonstrated a "clinically reliable change" (i.e., improved to a greater degree than might be expected due to measurement error alone) and placed himself slightly above the normative group mean (i.e., 112) at post-test. Indeed, this individual had a total score of 77 at pre-test and 113 at post-test, clearly demonstrating a significant degree of improvement. This is consistent with clinical observations of his post-test status, in which he had moved out of his mother's house, was living successfully among peers in a group home, and was complying with a structured routine.

It should be noted that our sample's pre-test mean on the SFS total score (i.e., 116) was greater than the normative group mean from Birchwood et al. (1990; i.e., 112), thus rendering the application of the Jacobson and Truax (1991) criteria difficult, since those criteria assume a pre-test level of functioning below a normative level. This may likely be

due to cohort effects, as our sample (i.e., college-aged individuals from a high SES/highly educated region of the U.S.) differed significantly from the normative sample used by Birchwood et al. (1990) in the development of the SFS (i.e., middle-aged individuals from a lower SES/industrial area of Great Britain). Despite these methodological limitations, visual inspection of pre-post change on the SFS total score in our sample revealed that two additional treatment completers demonstrated improvements of approximately 20 points from pre-test to post-test. While not statistically defensible, it is likely that these changes were clinically meaningful for these individuals.

Examination of Table 10 reveals that three treatment completers (50% of that sub-sample) achieved clinically significant improvements on the PANSS positive and negative subscales (i.e., at least a 20% reduction in scores). One non-completer (33% of that sub-sample) achieved this level of improvement in positive symptoms, and none of the non-completers achieved a clinically meaningful reduction in negative symptoms. Moreover, one treatment completer achieved a 50% reduction in positive and negative symptom scores; none of the non-completers demonstrated this magnitude of change.

Finally, two treatment completers (33% of that sub-sample) demonstrated a clinically significant reduction in their general and total scores on the PANSS; none of the non-completers demonstrated the same magnitude of improvement on these scales.

Substance use. With respect to AUS/DUS scores, very little substance use was reported in our sample. Nevertheless, one participant (a non-completer) who reported cannabis abuse at baseline was rated as abstinent following treatment.

Personal goal attainment. Fifty-eight percent of personal goals were collectively rated by participants at post-test as "very close to being achieved" or "achieved." When data

are examined based on treatment completion status, a more striking difference is evident. Indeed, while treatment completers collectively rated 68% of their personal goals at post-test as "very close to being achieved" or "achieved," none of the treatment non-completers' goals received those same ratings. Examples of goals that completers achieved during participation in GRIP include: returning to school, making new friends, taking medication daily, and learning more about mental illness.

Therapists agreed with participants' self-assessments of their goals, rating 52% of all goals as "very close to being achieved" or "achieved" at post-test. Therapists rated 64% of treatment completers' goals as "very close to being achieved" or "achieved," while none of treatment non-completers' goals received those same ratings.

Qualitative Feedback

Overall, both participants and therapists reported favorable impressions of GRIP via questionnaires (see Table 11) and post-treatment interviews.

Participants. With respect to participant feedback on end-of-study questionnaires, positive ratings were obtained on the majority of items, particularly among treatment completers. Indeed, these individuals provided high ratings on all items assessing variables such as the perceived utility of GRIP and its components, clarity of treatment materials, and the overall quality of treatment received. While treatment non-completers provided positive ratings on items pertaining to treatment materials (e.g., information provided in GRIP, user-friendliness), they reported less favorable impressions with respect to perceived utility/efficacy and quality of the program.

Post-treatment interviews with participants yielded richer information regarding the subjective experience of going through the GRIP program. The majority of clients reported

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that the most beneficial components of therapy were the social support from their therapist and the ongoing focus on goals. For example, one client remarked, "My favorite part was having a person to talk to, a person that understands you, that knows what you've been through." Another client stated that, "[therapy is] like somebody holding your hand through a very bad dream." With respect to goals, one client stated, "[the most helpful part was] the fact that we spent time focusing on where I was at and talking about where I wanted to be and what kinds of things stood in the way." Another client remarked that, "[goal-setting] really did help me to get back to normal…[and it was] nice to have some goals and to see that you are making progress." Several clients also expressed an appreciation for the focus on education and relapse prevention in GRIP. One client emphasized that "[GRIP] made me more conscious [about] when I have the psychosis episode, what do I do, what do I do wrong, how can I improve the situation, [and] how can I do it better for the next time." Other clients discussed the importance of identifying "red flags" as a means of avoiding a relapse. With respect to psychoeducation, one client asserted that "being educated about what you are going through is much better than living with a stigma."

Most clients acknowledged that participation in GRIP positively impacted their recovery from psychosis and would recommend GRIP to peers going through similar experiences. One client remarked, "it might just be me getting over it, but I can tell a difference of how I am now to how I was back at [the beginning of treatment]." Another client acknowledged the general benefits of psychotherapy by stating, "I had never had therapy, so introducing me to therapy and teaching me how to open up to a therapist was very beneficial."

Finally, treatment non-completers were asked to elaborate on their reasons for terminating early. Three primary reasons emerged in post-treatment interviews: (1) the time commitment of weekly therapy (a concern shared by completers) and/or the burden of multiple treatment providers and appointments, (2) a subjective sense of improvement and/or lack of appreciation for the benefits of continued treatment, and (3) persecutory ideation regarding the treatment team. For example, one client remarked, "What kind of got to me a little bit was having [sessions] once a week…I would change it to once every two weeks." This same client also stated that he wasn't "being helped in achieving [his] goals" and that his "concerns were not adequately addressed." Another client claimed that he was feeling better and did not need additional treatment. Further, this same client expressed dissatisfaction with the emphasis on goals by stating, "It helped just talking about my problems…but when it started getting to the goal stage I wasn't really feeling it because I'm not really into setting goals." Finally, a third client was reluctant to report on reasons for dropout; however, her therapist acknowledged that the presence of residual paranoia was interfering with the client's ability to trust and engage with her treatment team.

Therapists. With respect to therapist feedback on end-of-study questionnaires, positive ratings were obtained on most items, including those assessing the perceived utility of the treatment manual and materials. In addition, most therapists stated that they would "highly recommend" the GRIP program to other practitioners. Slightly lower scores were obtained on two items assessing the utility of GRIP for assisting specific clients with their symptoms and recovery; however, most therapists reported that GRIP was at least "somewhat helpful" in these areas (see Table 11).

CHAPTER FOUR

DISCUSSION

Following a treatment conceptualization and development phase, an initial evaluation of the GRIP program has been promising. It was hypothesized that GRIP would be associated with improvements in social functioning, social support, symptoms, substance use, and attitudes toward medication. It also was hypothesized that GRIP would be feasible to implement in an outpatient setting, would be well-tolerated by clients, and would be well-received by clients and therapists alike. Our hypotheses were largely supported, notwithstanding a few caveats; findings are discussed in more detail below.

Our open trial data indicate that, among participants who attended at least 12 sessions of treatment (i.e., completers), GRIP was associated with improvements in almost all measured domains, especially social functioning, positive and general symptoms, and goal attainment. In contrast, early treatment termination (i.e., before 12 sessions) was associated with deterioration in almost all domains, particularly social functioning, negative and general symptoms, perceived social support, and attitudes toward medication. Moreover, several treatment completers demonstrated clinically significant improvements in symptoms (i.e., positive, negative, general) and one completer demonstrated clinically significant

improvement in social functioning (as strictly defined by Jacobson & Truax, 1991); this same pattern of results was not true of treatment non-completers.[3]

It should be noted that treatment non-completers demonstrated improvements in positive and depressive symptoms over the course of the study. A reduction in these symptom domains over time, however, is expected in most individuals recovering from an initial psychotic episode (Addington et al., 1998; Tohen et al., 2000; Whitehorn et al., 2002). These findings, therefore, are consistent with the expected illness course in early psychosis. The improvement in positive symptoms among completers (described above) is also consistent with this expected finding; however, completers demonstrated a larger magnitude of improvement than non-completers in this domain (i.e., large vs. small effect size). With respect to improvement in depression, it appears that both groups experienced a comparable reduction in symptoms. Indeed, it is possible that the active and goal-directed approach of GRIP therapists facilitated a generalized behavioral activation among clients, with concomitant reduction in depressive symptoms (e.g., Beck, 1995).[4]

Overall, while these outcome data must be interpreted with great caution, findings may support a dose-response effect for GRIP, with longer duration of treatment facilitating greater clinical improvements (and/or minimizing deterioration). This would be consistent with findings from studies of therapy for a range of non-psychotic disorders (Westen, Novotny, & Thompson-Brenner, 2004). Moreover, post-hoc analyses lent additional support

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[3] As discussed above, it is likely that additional treatment completers experienced clinically meaningful improvements in their social functioning; however, unique characteristics of our cohort precluded the application of the Jacobson and Truax (1991) criteria in most cases.

[4] Surprisingly, the effect size for this improvement is about twice as large in non-completers (i.e., medium vs. small effect). A more fine-grained analysis of the data indicates that this is likely a statistical artifact stemming from a larger pre-test standard deviation in the completer distribution, which would serve to reduce the resultant effect size for that group on the CDSS.

to this hypothesis. Indeed, change scores for all continuous variables in the study were positively correlated with the number of sessions attended ($r = .4 - .7$).

Completers and non-completers displayed several differences in their clinical presentations at the beginning of the study. Post-hoc examination of their data revealed that non-completers reported less social support, more general psychiatric symptoms, and less social engagement than study completers at baseline. In addition, they were younger and tended to be ill for longer periods of time than completers. These baseline differences in our sample may shed light on potential predictors of early treatment termination and/or poor treatment response. Indeed, there is evidence demonstrating that individuals with schizophrenia with greater social dysfunction and lower levels of activity are less likely to form a strong therapeutic alliance (Couture et al., 2006), and thus may benefit less from psychosocial intervention. In addition, poor social functioning, younger age of illness onset, and longer periods of untreated illness are all poor prognostic factors in psychotic disorders (Birchwood et al., 1998; Malla, Norman, Manchanda, Ahmed et al., 2002; Mueser & McGurk, 2004). Therefore, it is possible that the non-completers represented a more ill and potentially treatment-resistant subgroup of our sample.

The overall sample demonstrated some deterioration with respect to perceived social support, which was an unexpected finding, given the focus on social support in GRIP. One possible interpretation is that the provision of treatment may have been associated with increased insight and awareness of reduced social networks (Mintz et al., 2004). Alternatively, termination in treatment may have resulted in the experience of an important member of the clients' social network (i.e., the therapist) leaving their lives. A decrease in perceived social support was greater among treatment non-completers, however, which is

consistent with expectations and the aforementioned baseline group differences. That is, these individuals were more likely to resist therapeutic engagement and were more likely to be experiencing greater levels of general social dysfunction.

In addition to our promising quantitative results, qualitative feedback on the GRIP program from both therapists and clients was generally favorable. Most of the study therapists stated that they would highly recommend GRIP to other clinicians working with first-episode clients. Most participants, especially treatment completers, provided positive ratings of GRIP on feedback questionnaires. During interactions with study investigators, participants reported that they particularly appreciated the support provided by their therapists, an opportunity to process the experience of their illness, as well as the focus on goals and educational information provided in GRIP. One participant remarked, "It's the only time I get to converse about what's going on with my diagnosis and life." Thus, with respect to treatment needs, our data suggest that clients recovering from a first episode of psychosis are primarily concerned with receiving social support and a safe space in which to process this upsetting and confusing new experience, in addition to information and assistance with moving forward in their recovery (reflecting a combination of non-specific and specific factors).

The primary objective of a small open trial is to evaluate the feasibility and tolerability of a new intervention (Mueser & Drake, 2005; Rounsaville et al., 2001). Our findings with respect to these variables are somewhat mixed. The average dose of treatment in our study (i.e., 15 sessions) was slightly higher than that provided in other small-scale trials of individual CBT for early psychosis (e.g., 10-11 sessions; Haddock et al., 1999; Jolley et al., 2003). Overall treatment retention, however, was somewhat lower than

expected, with only 67% of participants enrolled in the study completing treatment (not including the individual who attended one therapy session and subsequently withdrew from all treatment services); thus, 33% of participants terminated prematurely. While our retention rate is comparable to that of other studies in this area (e.g., 60-80%; Jackson et al., 1998; Lewis et al., 2002; Power et al., 2003), Mueser and Drake (2005) advise that dropout rates over 30% are problematic and suggest the need for additional measures to improve retention in treatment.

A review of our data suggests two primary factors influencing early treatment discontinuation in our sample: logistical (e.g., difficulties with weekly time commitment, balancing several treatment providers) and clinical (e.g., active psychosis, poor insight and appreciation for relevance of treatment). Both therapist and client feedback were consistent in this regard. In addition, anecdotal reports by study therapists suggest that the presentation of more structured, didactic material early in treatment may have adversely impacted some clients' desire to remain in treatment. Indeed, this information is critical data to gather in the treatment development process, and has been invaluable in informing necessary modifications to our protocol (described below). Further, our findings appear to reflect the general difficulties of engaging and retaining young people with early psychosis in treatment (EPPIC, 2001; Jackson, McGorry, & Edwards, 2001; Judge et al., 2005).

Thus, preliminary results suggest that GRIP may be associated with clinical benefits, can assist clients in pursuing their personal goals, and is generally well-received by clients and therapists. However, the small sample size, as well as the uncontrolled study design of the open trial, significantly limit the conclusions that can be drawn at this time, and preclude any causal inferences about the efficacy of GRIP. In addition, it is possible that demand

effects contributed to the positive qualitative feedback we received from both participants and therapists. Finally, the differential outcomes between completers and non-completers in the open trial underscore the importance of improving retention in therapy.

These study limitations are being addressed in a randomized controlled trial (RCT) of GRIP, which is currently in progress at the UNC OASIS Clinic. This study is randomly assigning 40 clients in the early stages of a psychotic disorder to one of two conditions: "treatment as usual" (i.e., medication and case management) or "GRIP + treatment as usual." A variety of outcomes are being assessed, including social functioning, symptoms, substance use, recovery-oriented attitudes, goal attainment, and relapse/re-hospitalization. Based on lessons learned from our open trial, several modifications have been made in an effort to increase engagement, minimize treatment dropouts, and improve outcomes. GRIP therapists in the RCT are "keyworkers" at the OASIS Clinic, who also provide case management and serve as primary treatment contacts for all clients. This will ideally streamline the process of treatment for clients, who are often faced with the challenge of balancing multiple providers and services. In addition, GRIP is now being offered in a more flexible format (e.g., option of weekly or biweekly sessions) and therapists are able to meet with clients in the community (e.g., in clients' homes). This assertive outreach approach is frequently used in case management with first-episode clients (e.g., EPPIC, 2001), and we have now incorporated this perspective into the delivery of GRIP.

In consultation with study therapists, we have begun to make additional modifications to the treatment manual in order to better address the needs of first-episode clients. For example, a module on the psychological impact of a first episode, along with concomitant issues of grief and loss, has been added to Phase One of the treatment. In addition, some of

the structured, didactic material that was presented early on in the treatment has been pushed back in order to allow clients more unstructured time initially to tell their stories and process their experience.

Finally, consistent with the broader psychotherapy literature, a critical finding from our open trial is that clients recovering from an initial episode of psychosis are typically preoccupied with social/vocational issues and more general psychological concerns (e.g., "How has my future changed?" or "How will others react to me now?"), rather than psychotic symptoms alone. That is, residual psychotic symptoms are often not a primary concern for clients, although they have traditionally been the focus of treatment for psychotic disorders (Coursey et al., 1995). Indeed, despite the shared diagnoses of clients in our study, GRIP therapists worked with these individuals on a range of issues such as intimate relationships and interpersonal struggles, depression, anxiety, anger management, substance abuse, physical fitness, and adaptation to illness, to name a few.

Given this, it will be imperative that GRIP remains a comprehensive and flexible treatment program that emphasizes functional recovery and general psychological health in addition to illness management. With respect to the continued evolution of GRIP, this may correspond with the addition of new treatment modules (e.g., depression/anxiety), a less standardized ordering of treatment phases, and/or greater flexibility in the delivery of treatment. The steps described above represent initial modifications and improvements made to enhance the effectiveness and tolerability of GRIP; however, the treatment development process is a dynamic one that will continue to unfold as we gather more data from both clients and therapists. It is hoped that our efforts will be successful at keeping young clients engaged in treatment, and that the results of our RCT will add to a growing evidence base

supporting the efficacy of psychosocial interventions in facilitating symptomatic and

functional recovery in early psychosis.

APPENDIX

GRIP fidelity rating scale

GRIP Session Rating Scale

Therapist: _____   Client initials: _____Coder: _____

Session Number and Date: _____

Instructions:

For the particular session you have observed, please code therapist adherence and competence/quality as follows:

➢ Indicate the relevant session block/module that this particular session is from by writing in the appropriate code (e.g., 2A; using the criteria below).

➢ Given the relevant session block/module and associated objectives (detailed in the coding manual), rate the extent to which both the <u>specific</u> goals and <u>general</u> goals for the session were addressed by the therapist on the following scale:

1	2	3
Minimal/No	Partial	Comprehensive
Coverage	Coverage	Coverage

➢ Indicate whether a perceived protocol deviation seemed appropriate by writing "yes" or "no," or indicate "N/A" if no significant deviation occurred.

➢ Provide an overall quality rating for each session, reflecting how well you believe the therapist implemented the prescribed techniques, on the following scale:

1	2	3	4	5
Poor	Fair	Good	Very good	Excellent

Ratings for this session:

Session Block/Module: _____

       Specific Goal(s):   _____

       General Goals: _____

       Appropriate Deviation?   _____

       Overall Quality: _____

Phase-Specific Goals

Phase One: Engagement and Wellness-Management

- **1A**: Sessions 1-2
    - o Engage the client in treatment
    - o Conduct an initial clinical/psychosocial assessment and elicit client's narrative about his/her illness
- **1B**: Sessions 3-4
    - o Provide psychoeducation focused on psychosis and medication
- **1C**: Sessions 5-6
    - o Identify therapy goals
- **1D**: Sessions 7-8
    - o Develop medication adherence strategies (e.g., using motivational interviewing and/or behavioral tailoring)
- **1E**: Sessions 9-10
    - o Develop a relapse prevention plan (e.g., identifying warning signs, triggers, and coping strategies)

Phase Two: Substance Use

- **2A**: Sessions 11-12
    - o Provide psychoeducation on the negative consequences of drug and alcohol use
    - o Assess current substance use
- **2B**: Sessions 13-20 (if applicable): Part 1
    - o Conduct a functional analysis of substance use and instill motivation to reduce use (e.g., payoff matrix, motivational interviewing)
- **2C**: Sessions 13-20 (if applicable): Part 2
    - o Teach healthy alternatives to drugs/alcohol, teach skills for reducing vulnerability to use substances, and develop a substance use relapse prevention plan

Phase Three: Persistent Symptoms

- **3A**: Initial assessment
    - o Assess the presence/frequency/severity of current positive and negative symptoms
- **3B**: Delusions Module (if applicable)
    - o Reduce the conviction in and distress associated with delusions (e.g., increase cognitive flexibility, behavioral experiments, reality-testing)
- **3C**: Auditory Hallucinations Module (if applicable)
    - o Enhance coping strategies and decrease distress associated with auditory hallucinations (e.g., practice new coping strategies, identify antecedents, modify beliefs)
- **3D**: Negative Symptoms Module (if applicable)
    - o Reduce consequences of negative symptoms (e.g., inactivity; using behavioral and/or cognitive techniques)

Phase Four: Functional Recovery

- **4A**: Initial assessment
    - o Assess current functional deficits and self-concept
- **4B**: Social Skills Module (if applicable)
    - o Build relevant social skills through social skills training
- **4C**: Social Support, Recreation, Role Functioning Module (if applicable)
    - o Increase social support (e.g., new opportunities to meet people)
    - o Increase pursuit of recreational activities (e.g., activity scheduling)
    - o Strengthen role functioning (e.g., connect client with services)
- **4D**: Self-Esteem and Stigma Module (if applicable)
    - o Improve self-esteem (e.g., monitor positive qualities) and address stigma concerns

General Goals

Check-in regularly about: goal pursuit and achievement; homework; indigenous supporter (if applicable)

Table 1

Characteristics of selected comprehensive (i.e., multi-element) treatment programs for early psychosis

Program	Intake age range	In- and outpatient services?	Atypical anti-psychotic treatment[a]	Individual CBT and supportive therapy[b]	Group therapy	Family therapy	Case mgmt[c]	Community outreach/ early detection efforts
Early Psychosis Prevention and Intervention Centre (EPPIC) Melbourne, Victoria, Australia	15-25	x	x	X	x	x	x	x
Prevention and Early Intervention Program for Psychosis (PEPP) London, Ontario, Canada	16-50	x	x	X	x	x	x	x
Early Psychosis Treatment Program (EPTP) Calgary, Alberta, Canada	16-45	Outpatient only	x	X	x	x	x	x
Early Treatment and Identification of Psychosis (TIPS) project Norway and Denmark	18-65	Outpatient only	x	ST only		x	x	x

Note. [a] All programs initially prescribe low doses of atypical antipsychotic medication as first- line pharmacological treatment. [b] CBT = cognitive-behavioral therapy. [c] Most programs adhere to an assertive case management model, in which a case manager coordinates all treatment for the client, serves as primary contact for the program, and may also assist with vocational and/or housing needs.

Table 2

Summary of studies evaluating the effectiveness of specific psychosocial treatments for early psychosis

Study	N	Intervention[i]	Comparison Group[ii]	Treatment Length/ Follow-up (in months)	OUTCOMES[iii]				
					Positive Symptoms[iv]	Negative Symptoms[v]	Relapse & Rehosp.[vi]	Social Functioning/ QOL[vii]	Other Outcomes
RANDOMIZED CONTROLLED TRIALS									
Individual Interventions									
Haddock et al., 1999	21+	Individual CBT	Supportive counseling	5 weeks; booster sessions over 4 months	=	NA	=	NA	
Lewis et al., 2002	309+	Individual CBT	Supportive counseling (SC) Routine care	5 weeks; booster sessions over 3 months	=	NA	NA	NA	Trend for CBT group to improve fastest; Auditory hallucinations responded better to CBT vs. SC
Jolley et al., 2003	21+	Individual CBT	Routine care	6 months (mean=11 sessions)	=	NA	=	NA	Less time in hospital for CBT group
Power et al., 2003	56** *Acute suicidality*	Individual CBT ("LifeSPAN") at EPPIC	EPPIC services w/o LifeSPAN	8-10 sessions; 6 month follow-up	=	=	NA	+	LifeSPAN > control for helplessness; both groups improved on suicidal ideation and attempts

Study	N	Intervention[i]	Comparison Group[ii]	Treatment Length/ Follow-up (in months)	OUTCOMES[iii]				
					Positive Symptoms[iv]	Negative Symptoms[v]	Relapse & Rehosp.[vi]	Social Functioning/ QOL[vii]	Other Outcomes
Wang et al., 2003	251*	Individual CBT	Routine care (RC)	2 year follow-up	+	NA	+	NA	CBT>RC for insight, treatment adherence
Kavanagh et al., 2004	25++	Motivational Interviewing (MI)	Standard Care (SC)	7-10 days; 12 month follow-up	NA	NA	NA	NA	MI group had significantly better substance-use outcomes at 6 months than SC
Tarrier et al., 2004	225+	Individual CBT	Supportive counseling (SC) Routine care (RC)	18 month follow-up of Lewis et al., 2002	CBT=SC CBT/SC >RC	NA	=	NA	Auditory hallucinations responded better to CBT vs. SC
Edwards et al., 2006	47**	Individual CBT (CAP) at EPPIC	Psychoeducation	10 sessions; 6 month follow-up	=	=	NA	=	Significant decrease in cannabis use in both groups, no significant group differences in cannabis use.
Tarrier et al., 2006	278+	Individual CBT	Supportive counseling (SC) Routine care (RC)	18 month follow-up of Lewis et al., 2002	NA	NA	NA	NA	No beneficial or adverse effects of intervention on suicide behavior. Higher psychotic symptom levels, poorer functioning, depression and low-self esteem associated with a higher severity of suicide behavior.

Study	N	Intervention[i]	Comparison Group[ii]	Treatment Length/ Follow-up (in months)	OUTCOMES[iii]				Other Outcomes
					Positive Symptoms[iv]	Negative Symptoms[v]	Relapse & Rehosp.[vi]	Social Functioning/ QOL[vii]	
Family Interventions									
Zhang et al., 1994	83*	Family therapy	Routine Care	18 months	+ (in patients not admitted to hospital)	NA	+	+ (in patients not admitted to hospital)	Family group spent less time in hospital
Linszen et al., 1996	76+	Behavioral family therapy (and individual therapy)	Individual therapy only	12	NA	NA	=	NA	Family therapy associated with slightly higher relapse rates (nonsig differences) among low expressed emotion families
Lenior et al., 2001	73+	Behavioral family therapy (and individual therapy)	Individual therapy only	5 year follow-up to Linszen et al., 1996	NA	NA	=	=	Family therapy group spent less time in hospitals; 65% of all patients relapsed at least once in 5 years.
Lenior et al., 2002	73+	Behavioral family therapy (and individual therapy)	Individual therapy only	5 year follow-up to Linszen et al., 1996	NA	NA	=	NA	No differential effect of family therapy on expressed emotion
Leavey et al., 2004	106**	Carer-focused psychoeducation	Treatment as usual (TAU)	7 sessions; 9 month follow-up	NA	NA	=	NA	No significant differences in satisfaction with services or perceived severity of illness for carers

Study	N	Intervention[i]	Comparison Group[ii]	Treatment Length/ Follow-up (in months)	Positive Symptoms[iv]	Negative Symptoms[v]	Relapse & Rehosp.[vi]	Social Functioning/ QOL[vii]	Other Outcomes
						OUTCOMES[iii]			
QUASI-EXPERIMENTAL TRIALS									
Individual Interventions									
Jackson et al., 1998	80**	Individual CBT ("COPE) at EPPIC	EPPIC services w/o COPE (refusers) / EPPIC inpatient care only (control)	12 months (median=19 sessions)	=	COPE > control	=	COPE> control	COPE > refusers and control for adaptation to illness; COPE>control for insight/attitudes toward treatment
Jackson et al., 2001	51**	Individual CBT ("COPE) at EPPIC	EPPIC services w/o COPE (refusers) / EPPIC inpatient care only (control)	12 month follow-up of Jackson et al., 1998	=	=	=	=	COPE > refusers for adaptation to illness
Jackson et al., 2005	91**	Individual CBT ("COPE) at EPPIC	EPPIC services w/o COPE (NO-COPE)	4 year follow-up of Jackson et al., 1998	=	=	=	=	Over 4 year follow-up, 50% of patients in COPE group and 44% of patients in NO-COPE group were rehospitalized.
Family Interventions									
Lehtinen, 1993	81+	Family-oriented treatment	Individual-oriented treatment (historical control)	5 year follow-up	+	NA	+	NA	Family group spent less time in hospital

Study	N	Intervention[i]	Comparison Group[ii]	Treatment Length/ Follow-up (in months)	OUTCOMES[iii]				
					Positive Symptoms[iv]	Negative Symptoms[v]	Relapse & Rehosp.[vi]	Social Functioning/ QOL[vii]	Other Outcomes
Group Interventions									
Albiston et al., 1998	95**	EPPIC group program	EPPIC services w/o groups	Multiple groups/wk; 6 month follow-up	NA	=	NA	=	Note: At baseline, group participants had lower premorbid functioning and trend toward more negative symptoms
Miller & Mason, 2001	77*	Group therapy	Individual therapy	1x/week for 2 years	NA	NA	NA	NA	Group therapy associated with better treatment adherence (i.e. fewer dropouts)
SINGLE GROUP TRIALS									
Lecomte et al., 2003	5*	Group CBT	NA	2x/week for 3 months	NA	NA	NA	NA	Group therapy associated with high treatment satisfaction and decrease in psychotic symptoms

Note. * = Nonaffective FE psychosis, ** = Nonaffective and affective FE psychosis, + = Nonaffective early psychosis, ++ = Nonaffective and affective early psychosis (where nonaffective psychoses were schizophrenia spectrum disorders, and affective psychoses were mood disorders with psychotic features.)

[i] Elements of the EPPIC intervention are shown in Table 1. Psychosocial treatments were always adjunctive to pharmacological treatment unless otherwise noted.

[ii] Routine care was primarily medication management.

[iii] For "Outcomes": "+" indicates that patients in the intervention program did significantly better than the comparison group(s) in studies with an experimental or quasi-experimental design or that there was significant improvement over time in studies with a single-group design. "=" denotes no significant difference between the intervention and comparison groups in studies with an experimental or quasi-experimental design or that there was no change over time in studies with a single-group design.

[iv] Measures were the Brief Psychiatric Rating Scale, Psychotic Symptom Rating Scales, Positive and Negative Syndrome Scale, and chart notes.

[v] Measure was the Scale for the Assessment of Negative Symptoms

[vi] Relapse was variably defined as change in patient management (per medical records), hospital admission, and Score on the Life Chart Schedule.

[vii] Measures were the Quality of Life Scale, Global Assessment of Functioning Scale score, and Life Chart Schedule.

Table 3

Characteristics of recovery from psychosis

Elements of recovery	
Illness-management (e.g., medication adherence, coping skills, relapse prevention)	
Optimism and sense of control over illness	
Functional recovery and "moving beyond" illness	
Facilitators of recovery	
Fixed (prior to therapy)	*Malleable*
Good premorbid functioning	Medication adherence
Female gender	Increased knowledge of illness
Later age of onset	Improved coping skills
Higher socioeconomic status	Relapse prevention plan
Shorter duration of untreated psychosis	No substance use
Better initial response to medication	Management of residual symptoms
	Hope, optimism, and high self-esteem
	Pursuit of relevant goals
	Improved social/occupational functioning

Table 4

Overview of the Graduated Recovery Intervention Program (GRIP)

Treatment phase (# sessions)	Goals	Strategies
Engagement and wellness-management (10)	Engagement	• Introduce client to treatment • Elicit client's personal experience with illness • Identify indigenous supporter
	Psychoeducation	• Handouts on psychosis and medication • Introduce stress-vulnerability model • Integrate client's personal experience
	Goal setting	• Identify short- and long-term goals • Use scaling techniques
	Improve medication adherence	• Evaluate attitudes toward medication • Behavioral tailoring and motivational techniques
	Develop relapse prevention plan	• Identify warning signs, triggers, and coping strategies
Substance use (2-10)	Psychoeducation	• Handout on effects of substance use • Integrate client's personal experience
	Increase motivation to decrease substance use	• Motivational interviewing
	Develop substance use relapse prevention plan	• Identify healthy alternatives to substance use • Identify high-risk situations and coping skills/strategies
Residual symptoms (flexible; up to 12)	Reduce conviction in delusional beliefs	• Increase cognitive flexibility • Behavioral experiments • Reality-testing

	Reduce distress associated with auditory hallucinations	• Identify antecedents and consequences of voices • Identify and practice adaptive coping strategies • Interpersonalize voices/modify beliefs • Behavioral experiments
	Reduce effects of negative symptoms	• Activity scheduling/behavioral activation
Functional recovery (flexible; up to 24)	Improve social skills and social support	• Social skills training • Problem-solving • Discussion of relationship issues
	Strengthen role-functioning (i.e., school/work performance)	• Problem-solving • Break down larger goals • Connect clients to services (e.g., supported employment)
	Increase leisure activity	• Activity scheduling
	Improve self-esteem	• Encourage pursuit of goals • Address stigma • Foster hope and optimism • Monitor positive qualities

Table 5

Baseline characteristics of sample for GRIP open trial (N = 10)

Gender (*n*)	
Males	7
Females	3
Ethnicity (*n*)	
Caucasian	6
African-American	2
Other	2
Age (years)[a]	25 ± 5
Education (*n*)	
Did not complete high school	1
High school diploma/GED	1
Some college	7
College degree	0
Advanced degree (e.g., Ph.D.)	1
Marital status (*n*)	
Never married	9
Married	1
Primary diagnosis (*n*)	
Schizophrenia	5
Schizoaffective	1
Schizophreniform	4
Comorbid diagnoses (*n*)	
Substance abuse	3
Anxiety disorder	1
Major depression	1
Duration of untreated illness (months)[b,c]	13
Duration of untreated psychosis (months)[b,d]	3
Number of previous hospitalizations (*n*)	
None	5
One	3
Two	2
Medication usage (*n*)	
Atypical antipsychotic	10
Mood stabilizer	1
Antidepressant	3
Anxiolytic (i.e., benzodiazepine)	1
Other	3

[a] $M \pm SD$. [b] Median. [c] Duration of untreated illness = approximate length of time between patient-reported onset of first prodromal symptoms and initiation of antipsychotic medication. [d] Duration of untreated psychosis = approximate length of time between patient-reported onset of active psychosis (i.e., DSM-IV schizophrenia criterion "A") and initiation of antipsychotic medication.

Table 6

Summary of revisions made to the GRIP manual

Introduction
- Added sections on: - Aims of GRIP and focus on goals   - Confidentiality   - Liaising with treatment team   - Working with families   - Assessment (including recommended instruments)   - Suicide assessment and prevention in first episode psychosis (FEP)   - Termination issues in FEP   - Enhanced section on developing alliance in FEP   - Clarified: rationale for 4-phase approach; target population; recommended flow of treatment and need to prioritize pressing concerns; ways of incorporating homework, indigenous supporters, and goals on an ongoing basis

Phase One
- Added: - Section on initial clinical/psychosocial assessment   - References (web sites, fact sheets, videos) for psychoeducation, including resources for family/friends   - Further guidance regarding questions of diagnosis, prognosis, medication   - Clarified that GRIP can be presented as "*up to* 36 sessions" if clients are not keen on idea of 9 months of treatment at beginning   - Expanded on motivational interviewing information

Phase Two
- Added section on: dealing with ongoing substance use following end of the phase and developing realistic expectations (i.e., harm reduction vs. abstinence)   - Provided additional guidance on addressing denial and/or minimization of use   - Emphasized that substance use will need to be addressed on an ongoing basis in many clients   - Expanded on psychoeducational material (including references for clients explaining why substances are harmful) and motivational interviewing information   - Highlighted key drugs in FEP (i.e., cannabis and alcohol), and provided

sample dialogue discussing these drugs • Clarified nature of optional sessions (i.e., need all eight for current abuse)

Phase Three
• Added: assessment section; overview/outline of problem areas with recommended techniques; general guidelines for working with multiple problem areas and when to move on • Expanded negative symptoms section to include: more background information; new technique: cognitive restructuring of self-defeating beliefs; tips for working with negative symptoms in early psychosis

Phase Four

• Added: assessment section; overview/outline of problem areas with recommended techniques; general guidelines for working with multiple problem areas and when to move on
• Expanded on social skills training (SST) module by adding:
    o Assessment section
    o General principles of SST
    o Several common skills deficits and steps involved
    o Guidelines for evaluation of SST
    o Reference to revised (2004) Bellack book
• Expanded on social support module by providing guidance on strengthening existing relationships/increasing closeness
• Provided overview of supported employment programs in role functioning module

General/miscellaneous

• Added:
    o Troubleshooting section
    o Glossary of core techniques
• Expanded on instructional material for variety of techniques
• Highlighted challenges of working with FE population, including high suicide risk and need to assess
• Provided additional guidance on prioritizing pressing client concerns and addressing ongoing problems (e.g., substance use, medication non-adherence)
• Re-designed some worksheets/handouts to make more user-friendly

Table 7

Baseline differences on selected variables between treatment completers and non-completers

	Completers ($n = 6$)	Non-completers ($n = 4$)
Age (years)	29	22
Duration of untreated illness (months)	12	18.5
Duration of untreated psychosis (months)	1	8.5
SFS - social engagement	12.5	8.5
SFS - prosocial	13.5	10.5
SFS - total	121	112.5
PANSS - total	56	59
MSPSS*	43	31

Note. All values reported are median values. Visual inspection of baseline data was conducted to identify domains with potentially meaningful between-group differences. "Completers" attended at least 12 sessions of therapy; "Non-completers" attended fewer than 12 sessions of therapy. Duration of untreated illness = approximate length of time between patient-reported onset of first prodromal symptoms and initiation of antipsychotic medication. Duration of untreated psychosis = approximate length of time between patient-reported onset of active psychosis (i.e., DSM-IV schizophrenia criterion "A") and initiation of antipsychotic medication.

SFS = Social Functioning Scale. PANSS = Positive and Negative Syndrome Scale. MSPSS = Multidimensional Scale of Perceived Social Support.

* $p < .05$

Table 8

Means (S.D.) for all continuous outcome variables in GRIP open trial

	SFS total		PANSS positive		PANSS negative		PANSS general		PANSS total		MSPSS		CDSS		BEMIB	
	B	*P*	*B*	*P*	*B*	*P*	*B*	*P*	*B*	*P*	*B*	*P*	*B*	*P*	*B*	*P*
All (*N* = 9)	116.4 (21.1)	119.8 (23.4)	13.6 (3.1)	11.1 (4.0)	15.2 (5.2)	14.6 (6.0)	28.3 (6.0)	26.7 (6.9)	57.1 (10.9)	52.3 (14.1)	40.1 (7.8)	39.0 (12.6)	3.8 (4.4)	2.4 (1.7)	30.9 (4.4)	30.6 (3.9)
Completers (*n* = 6)	115.9 (24.3)	126.9 (21.4)	13.0 (3.3)	10.0 (3.2)	15.7 (6.1)	13.2 (4.6)	29.0 (7.4)	25.2 (6.7)	57.7 (12.8)	48.3 (10.1)	43.3 (7.2)	42.7 (12.0)	3.5 (5.3)	2.2 (1.8)	30.7 (5.0)	32.0 (4.0)
Non-completers (*n* = 3)	117.5 (17.4)	105.6 (24.1)	14.7 (3.1)	13.3 (5.1)	14.3 (3.5)	17.3 (8.5)	27.0 (2.0)	29.7 (7.6)	56.0 (7.9)	60.3 (19.9)	33.7 (4.7)	31.7 (12.4)	4.3 (2.5)	3.0 (1.7)	31.3 (4.0)	27.7 (1.2)

Note. B = baseline; *P* = post-test. "Completers" attended at least 12 sessions of therapy; "Non-completers" attended fewer than 12 sessions of therapy.

SFS = Social Functioning Scale. PANSS = Positive and Negative Syndrome Scale. MSPSS = Multidimensional Scale of Perceived Social Support. CDSS = Calgary Depression Scale for Schizophrenia. BEMIB = Brief Evaluation of Medication Influences and Beliefs.

Table 9

Within-group effect sizes for continuous outcome variables in GRIP open trial

	SFS total	PANSS positive	PANSS negative	PANSS general	PANSS total	MSPSS	CDSS	BEMIB
All (*N* = 9)	.16 (.10)	.78 (.66)	.13 (.12)	.28 (.26)	.44 (.38)	-.14 (-.10)	.31 (.38)	-.10 (-.08)
Completers (*n* = 6)	.45 (.48)	.91 (.92)	.41 (.46)	.52 (.54)	.73 (.80)	-.10 (-.07)	.25 (.31)	.27 (.28)
Non-completers (*n* = 3)	-.70 (-.57)	.44 (.26)	-.85 (-.03)	-1.34 (-.34)	-.55 (-.02)	-.42 (-.22)	.53 (.61)	-.91 (-.75)

Note. A positive effect size indicates improvement, and a negative effect size indicates deterioration. Values reported represent conventional estimates of Cohen's *d* and corrected estimates of Cohen's *d* (in parentheses; using methods recommended by Dunlap et al., 1996). "Completers" attended at least 12 sessions of therapy; "Non-completers" attended fewer than 12 sessions of therapy.

SFS = Social Functioning Scale. PANSS = Positive and Negative Syndrome Scale. MSPSS = Multidimensional Scale of Perceived Social Support. CDSS = Calgary Depression Scale for Schizophrenia. BEMIB = Brief Evaluation of Medication Influences and Beliefs.

Table 10

Clinically significant change on the PANSS

	Completers (*n*)		Non-completers (*n*)	
	20% reduction	*50% reduction*	*20% reduction*	*50% reduction*
Positive symptoms	3	1	1	0
Negative symptoms	3	1	0	0
General symptoms	2	0	0	0
Total score	2	0	0	0

Note. Per convention, a 20% decrease on a PANSS subscale is defined as "clinically significant change" (e.g., Cather et al., 2005). "Completers" attended at least 12 sessions of therapy; "Non-completers" attended fewer than 12 sessions of therapy.

PANSS = Positive and Negative Syndrome Scale.

Table 11

Feedback on GRIP from participants and therapists

Item	Response[a]					
	"1" (% of respondents)		"2" (% of respondents)		"3" (% of respondents)	
	completers	non-completers	completers	non-completers	completers	non-completers
Participant ratings[b]						
How useful was GRIP to you?	0	67	17	33	83	0
How would you rate quality and service in GRIP?	0	67	17	33	83	0
Was the program respectful to you?	0	0	0	100	100	0
How much did GRIP help with your symptoms?	0	67	67	33	33	0
How much did GRIP help with your recovery?	0	67	33	33	67	0
Did GRIP cover the right amount of information?	0	33	0	0	100	67
Were the materials in GRIP easy to understand?	0	0	33	100	67	0
Overall, did GRIP meet your therapy needs?	0	33	33	67	67	0
Therapist ratings[c]						
Overall, how helpful was the GRIP manual?	0		56		44	
Did the GRIP educational handouts cover the right amount of information?	11		0		89	
How much did the	33		67		0	

program help you support your clients in managing their psychiatric symptoms?			
How much did the program help you support your clients in moving forward with their recovery?	33	56	11
How much would you recommend the GRIP manual and materials to another practitioner?	0	22	78

Note. [a] All items were rated from 1-3, with 1 indicating most negative response (e.g., "not at all helpful," "poor service," "difficult to understand") and 3 indicating most positive response (e.g., "very helpful," "excellent service," "very easy to understand").
[b] Participant ratings are categorized by treatment completion status. "Completers" attended at least 12 sessions of therapy ($n = 6$); "Non-completers" attended fewer than 12 sessions of therapy ($n = 3$).
[c] All five therapists completed a feedback form for each client who completed a post-treatment assessment ($N = 9$); thus, results shown are percentages of responses from 9 feedback forms.

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