

Psychosocial Treatment for First-Episode Psychosis: A Research Update

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Objective: This article reviews research on psychosocial treatment for first-episode psychosis.

Method: PsycINFO and MEDLINE were systematically searched for studies that evaluated psychosocial interventions for first-episode psychosis.

Results: Comprehensive (i.e., multielement) treatment approaches show promise in reducing symptoms and hospital readmissions, as well as improving functional outcomes, although few rigorously controlled trials have been conducted. Individual cognitive behavior therapy has shown modest efficacy in reducing symptoms, as-

sisting individuals in adjusting to their illness, and improving subjective quality of life, but it has shown minimal efficacy in reducing relapse. Some controlled research supports the benefits of family interventions, while less controlled research has evaluated group interventions.

Conclusions: Adjunctive psychosocial interventions early in psychosis may be beneficial across a variety of domains and can assist with symptomatic and functional recovery. More randomized, controlled trials are needed to evaluate the effectiveness of these interventions, particularly for multielement, group, and family treatments.

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Psychotic disorders, particularly schizophrenia, are the most disabling of all mental illnesses. In fact, schizophrenia is included among the world's top 10 causes of disability-adjusted life-years (1). The majority of individuals with schizophrenia have a poor long-term outcome (2–4), which results in great personal suffering and societal cost. The largest expenditure for mental health in the United States is for schizophrenia (5), with an annual cost of \$32.5 billion (6–8). Most of this cost can be attributed to repeated hospitalizations following relapse (9).

In an effort to improve the long-term outcome for individuals with schizophrenia, research has focused on early identification and intervention for psychosis. This approach to secondary prevention has been bolstered by findings that the sooner antipsychotic treatment is initiated after the emergence of psychosis, the better the clinical response (for example, see reference 10; see references 11 and 12 for reviews and references 13–16 for exceptions). In addition, most clinical and psychosocial deterioration in schizophrenia occurs within the first 5 years of the onset of the illness (11), suggesting that this is a critical period for treatment initiation (17, 18). Thus, pharmacological and psychosocial treatment delivered during this critical period has been hypothesized to have a stronger impact than comparable treatment provided later in the illness (17). Finally, there is a growing risk of treatment-resistant symptoms with each subsequent relapse (19–24). This is consistent with findings that show progressive loss of brain gray matter associated with recurrent episodes, suggesting that each relapse may reduce the individual's capacity to re-

spond to subsequent treatment (25, 26). Early intervention may therefore reduce the risk of relapse and long-term disability associated with chronic schizophrenia (27–29).

Pharmacological Treatment of First-Episode Psychosis

Most individuals with first-episode psychosis are responsive to antipsychotic medication (30). Remission of psychotic symptoms occurs in 50% of individuals with first-episode psychosis within the first 3 months after initiation of treatment with antipsychotic medication (24, 31, 32), 75% within the first 6 months (32), and up to 80% at 1 year (31, 33–35).

The beneficial effects of antipsychotic medication on first-episode psychosis are tempered by the following issues: 1) individuals with first-episode psychosis are particularly sensitive to the side effects of antipsychotics, such as weight gain (36, 37), 2) medication adherence is variable, with 6–12-month adherence rates in the 33%–50% range (38, 39), 3) up to 20% of individuals with first-episode psychosis show persistent psychotic symptoms (40), and 4) over 50% of individuals with first-episode psychosis report significant depression and/or anxiety secondary to the traumatic nature of psychosis (41–43).

In addition, despite initial symptom reduction, there is poor functional recovery following a first psychotic episode. Tohen et al. (32) found that although approximately 75% of individuals with first-episode psychosis showed symptom remission at 6 months, most (79.8%) failed to

TABLE 1. Characteristics of Selected Comprehensive (i.e., Multielement) Treatment Programs for Early Psychosis

Program	Intake Age Range (years)	In- and Outpatient Services	Atypical Antipsychotic Treatment ^a	Individual Cognitive Behavior Therapy and Supportive Therapy	Individual Supportive Therapy Only	Group Therapy	Family Therapy	Case Management ^b	Community Outreach/ Early Detection Efforts
Early Psychosis Prevention and Intervention Centre, Melbourne, Victoria, Australia	15–25	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Prevention and Early Intervention Program for Psychosis, London, Ont., Canada	16–50	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Early Psychosis Program, Calgary, Alta., Canada	16–45	Outpatient only	Yes	Yes	No	Yes	Yes	Yes	Yes
Early Treatment and Identification of Psychosis project, Norway and Denmark	18–65	Outpatient only	Yes	No	Yes	No	Yes	Yes	Yes

^a All programs initially prescribe low doses of atypical antipsychotics as first-line pharmacological treatment.

^b Most programs adhere to an assertive case management model, in which the 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.

show functional recovery during the same time period (see also reference 35). Individuals with first-episode psychosis tend to have impairments in general social functioning (44, 45), quality of life (46, 47), and occupational functioning (48) despite clinical recovery. These functional impairments are present up to 5 years after illness onset even when optimal pharmacological treatment is provided (49).

Psychosocial Interventions for First-Episode Psychosis

Clearly, pharmacotherapy alone is not sufficient to prevent relapses or assure functional recovery from acute psychosis. Thus, there is a growing interest in psychosocial interventions as a means of facilitating recovery from an initial episode of psychosis and reducing the long-term disability associated with schizophrenia (50). Work in this area is still in its infancy, however. Treatment guidelines for first-episode psychosis, which include therapeutic engagement, targeting psychological and social adjustment, developing an active relapse prevention plan, and identifying barriers to treatment (42, 51, 52), are based on clinical experience and not controlled research evaluating standardized psychosocial programs. There is a need for updated guidelines, informed by a rigorous review of available research.

According to Edwards and colleagues (53–55), the literature on psychosocial interventions for first-episode psychosis can be conceptualized as constituting two broad categories: 1) studies evaluating comprehensive (i.e., multielement) interventions, which typically include community outreach/early detection efforts, in- and outpatient individual, group, and/or family therapy, and case management, in addition to pharmacological treatment (see Table 1 for examples), and 2) studies evaluating specific (i.e., single-element) psychosocial interventions (e.g., individual cognitive behavior therapy). In this article we re-

view the extant literature on psychosocial interventions for early psychosis in light of these two categories.

Search Strategy

A comprehensive search of the PsycINFO and MEDLINE databases (January 1983 to October 2004) was conducted by using the following terms: 1) “first-episode schizophrenia” and “psychosocial treatment” (or “therapy or treatment”), 2) “first-episode psychosis” and “psychosocial treatment” (or “therapy or treatment”), and 3) “early psychosis” and “psychosocial treatment” (or “therapy or treatment”). The results were evaluated for relevance, and only the studies evaluating psychosocial interventions for first-episode psychosis were selected for review. Specifically, we selected papers that quantitatively evaluated multielement interventions, individual cognitive behavior and supportive therapy approaches, and group and family interventions. The designs of the studies reported in the selected articles included experimental/randomized-controlled (i.e., comparing outcomes in randomized groups), quasi-experimental (i.e., comparing outcomes in nonrandomized groups), and single-group (i.e., evaluating change over time in one group of individuals receiving treatment). Studies that compared subgroups of patients within a particular intervention or program (e.g., patients with short durations of untreated psychosis versus patients with long durations of untreated psychosis) were excluded. Finally, to ensure that our search was as comprehensive and current as possible, we also conducted independent searches for recent publications by leading psychosocial researchers in the field of early psychosis (e.g., Addington, Birchwood, Edwards, Jackson, Lewis, Linszen, Malla, McGorry, Morrison, Tarrier). The findings of all of the selected studies are summarized in Table 2 (multielement studies) and Table 3 (single-element studies).

TABLE 2. Summary of Studies Evaluating the Effectiveness of Comprehensive (i.e., Multielement) Treatment for Early Psychosis

Study	Subjects					Follow-Up Period (months)
	N	Description ^b	Design	Intervention ^c	Comparison Group(s) ^d	
McGorry et al., 1996 (56)	102	Nonaffective or affective first-episode psychosis	Quasi-experimental	Early Psychosis Prevention and Intervention Centre (EPPIC)	Before EPPIC (historical control)	12
Power et al., 1998 (57)	231 (longitudinal data on 120)	Nonaffective or affective first-episode psychosis	Single group	EPPIC		3
Carbone et al., 1999 (58)	250	Nonaffective or affective first-episode psychosis	Quasi-experimental	EPPIC	Before EPPIC (historical control)	12
Malla et al., 2001 (59)	41	Nonaffective first-episode psychosis	Single group	Prevention and Early Intervention Program for Psychosis (PEPP)		12
Malla et al., 2002 (60)	85 (longitudinal data on 53)	Nonaffective first-episode psychosis	Single group	PEPP		12
Malla et al., 2002 (61)	66	Nonaffective first-episode psychosis	Single group	PEPP		12
Addington and Addington, 2001 (62)	93	Nonaffective first-episode psychosis	Single group	Calgary Early Psychosis Program		12
Addington et al., 2003 (33)	180	Nonaffective first-episode psychosis	Single group	Calgary Early Psychosis Program		12
Addington et al., 2003 (46)	177	Nonaffective first-episode psychosis	Single group	Calgary Early Psychosis Program		12
Addington et al., 2004 (63)	238	Nonaffective first-episode psychosis	Single group	Calgary Early Psychosis Program		12
Mintz et al., 2004 (64)	180	Nonaffective first-episode psychosis	Single group	Calgary Early Psychosis Program		12
Larsen et al., 2001 (65)	109	Nonaffective first-episode psychosis	Quasi-experimental	Early Treatment and Identification of Psychosis (TIPS) project	Before TIPS (historical control)	None
Cullberg et al., 2002 (66) ⁱ	297	Nonaffective or affective first-episode psychosis	Quasi-experimental	Integrated treatment (Parachute Project)	Before Parachute Project (historical control); inpatient treatment as usual (prospective control)	12
Nordentoft et al., 2002 (67, 68) ^j	341	Nonaffective first-episode psychosis	Randomized, controlled trial	Integrated treatment (OPUS Project)	Outpatient treatment as usual (prospective control)	12

^a "Better" denotes 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. "No group differences" 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.

^b Nonaffective first-episode psychoses were schizophrenia spectrum disorders. Affective first-episode psychoses were mood disorders with psychotic features.

^c The elements of the EPPIC, PEPP, Calgary, and TIPS interventions are shown in Table 1.

^d Care before the multielement program typically consisted of standard inpatient services, limited outpatient services, limited emphasis on phase-specific psychosocial treatment, and limited outreach and early detection efforts.

^e Measures were the Brief Psychiatric Rating Scale, the Scale for the Assessment of Positive Symptoms, and the Positive and Negative Syndrome Scale.

^f Measures were the Scale for the Assessment of Negative Symptoms and the Positive and Negative Syndrome Scale.

^g Measures were the Quality of Life Scale, the Wisconsin Quality of Life Index, and the Global Assessment of Functioning Scale.

Multielement Interventions

Multielement programs offer a comprehensive array of specialized in- and outpatient services designed for individuals experiencing first-episode psychosis, and they 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 multielement programs and their respective components (for a full description of these and additional programs, see reference 55).

The Early Psychosis Prevention and Intervention Centre in Australia is an exemplar of multielement care for first-

Outcome With Intervention ^a				
Positive Symptoms ^e	Negative Symptoms ^f	Relapse/ Hospitalizations	Social Functioning/ Quality of Life ^g	Other/Comment ^h
No group differences	Better	Better	Better	Reduced trauma associated with psychosis and hospitalization
Better	No difference	Better	—	63% in remission at follow-up; reduction in aggression and self-harm behaviors
—	—	—	Better	Only EPPIC patients with midrange duration of untreated psychosis (1–6 months) had better outcomes on Quality of Life Scale
Better	Better	—	Better	
Better	Better	Better	—	70% in remission at follow-up
Better	Better	—	Better	74% in remission at follow-up; improvements in cognitive functioning
—	—	—	—	Reductions in hallucinogen, cannabis, and alcohol use (among heavy users)
Better	No difference	—	—	Improvements in depression
—	—	—	Better	—
—	—	—	—	Reduction in parasuicidal behavior; patients who attempted suicide before program made no further attempts
—	—	—	—	Improvements in insight
—	—	—	—	TIPS more successful at early identification of psychosis; shorter median duration of untreated psychosis in TIPS group (4.5 weeks versus 26 weeks)
No group differences	No group differences	Better (Parachute Project)	Better (Parachute Project and prospective control)	High level of consumer satisfaction in Parachute Project group
Better	Better	—	Better	Less hopelessness in OPUS group; suicidal ideation and attempts reduced in both groups

^h Trauma symptoms were measured by the Structured Interview for PTSD. Aggression/self-harm symptoms were measured by the Health of the Nation Outcome Scale and medical records. Cognitive functioning was measured by the WAIS-III, Wechsler Memory Scale, 3rd ed., Wisconsin Card Sorting Test, National Adult Reading Test, Paced Auditory Serial Addition Task, Continuous Performance Test, and Word Fluency Test. Substance use was measured by case manager ratings. Depression was measured by the Calgary Depression Rating Scale for Schizophrenia. Insight was measured by item G12 from the Positive and Negative Syndrome Scale. Hopelessness was measured by the Schedules for Clinical Assessment in Neuropsychiatry interview (version 2.0).

ⁱ The Parachute Project entailed collaboration between multiple clinics in Sweden, with treatment consisting of comprehensive outpatient services (low-dose atypical antipsychotics, individual and family therapy), available overnight crisis home (in place of inpatient ward), case management, and continuity of care. The historical control consisted of conventional antipsychotic medications and supportive therapy, and the prospective control consisted of inpatient treatment as usual (low-dose atypical antipsychotic medications, no phase-specific psychosocial treatment).

^j The OPUS Project group received comprehensive outpatient services (low-dose atypical antipsychotics, family psychoeducation and therapy, social skills training) and assertive community treatment. The control group received standard treatment at community mental health centers.

episode psychosis and consists of a mobile assessment and treatment team; a 16-bed inpatient unit; in- and outpatient case management (including housing and vocational assistance); individual, group, and family therapy; pharmacological management (emphasizing low doses of atypical antipsychotic medication as first-line treatment); and specialized treatment for individuals with persistent psychotic symptoms. The Prevention and Early Intervention

Program for Psychosis and the Calgary Early Psychosis Program are additional examples of established early intervention centers (55). There have also 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. For example, the Early Treatment and Identification of Psychosis project is a prospective, longitudinal 5-year study investi-

TABLE 3. Summary of Studies Evaluating the Effectiveness of Specific (i.e., Single-Element) Treatments for Early Psychosis

Study	N	Description ^b	Subjects				Treatment Length/ Follow-Up Period
			Design	Intervention ^c	Comparison Condition(s) ^{c,d}		
Haddock et al., 1999 (69)	21	Nonaffective early psychosis (first episode or <5 years since first episode)	Randomized, controlled trial	Individual cognitive behavior therapy (CBT)	Supportive counseling	5 weeks; booster sessions over 4 months	
Lewis et al., 2002 (70)	309	Nonaffective early psychosis (83% with first episode)	Randomized, controlled trial	Individual CBT	Supportive counseling, routine care	5 weeks; booster sessions over 3 months	
Tarrier et al., 2004 (71)	225	Nonaffective early psychosis (83% with first episode)	Randomized, controlled trial	Individual CBT	Supportive counseling, routine care	18-month follow-up of Lewis et al. study (70)	
Jackson et al., 1998 (72)	80	Nonaffective or affective first-episode psychosis	Quasi-experimental	Individual CBT ^j at Early Psychosis Prevention and Intervention Centre (EPPIC)	EPPIC services without CBT (refusers); EPPIC inpatient care only, no post-discharge services (control)	12 months (median=19 sessions)	
Jackson et al., 2001 (73)	51	Nonaffective or affective first-episode psychosis	Quasi-experimental	Individual CBT ^j at EPPIC	EPPIC services without CBT (refusers); EPPIC inpatient care only, no post-discharge services (control)	12-month follow-up of 1998 Jackson et al. study (72)	
Power et al., 2003 (74)	56	Nonaffective or affective first-episode psychosis with acute suicidality	Randomized, controlled trial	Individual CBT targeting suicidality ^k at EPPIC	EPPIC services without CBT (control)	8–10 sessions; 6-month follow-up	
Jolley et al., 2003 (75)	21	Nonaffective early psychosis (first or second episode)	Randomized, controlled trial	Individual CBT	Routine care	6 months (mean=11 sessions)	
Wang et al., 2003 (76)	251	Nonaffective first-episode psychosis	Randomized, controlled trial	Individual CBT	Routine care	2-year follow-up	
Albiston et al., 1998 (77)	95	Nonaffective or affective first-episode psychosis	Quasi-experimental	EPPIC group program ^l	EPPIC services without groups	Multiple groups per week; 6-month follow-up	
Miller and Mason, 2001 (78)	77	Nonaffective first-episode psychosis	Quasi-experimental	Group therapy	Individual therapy	Once per week for 2 years	
Lecomte et al., 2003 (79)	5	Nonaffective first-episode psychosis	Single group	Group CBT		Twice per week for 3 months	
Linszen et al., 1996 (80)	76	Nonaffective early psychosis	Randomized, controlled trial	Behavioral family therapy (and individual therapy) ^m	Individual therapy only	12 months	
Lenior et al., 2001 (81)	73	Nonaffective early psychosis	Randomized, controlled trial	Behavioral family therapy (and individual therapy) ^m	Individual therapy only	5-year follow-up of study by Linszen et al. (80)	
Lenior et al., 2002 (82)	73	Nonaffective early psychosis	Randomized, controlled trial	Behavioral family therapy (and individual therapy) ^m	Individual therapy only	5-year follow-up of study by Linszen et al. (80)	
Zhang et al., 1994 (83)	83	Nonaffective first-episode psychosis	Randomized, controlled trial	Family therapy ⁿ	Routine care	18 months	
Lehtinen, 1993 (84)	81	Nonaffective early psychosis	Quasi-experimental	Family-oriented treatment ^o	Individual-oriented treatment (historical cohort) ^o	5-year follow-up	

^a “Better” denotes 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. “No group differences” 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.

^b Nonaffective first-episode psychoses were schizophrenia spectrum disorders. Affective first-episode psychoses were mood disorders with psychotic features.

^c The elements of the EPPIC intervention are shown in Table 1. Psychosocial treatments were always adjunctive to pharmacological treatment unless otherwise noted.

^d Routine care was primarily medication management.

^e Measures were the Brief Psychiatric Rating Scale, Psychotic Symptom Rating Scales, Positive and Negative Syndrome Scale, and chart notes.

^f Measure was the Scale for the Assessment of Negative Symptoms.

^g Relapse was variably defined as change in patient management (per medical records), hospital admission, and score on Life Chart Schedule.

^h Measures were the Quality of Life Scale, Global Assessment of Functioning Scale score, and Life Chart Schedule.

ⁱ Measures were the Beck Depression Inventory, Explanatory Model Scale (insight/beliefs about illness), Integration/Sealing Over Measure (adaptation to illness), Suicide Ideation Questionnaire, Suicide Intent Scale, Reasons for Living Inventory, Beck Hopelessness Scale, Self-Esteem Scale, and Self-Report Problem-Solving Rating Scale.

Outcome With Intervention ^a				
Positive Symptoms ^e	Negative Symptoms ^f	Relapse/ Hospitalizations ^g	Social Functioning/ Quality of Life ^h	Other/Comment ⁱ
No group differences	—	No group differences	—	
No group differences	—	—	—	CBT group improved nonsignificantly faster; auditory hallucinations responded better to CBT than to supportive counseling
No difference between CBT and supportive counseling, which were both better than routine care	—	No group differences	—	Auditory hallucinations responded better to CBT than to supportive counseling
No group differences	CBT better than control	No group differences	CBT better than control	Patients receiving CBT did better than refusers and control subjects in adaptation to illness; CBT was better than control for insight/attitudes toward treatment
No group differences	No group differences	No group differences	No group differences	Patients receiving CBT did better than refusers in adaptation to illness
No group differences	No group differences	—	Better	Targeted CBT was better than control for hopelessness; both groups improved on suicidal ideation and attempts
No group differences	—	No group differences	—	CBT group spent less time in hospital
Better	—	Better	—	CBT was better than routine care for insight, treatment adherence
—	No group differences	—	No group differences	At baseline, group participants had lower premorbid functioning and nonsignificantly more negative symptoms; group treatment was associated with prevention of illness-related deterioration
—	—	—	—	Group therapy associated with better treatment adherence (i.e., fewer dropouts)
—	—	—	—	Group therapy associated with high treatment satisfaction and decrease in psychotic symptoms
—	—	No group differences	—	Family therapy associated with slightly higher relapse rate (nonsignificant difference) among families with low expressed emotion
—	—	No group differences	No group differences	Family therapy group spent less time in hospitals; 65% of all patients relapsed at least once in 5 years
—	—	No group differences	—	No differential effect of family therapy on expressed emotion
Better (in patients not admitted to hospital)	—	Better	Better (in patients not admitted to hospital)	Family group spent less time in hospital
Better	—	Better	—	Family group spent less time in hospital

^j The program of cognitively oriented psychotherapy for early psychosis (COPE) consisted of individual therapy in conjunction with other EPPIC services. It promoted adjustment to illness, recovery, and stigma reduction and targeted associated depression and anxiety.

^k This program, known as LifeSPAN, was conducted in conjunction with other EPPIC services and emphasized distress management, problem solving, self-esteem, hopelessness, warning signs, and aftercare planning.

^l Content areas included vocational skills, creative expression, social and recreational skills, health promotion, and personal development.

^m Behavioral family therapy emphasized communication skills training and reduction of high expressed emotion.

ⁿ Family therapy consisted of family groups and individual family therapy sessions, and emphases included psychoeducation, identification of warning signs, stress management, importance of attributing maladaptive behavior to illness, communication skills training, and reduction of high expressed emotion.

^o In the family-oriented treatment, family therapy was primary, with emphasis on crisis intervention, systemic factors, life difficulties, and short-term treatment. In the individual-oriented treatment, individual dynamic therapy was primary, with focus on intrapsychic factors and long-term treatment.

gating whether early detection and treatment of psychosis can lead to better long-term outcomes (85). A quasi-experimental design is comparing outcomes among individuals with nonaffective first-episode psychosis at three sites: 1) Rogaland, Norway, 2) Oslo, Norway, and 3) Roskilde, Denmark. All three sites offer multielement care, including individual supportive therapy, family work, case management, and pharmacological treatment; however, only the Rogaland site includes specialized early detection and community outreach efforts. Additional efforts to evaluate multielement models of care include the Parachute Project in Sweden, a collaboration among multiple psychiatric clinics to adapt and implement comprehensive first-episode services (i.e., low-dose atypical antipsychotic treatment, case management, individual and family therapy, and access to overnight crisis homes as an alternative to hospitalization) (66), and the OPUS Project in Denmark, which evaluated the effectiveness of comprehensive, integrated care across a variety of treatment modalities (i.e., low-dose atypical antipsychotic treatment, assertive community treatment, family psychoeducation, and social skills training) (67, 68). Indeed, the multielement model of care for early psychosis has been in existence for only a little over a decade but has already garnered significant research support across a variety of programs.

Examination of Table 2 reveals that only one randomized, controlled trial of a multielement intervention has been conducted thus far (67, 68). While additional programs are currently being evaluated in randomized, controlled designs, e.g., at the Early Psychosis Prevention and Intervention Centre (55), the majority of published research in this area has utilized quasi-experimental and single-group designs to evaluate program effectiveness. Thus, the findings should be viewed with caution. Nevertheless, data emerging from these interventions have been encouraging.

A review of Table 2 indicates that multielement interventions for early psychosis have been associated with symptom reduction and/or remission (33, 56, 57, 59–61, 68), improved quality of life and social functioning (46, 56, 58, 59, 61, 68), improved cognitive functioning (61), reduced duration of untreated psychosis (65), low rates of inpatient admissions (56, 60, 66), improved insight (64), high level of satisfaction with treatment (66), less time spent in the hospital (56, 66), decreased substance abuse (62), fewer self-harm behaviors (57, 63, 67), and reduced trauma secondary to psychosis and hospitalization (56). It should be noted that the foregoing results primarily refer to 1-year outcomes; longer-term benefits conferred by multielement 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 duration of untreated psychosis, fewer inpatient admissions, less time in the hospital) when compared with generic mental health services (86).

Single-Element Interventions

Single-element studies have evaluated the effectiveness of specific psychosocial interventions, rather than assessing the effects of a comprehensive, multielement intervention as a whole. That is, these studies sought to measure the relative utility of various adjunctive psychosocial interventions in the treatment of early psychosis. These interventions were offered in addition to pharmacological treatment and, in some cases, other services as well (e.g., case management). Examination of Table 3 reveals that several randomized, controlled trials have been conducted with respect to individual cognitive behavior therapy in early psychosis, but less controlled research has evaluated group and family interventions. Findings from many of these studies have been promising, and the results are discussed in more detail in the following sections.

Individual Therapy

Individual therapy for first-episode psychosis has been examined both for facilitating recovery from acute psychosis and 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 was a large, multisite randomized, controlled trial of cognitive behavior therapy for recent-onset acute psychosis. On the basis of a pilot study by Haddock et al. (69), Lewis and colleagues (70) randomly assigned 309 individuals who had either a first (83%) or second psychiatric admission for psychosis to 5 weeks of cognitive behavior therapy and routine care, supportive counseling and routine care, or routine care alone. While all groups improved over the course of treatment, the group receiving cognitive behavior therapy improved nonsignificantly faster. Further, auditory hallucinations improved significantly faster in that group than in the group receiving supportive counseling. There were no significant group differences, however, in symptoms at the end of treatment. At 18-month follow-up, Tarrier and colleagues (71) found that both cognitive behavior therapy and supportive counseling were significantly better than routine care in reducing symptoms. Further, auditory hallucinations responded better to cognitive behavior therapy than to supportive counseling. However, there were no group differences in relapse rates, with high overall rates of relapse across the total study group. Tarrier et al. hypothesized that the short duration of treatment, a failure of treatment effects to generalize outside the hospital, potential exposure to environmental stressors after discharge, and the tendency for relapse to accumulate over time in first-episode psychosis may explain the lack of an impact on relapse conferred by cognitive behavior therapy or supportive counseling. Nevertheless, these results suggest that individual therapy (i.e., cognitive behavior therapy or supportive counseling) may have beneficial long-term effects on symptoms in early psychosis.

Promising results have also been reported with respect to cognitive behavior therapy conducted during the period of recovery following reduction of acute psychotic symptoms. Jackson and colleagues (72) conducted a prospective study of cognitively oriented psychotherapy for early psychosis with 80 individuals in the Early Psychosis Prevention and Intervention Centre program who were experiencing nonaffective or affective first-episode psychosis. Cognitively oriented psychotherapy for early psychosis promoted adjustment to the illness, helped individuals resume developmental tasks, and focused on overall recovery, in addition to targeting secondary morbidity (i.e., depression, anxiety). Forty-four individuals received cognitively oriented psychotherapy as part of their outpatient care, 21 refused but received all of the center's other services, and 15 individuals received inpatient care only with no additional services following discharge (they were designated the control group). At the end of treatment, the patients receiving cognitively oriented psychotherapy 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 they significantly outperformed the refusal group only with respect to adaptation to illness. There were no significant differences in relapse rates among the three groups. At 1 year following treatment, the group receiving cognitively oriented psychotherapy maintained significantly better adaptation to their illness than the refusal group; however, the group differences were not maintained for the other outcomes, and there were no group differences in relapse rate or time to readmission (73). These findings are based on a quasi-experimental design and need to be interpreted with caution; nevertheless, the results suggest that individual cognitive behavior therapy may be beneficial in assisting patients to adjust to the experience of psychosis following remission of first-episode symptoms.

Individual cognitive behavior 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 (74) randomly assigned 56 suicidal individuals with nonaffective or affective first-episode psychosis in the Early Psychosis Prevention and Intervention Centre program to either LifeSPAN therapy plus the center's other services or regular services without LifeSPAN therapy. LifeSPAN therapy is based on cognitively oriented psychotherapy for early psychosis as well as cognitive therapy for suicide, and it emphasizes distress management, problem-solving skills, identification of warning signs, and development of an aftercare 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 qual-

ity of life at both 10 weeks posttreatment and 6-month follow-up. Power et al. concluded that adding cognitive behavior therapy to treatment for first-episode psychosis may lead to significant improvements in factors associated with suicide, such as hopelessness.

Edwards and colleagues at the Early Psychosis Prevention and Intervention Centre have developed cognitive behavior interventions targeting substance use and persistent psychotic symptoms (87, 88). One 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. A randomized, controlled trial comparing the cannabis and psychosis intervention with psychoeducation alone was conducted, and the preliminary results suggested that cannabis use in both groups decreased, with no clear advantages for the cannabis and psychosis intervention over psychoeducation alone (89). Edwards and colleagues have also developed "systematic treatment of persistent psychosis," given that approximately 20% of individuals with first-episode psychosis may experience persistent psychotic symptoms (40). This therapy is based on the cognitively oriented psychotherapy for early psychosis at the Early Psychosis Prevention and Intervention Centre and is designed to facilitate recovery in patients experiencing persistent positive symptoms. A randomized, controlled trial evaluating the relative and combined effects of clozapine and systematic treatment of persistent psychosis in the treatment of individuals with persistent symptoms is currently being conducted at the Early Psychosis Prevention and Intervention Centre (88).

Other randomized, controlled studies of individual cognitive behavior therapy for first-episode psychosis have demonstrated the following benefits over routine care: fewer days spent in the hospital (75), reduced psychotic symptoms, fewer hospital admissions, increased insight, and better treatment adherence (76). The foregoing findings suggest that individual cognitive behavior therapy may provide some benefits in the treatment of first-episode psychosis, especially in the areas of 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 rehospitalizations. Finally, the long-term findings are mixed; the follow-up data reported thus far have demonstrated some long-term benefits associated with individual therapy (e.g., references 71 and 73) but also suggest that some of the initial gains made in treatment may not persist over time (e.g., reference 73).

Group and Family Treatment

Unlike individual therapy, group treatment for first-episode psychosis does not appear to have been examined for efficacy in randomized, controlled studies. Quasi-experimental research has demonstrated benefits of group ther-

apy with respect to prevention of illness-related deterioration and disability, especially for individuals with poor premorbid functioning (77). Additional uncontrolled studies have shown improved treatment adherence (78) and increased treatment satisfaction (79) associated with group participation. However, given the uncontrolled nature of these studies, these findings need to be interpreted with caution.

Family therapy for first-episode psychosis has been more systematically investigated. Linszen and colleagues (80) randomly assigned 76 outpatients to 12 months of behavioral family therapy (focusing on communication and problem-solving skills training) plus individual-oriented treatment (focusing on relapse prevention and psychoeducation) or individual-oriented treatment without family therapy. Both groups had recently been discharged after 3 months of inpatient treatment emphasizing integrated psychosocial and pharmacological treatment, and they were currently receiving outpatient medication management. After 1 year, there was no differential effect of the family treatment on relapse; the two groups had similar relapse rates, and the overall relapse rate was low (i.e., 16%). Five-year follow-up (81, 82) also indicated no added benefit of family treatment over individual treatment for relapse rates, and it showed that 65% of the patients in the total group with nonchronic symptoms relapsed at least once over the course of 5 years. In addition, this study showed 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.

Other research on family therapy for early psychosis has demonstrated more positive results. For example, Zhang and colleagues (83) randomly assigned 83 outpatients with first-episode psychosis to 18 months of family therapy and routine care or to routine care alone. The family therapy intervention consisted of family groups and individual family therapy sessions, and it emphasized psychoeducation, identification of warning signs, stress management, the importance of attributing maladaptive behavior to the illness (rather than to personality or "laziness"), communication skills training, and reduction of high expressed emotion (i.e., decreasing familial criticism, hostility, and overinvolvement). There was contact with the families at least once every 3 months, and families who did not attend appointments were visited in their homes. The results showed that the family intervention was associated with a significantly lower rate of hospital readmissions and fewer days spent in the hospital. Indeed, the authors concluded that the patients not receiving the family intervention were 3.5 times as likely to be readmitted to the hospital during the study period as the patients who did receive family therapy. This effect remained even after differences in medication compliance were controlled for. Further, the patients receiving family therapy who were not readmitted to the hospital demonstrated significant improvements in positive

symptoms and social functioning. Additional research has shown similar favorable outcomes associated with family treatment, such as fewer hospital admissions, less time spent in the hospital, and symptom reduction (84).

Thus, while some research has indicated that family interventions in early psychosis are beneficial with respect to reducing relapse and improving clinical and functional status (e.g., reference 83), other findings have not been as encouraging (e.g., reference 80). More empirical work needs to be done before any firm conclusions can be made.

Finally, Drury and colleagues (90, 91) specifically evaluated the effects of a multimodal treatment approach combining individual and group cognitive behavior therapy 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 5-year follow-up, Drury et al. (92) found 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. The long-term benefits in this subgroup 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 nonblinded assessments (93) and baseline differences in medication doses between the two groups (94).

Discussion

The findings reviewed suggest that adjunctive psychosocial interventions for patients experiencing early psychosis are beneficial across a variety of domains and can assist with symptomatic and functional recovery. Research on multielement interventions indicates that following an initial episode of psychosis, these comprehensive treatment approaches may positively influence short-term outcomes, such as clinical status and social functioning, as well as time spent in the hospital and likelihood of hospital readmission. However, as noted in another recent review of this area (53), most of the research on multielement programs is based on quasi-experimental designs using historical (56, 58, 65, 66) or prospective (66) comparison groups or on single-group designs, which track the progress of one group over a specified period of time (33, 46, 57, 59–64). Indeed, there is still a paucity of randomized, controlled research in this area; thus, these findings need to be interpreted with caution. Other methodological issues making interpretation of these results challenging include subject heterogeneity (e.g., affective versus nonaffective first-episode psychosis) and varying defini-

tions for certain outcomes, such as relapse and remission, across studies.

One important caveat regarding multielement 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 or do not recognize best treatment practices for early psychosis (95). 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 first-episode treatment services. Thus, the current findings in this area point to two important future research directions: 1) a greater number of randomized, controlled designs to provide a more stringent test of the efficacy of multielement programs and 2) utilization of research designs that will allow one to deconstruct the key ingredients of these programs and to determine the specific types of patients for whom these services are particularly beneficial. Single-element studies can be quite helpful in this regard.

With respect to research on single-element interventions, support for individual cognitive behavior therapy 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 (e.g., references 71–74). In addition, the majority of studies evaluating individual cognitive behavior therapy have used randomized, controlled designs. However, individual therapy has not been shown to be effective in reducing relapse or rehospitalization in early psychosis, and some findings suggest that early treatment gains may not be maintained over time.

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 to our knowledge, 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 rehospitalization (e.g., reference 83) and other studies having less favorable results (e.g., reference 80). One possible interpretation of these findings is that family interventions are indeed beneficial to individuals with early psychosis although they may not add significant benefit above and beyond concurrent individual therapy. Additional well-controlled research is needed to clarify the impact of family and group therapy in first-episode psychosis.

In general, while the research done to date on specific (i.e., single-element) psychosocial treatments for early psychosis is promising, there are few robust findings. Many of the aforementioned single-element studies were conducted in the context of large multielement programs (e.g., references 72–74); it is therefore difficult to yield ro-

bust additive effects of a specific intervention, when such a large degree of improvement is likely due to the impact of the program as a whole. Further, as with the literature on multielement treatments, significant obstacles to drawing broader conclusions with respect to specific psychosocial treatments for first-episode psychosis include the paucity of well-controlled studies, as well as methodological variation among studies (e.g., study group composition, definitions for remission and relapse).

Future work should take an increasingly 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 experience (e.g., positive and negative symptoms, medication adherence, substance use, functional impairments). Indeed, future studies should place more emphasis on measuring functional recovery (i.e., social, work, and school functioning, recreation, and social relationships [96]) both during and after treatment. Despite demonstrated short-term benefits, the ability of psychosocial interventions delivered early in psychosis to effect long-term improvement, particularly with respect to social/occupational disability, is still unknown. Additional longitudinal research is needed to shed light on this question.

Some findings suggest that many of the initial benefits achieved in treatment may not be maintained over time in patients with first-episode psychosis (97). This may be addressed through greater efforts to improve ongoing engagement with available services (which is a significant challenge in the field of early psychosis [e.g., reference 98]) and to lengthen the duration of active interventions, if necessary. Studies of individuals with chronic schizophrenia suggest that longer-term treatments are often associated with more favorable outcomes (99). In addition, naturalistic studies of psychological treatments for a variety of non-psychotic disorders have demonstrated that patients tend to show greater degrees of improvement with longer periods of treatment (100). Clinicians and researchers alike should utilize these findings to inform the delivery of psychosocial interventions in early psychosis. Ideally, these efforts will be successful at improving both short- and long-term outcomes, thus reducing the morbidity and mortality so often associated with this devastating illness.

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