

Family Interventions for Schizophrenia

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Abstract

This article reviews the existing evidence for the efficacy and effectiveness of psychoeducational family interventions in the treatment of persons with schizophrenia. There is substantial evidence that psychoeducational family interventions reduce the rate of patient relapse. There is suggestive, though not conclusive, evidence that these interventions improve patient functioning and family well-being. Interventions with multifamily groups that include the patient may be of superior benefit for subgroups of patients. More research is necessary to determine the critical ingredients of family interventions, to expand the groups of patients included in these studies, and to evaluate a broader range of outcomes.

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Psychosocial interventions offered to families of persons with schizophrenia have been developed and studied over the past 20 years with increasing sophistication and methodological rigor. Although these family interventions differ in their characteristics and methods, they tend to share a common set of assumptions: (1) schizophrenia is regarded as an illness; (2) the family environment is not implicated in the etiology of the illness; (3) support is provided and families are enlisted as therapeutic agents; and (4) the interventions are part of a treatment package used in conjunction with routine drug treatment and outpatient clinical management (Lam 1991). It is imperative to note that these family interventions do not include

those traditional family therapies (variously labeled as contextual, symbolic-experiential, structural, strategic, and integrative) derived from the theoretical proposition that behavior and/or communication within the family plays a key etiological role in the development of schizophrenia.

The elements of family interventions most frequently used in differing combinations are psychoeducation, behavioral problem solving, family support, and crisis management. Interventions differ in whether they are conducted with individual families or groups of families and whether they are in vivo, in the home, or out of the home. They also differ in whether the patient is included or excluded, the length of the intervention, and the phase of illness of the patient at the time of the intervention.

The construct of expressed emotion (EE) has played a significant role in the evolution of professional interventions directed at families. During a structured interview, families are assigned an EE rating based on observations of critical comments, hostility, and overinvolvement. A body of literature suggests that patients living with families characterized by high levels of EE are more vulnerable to relapse (Koenigsberg and Handley 1986). Thus, many interventions have targeted high EE families because those families are most likely to benefit from the intervention. However, the utility of this construct has been criticized

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(Lefley 1992). Determining the validity of the EE construct and whether high EE causes relapse is not the purpose of this review and will not be directly addressed. However, EE will be discussed in the context of patient heterogeneity, because many studies reviewed here include only those patients from families with high EE.

The self-help family education movement has had a significant influence on the development of family psychoeducation interventions. Pioneers in the family education movement distinguish family education from the professionally driven psychoeducational approaches in that (1) family education is centrally directed at helping the family, not the patient; (2) family education does not assume a medical therapy model, in which a presumption of pathology in the family being treated is implicit; and (3) family education stresses the competencies, not the deficits, of families (Hatfield 1994). Hatfield (1994) and Lefley (1994) acknowledge many overlapping goals and strategies in the family education and professional psychoeducational approaches. Professionally driven psychoeducational interventions have incorporated principles of family education. However, because little controlled research has been conducted on family education protocols (Hatfield 1994), these programs will not be examined in this review.

The review will address the following questions:

1. When added to pharmacotherapy, is there evidence that family interventions are effective for reducing patient relapse and improving functional status and family well-being?

2. Is there evidence that a particular kind of family intervention is superior to others?

3. Is there evidence that patient heterogeneity factors, such as family characteristics, age, gender, race, and phase of illness, influence the effectiveness of these interventions?

Methods

Searches of the PSYCLIT and MEDLINE data bases were conducted covering the years from 1966 to 1993 and using the key words schizophrenia and family intervention or family therapy. All references related to the key words were requested with the "explode" command. These searches yielded 467 citations. In addition, relevant references from articles selected for review were obtained, and unpublished material was gathered through consultation with a selection of experts in the field.

Our overall strategy used both existing reviews of the literature and primary studies. All review articles or book chapters identified in searches from 1983 to 1993 were evaluated according to criteria for assessment of reviews derived from Beaman (1991). Reviews by Strachan (1986), Halford and Hayes (1991), and Lam (1991) were the most highly rated and serve as references for this article. These reviews discuss the results of eight randomized controlled trials of a family intervention for the treatment of persons with schizophrenia. We have also included a recently published high-quality meta-analysis by Mari and Streiner (1994).

All primary studies cited in these reviews of the literature

were retrieved to clarify ambiguities in published reviews. In addition, we identified and retrieved other primary studies that were not cited in the selected review articles. These studies had the following characteristics: (1) randomized controlled trial of an intervention involving family members of persons with schizophrenia; (2) patient group is primarily persons with schizophrenia diagnosed in a systematic fashion; and (3) outcome measures are systematically described and applied. We obtained results of the New York State Family Psychoeducation in Schizophrenia Project, which is in press, and preliminary results from the Treatment Strategies for Schizophrenia study. Given the limited number of primary studies and their relevance to several review questions, each primary study is briefly summarized in the text and in table 1. The summaries of the primary studies are followed by descriptions of the findings of the review by Mari and Streiner (1994), which is the only review to conduct secondary data analysis.

Findings

Brief Description of Primary Studies Included in Reviews.

Goldstein and colleagues (1978) provided crisis-oriented family therapy in a 2×2 design with 96 patients randomized to low or medium drug dose and to family therapy or no family therapy. Six weekly family meetings were conducted at the clinic. At a 6-month followup meeting, 48 percent of the low-dose/no-therapy group had relapsed, 22 percent of the low-dose/therapy group had relapsed, 14 percent of the moderate-dose/no-therapy group had relapsed, and

Table 1. Family psychoeducational studies

Study	Subjects	Treatment	Comparison condition	Results
Goldstein et al. (1978)	104 schizophrenia patients (mostly first admission)	Six crisis-oriented, brief weekly sessions; education, building acceptance, planning for the future	Medium- and low-dose medication	Significantly lower relapses in family treatment groups at 6 months ($p < 0.05$)
Falloon et al. (1982) Falloon and Pederson (1985)	36 schizophrenia patients living with high-EE relatives or judged to be at high risk for relapse	Behavioral family therapy: problem-solving and communication skills training in family home. 3 months of intensive therapy with 6 months of followup sessions	Supportive individual psychotherapy with brief family counseling	Significantly fewer relapses in family treatment group at 9 months ($p < 0.01$) and 2 years ($p < 0.001$). Increased patient functioning, reduced family burden, and reduced cost in treatment group
Leff et al. (1982, 1985)	24 schizophrenia subjects with high-EE relatives	Education of relatives, relatives' group, family therapy in home	Regular hospital followup, little family contact	Significantly reduced relapses for family treatment group at 9 months ($p < 0.05$); nonsignificant reduction at 2 years
Kottgen et al. (1984)	29 schizophrenia patients living with high-EE relatives	Education and discussion in patient-only and relative-only groups	Standard aftercare	No differences in relapse rates between groups
Glick et al. (1985) Haas et al. (1988)	80 patients with schizophrenia or schizophreniform disorder; 60 with major affective disorder	Inpatient family intervention of at least six sessions: education, identification of current and future stressors	Intensive standard inpatient care	Treatment had significant positive effect on symptoms for female patients and family ratings for patient subgroups
Hogarty et al. (1986, 1991)	103 schizophrenia subjects living in high-EE households	Education, discussion, communication, and problem-solving training for 2 years	Day hospital alone, social skills training	Family treatment significantly reduced relapse at 1- and 2-year followup ($p < 0.01$) for treatment takers; little effect on patient functioning
Tarrier et al. (1988)	83 schizophrenia subjects: 64 high-EE and 19 low-EE comparison	Behavioral program for 9 months emphasizing education, stress management, problem solving, and goal setting	Education only (two brief sessions) or routine treatment	Family treatment significantly reduced relapse and psychiatric symptomatology at 9 months and 2 years

Table 1. Family psychoeducational studies—Continued

Study	Subjects	Treatment	Comparison condition	Results
Leff et al. (1989)	24 schizophrenia patients living with families classified as high EE	Education, discussion, family therapy in the home	Education plus relatives' support group	No significant differences between the groups in relapse rates at 2 years (33% vs. 36%); no evidence of improvement of social functioning
Levene et al. (1989)	10 schizophrenia patients with poor medication compliance, weekly family contact, and formulation of a "focal issue"	Focal family therapy	Supportive management counseling	Improvement in both groups on symptoms, community tenure, and social functioning; no group differences
Vaughan et al. (1992)	36 schizophrenia patients living with both parents, at least one rated as high EE	10-week program for relative oriented to building alliance and problem solving	Standard outpatient care	No difference in relapse rates or symptoms between groups
Zastowny et al. (1992)	30 schizophrenia patients on intermediate length of stay inpatient unit with family available	Behavioral family management based on work of Falloon	Supportive family management	Improvement from pre-treatment in both groups on symptoms, community tenure, and functioning; no group differences
Randolph et al. (1994)	41 schizophrenia patients with 4 hours/week of family contact	Clinic-based behavioral family management developed by Falloon and others	Standard services	Treatment group had significantly fewer relapses at 1 year ($p < 0.01$)
McFarlane (1994)	41 schizophrenia patients with 10 contact hours/week with family	Psychoeducational multifamily group	Psychoeducational single-family therapy, dynamic multifamily therapy	Psychoeducational multifamily group had significantly lower relapse rates after 4 years
McFarlane et al. (1995)	172 schizophrenia patients with 10 hours per week of family contact and attendance at three engagement sessions and a formal educational program and/or treatment session	Psychoeducational multifamily group	Psychoeducational single-family group	Significantly fewer relapses in multifamily group for study completers. Multifamily superior for more symptomatic, white, high-EE patients and families. Significant improvement in employment in both groups, with trend

Table 1. Family psychoeducational studies—Continued

Study	Subjects	Treatment	Comparison condition	Results
Treatment Strategies for Schizophrenia (Nina Schooler, personal communication, April 1995)	528 schizophrenia patients living with family or having substantial family contact and candidates for treatment with antipsychotic medication	Applied behavioral intervention based on Falloon's model	Supportive family intervention with psychoeducation and monthly support groups	favoring multifamily condition No substantive differences between family treatment groups

Note.—EE = expressed emotion.

0 percent of the moderate-dose/therapy group had relapsed, revealing significant drug dosage ($p < 0.01$) and family therapy ($p < 0.05$) effects.

Leff and colleagues (1982, 1985) randomly assigned 24 patients with schizophrenia who had lived with their relatives for at least 3 months before admission, had at least 35 hours per week of face-to-face contact with family members, and had high EE to a treatment-as-usual control group or a family intervention package. The family intervention included a home-based psychoeducational program, a multifamily support group, and a home-based family therapy. At 9 months, 1 patient (8%) from the treatment group relapsed as opposed to 6 patients (50%) in the control group ($p < 0.05$). After 2 years, 40 percent of patients in the treatment group and 78 percent of those in the control group had relapsed, not a statistically significant difference.

The intervention developed by Falloon and colleagues (1982; Falloon and Pederson 1985) aimed to teach families effective problem-

solving and communication skills. An individualized assessment of each family's needs and strengths was first conducted. In-home sessions, which included the patient, initially provided education, but then focused on problem-solving skills. Multifamily groups were conducted at the hospital after the first 9 months of in-home sessions. The study randomized 36 schizophrenia patients living with high-EE families to family or individual management and provided 9- and 24-month followups. Patients in the family therapy group had significantly lower relapse rates. (At 9 months: 1/18 family patients and 8/18 individual patients relapsed; $p < 0.01$. At 24 months: 3/18 family patients and 15/18 individual patients relapsed; $p < 0.0001$.) Patients in the family treatment group also showed less behavioral disturbance, reported better family relationships, and had more friends. Families reported more satisfaction with patients' social behavior and less family burden. Total costs for family management were 19 percent less than those for individual management.

Kottgen and colleagues (1984) studied a family intervention that differed significantly from the others cited. Fifteen patients from families with high EE received the experimental treatment consisting of separate relatives' and patients' groups. The relatives' group was designed to air pent-up feelings and exchange views and had a psychodynamic orientation. The patients' group was intended to help patients acquire a peer group. Fourteen patients from high-EE families and 20 patients from low-EE families received conventional treatment. No differences in relapse rates were found across conditions.

Hogarty et al. (1986, 1991) studied 103 schizophrenia patients with at least one high-EE relative who were randomized to receive social skills training and family psychoeducation, social skills training only, family psychoeducation only, and medication only. The family treatment sequentially focused on (1) building an alliance with the family; (2) providing concrete information and management suggestions and building a support

network with other families at a 1-day survival skills workshop; and (3) applying workshop skills in individual family therapy with the patient included. At a 2-year followup of those who received treatment, 25 percent of patients receiving both psychosocial treatments had relapsed, 29 percent of patients receiving family treatment had relapsed, and 62 percent of patients in the control group had relapsed, showing a significant family treatment effect ($p < 0.01$). In general, the family therapy had little, if any, observed effect on measures of social and vocational adjustment.

Tarrier and colleagues (1988, 1989) studied 83 schizophrenia inpatients who had lived with a relative for 3 months before admission and who intended to return to live with that relative. Patients from families with high EE were randomized to behavioral treatment (enactive and symbolic), education only, and routine treatment. Patients from families with low EE were randomized into education only and routine treatment cells. After 2 years, 33 percent of patients in behavioral treatment groups had relapsed compared with 59 percent from the high-EE control group and 33 percent from the low-EE control group. Followups of patients at 5 and 8 years showed persistently lower relapse rates for patients who received the family intervention. At 5 years, the relapse rate in the intervention condition was 13 out of 21 patients (62%); in the control condition it was 20 out of 24 patients (83%). Comparable relapse rates at 8 years were 14 out of 21 patients (67%) and 21 out of 24 patients (88%) for the same groups, respectively (Tarrier et al.

1994).

Leff and colleagues (1989, 1990) compared a home-based family therapy with a relatives' group. The family therapy intervention provided two educational sessions at the hospital and a series of home-based family therapy sessions. The relatives' group also received the educational sessions but then met every 2 weeks for 9 months in small groups at the hospital and focused on support without specific psychological interventions. Twenty-four patients with schizophrenia from high-EE households with high family contact were randomly assigned. At 2 years, 33 percent of patients receiving education and family therapy relapsed and 36 percent of patients receiving education and a relatives' group relapsed. Note that 5 out of 11 families involved with a relatives' group refused to attend any groups.

The study of Glick and colleagues (1985; Haas et al. 1988) delivered family therapy while patients were hospitalized. Families received 6 to 8 1-hour educational and supportive sessions. Halford and Hayes (1991) summarized that overall there "was a significantly lower level of psychiatric symptomatology in the [treatment] condition. However, these treatment effects were only significant for female patients, and the effects were smaller for [patients with schizophrenia] than patients with other diagnoses" (p. 34). Also, patients with poor premorbid functioning did not show any benefit from treatment. Relatives in the treatment condition rated themselves as more open to social support, more positive in their attitude to treatment, and less negative toward the patient,

especially families of male and female patients with good premorbid functioning and females with poor premorbid functioning.

Brief Description of Primary Studies Not Included in Prior Reviews. Levene et al. (1989) compared supportive management counseling, an educative problem-solving approach, and focal family therapy, a modification of brief individual therapy utilizing "psychodynamic understanding, but little psychodynamic technique" (p. 642). Ten schizophrenia patients with (1) poor medication response after a 6-week neuroleptic trial, (2) ongoing weekly contact by the patient with the family, and (3) the formulation of a "focal issue" were included. Significant improvements for both groups in social functioning, symptoms, and days in the community were observed without group differences.

Zastowny and colleagues (1992) compared behavioral family management (BFM), based on the work of Falloon and others, with the supportive family management approach (SFM), based on the work of Anderson, Hatfield, and others. Thirty schizophrenia patients hospitalized for an intermediate length of stay (4–6 months) in a State inpatient unit with family available and willing to participate were randomly assigned. All families received an educational program followed by 16 condition-specific weekly sessions with patients and families. Monthly BFM booster sessions or SFM meetings followed. Patients improved significantly from their baseline in symptoms, functional status, and behavior and had more days in the community compared with their pretreatment history.

Families had reduced burden and family conflict, and increased knowledge. No group differences emerged.

Vaughan and colleagues (1992) compared standard outpatient care to a family intervention consisting of a time-limited 10-week program for relatives without the patient. The intervention aimed to build a therapeutic alliance, stabilize home life, and improve problem-solving skills. Thirty-six schizophrenia patients planning to live with both parents, at least 1 of whom was considered to be high EE, participated in the study. Seven of 17 discharged patients (41%) in the treatment group relapsed compared with 11 of 17 discharged control patients (65%) (not statistically significant). Other analyses of symptoms revealed no significant differences between treatment groups.

Randolph et al. (1994) studied the BFM strategy developed by Falloon and others modified to be conducted in a clinic rather than at the homes of patients. Forty-one patients with schizophrenia were randomly assigned to clinic-based BFM or to standard services in the Department of Veterans Affairs system. Only patients with at least 4 hours per week of contact with a relative were eligible. Patients in the family intervention cell had significantly fewer symptom exacerbations: 3 out of 21 (14%) versus 11 out of 20 (55%) at 1 year. There were no differences between groups in the number of days hospitalized. The EE rating at the beginning of the study did not predict response to treatment.

McFarlane and colleagues conducted two studies of a psychoeducational family intervention delivered in a multiple family group

(PEMFG) (McFarlane 1994; McFarlane et al. 1995). This approach explicitly built on the work of Hogarty and Anderson, Goldstein, Leff, and Falloon and colleagues. The first study (McFarlane 1994) compared PEMFG with (1) psychoeducation and single-family therapy (PESFT) and with (2) multifamily groups without psychoeducation known as a family dynamic multiple family group (FDMFG). Both psychoeducational interventions included initial family engagement and educational sessions followed by 2 years of bi-weekly sessions with clinicians using formal problem-solving techniques. Monthly sessions were conducted for the last 2 years. Patients did not attend engagement and educational sessions but were encouraged to attend the illness-management sessions. In the single-family condition, clinicians met with families alone. In both multifamily group cells, groups of five families met. In the dynamic multifamily group condition, no education was provided and methods emphasized opening intra-family communication, sharing emotional responses, and attempting to resolve family conflicts. These groups met weekly for the first 2 years and biweekly afterward.

Forty-one schizophrenia patients who had 10 hours per week of contact with family participated in the study. Patients were followed for 4 years or until patient relapse. Patients were not assigned to the dynamic multifamily group after 1 year of the study because relapse rates were unacceptably high (43%), leaving only seven patients in that cell. The 2- and 4-year relapse rates for psychoeducational multifamily and single-family

groups were 25 and 45 percent, and 45 and 78 percent, respectively, a significant difference when age was entered as a covariate.

McFarlane and colleagues (1995) attempted to replicate their pilot study comparing psychoeducational multifamily and single-family groups in a six-site randomized trial—the New York State Family Psychoeducation in Schizophrenia Project. A total of 172 *DSM-III-R* (American Psychiatric Association 1987) schizophrenia patients at six New York State public hospitals with broad geographic representation were randomly assigned to single- or multiple-family psychoeducational treatment. Patients were living with their family of origin or had at least 10 hours per week of family contact. Authors emphasized that the intervention was not conducted in a protected research environment and was offered to a less restricted and more typical sample of schizophrenia patients. Families in both conditions were assigned to a family clinician who was a case coordinator, educator, group leader, and liaison. Eligible subjects also had to attend at least three treatment engagement sessions, the formal educational program, and one subsequent treatment session. As in the earlier pilot study, initial engagement and educational sessions with families were followed by bi-weekly single-family clinician sessions or multiple-family group sessions aimed at problem solving for the 2 years of the study. The multiple-family group aimed to extend the social network of the patient and the family and to reduce the isolation and stigma caused by mental illness.

Using a Cox's proportional haz-

ards model, the authors found a main effect for the multifamily group in reducing relapse that approached statistical significance. At 2 years, 28 percent of multifamily group patients had relapsed compared with 42 percent of patients in the single-family condition. When considering those who completed the study, therapy modality and medication compliance were significant predictors of remission. When the total number of relapses were considered, multifamily groups generated 31 percent fewer relapses than did single-family groups with significant treatment modality effects. Note that most of the advantage of the multifamily condition was attributable to its superiority for patients with higher levels of positive symptoms at discharge. Similarly, race and EE status influenced the relative effectiveness of multifamily groups: White families and high-EE families had lower relapse rates in multifamily groups than in the single-family condition. Minority and low-EE families did not show such differences.

There were no group differences in hospitalization. When both treatment groups are combined, the hospitalization rate for the first year did not differ from the rate before admission. However, the second-year rate is significantly less than the pretreatment rate, and the hospitalization rate of the final 6 months was lower than that of the previous 18-month period. There were no meaningful differences in symptoms between the treatment groups. Medication compliance was high in both groups, with no differences between the groups. Employment improved significantly over time in both modalities combined, and

there was a trend toward an interaction effect between therapy modality and time that favored multifamily groups.

The five-site Treatment Strategies in Schizophrenia study evaluated three medication strategies in relation to two forms of family management in a 3×2 factorial design (Keith et al. 1989; Schooler et al. 1989). The medication strategies included two forms of dosage reduction: low-dose and targeted medication. The family management strategies were called "applied" and "supported." The applied treatment was largely based on the model developed by Falloon, emphasizing improvement in communication, goal attainment, and problem solving, with treatment provided in the family home. The supportive treatment provided psychoeducation and monthly support groups within a framework of a shared and supportive experience conducted by a family management clinician.

A total of 528 patients entered the study with 272 in the applied condition and 256 in the supportive. Patients had a diagnosis of schizophrenia and either lived with their family or had significant family contact. Patients were identified when acutely symptomatic, randomized to one of the two family treatment strategies, and treated with the assigned family treatment and a standard dosage of fluphenazine decanoate for up to 6 months. If successfully stabilized, patients were then randomized into the double-blind dosage study. Assessments of a broad range of outcomes, including psychopathology, hospitalization, medication dose, and side effects as well as social adjustment and family functioning, were conducted

several times up to 2 years.

Preliminary results revealed few, if any, significant differences in outcome between patients in different family treatments. Approximately two-thirds of patients in both groups attended at least one psychoeducational workshop. There were no differences in attendance at monthly meetings between treatment groups. (Nina Schooler, personal communication April 1995).

Summary of Review With Secondary Data Analysis. Mari and Streiner (1994) conducted a meta-analysis of the effect of family interventions on relapse. Their methodology met most of the criteria for an outstanding review as defined by Beaman (1991). Primary studies by Goldstein et al. (1978), Falloon et al. (1982; Falloon and Pederson 1985), Leff et al. (1982, 1985), Hogarty et al. (1986, 1991), Tarrrier et al. (1988, 1989), and Vaughan et al. (1992) met their inclusion criteria. They then evaluated the effect of family interventions on relapse in two analyses. In the first, they included only subjects who completed the interventions. In the second, they conducted an "intent-to-treat" analysis, including all subjects who were referred. For this analysis, they made conservative assumptions; all patients lost to followup in the experimental condition were assumed to have relapsed, and all patients in the control condition were assumed not to have relapsed. The total number of patients included in the six trials was 350 (181 in the control group and 169 in the experimental group). Pooled data of those who completed the study showed that family intervention had a significant effect on the reduction of relapse at followups at

6 months ($p < 0.05$), 9 months ($p < 0.01$), and 24 months ($p < 0.01$). However, intent-to-treat analyses with the conservative assumptions did not show that family intervention had a significant effect. The family intervention groups also showed significant reductions in hospitalization and increases in drug compliance.

Summary of Findings on Review Questions

When Added to Pharmacotherapy, Is There Evidence That Family Interventions Are Effective for Reducing Patient Relapse and Improving Patient Functioning and Family Well-Being?

Relapse. Consideration of the individual studies and the reviews suggests that there is a consistent and robust effect of family interventions in delaying, if not preventing, relapse. Lam (1991) pointed to relapse rates ranging from 6 to 23 percent in the treatment group compared with 40 to 53 percent in the control group at the 9-month to 1-year mark. Studies that compare two family treatments consistently show relapse rates in both cells that are comparable to the family-treatment condition in the studies with nonfamily-treatment control groups.

Lam (1991) pointed out that this treatment effect seems to disappear by 2 years, suggesting that the intervention serves to delay rather than to prevent relapse. However, the family contact in the second year of treatment in these studies was limited and treatment termination was approaching, as discussed in the Hogarty study. Studying interventions that extend beyond the life of the research evaluation

might lead to better 2-year outcomes in terms of relapse. McFarlane's studies address this issue and demonstrate ongoing benefits in the second year and beyond if the intervention is maintained. Furthermore, the 5- and 8-year followup study by Tarrier and colleagues (1994) suggests that family intervention has some persistent benefits.

The lack of treatment effect in Vaughan et al.'s (1992) recent study may be due to characteristics of the family intervention, which was limited in terms of time, conducted in the hospital, and restricted to family members. The lack of effect observed in the study by Kottgen et al. (1984) may similarly be due to the nature of the family intervention, which was less oriented toward education and support than were the other intervention studies.

Functional status. There is modest evidence at best from Falloon et al.'s (1982; Falloon and Pederson 1985) and Tarrier et al.'s (1988, 1989) studies that family interventions may improve patients' functioning. McFarlane et al.'s multifamily group study (1995) provides some hints that family interventions may improve employment. An important consideration is that the effects of family interventions on functional status may be indirect and somewhat delayed beyond the period of measurement of these studies. It is possible that delay of relapse and more time in the community might secondarily lead to improvements in functional status that are observable over the longer term.

Family Well-Being. There is modest evidence from Falloon et al.'s (1982; Falloon and Pederson 1985) and possibly Zastowny and

colleagues' (1992) study that family interventions may improve a family's well-being. These effects may also become more evident over time.

Is There Evidence That a Particular Kind of Family Intervention Is Superior to Others?

McFarlane's study of multifamily versus single-family groups provides evidence that for at least some subgroups of patients, the multifamily modality is superior to the single-family modality. McFarlane et al. (1995) suggest that the lack of superiority of multifamily groups found by Leff et al. (1989, 1990) in his study comparing a multifamily relatives' group to a single-family behavioral intervention is attributable to the following differences between the two studies: (1) patients were included in McFarlane's model but excluded in the Leff relatives' group; (2) in McFarlane's multifamily group, clinicians met families and patients for a minimum of three sessions as an engagement strategy, which is absent in Leff et al.'s (1989, 1990) model; and (3) in McFarlane et al.'s (1995) multifamily group protocol, the family group leaders were the patients' primary therapists, while in Leff et al.'s study, the patients' treatment was separate from the family intervention. This work coupled with the absence of a treatment effect in the study by Vaughan et al. (1992) suggests the importance of patient participation in at least some aspects of the treatment intervention. There does not appear to be any evidence that in-home interventions are superior to clinic-based interventions, particularly in light of Randolph and colleagues' (1994) recent study performing

Falloon's BFM model successfully in the clinic.

Lam (1991) distinguished between treatments using only psychoeducation and treatments using family interventions, which include distinct phases of engagement, support, and problem solving. He identified six studies in which the education interventions were short in duration (one to six sessions) and were delivered in a single- or multifamily group. Three of the studies were part of more intensive family interventions (McGill et al. 1983; Berkowitz et al. 1984; Barrowclough et al. 1987), and one had an additional component of teaching coping techniques (Abramowitz and Coursey 1989). Two other studies had a specific psychoeducation intervention (Smith and Birchwood 1987; Cozolino et al. 1988). Analyses revealed some positive effects of psychoeducation after intervention, but long-term effects are unknown. The studies providing meaningful information on the effects of psychoeducation on relapse rates suggest that treatment using only psychoeducation appears to be ineffective at reducing relapse. However, these findings must be interpreted cautiously to the extent that the brevity rather than the content of the intervention may be responsible for the lack of effect observed. Furthermore, little formally controlled evaluation of family education programs as described by Hatfield (1994) and others has been done to date. These interventions may be more effective at helping families than at lowering patient relapse rates.

The issue of dynamic approaches is raised in the studies by Kottgen et al. (1984) and McFarlane (1994). Kottgen's study used a dynamic

group approach, which did not produce superior outcomes when compared with standard care. McFarlane studied a multifamily group with a dynamic orientation. That group had an unacceptably high relapse rate (47%) after 1 year, and patients were not subsequently randomized to that cell. These two studies suggest that dynamic approaches are not effective.

Otherwise, there is no compelling evidence that any of the family interventions that combine the following components outlined by Lam (1991) are superior to another: (1) taking a positive approach and establishing a genuine working relationship, (2) providing structure and stability, (3) focusing on here and now, (4) using family concepts, (5) working on cognitive restructuring, (6) taking a behavioral approach, and (7) improving communication.

Is There Evidence That Patient Heterogeneity Factors, Such as Family Characteristics, Age, Gender, Race, and Phase of Illness, Influence the Effectiveness of These Interventions? Because the interventions of Leff, Falloon, and Hogarty were restricted to high-EE families, it is safest to say that such interventions are effective only in such families. However, the Treatment Strategies for Schizophrenia study as well as the McFarlane et al. (1995) and Zastowny et al. (1992) studies enrolled a less restricted group of patients, which required family contact only and showed effectiveness of family interventions tested. Thus, there is reason to believe that persons with schizophrenia who have significant family contact—high EE or low EE—might benefit from family interven-

tion. McFarlane et al.'s (1995) finding that the multifamily group is particularly superior to the single-family modality in high-EE families but not in low-EE families suggests that the level of EE measured at baseline may be an indicator of the type of intervention likely to be successful. The large group of patients who no longer have family contact, but whose families are potentially a support, needs to be considered. Furthermore, the relevance of these interventions for nonfamily patient support systems merits exploration.

McFarlane et al.'s (1995) finding that multifamily groups are superior to single-family groups in highly symptomatic, white patients and not in less symptomatic, black patients suggests important differential treatment effects based on race and clinical status that need to be further explored.

Discussion

The study of psychosocial family interventions in treatment of persons with schizophrenia reveals a number of high-quality controlled trials of well-defined family interventions. These studies used randomization, well-established inclusion criteria, evidence of fidelity of the intervention and process obtained, and systematically collected outcomes. Methodological problems included small sample sizes that sometimes led to lack of power, patient dropout, and confounding effects of medication compliance. Many studies suffered from limited inclusion criteria, requiring that patients be from families rated as high EE at referral. Although this problem is being remedied in more current studies, it limits the generalizability of the findings.

Small sample sizes and restricted inclusion criteria limit our understanding of ethnic and cultural issues related to family interventions that may be important. The relatively short length of followup may have limited the ability to ascertain the impact of family interventions on patients' social and vocational outcome.

Given these limitations, there is an impressive body of evidence suggesting that family interventions are efficacious at delaying if not preventing relapse for persons with schizophrenia who have significant family contact. These studies are increasingly being conducted in more typical clinical treatment settings with less selected patient groups, suggesting that these interventions are effective as well as efficacious. There is inadequate evidence at this point to determine whether family interventions improve functional status and family well-being. The answer to this question awaits studies with longer followup periods and more extensive outcomes assessed.

The search to determine the critical components of family interventions for specific patient populations has also begun to turn up some answers. We can say with moderate confidence that brief psychoeducation alone is inferior to other family interventions that use different combinations of engagement, support, and problem solving in addition to education. Multifamily groups may have some advantage over single-family treatment for patients with more positive symptoms, patients who are white, and patients whose families have high levels of EE at measured referral. Although the research to date provides the most evidence that patients with high-

EE families benefit from family interventions, recent studies are beginning to offer evidence that the therapeutic effects of family interventions may extend to a broader range of patients.

Future research must continue to integrate family interventions into routine clinical settings with less selected patient populations. Ongoing efforts should attempt to tease apart the essential components of family interventions for specific patient groups and to measure the impact of interventions on families and patients. Emphasis should also be placed on creating interventions targeted at other members of the patients' support system (analogous to those developed for families). Future studies also need to focus on patients from different cultural backgrounds to enhance our understanding of whether race and ethnicity mediate the effectiveness of family interventions.

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