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Principles and results of family therapy in schizophrenia

Abstract There is growing evidence that social factors contribute significantly to the course and outcome in schizophrenia. In particular, the relationship between high EE and schizophrenic relapse has been documented by many investigators. Since 1980, several psychoeducational family management programs have been evaluated showing a significant reduction in relapse when compared to standard psychiatric care. To prevent tardive dyskinesia, alternative medication strategies have been introduced, e. g. low dose and targeted medication. In the Munich treatment study the combined effects of behavioral family management (BFM) and standard dose (SD) or targeted neuroleptic medication TM) on relapse and social functioning of the patient as well as coping and burden of the family have been investigated. N = 51 patients with 73 relatives were randomly assigned to the two groups (BFMSD = 27, BFMTM = 24). Relapse rates at 18 month were: BFSD = 3.9%, BFMTM = 33.8%. In summary, psychoeducational family management in combination with standard dose medication proved to be highly effective in preventing relapse in schizophrenia. These results are in line with findings of anglo-american studies and call for a more widespread application of these new psychosocial approaches in order to provide the best services available for the chronically ill schizophrenic patient and their families.

Key words Schizophrenia · Family therapy · Social factors · Pschosocial therapy

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Psychosocial factors in relapse

Long-term neuroleptic treatment has been shown to be effective in preventing relapse, but even with continuous medication, about 40% of patients relapse during the first year of discharge from the hospital compared with about 70% of patients taking placebo (Hogarty 1984). The high rate of relapse has stimulated research on contributing factors: apart from medication non-compliance (Kissling 1992), social stressors, in particular life events and/or a family environment high on "Expressed Emotion" (EE, Leff & Vaughn 1985) seem to be important. High EE (HEE) relatives emit more than six critical comments during the semistructured Camberwell Family Interview (CFI) and/or receive a rating of three or more in the "Emotional Overinvolvement" (EOI) scale. Otherwise, relatives are categorized as low on EE (LEE). The predictive validity of the EE rating has been investigated in about 27 studies worldwide resulting in a relapse rate nine months after discharge of 52% for patients living with a HEE relative in contrast to 22% for patients living in a LEE family (Butzlaff & Hooley 1998).

Of the 27 studies published, 24 showed a positive association between EE and relapse, with higher levels of EE in families being associated with greater rates of relapse in patients. The mean effect size was .31. This effect size is quite impressive when compared with data from medical studies: In the Physicians Health Study the effect of aspirin on the prevention of heart attacks was clearly established. However, the effect size for aspirin in that study was .034!

In a recent well-controlled study, Nuechterlein and his colleagues (1998) investigated the predictors of the early course of schizophrenic and schizo-affective patients. Patients were treated with fluphenazine, individual case management, skills-focused group therapy and family education. During a period of ongoing antipsychotic medication and psychosocial intervention, discrete stressful life events and highly critical or emotionally overinvolved attitudes towards patients and a higher symptom level

were highly significant predictors of the chances of a psychotic relapse. The predictive role of these psychosocial stress variables is not accounted for by factors that would be expected to index genetic factors (family history, neurocognitive vulnerability factors), suggesting that these environmental stress variables operate through seperate processes.

The EE concept essentially measures the key relative's attitudes towards the patient, but since the CFI interview is only conducted with that relative, it is not clear whether or not HEE relatives actually emit negative behavior in real life interaction with the patient. In several studies, the research group of the late Michael Goldstein at UCLA (see Strachan et al. 1986) were able to show that a critical attitude of the relative toward the patient correlates with critical interactional behavior when the family was asked to discuss family problems in the video laboratory. These findings were replicated using a different coding system in the US by Hahlweg et al. (1989) and with a German sample by Müller et al. (1992). These studies also demonstrated that HEE families build up negative escalation patterns for extended parts of the discussion while LEE families were able to escape such vicious circles. Furthermore, detailed analysis demonstrated that the patient contributed to the development and sustainment of these negative escalation patterns just as much as the relatives (Hahlweg et al. 1989).

At least two consequences emerge from these results: (a) The findings clearly indicate the active role of the patient in establishing a positive or negative family atmosphere and argue against a tendency to blame the relatives for being responsible for a relapse (see Hatfield et al. 1987; Mintz et al. 1987). (b) In order to be able to modify the behavior of all family members simultaneously, the patient should be included in family management.

Psychoeducational approaches in preventing relapse

The cited results emphasize the impact of family interaction on the course of the schizophrenic disorder, and fit well in recent heuristic vulnerability-stress models (Nuechterlein & Dawson 1984; Zubin & Spring 1977). Several consequences for prevention of relapse with schizophrenic patients ensue from this model and from the results of EE research: neuroleptic medication seems to be necessary to control positive symptoms of the disorder, probably by lowering autonomic hyperarousal, while psychosocial intervention to modify unfavorable familial factors seems to be indispensible for effective prevention of relapse.

Several anglo-american intervention programs based on the vulnerability-stress model have been developed which combine family intervention and neuroleptic medication as a means of preventing relapse in schizophrenia (Falloon et al. 1984; Goldstein et al. 1978; Hogarty et al. 1986, 1991; Leff et al. 1982, 1985; Tarrier et al. 1988, 1989). Although the individual concepts differ in their procedures, there are several common components:

(a) The patients are on neuroleptic medication. (b) Intervention is relatively brief (15-25 sessions in the first year) and starts with informational sessions on psychosis and neuroleptic medication. (c) The main focus is on lowering EE variables like criticism and over-involvement. (d) The aim is to resolve current areas of conflict in the family, with the goal of minimizing social stress. (e) Therapy is not only directed at problems of the patient, but aims to alleviate the whole family's burden.

The results from these different studies are very consistent in showing a marked reduction in relapse for patients in family treatment when compared with patients in standard psychiatric care. Relapse rates in the first year varied from 44% to 53% (mean: 49%) in the control groups in contrast to 6% and 23% (mean: 13%) in patients with family interventions. After two years the mean relapse rates were 72% in the control groups and 31% in the experimental groups. Furthermore, these interventions, in particular the Behavioral Family Management (BFM) approach by Falloon et al. (1984), seem to increase the level of social competence of the patient, decrease the subjective burden of relatives, change the communication patterns in the family, and are cost-effective in comparison to routine psychiatric treatment.

Psychoeducational approaches seem to be effective also in other cultural backgrounds. In a study conducted in China, Xiong et al. (1994) found that family intervention was significantly more effective than standard care in terms of rates and duration of hospitalization.

McFarlane et al. (1995) investigated in an uncontrolled study the effectiveness of psychoeducational Multiple Family Groups (MFG) on the outcome in schizophrenia. After four years, the relapse rate was 50%, averaging 12.5% per year. When compared to the above mentioned relapse rates in the control groups, the result points toward a long-term therapeutic effect for multiple family groups.

Recently, Falloon and his colleagues (1998) conducted a meta-analysis of 20 controlled and uncontrolled family management studies. Results showed that the clinical outcome (hospitalization and major episodes combined) is clearly associated with the strength of treatment, that is the intensity, and length of treatment. Clinical outcome is also associated with the type of family strategy used for treatment, favoring the cognitive behavioral approaches.

Alternative neuroleptic dosage-strategies

The efficacy of standard-dose antipsychotic neuroleptic medication in the long-term maintenance treatment of schizophrenia has been established. However, concerns about the adverse effects of neuroleptic medication, in particular the development of tardive dyskinesia, have led to a search for alternative long-term medication regimens, in particular *low dose* (Goldstein et al. 1978; Hogarty et al. 1988; Johnson et al. 1987; Kane et al. 1983, 1985; Marder et al. 1984, 1987) and *targeted* (or *intermittent*) treatment (Carpenter et al. 1990; Herz et al. 1991; Jolley

et al. 1989, 1990; Müller et al. 1992). In low dose therapy, patients receive about 10%–20% of the usual standard dose, while in targeted treatment medication is in most cases discontinued gradually. If clinical deterioration is noted, e.g. the occurence of prodromal signs (Herz & Melville 1980), medication is promptly reinstituted.

The cited studies have confirmed the feasibility of these strategies in that outcome with low dose or targeted treatment is in many respects comparable to continuous treatment at least for the *first* year of treatment. While more symptom exacerbations are noted, this worsening is usually brief when treated with an increase of dosage. However, during the second year relapse rates and families' burden are significantly higher in patients treated with intermittent treatment.

The Munich-study

In the following, the results of a study conducted in Munich, Germany are summarized, in which the effectiveness of different alternative treatment strategies in combination with Behavioral Family Management was investigated. This open clinical trial was conducted with the following main aims (see Hahlweg, Dürr & Müller 1995):

- Replication of the BFM results (Falloon et al. 1984) in Germany.
- Investigating the feasability of the targeted approach in combination with Behavioral Family Management (BFM) as suggested by Jolley et al. (1990).

It was hypothized that the inclusion of the family would lower the relapse rates considerably since more persons are involved in detecting prodromal signs. Therefore the reinstitution of medication and an increase of concurrent psychosocial measures would occur early enough to prevent psychotic exacerbation. Over the study period, patients with targeted medication should receive less medication and experience fewer side-effects than patients with standard dose.

An open 18 month clinical trial was used in order to investigate the *clinical* feasability of these treatment approaches using the existing lines of treatment. In Germany the treatment of schizophrenic patients is primarily done by psychiatrists in private practise. So the treatment approach was adopted for the private practitioner model.

In contrast to the previous psychoeducational studies both HEE- and LEE-EE families were included. Since the effectiveness of BFM in everyday clinical practise was the focus of the study, inclusion of LEE families seems appropriate. On the one hand, in clinical routine it does not seem possible to use the lengthy CFI to identify the EE status of families because of the costs involved. On the other hand, LEE families may not constitute a homogenous group of families with a benign environment to the patient. It may well be that a subgroup of relatives is not rated as critical or overinvolved simply because they do not care about the patient any longer. Results by Buchkremer et al. (1986) showing that relative's *indifference* toward the patient is correlated with relapse support this notion.

Originally the study was planned as a controlled 2 x 2 design, assigning patients randomly to one of the following 4 groups: a) BFM plus standard dose, b) BFM plus targeted medication and as the control conditions, c) standard dose alone, d) targeted medication alone. However, when the first six patients/families were assigned to the control groups, all of the patients refused to take part in the study after reading the informed consent letter. These patients had to be excluded from the study despite the fact that they were quite willing to be treated by BFM. Since patient/family recruitment had been generally difficult, the study design was changed omitting both control groups.

Study entry criteria

Consecutive admissions to the Max-Planck Institute of Psychiatry (MPIP) were recruited for the study between September 1988 and July 1991. Patients in the age range of 17 to 50 years had to meet Research Diagnostic Criteria (RDC, Spitzer, Endicott & Robins 1978) for either schizophrenia or schizoaffective (mainly schizophrenic) disorder. For at least three months before admission, the patient had to live with or had to be in close contact (defined as at least 10 hours per week) with a relative and was likely to return to that household after discharge. Exclusion criteria were: 1) evidence of an organic central nervous system disorder; 2) recent history of alcohol or substance abuse; 3) mental retardation (IQ less than 70); 4) a history of more than two relapses per year after the withdrawal of maintenance neuroleptic medication.

Procedure

After the patient had satisfied the RDC criteria, the closest relative (-s) was administered the Camberwell Family Interview (CFI, Leff & Vaughn 1985) in order to establish the EE status of the family. After informed consent was obtained from patient and family members, patients were randomly assigned to receive Behavioral Family Management (BFM) either in combination with continuous standard dose (SD) or with targeted medication (TM). The random allocation was done in a stratified manner with EE status and sex as factors. In most cases randomization took place within 6 weeks after hospital admission and in all cases before discharge.

Behavioral Family Management started at discharge and lasted in a structured form for one year. Thereafter families were seen on their request. All patients received individualized standard-dose medication for at least three months after hospital discharge. Whenever stabilization was achieved it was attempted to withdraw medication gradually for TM-patients. Once prodromal signs occurred medication at the psychiatrist's discretion was reinstituted.

Patients

The recruitement procedure and the drop-out rates are reported by Wiedemann et al. (1994). There was a total of 51 patients with an average age of 29.4 years (SD = 9.0); 60.8% were male. With regard to marital status, 57% were single, 39% married or cohabitating, and 4% divorced or separated; 58% lived in a parental household. Educational levels were Hauptschule (primary school) 16%, Mittlere Reife (secondary school) 27%, Abitur (high school) 37%, and Fachhochschule/Universität (university) 20% (an average of 11.6 years of school education). Occupational status: fulltime employment = 25%, parttime = 12%, unemployed = 12%, sick-leave = 14%, housewife = 10%, in education = 27%. 16% belonged to the lower, 66% to the middle, and 18% to the upper social class.

The clinical characteristics of the patients were:

diagnosis: schizophrenia: 46 (90%), schizoaffective, mainly schizophrenia: 5 (10%). First admission: 43%, 2nd admission: 31%, 3 or more admissions: 26%; mean number of admissions: 2.1 (SD = 1.7); mean age of onset: 26.1 (SD = 7.6); median days in hospital (index admission): 56; mean GAS score at admission: 39.9 (SD = 15.6), at discharge: 72.8 (SD = 12.7).

Of the patients, 27 were randomly allocated to the BFMSD and 24 to the BFMTM group. There were no significant differences between the two groups with regard to sociodemographic and symptom variables.

Relatives

In total, 73 relatives (49% males) were included with a mean age of 49 years; 22 (43%) households contained two relatives. The relationship of relative to patient was: mother: 27 (37%), father: 22 (31%), husband: 13 (18%), wife: 10 (14%). The relatives belonged mainly to the middle class. The family EE status as assessed by the CFI was: Low EE = 21 (42%), High EE-critical: 21 (42%), and High EE-EOI: 8 (16%).

Assessment

Major assessments were made at admission (diagnosis and psychopathology), discharge, and 6, 12 and 18 months after discharge. The major outcome measures were the *Brief Psychiatric Rating Scale* (BPRS; Overall & Gorham 1962; Lukoff, Nuechterlein & Ventura 1986) and the *Global Assessment Scale* (GAS, Endicott, Spitzer, Fleiss & Cohen 1976).

Behavioral family management (BFM)

The goal of BFM (BFM; Falloon et al. 1984; Hahlweg, Dürr & Müller 1995) is to provide comprehensive long-term community care for persons suffering from schizophrenia by utilizing the problem solving potential of their natural support systems. While the patient is hospitalized an extensive *assessment* of the patient and the family is done including the CFI and the videotaping of the family's interaction discussing a family problem. One important task is to establish the patient specific prodromal signs.

Education

After discharge, the first two sessions are directed towards the education of the patient and his/her family about the nature, course, etiology, and treatment of schizophrenia. Individuals who develop symptoms of schizophrenia are probably born with a vulnerability to this and are not responsible nor to blame for it, nor is their family. It is an illness similar, in a sense, to diabetes or hypertension, in that although there is no cure, there are very effective treatments that can reduce and often eliminate symptoms for long periods of time, allowing in many cases a gradual return to premorbid levels of functioning.

Although families do not *cause* schizophrenia, they can influence its *course*. Since it is a stress related illness, the amount of tension and stress in the home environment is a critical factor. There are many ways in which families can help maximize the patient's level of functioning, as well as minimize the chances of relapse; therein lies the rationale for a family management approach.

The second session is devoted to discussing issues related to medication. A cost-benefit analysis is presented with the principal advantages being (1) reduction or elimination of psychotic symptoms, (2) reduction of morbidity due to stressful life events, and (3) prophylaxis against relapse. Disadvantages discussed include bothersome side effects and possible long-term complications such as tardive dyskinesia. Strategies for coping with side effects are discussed.

Communication Skills Training

Following the two educational sessions, the treatment goals for each family shift to enhancing the problem solving potential of that family unit. Because a minimally sufficient repertoire of interpersonal communication skills is a prerequisite to effective problem solving, several sessions usually focus on improving family communication. Behavioral rehearsal strategies are employed to shape effective expression of positive and negative feelings, reflective listening, making requests for behavioral change in a positive manner, and reciprocity of conversation.

This communication skills training is accomplished primarily via behavioral rehearsal and concomitant instruction, modeling, coaching, social reinforcement, and performance feedback. Families are encouraged to practice newly-learned communication techniques and are given specific homework assignments to facilitate the daily use of these skills.

Problem solving training

When families show competency of basic communication skills, the problem solving model is introduced as a means to enhance coping with stressful life events and reduce family tension. Family members are taught a six step problem-solving method that involves (1) discussing and coming to an agreement on the exact nature of the problem, (2) generating a list of five or more alternative solutions without judging their relative merits as of yet, (3) discussing, in turn, the pros and cons of each proposed alternative, (4) choosing the best solution or combination of solutions, (5) formulating a specific plan of how to implement the solution, and (6) subsequent review of successfulness and praise for people's efforts implementing the solution.

The major focus is on the enhancement of problem resolution outside of sessions, unassisted by the therapist. Once the family has demonstrated competent problem solving the therapist reduces the frequency of sessions and eventually withdraws completely, although he/she will remain available for consulting and further coaching upon request.

Time schedule BFM

Overall 10 therapists were involved and one therapist was treating a family. Weekly sessions were held during the first three months followed by biweekly sessions for another three months period. Thereafter monthly sessions were conducted for at least one year according to the families' needs. The mean number of sessions was M = 26 (SD = 5.7), HEE families received on average 27.2, LEE families 24.6 sessions (n.s.). In contrast to Falloon et al. BFM sessions were conducted in the outpatient clinic. Home visits were too costly, averaging up to three hours for one session due to travel time. Whenever possible, at least one home visit was conducted during the first phase of BFM.

Neuroleptic treatment

Neuroleptic treatment was preliminary conducted by psychiatrists in private pratice using standard oral or depot neuroleptics (Haldol, Fluphenazine, Clozapine). The project psychiatrist kept close contact to the treating psychiatrist in particular with TM patients in order to enhance drug withdrawal.

Results

Relapse

Relapses were defined as a reoccurrence of psychotic symptoms with or without subsequent hospitalization and operationalized following the recommendations of Nuechterlein et al. (1986): A rating of 5 or higher in any of the BPRS scales "Unusual Thought Content", "Conceptual Disorganization", "Suspiciousness" or "Hallucinations" given the patient was previously in remission (a rating of less than 3 on the scales). According to this criterion all patients were remitted at hospital discharge. Assessment of relapse was based on an unanimous team decision. Three treatment takers droped out of treatment, two patients were assigned to Behavioral Family Management with Standard Dose (BFMSD), and one patient was assigned to BFM with Targeted Medication (BFMTM). Percentages of relapse were calculated based on the remaining sample (N = 48). Nine patients (6 male, 3 female; n.s.) relapsed, 8 in BFMTM and 1 patient in BFMSD; eight patients had to be hospitalized. These patients had a mean number of days at the hospital during index-admission of 80 days, and of 70 days for rehospitalization. The cumulative relapse rates are as follows: 6 month: BFMSD: 0%, BFMTM: 13.4% (3); 12 month: BFMSD: 4% (1), BFMTM: 17.4% (4); 18 month: BFMSD: 3.9% (1), BFMTM: 34.8% (8). The latter difference was significant.

Medication (dose levels)

Because a variety of neuroleptics were administered to the patients the actual prescribed drug dose for each day was transformed into "chlopromazine equivalents" (CPE) according to the conversions used in the Pietzcker et al. (1986) study. From the second month on, dose levels for BFMTM patients were significantly lower than for BFMSD patients. The mean daily dosage during the first year after discharge amounted to: BFMSD – 266 mg CPE (SD = 140) and BFMTM = 148 (SD = 127). This difference was highly significant.

Only two BFMSD patients were without prescribed medication for 1 or 2 months during the first year. In the BFMTM group the number of neuroleptic-free months varied considerably: 7 patients (30.4%) received medication continously, and only 7 patients were drug free for more than 5 months.

Psychopathology and social adjustment

The pattern of results were similar for the various measures and assessment points. Patients in both groups improved significantly from hospital discharge to the 6, 12, and 18 month follow-ups with regard to psychopathology (BPRS) and social adjustment (GAS). There were no significant differences in any of the global variables.

This general pattern of results was also obtained for the *relatives*: significant improvements in SCL-90 GSI and family burden from hospital discharge to the follow-ups and no significant differences between the two groups with regard to self-rated psychopathology.

Discussion

This study examined the efficacy of standard dose or targeted medication in combination with Behavioral Family Management for relapse prevention in schizophrenic patients living in high or low EE families. A major aim was to replicate the results of the Falloon et al. study (1984) with a German sample. Our 4% relapse rate after 18 months for BFM in combination with standard dose neuroleptic treatment clearly points to the crosscultural efficacy of this psychosocial approach and is in line with the results reported by Falloon et al. (1984; 9 month: 6%, 24 month: 17%), and by Hogarty et al. (1986, 1991), Leff et al. (1982, 1985), and Tarrier et al. (1988, 1989). Besides the low relapse rate within-analysis showed that patients and relatives improved on a number of other variables, e.g. psychopathology, social adjustment and family burden, again replicating the results reported by Falloon et al. (1984).

The major focus of BFM is to improve the family's ability to solve problems in order to lower familial stress. It is therefore important to show that the treatment is able to change family communication in the long run. To investigate these questions further families were asked to discuss family conflicts in the video laboratory after discharge (pre), and at 6, 12, and 18 months. At six months, significant reductions in negative verbal and nonverbal behavior, notably in criticism, concomitant with significant increases in positive communication, notably in problem solving and acceptance, were observed (Rieg et al. 1991). These findings parallel those reported by Doane et al. (1986) using the Falloon et al. sample.

Obviously control groups are missing in order to attribute these changes definitely to the treatment. In order to estimate relapse rates in patients hospitalized in comparable university or research clinics and later on treated in private practice as out-patients, the results of two naturalistic studies may be helpful. Laessle et al. (1987) retrospectively investigated the clinical course of 40 schizophrenic patients living with relatives who were hospitalized in the Max-Planck Institute of Psychiatry six years ago. The relapse rate 18 months after discharge was 45%. A prospective study with 65 schizophrenic patients is currently underway at the "Zentralinstitut für seelische Gesundheit", a research facility in Mannheim. Preliminary results yielded a relapse rate of 48% 18 months after discharge (Olbrich, personal communication, 1992).

These relapse rates are very much in line with the outcomes of the control groups of patients living with high-EE families used in the psychoeducational studies yielding a mean relapse rate 12 months after discharge of 49%, and 72% 24 months later. Taking these findings together, it seems warranted to attribute our low relapse rate to the combined approach of standard dose treatment and Behavioral Family Management. Whether a better drug compliance, a more benign family atmosphere due to the enhanced capability of the family to solve their problems and to communicate more positively, or the combination of both factors is responsible for the very encouraging results remains unclear.

The second aim of the study was to investigate the feasability of the targeted approach in combination with Behavioral Family Management (BFM). It was hypothized that, beside the positive effects of the psychosocial approach, the inclusion of the family would enhance the capability to monitor prodromal signs and would consequently lower the otherwise reported higher relapse rates. This hypothesis has to be rejected since our results showed a significantly higher relapse rate of 34% 18 months after discharge in contrast to the 4% for patients with standard dose and BFM. These results are in line with the published reports by Carpenter et al. (1990), Herz et al. (1991), Jolley et al. (1989, 1990), and Müller et al. (1992). While these studies differ with regard to patient selection, methodology, and criteria for relapse, all reported a significantely higher relapse rate two years after discharge for TM-patients in contrast to SD-patients ranging from 36% (Herz et al. 1991) to 62% (Carpenter et al. 1990). The German study by Müller et al. (1992) reported relapse rates of 39% (12 month) and 49% (24 month), respectively. Our results clearly indicate that targeted medication even in combination with BFM is not a viable alternative as a routine outpatient treatment for schizophrenic patients. This conclusion is supported by the results of the recent NIMH study, in which the effects of dose reduction and family treatment were investigated (Schooler et al. 1997). The two year relapse rate was 19% for patients treated with BFM and standard dose, 26% for patients treated with low dose and BFM, and 43% for patients treated with targeted medication and BFM. However, targeted medication may be an alternative treatment for patients unwilling to be on standard medication for an extended period of time.

Apart from the significant differences with regard to relapse between the two groups any of the other variables used did not show significant differences - a finding also reported by Carpenter et al. (1990), Herz et al. (1991), Jolley et al. (1990), and Müller et al., (1992). Despite the higher relapse rates TM-patients improved as well as SD-patients in psychopathology, side-effects, social competence, and showed less burdened by the family. The same pattern of results was true for the relatives.

Over the 18 month TM-Patients received significantely less medication than SD-patients and about 50% did not receive any medication for at least 4 months. This parallels the findings by Carpenter et al. (1990), who reported that TM-patients were drug free for 48% of the study time. Contrary to expectations the two groups did not differ significantly with regard to side-effects. This may be due to the generally low dosage in the SD-group. Anyway, side-effects were very mild generally and tardive dyskenisia was not reported at all in our sample of comparatively young schizophrenic patients.

A crucial limitation of new approaches to health services lies in the cost, which often exceeds that of previous approaches and, despite the advantages of improved effectiveness, restricts general implementation. In the Fal-

loon et al. study all direct and indirect costs of community management to patients, families, health, welfare, and community agencies were recorded. The results after 1 year showed that the overall costs of the family approach were 19% less than those of the control condition (Cardin et al. 1985). In the Tarrier et al. study the family intervention resulted in a 27% decrease in mean cost per patient mainly due to fewer hospitalizations.

In Germany BFM could be provided by clinical psychologists or psychiatrists in private practise. Insurance companies would have to pay approximately 2,500 DM per case treated by BFM (25 session of 100 DM; not taking costs for seeing the psychiatrist and for medication into account). Readmitted patient stayed on average 70 days in the hospital. A day at hospital costs at least 350 DM = 24,500 DM. Taking a 40% relapse rate for standard medication only over an 18 month period into account (relapse for 10 out of 26 patients = 245,000 DM) in our study the BFMSD treated patients would saved approximately 145,000 DM (1 relapse = 24,500 plus 65,000 DM for BFM) calculating only hospital costs!

These reductions in cost do not even take the benefits for the patient and the family into account of not being disrupted by hospital admissions. Less frequent admissions would prabably lead to less stigmatization and better self-esteem in the long run.

Conclusion

There is a lot of positive evidence to support the broad scale application of psychoeducational family treatment in schizophrenia. Unfortunately, after 15 years of research, virtually no one is using the treatments in everyday practise; this is true for Germany and England as well as for the US.

What are the barriers to implement family management? Several issues may be relevant (Johnson 1998):

- Mental health providers are not convinced by the scientific evidence, or may not be influenced by the scientific evidence. They basically rely on personal experience.
- Other, not empirically investigated theories like psychoanalytic theories, systemic and strategic family therapy, or humanistic theories are too powerful.
- Not interested in families, families continue to be ignored by mental health professionals in many treatment facilities in most parts of the world.
- Too many people have to be persuaded to implement these new approaches.
- Implementation requires highly trained staff. The trainings costs may be high; programs requires more time; clinical routine has to be changed; psychiatrists in free practise may be afraid of loosing patients.

Obviously systematic training and supervision in these new multidisciplinary psychosocial approaches are necessary in order to offer these treatment strategies to many more families in need. Health care managers should seriously consider financing these training courses so that chronically ill patients and their families will be able to obtain better service in the near future.

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