

## The Graduated Recovery Intervention Program for First Episode Psychosis: Treatment Development and Preliminary Data

Evan J. Waldheter · David L. Penn · Diana O. Perkins · Kim T. Mueser ·  
Leanne Whaley Owens · Elizabeth Cook

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**Abstract** 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 psychosis. In this paper, the treatment development process of GRIP is described and data from an open feasibility trial are presented. Findings suggest clinical and psychosocial benefits associated with GRIP, and the treatment was well-received by clients and therapists. The retention rate of 67%, however, suggests the need for protocol modifications to improve engagement. Initial data on the efficacy of GRIP are encouraging, although the study design precludes more robust conclusions at this time.

**Keywords** Psychosocial treatment · Early psychosis · Functional recovery

There is a growing consensus that sustained and targeted intervention early in the course of psychotic disorders is essential in order to facilitate recovery from a first episode, reduce the risk of relapse and re-hospitalization, and

minimize psychosocial deterioration (Bertolote and McGorry 2005; Birchwood et al. 1998; Norman et al. 2005). Most individuals experiencing their first episode are responsive to treatment with antipsychotic medication, particularly regarding psychotic symptoms (Bradford et al. 2003). Nevertheless, the benefits of medication in early psychosis are tempered by several clinical realities, including high rates of side effects and medication non-adherence (Addington et al. 2003; Perkins 1999), persistent positive and negative symptoms (Edwards et al. 2002; Mayerhoff et al. 1994), high rates of substance use (Edwards et al. 2003; Green et al. 2004), and pervasive emotional distress, including depression and suicidality (Birchwood 2003; Power 2004).

Moreover, even with optimal pharmacotherapy and symptom remission, there is poor functional recovery in early psychosis (Robinson et al. 2004; Tohen et al. 2000; Whitehorn et al. 2002). This is particularly problematic because deficits in social and occupational functioning have been associated with greater risk for relapse and poorer long-term prognosis (Birchwood et al. 1998; Hoffmann and Kupper 2002). Young people experiencing their first psychotic episode are at risk for lagging behind peers regarding developmental 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). To address these issues, there has been growing interest in employing adjunctive psychosocial interventions as a core component of treatment for recent onset psychosis (Lewis et al. 2005; McGorry 2004).

In this paper, we describe the development and initial pilot testing of a novel individual therapy program for first episode psychosis, the “Graduated Recovery Intervention Program” (GRIP). The development of GRIP consisted of

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E. J. Waldheter · D. L. Penn (✉)  
Department of Psychology, University of North Carolina  
at Chapel Hill, Davie Hall, CB # 3270, Chapel Hill,  
NC 27599-3270, USA  
e-mail: dpenn@email.unc.edu

D. O. Perkins · L. W. Owens · E. Cook  
Department of Psychiatry, University of North Carolina  
at Chapel Hill, Chapel Hill, NC, USA

K. T. Mueser  
Dartmouth Medical School, Hanover, NH, USA

three phases: (1) treatment conceptualization, (2) treatment standardization (i.e., manual development), and (3) pilot testing (i.e., open feasibility trial and small randomized controlled trial). This stepwise process is consistent with recommendations for the development of manualized treatments (Carroll and Nuro 2002; Mueser and Drake 2005; Rounsaville et al. 2001). Below, we provide an overview of the treatment development process, and report preliminary outcome data from an open trial of GRIP.

## Methods

### Treatment Conceptualization

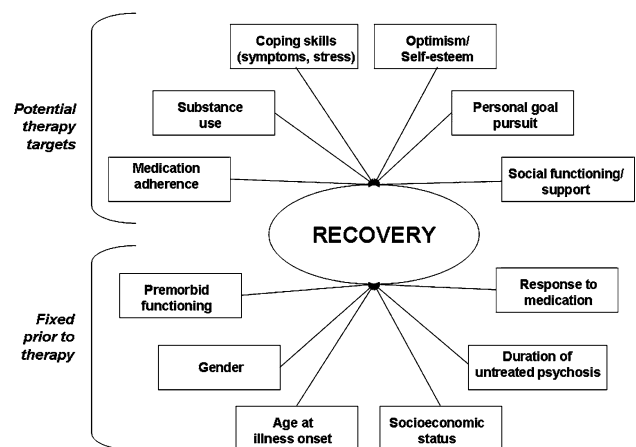
Reviews of research suggest that psychosocial interventions assist both symptomatic and functional recovery from early psychosis (Haddock and Lewis 2005; Penn et al. 2005). Specifically, empirical support for individual cognitive-behavioral therapy (CBT) in early psychosis is modest yet encouraging, especially regarding symptom improvements (particularly positive symptoms), adaptation to one's illness, and increased quality of life (Jackson et al. 2001b; Power et al. 2003; Tarrier et al. 2004). This is consistent with research on the efficacy of CBT in the treatment of chronic psychotic disorders (Gaudio 2005; Tarrier 2005; Turkington et al. 2006). Given the potential for CBT to play an important role in facilitating recovery from a first episode, researchers have called for its integration into early psychosis services (Addington and Gleeson 2005; Lewis et al. 2005).

Our reviews of the literature also revealed limitations of existing individual interventions. First, the targets of extant individual therapy approaches for an early psychosis population are rather narrowly defined, and treatments have historically only emphasized one or two areas of concern for individuals recovering from a first episode, such as symptoms (Lewis et al. 2002) or substance use (Edwards et al. 2003). Second and more importantly, current psychosocial interventions fail to effectively target functional recovery after a first episode. It has been well documented that significant functional deficits are prevalent early in the course of psychotic illnesses, 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 (International Early Psychosis Association Writing Group 2005; McGorry 2004).

In addition to recognizing the challenges experienced by an early psychosis population (e.g., substance use, persistent symptoms, functional impairments), we sought to identify facilitators of recovery from psychosis, with the objective of establishing treatment targets for our new

intervention. Most recent definitions of recovery from severe mental illness emphasize three broad elements: effective illness management, optimism and a sense of control over one's illness, and functional recovery (e.g., meaningful relationships, academic/occupational functioning, independent living) (Lieberman et al. 2002; Noordsy et al. 2002; Spaniol et al. 2002). We sought to design an intervention to facilitate improvement in all three of these domains.

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. Some of these are fixed or unchangeable by the time an individual presents for therapy following resolution of an initial psychotic episode (e.g., age, gender, duration of untreated psychosis). Many of these predictors are malleable and thus potential targets of treatment, such as illness management strategies (e.g., medication adherence), abstinence from substance use, effective management of residual positive and negative symptoms, optimism and high self-esteem, pursuit of personal goals, and good social functioning (Edwards et al. 2004; Noordsy et al. 2002; Spaniol et al. 2002) (see Fig. 1). Taking both facilitators and barriers to recovery in early psychosis into account, we concluded that the following domains should be addressed in a comprehensive and effective psychosocial treatment: illness management, substance use, residual symptoms, self-esteem, and social/occupational functioning. Given the heterogeneity of early psychosis, we believed that the treatment should be flexible and individually tailored to clients (Addington and Gleeson 2005). Above all else, we recognized that clients recovering from their first episode should be encouraged to adapt to their illness, increase self-efficacy and hope, and move forward by setting and achieving meaningful goals (Hoffmann and Kupper 2002).



**Fig. 1** Predictors of recovery from severe mental illness

Finally, we sought to identify evidence-based intervention strategies for our proposed treatment targets. Our reviews of the literature indicated that several treatment approaches should be integrated into the program, including CBT for psychosis (Kingdon and Turkington 2004), integrated treatment for comorbid substance use disorders (Mueser et al. 2003), motivational interviewing (Miller and Rollnick 2002), social skills training (Bellack et al. 2004), and various components of the Illness Management and Recovery program for severe mental illness (Mueser et al. 2002, 2006).

## Treatment Standardization

### *GRIP Manual Development*

Following the treatment conceptualization process, an initial draft of the GRIP treatment manual was written, based on best practice guidelines for psychotherapy development (Carroll and Nuro 2002). As a critical next step in the treatment development process, the preliminary GRIP treatment manual was revised based on input from researchers, clinicians, and individuals with first episode psychosis, which is a recommended approach for bridging the gap between research and practice (Westen 2002). The manual development team for GRIP consisted of the following researcher consultants: Jane Edwards, Ph.D. (EPPIC in Australia), Jean Addington, Ph.D. (University of Toronto), and Alan Bellack, Ph.D. (University of Maryland). Clinician consultants for GRIP included two clinical social workers in the University of North Carolina at Chapel Hill (UNC) Department of Psychiatry, and client consultants were three outpatients (two men, one woman) who had recently experienced a first episode of psychosis. All consultants were paid for their time and effort.

The GRIP manual was distributed to the consultants, who completed standardized rating forms that assessed several domains (e.g., manual organization, clinical vignettes, and handouts). Each consultant also participated in teleconferences or face-to-face meetings to further elaborate on his/her comments, and all recommendations were compiled and reviewed by the treatment developers. Consultant feedback was evaluated for common themes, and, in the case of contradictory suggestions, consensus agreement was reached through discussion amongst GRIP investigators. Based on this review of consultant feedback, revisions were then made to the GRIP manual, in preparation for an open trial of the intervention.

### *Overview of GRIP Program*

**Treatment Aims and Phases** GRIP is a comprehensive, flexible cognitive-behavioral therapy program that aims to

enhance illness management and facilitate functional recovery following a first episode of psychosis. GRIP is provided on an individual, weekly basis for up to 36 sessions, and is comprised of four phases: (1) engagement and wellness management; (2) substance use; (3) persistent symptoms; and (4) functional recovery. In addition to phase-specific content, the GRIP program places an emphasis in all sessions on personal goal pursuit to foster optimism and self-esteem, and on the enlistment of external social support to maximize therapeutic gains and engagement. (The treatment manual is available upon request from DLP.)

The first 12 sessions of GRIP (i.e., psychoeducation, goal setting, illness management and relapse prevention) are relatively standardized with respect to treatment foci. After 12 sessions have been completed, progress is evaluated and the client and therapist collaboratively determine whether additional treatment is necessary. The remaining sessions are flexible and individually tailored to the needs of the client. Therapists are encouraged to follow the prescribed order of treatment phases; however, pressing client concerns are always prioritized, regardless of phase. Based on an individual assessment, clients can receive assistance with current substance use problems (phase two), persistent positive and/or negative symptoms (phase three), and functional impairments (phase four). A more detailed description of each treatment phase follows (see Table 1 for a summary).

**Phase One: Wellness Management** The goals of this phase of GRIP are engage the client in treatment, conduct an initial clinical and psychosocial assessment, have clients identify someone who can help apply the skills learned in therapy to their everyday lives (i.e., an “indigenous supporter”), provide information on psychosis and treatment options, help the client to identify treatment goals, develop medication adherence strategies, and formulate a relapse prevention plan. To accomplish these goals, GRIP prescribes a variety of evidence-based techniques, including psychoeducation (e.g., stress-vulnerability model of psychosis), motivational interviewing and behavioral tailoring to facilitate treatment adherence and assist the client in incorporating medication into his/her daily routine, and identification of the warning signs and triggers of relapse, along with the development of coping strategies (Mueser et al. 2002; Spencer et al. 2001; Zygmunt et al. 2002). To facilitate the generation of personal goals, GRIP therapists try to help clients identify areas in their lives that they wish to improve (e.g., relationships, role functioning, self-care). They then work with clients to translate those broad problem areas into concrete, specific, and measurable goals for treatment. Clients are encouraged to work towards these goals throughout treatment.

**Table 1** Overview of the Graduated Recovery Intervention Program (GRIP)

Treatment phase (# sessions)	Goals	Strategies
Wellness-management (10)	Engagement	Introduce client to treatment Elicit client's personal experience with illness Identify external supporter
	Psychoeducation	Handouts on psychosis and medication Introduce stress-vulnerability model Integrate client's personal experience
	Goal setting	Identify short- and long-term goals
	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

*Phase Two: Substance Use* The goals of this phase of GRIP are provide psychoeducation on the harmful effects of alcohol and illicit drugs on the symptoms, course, and treatment of psychosis (two sessions for all clients), as well as provide treatment for current substance use behavior (eight additional sessions if applicable). To address this, the therapist conducts 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 employ motivational interviewing for clients who are resistant to reducing their substance use (Miller and Rollnick 2002). The final component of this treatment phase involves the therapist and client working

together to develop a plan for maintaining abstinence (Bellack and DiClemente 1999; Mueser et al. 2003). If a client is not yet abstinent or motivated to reduce substance use by the end of this phase, the therapist provides ongoing assistance regarding this concern throughout the rest of GRIP. Overall, this phase is consistent with recommended approaches for the psychosocial treatment of substance use disorders comorbid with psychosis (Bellack and DiClemente 1999; Drake et al. 2004; Mueser et al. 2003).

*Transition Point* After 12 sessions of GRIP, clients and therapists assess progress regarding personal goal achievement, and discuss whether to continue with

treatment. This decision is *collaborative*, and depends 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 are encouraged to continue with the rest of the program, since later sessions focus primarily on functional recovery (the core objective of GRIP); however, for clients who possess limited motivation to continue, and/or who have achieved all of their initial therapy goals, this may serve as a natural termination point. Given that the first 12 sessions of GRIP cover critical illness management and psychoeducational content, they are deemed the "minimum effective dose" of the program. This determination was based on feedback from consultants during the manual development phase. Thus, clients who complete 12 or more sessions of GRIP are identified as "treatment completers," while clients who complete fewer than 12 sessions are identified as "treatment non-completers."

Following phase two, therapists can proceed to phase three to address residual symptoms, or may proceed directly to phase four to address functional impairments, if symptoms are not problematic. These final two phases of GRIP are described next.

*Phase Three: Persistent Symptoms* The primary goal of this phase of GRIP is to reduce distress and/or impairment caused by residual positive and negative symptoms. GRIP has separate modules for addressing delusions, auditory hallucinations, and negative symptoms, all of which draw upon best practices in CBT for psychosis. Treatment of delusions employs three strategies: enhancing cognitive flexibility through generation of alternative explanations for a variety of situations, conducting behavioral experiments to "test out" one's beliefs, and examining the internal consistency of one's beliefs (Chadwick et al. 1996; Fowler et al. 1995; Kingdon and Turkington 2004). GRIP prescribes three primary strategies for addressing auditory hallucinations: coping strategy enhancement (i.e., identifying antecedents of voices and learning more adaptive coping strategies) (Tarrrier et al. 1993), interpersonalizing voices (i.e., modifying interpretations of voices) (Chadwick et al. 1996), and behavioral experiments. Finally, negative symptoms are addressed in GRIP through targeting the consequences of such symptoms, including low activity and social withdrawal, through behavioral activation and cognitive restructuring (Falzer et al. 2004).

*Phase Four: Functional Recovery* A primary objective of GRIP is to facilitate functional recovery, and this final treatment phase is dedicated to addressing several core functional deficits. Separate treatment modules address: social skills and social support, role functioning, recreational activity, and self-esteem/stigma. As with previous

phases, treatment is individually tailored to the client's specific needs and concerns, and is focused on helping clients achieve their personal goals.

Social skills training (SST) is a large component of this treatment phase, and targets deficits in specific social behaviors, such as poor eye contact, as well as more complex deficits, such as poor conversational ability (Bellack et al. 2004). Overall, SST for individuals with psychotic disorders has been shown to be effective at improving social skills, with associated increases in self-efficacy and modest improvements in social functioning (Bellack 2004; Heinssen et al. 2000). In order to assist clients with their role functioning (e.g., as student or employee), GRIP therapists liaise with community agencies as well as clients' treatment teams in order to help connect clients to appropriate services (e.g., supported employment). In addition, to facilitate leisure activity outside of school/work, the therapist has the client identify hobbies or interests that he/she previously enjoyed. Activity scheduling is employed, akin to CBT for depression (Beck 1995).

Low self-esteem is pervasive in early psychosis and can interfere with social re-integration (Bassett et al. 2001). To address this, GRIP prescribes an approach developed by Tarrrier and colleagues in the UK, which aims to boost self-esteem by focusing attention on an individual's positive qualities (Hall and Tarrrier 2003). Finally, the stigma of severe mental illness 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, including psychoeducation to clarify misconceptions and foster hope, and empowering clients to become advocates for mental illness and educate friends and family members. Further, therapists can assist clients with evaluating the pros and cons of self-disclosing their illness to others, and can practice this through in-session role-plays.

## Pilot Testing of GRIP: Open Feasibility Trial

### *Study Overview and Design*

GRIP was evaluated in an uncontrolled, pre-post design and was offered as an adjunct to routine care (i.e., anti-psychotic 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, and completed baseline and post-treatment assessments.

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 2 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 psychosis due to brain lesion or other medical/organic reasons were excluded), (4) less than 1 year of treatment for psychosis, (5) clinically stable (i.e., outpatient for at least 1 month), (6) IQ > 70, (7) willing and able to provide informed consent, and (8) currently receiving routine care at 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 et al. 1996). Raters were trained to conduct the SCID-I to a gold standard of reliability ( $\kappa > .80$ ).

**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.

**Table 2** 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) <sup>a</sup>	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) <sup>b,c</sup>	13
Duration of untreated psychosis (months) <sup>b,d</sup>	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

<sup>a</sup>  $M \pm SD$

<sup>b</sup> Median

<sup>c</sup> Duration of untreated illness = approximate length of time between patient-reported onset of first prodromal symptoms and initiation of antipsychotic medication

<sup>d</sup> 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

**Social Functioning** The primary measure of social functioning was the *Social Functioning Scale (SFS)* (Birchwood et al. 1990), a 79-item self-report questionnaire designed to assess social/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. Given the small sample size, we used the total score as the primary index of social functioning.

To supplement information from the SFS, the *Multidimensional Scale of Perceived Social Support* (MSPSS) (Zimet et al. 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.

**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.

**Symptomatology** Symptoms were assessed with the *Positive and Negative Syndrome Scale* (PANSS) (Kay et al. 1992). Four scaled scores are produced: Positive Symptoms, Negative Symptoms, General Psychopathology, and Total Score. Raters were trained to conduct the PANSS to a gold standard of reliability (i.e., intraclass correlation > .80).

To supplement the PANSS, the *Calgary Depression Scale for Schizophrenia* (CDSS) (Addington et al. 1993) was used to obtain a more sensitive measurement of depressive symptoms. 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 were assessed with the *Alcohol Use Scale* (AUS) and *Drug Use Scale* (DUS), respectively (Drake et al. 1996). The AUS and DUS were developed to assess and track substance use among individuals with severe mental illness. Ratings are made based on the previous 6 months, and are based on client self-report, clinician observation, and information from collateral sources.

**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.

### Overview of Data Analysis

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, symptoms, and attitudes toward medication. Effect sizes were evaluated according to Cohen's (1988) recommended conventions: small ( $d = .20$ ), medium ( $d = .50$ ), and large ( $d = .80$ ). To evaluate change in substance use, we examined individual changes from pre-test to post-test with respect to substance abuse or dependence. We also evaluated the level of personal goal attainment reported by participants and therapists at post-test. Finally, we reviewed qualitative feedback we received from participants and therapists about GRIP.

### Results

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

Overall, the mean number of sessions attended 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

Table 3 provides pre–post means, standard deviations, and within-group effect sizes for the following measures: SFS, PANSS, MSPSS, CDSS, and BEMIB. A review of Table 3 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 and small negative effect sizes for MSPSS and BEMIB scores. These data indicate a small degree of improvement across most clinical domains when the total sample is considered.

**Table 3** Means (SD) and within-group effect sizes (Cohen's *d*) for continuous outcome variables in GRIP open trial

		All ( <i>n</i> = 9)	Completers ( <i>n</i> = 6)	Non-completers ( <i>n</i> = 3)	
SFS total	<i>B</i>	116.4 (21.1)	115.9 (24.3)	117.5 (17.4)	
	<i>P</i>	119.8 (23.4)	126.9 (21.4)	105.6 (24.1)	
	<i>d</i>	.16	.45	-.70	
	PANSS positive	<i>B</i>	13.6 (3.1)	13.0 (3.3)	14.7 (3.1)
		<i>P</i>	11.1 (4.0)	10.0 (3.2)	13.3 (5.1)
		<i>d</i>	.78	.91	.44
	PANSS negative	<i>B</i>	15.2 (5.2)	15.7 (6.1)	14.3 (3.5)
		<i>P</i>	14.6 (6.0)	13.2 (4.6)	17.3 (8.5)
		<i>d</i>	.13	.41	-.85
PANSS general	<i>B</i>	28.3 (6.0)	29.0 (7.4)	27.0 (2.0)	
	<i>P</i>	26.7 (6.9)	25.2 (6.7)	29.7 (7.6)	
	<i>d</i>	.28	.52	-1.34	
PANSS total	<i>B</i>	57.1 (10.9)	57.7 (12.8)	56.0 (7.9)	
	<i>P</i>	52.3 (14.1)	48.3 (10.1)	60.3 (19.9)	
	<i>d</i>	.44	.73	-.55	
MSPSS	<i>B</i>	40.1 (7.8)	43.3 (7.2)	33.7 (4.7)	
	<i>P</i>	39.0 (12.6)	42.7 (12.0)	31.7 (12.4)	
	<i>d</i>	-.14	-.10	-.42	
CDSS	<i>B</i>	3.8 (4.4)	3.5 (5.3)	4.3 (2.5)	
	<i>P</i>	2.4 (1.7)	2.2 (1.8)	3.0 (1.7)	
	<i>d</i>	.31	.25	.53	
BEMIB	<i>B</i>	30.9 (4.4)	30.7 (5.0)	31.3 (4.0)	
	<i>P</i>	30.6 (3.9)	32.0 (4.0)	27.7 (1.2)	
	<i>d</i>	-.10	.27	-.91	

Note: *B* = baseline; *P* = post-test. *d* = within-group effect size. A positive effect size indicates improvement, and a negative effect size indicates deterioration. "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

An examination of outcomes for treatment completers vs. non-completers, however, may provide more meaningful information on the potential efficacy of GRIP (see Table 3). 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 ( $d = .44$ ) and CDSS scores ( $d = .53$ ).

Finally, with respect to AUS/DUS scores, very little substance use was reported in our sample. Nevertheless, one participant 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 dramatic 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 (see Table 4). 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



**Table 4** Feedback on GRIP from participants and therapists

Item	Response <sup>a</sup>					
	“1” (% of respondents)		“2” (% of respondents)		“3” (% of respondents)	
	Completers	Non-completers	Completers	Non-completers	Completers	Non-completers
<i>Participant ratings<sup>b</sup></i>						
Overall utility?	0	67	17	33	83	0
Quality/service received?	0	67	17	33	83	0
Respectful to you?	0	0	0	100	100	0
Help with symptoms?	0	67	67	33	33	0
Help with recovery?	0	67	33	33	67	0
Right amount of information?	0	33	0	0	100	67
Materials easy to understand?	0	0	33	100	67	0
Overall treatment needs met?	0	33	33	67	67	0
Item	Response <sup>a</sup>					
	“1” (% of respondents)		“2” (% of respondents)		“3” (% of respondents)	
	Completers	Non-completers	Completers	Non-completers	Completers	Non-completers
<i>Therapist ratings<sup>c</sup></i>						
Was manual helpful?	0		56		44	
Educational handouts adequate?	11		0		89	
Helped client manage symptoms?	33		67		0	
Helped with client’s recovery?	33		56		11	
Recommend GRIP to other clinicians?	0		22		78	

<sup>a</sup> All items were rated from 1 to 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”)

<sup>b</sup> 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 ( $n = 3$ )

<sup>c</sup> 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

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.

With respect to therapist feedback, 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 4).

## Discussion

Following a treatment conceptualization and development phase, an initial evaluation of the GRIP program has been promising. 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. It should be noted that our study design precludes causal inferences about GRIP. In fact, completers and non-completers displayed several differences in their clinical presentations at the beginning of the study. Post hoc examination of our data revealed that non-completers reported less social support, more depressive and positive symptoms, and less social engagement than study completers at baseline. These baseline group differences may shed light on potential predictors of early treatment termination and/or the deterioration in clinical domains that was observed over the course of the study.

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. Nevertheless, these data are consistent with the phenomenology of first-episode psychosis, in which individuals often report an erosion of social support accompanying their initial experiences with severe mental illness (Norman et al. 2007). In addition, the provision of treatment may have been associated with increased insight and awareness of reduced social networks (Mintz et al. 2004). 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 promising quantitative results, qualitative feedback on the GRIP program was generally favorable. 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 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.” Therapists also reported positive impressions of the treatment, with most stating that they would highly recommend GRIP to other clinicians working with first-episode clients.

The primary objective of a small open trial is to evaluate the feasibility and tolerability of a new intervention (Mueser and Drake 2005; Rounsaville et al. 2001). Our findings with respect to these variables are somewhat mixed. Therapists were able to successfully implement the GRIP protocol with clients and maintained satisfactory fidelity to the treatment manual, per feedback from weekly supervision meetings with DLP. (It should be noted that a formal fidelity manual was not yet available during the open trial, although one has since been developed and is being formally employed in subsequent evaluations of GRIP.) Further, 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 of individual CBT for early psychosis (e.g., 60–80%; Jackson et al. 1998; Lewis et al. 2002; Power et al. 2003), a

dropout rate of 33% suggests the need for additional strategies to improve treatment retention. Indeed, studies of CBT for chronic psychotic disorders have demonstrated more favorable drop-out rates (e.g., 10–15%; Kuipers et al. 1997; Pilling et al. 2002).

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. For example, in a post-treatment interview, 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.” Another client remarked that he “didn’t feel like [his treatment] goals were being met.” Consistent with this, 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. Further, our findings appear to reflect the general difficulties of engaging and retaining young people with early psychosis in treatment (EPPIC 2001; Jackson et al. 2001a; Judge et al. 2005).

Based on lessons learned from our open trial, several modifications have been made to increase engagement and minimize treatment dropouts. For example, GRIP therapists are now “keyworkers” who also provide case management and serve as primary treatment contacts for all clients. This should streamline the treatment process for clients, who are often faced with the challenge of balancing multiple providers and services. In addition, GRIP is 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, and we have now incorporated this perspective into the delivery of GRIP. Further, given the robust support for family-based interventions in improving treatment adherence and clinical outcomes in psychotic disorders (Dixon et al. 2001), efforts to include family members in the treatment of GRIP clients have been increased. Clients are strongly encouraged to identify an “indigenous supporter” at the onset of treatment, and therapists help to integrate these individuals in the overall care of the client through regular contacts which may include the provision of psychoeducation and support. Finally, 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.

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. These study limitations are being addressed in a randomized controlled trial (RCT) of GRIP supported by the National Institute of Mental Health, which is currently in progress at the OASIS Clinic. It is hoped that our efforts at modifying GRIP will be successful at keeping young clients engaged, and that the results of our RCT will add to a growing evidence base supporting the efficacy of psychosocial interventions in facilitating recovery in early psychosis.

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