

ORIGINAL PAPER

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Family intervention in schizophrenia

Impact on family burden and attitude

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Abstract *Background* This study focuses on the effect of psycho-educative family therapy on the self-assessed burden in families in which one member has suffered from relapse of schizophrenia or a schizoaffective syndrome. The impact on the family's self-assessed attitude towards continuing to take care of the patient was also evaluated. Burden and attitude were assessed continuously during a period that contained no further relapse episodes. *Methods* Included were 31 families in which one family member suffered from schizophrenia or a schizoaffective syndrome. Of these, 14 families underwent a psycho-educative intervention programme called BFT (Behavioural Family Therapy). The remaining 17 families, i. e. the contrast group, received conventional family support. The intervention was initiated within 24 h after the patient/family member was admitted to a psychiatric ward due to relapse of the psychotic disorder. The intervention continued until the patient was discharged from hospital. Falloon's Distress Scale and Attitude Scale were used in the families' self-assessments of burden and attitude towards continuing to take care of the patient, respectively. The self-assessments were performed on three occasions: 1) on the day of admission to the ward, or the day after; 2) 4–5 weeks after admission; and 3) on the day of discharge, or the day after. Medication doses were registered upon admission and at the time of discharge. Finally, the rates of re-occurring relapses within 1 year after discharge from hospital were determined, i. e. 1 year after the completion of

the family treatment programme. The BFT families had access to the therapist for questions after the programme had been completed, when needed. The patients and families in the contrast group had access to physicians and therapists in the outpatient care. *Results* The self-assessed family burden was significantly lower for the BFT families at the time of discharge, compared to the contrast group, and the self-assessed attitude towards continuing to take care of the patient was significantly more positive for the BFT families at the time of discharge, compared to the contrast families. One patient in the BFT group relapsed within 1 year, whereas 13 patients relapsed in the contrast group. The dosages of neuroleptics were significantly lower on discharge than on admission for the patients in the BFT group. *Conclusions* The results suggest that BFT, when provided to schizophrenic patients and their families during a hospitalisation period caused by a psychotic relapse, reduces the feeling of burden in these families. Likewise, the families' attitude towards continuing to take care of the patients was influenced in a positive way.

Key words family – behavioural – intervention – schizophrenia – burden – attitude – relapse – medication

Introduction

The first modern studies on the importance of the interplay between the schizophrenic patient and his family were performed in the 1940s and 50s. Theories were presented regarding the family's and in particular the mother's possible importance for triggering off the schizophrenic disorder in a family member (Tietze 1949; see also Cohen 1982). Brown et al. (1958) found that the rates of re-admission to hospital care tended to be higher for patients who lived with their spouse or parents, compared to patients who lived in their own housing or together with other relatives. In the mid-50s, Brown developed the theory of Expressed Emotions

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(EE) (Brown et al. 1958; Leff and Vaughn 1985). The Expressed Emotions are measured by means of five variables that reflect the caregiver attitude (hostility, critical comments, emotional over-involvement, positive comments, and warmth). The EE concept has proven useful for the understanding of the interactions within families with a schizophrenic member. It has also resulted in various therapeutic and educational strategies. Vaughn and Leff (1976) found that the relapse rate of the patient was affected by the EE profile of the caregiver. Thus, relapse rates were higher for those patients whose families rated high on critical comments, emotional over-involvement, and hostility. Similar conclusions were drawn in subsequent studies (Hatfield 1979; Falloon et al. 1981; Leff and Vaughn 1985; Butzlaff and Hooley 1998; Bustillo et al. 2001).

In later years, EE-related research has also focused on the burden of the whole family, not only of the patients themselves (Fadden et al. 1987; MacCarthy et al. 1989; Mueser and Gingerich 1994; Mueser et al. 1996). Several studies have indicated that in order to reduce family burden, the schizophrenic patient and his family should, ideally, be subjected to family-based interventions (Falloon et al. 1981; Falloon and Shanahan 1990; Falloon 1992; McFarlane 1994; Mueser and Glynn 1995; Borell et al. 1995; McFarlane et al. 1996). Such interventions include elements of stress management, communication strategies, problem solving, goal achievement, and receiving knowledge about the psychotic disorder and early warning signs (Falloon et al. 1981, 1985; Malm et al. 1989; Hogarty et al. 1986, 1991; TARRIER et al. 1988; Hansson et al. 1992; Falloon and Fadden 1993; Randolph et al. 1994; Berglund 1995; Schooler et al. 1997; Hahlweg and Wiedemann 1999). In a recent study by Mueser et al. (2001) the addition of behavioural family therapy to supportive family management did not, however, influence family burden. Finally, the literature on the impact of family-based intervention on family burden is limited with regard to separating the effect that reduced relapse rates may have on family burden (Bustillo et al. 2001).

The primary aim of the present study was to further evaluate the effect of family-based intervention on family burden, as well as on the family's attitude towards continuing to take care of the schizophrenic family member. The interventions were initiated on the patient's re-admission to hospital care, due to relapse of the disorder, and concluded by the time of discharge from hospital. Family burden and attitude were rated by the families themselves upon re-admission, 1 month after re-admission, and at the time of discharge, respectively. Accordingly, family burden was assessed continuously during a period that contained no further relapse episodes. For comparison, an equal protocol was applied for families who received conventional support.

Subjects and methods

■ Patients

The study was carried out at the Department of Psychiatry, Varberg Hospital, Sweden, during the period 1994–1997. Included in the study were all 38 known families in the north of the county of Halland in which: 1) one member suffered from schizophrenia or a schizoaffective syndrome according to the DSM-IV criteria (American Psychiatric Association 1994), and 2) the patients had a regular and close contact with their family members. All of the patients were previously known to the Department and the associated psychiatric outpatient care unit, and their psychiatric diagnoses were reconsidered every 6 months. Each family entered the present study upon the family member's re-admission to a closed ward due to relapse of the psychotic disorder (see below). The families were evenly divided into one group which underwent the Behavioural Family Therapy (BFT) programme, and one contrast group which received conventional family support (see below). Primarily, 10 families were placed in the BFT group, but 4 of those families never received BFT treatment at the request of the schizophrenic family member. The remaining 28 families were distributed between the groups by lottery, which was performed by the head nurse of the ward in the presence of one of the authors (NB). Later, another 3 families in the BFT group dropped out: 2 families moved to other catchment areas and the third family decided to make a break in the treatment because of the death of a family member. Thus, 31 patients and their families remained in the study; 14 (8 men, 6 women) in the BFT group and 17 (5 men, 12 women) in the contrast group. The mean age of the patients was 29.3 years (SD 5.4) in the BFT group and 36.9 years (SD 7.8) in the contrast group. The mean duration of the disorder from the first psychotic episode that required admission to hospital was 9.0 years (SD 3.1) in the BFT group, and 11.1 years (SD 5.1) in the contrast group. In the BFT group, 8 families had contact with the patient on a daily basis, and in the remaining 6 families the average contact frequency was less than once a day. The corresponding figures for the contrast group were 10 and 7, respectively. In the BFT group, 13 patients had schizophrenia and 1 patient had a schizoaffective disorder. In the contrast group, 15 patients suffered from schizophrenia and 2 from a schizoaffective disorder. The mean duration of hospital care was 177.4 days (SD 75.1) for the patients in the BFT group, and 135.4 days (SD 51.8) for the patients in the contrast group.

■ Treatment principles

With the patient's consent, family intervention was initiated within 24h of the patient's re-admission to a psychiatric ward upon relapse of the psychotic disorder. Below, the outlines of the two intervention techniques applied are presented.

Behavioural Family Therapy programme (BFT)

BFT consists of the following main items (Falloon et al. 1984):

1. Individual interviews with each family member.
2. Analyses of these interviews.
3. Psycho-education about the psychotic disorder.
4. Psycho-education about early warning signs of emerging relapse of the psychotic disorder.
5. Communication skills training.
6. Training of problem-solving skills and goal achievement.
7. Social skills training.
8. For elements 3–7 above, 2–3 one-hour sessions were held per month. The sessions were mostly held in the homes of the families. The patients were always participating.

Conventional family support

The 17 families included in the contrast group received support according to the following principles:

1. 8–10 sessions per month. Of these, 1–3 sessions were held upon

admission as well as upon discharge. The length of the sessions was about 20 min. The patients participated in the majority of the sessions. The patient always gave his/her consent to the carrying-out of the remaining sessions.

2. Information regarding the psychotic disorder and its pharmacological treatment.
3. Information regarding early warning signs of an emerging psychotic episode.

The BFT group did not receive the conventional family support outlined above, but every family in both treatment groups had contact with the patient's contact on the ward, or with the doctor several times a week with the patient's consent. The contact was mostly held over the telephone, but sometimes there was also personal contact at the ward or elsewhere. The family contact was not formally structured in this context. The BFT programme as well as the conventional family support ended when the patient was discharged from the ward but, if needed, the BFT families could contact the family therapist afterwards to ask formal questions about the BFT model. However, no training sessions were performed after discharge from hospital. The BFT families also had access to physicians in the psychiatric outpatient care. The patients and families in the contrast group had access to physicians and therapists in the psychiatric outpatient care.

The BFT sessions as well as the conventional sessions were led by one of the authors, NB. NB had previously been educated by Professor Ian Falloon by attending his BFT course in Buckingham, UK. The competence in behavioural family intervention was maintained through annual meetings held by Professor Falloon in Sweden. At these meetings, the BFT model was practised in group sessions to ensure programme fidelity. Theoretical and practical surveys on BFT items, symptomatology, and family burden were also done. Formal fidelity assessments were not performed within the scope of the present study.

■ Assessment procedure

The families performed self-assessments of *family burden* and *family attitude towards the patient*. A preceding semi-structured interview based on the BFT items (Falloon et al. 1996b; Berglund et al. 1998) formed the basis for these self-assessments. The self-assessments followed a questionnaire that supplements the BFT protocol (Falloon et al. 1996b; Berglund et al. 1998). The interviews and the self-assessments were performed on three occasions: 1) on the day of admission to the ward, or the day after; 2) 4–5 weeks after admission; and 3) on the day of discharge, or the day after. Family burden was self-assessed according to the subjective Distress Scale, developed by Falloon et al. (1996a). The scale runs from 0 to 3, where 0 denotes no burden at all, and 3 denotes severe burden. The family's self-assessment of its attitude towards continuing to take care of the patient was based on Falloon's subjective Attitude Scale, whose original 6-point version was aggregated into a 3-point version in accordance with the paper by Falloon et al. (1996a). This aggregated scale runs from 1 to 3, where 1 denotes a positive attitude, 2 denotes a resigning attitude, and 3 denotes a rejecting attitude.

■ Relapse and medication

The formal definition of *relapse* used in this study was "psychotic deterioration demanding hospitalisation". Psychotic symptoms were not assessed formally using score instruments, but the patients were examined carefully and repeatedly by experienced senior psychiatrists. Relapse was an inclusion criterion in the study, and the rates of re-occurring relapses within 1 year after discharge from hospital were determined, i. e. 1 year after the completion of the family treatment programme. None of the patients was hospitalised due to social or bed-use implications.

Medication doses were registered upon admission and at the time of discharge. Within the frame of the study protocol, possible dose changes were registered as either "reduced" or "elevated or unchanged". Medication data were converted to haloperidol equivalents (Swedish Medical Products Agency 1997). Prescription was aimed at

a minimal dosage regime. Prescription was not done blind to treatment allocation. Medication compliance was supervised through personal contact between the staff and the patient, but was not tested formally by way of serum concentrations of the medication.

■ Statistics

Fisher's exact test was used for comparisons between the BFT group and the contrast group regarding gender, medication, relapse, family burden, and family attitude. Burden scores 0 and 1 were aggregated in the statistical analyses, as were scores 2 and 3. Attitude scores 2 and 3 were also aggregated. Chi-squared statistics were employed for group comparisons with respect to frequency of contact between patient and family members. Student's t-test was used for group comparisons with regard to age, duration of disorder, and duration of hospital care.

Results

■ Demographics, medication, duration of hospital care

Information on: 1) age, 2) gender, 3) duration from onset of psychotic disorder, 4) frequency of contact between the patient and his family, and 5) duration of hospital care is given in 'Subjects and methods'. The mean age of the patients in the BFT families was significantly lower than that of the patients in the contrast families ($p < 0.01$). No significant group differences were demonstrated regarding gender, duration of disorder, contact frequency, or duration of hospital care.

The daily dosages of neuroleptics on the patient's admission to the ward, and on discharge were registered. Dosage was reduced for 7 of the 14 patients, whose families underwent the BFT programme. Dosage was only reduced for 2 of the 17 patients, whose families received the conventional family support. The group difference was statistically significant ($p < 0.05$).

■ Relapse into psychotic episode

In the BFT group, 1 patient relapsed within 1 year after discharge. By contrast, 13 patients in the contrast group relapsed within 1 year (Table 1). The difference in outcome is highly significant ($p < 0.001$).

■ Family burden

The families made self-assessments of their burden using Falloon's Distress Scale. The data are presented in Table 2. No significant difference in family burden was noted between the BFT group and the contrast group on

Table 1 Number of patients relapsing into a psychotic episode within 1 year after discharge from a psychiatric ward

	BFT group (n = 14)	Contrast group (n = 17)
Relapsing patients	1	13
Non-relapsing patients	13	4

Table 2 Self-assessed family burden. The BFT group consisted of 14 families; the contrast group consisted of 17 families

Burden score (Distress Scale)	On admission		During treatment		On discharge	
	BFT	Contrast	BFT	Contrast	BFT	Contrast
0 (none)	0	0	2	2	2	0
1 (mild)	1	1	4	5	6	1
2 (moderate)	3	3	8	8	5	7
3 (severe)	10	13	0	2	1	9

admission and during the intervention period. And burden also tended to decrease during the intervention period in both groups. On discharge, however, burden again increased in the contrast families to about the same level as at the time of admission, whereas in the BFT group the rating scores did not rise. Thus, 16 of the 17 contrast families assessed a moderate or severe burden on discharge; the corresponding figure in the BFT group was 6 out of 14 ($p < 0.01$).

Family attitude towards continuing to take care of the patient

The families performed self-assessments of their attitude towards continuing to take care of the patient using Falloon's Attitude Scale. The data are presented in Table 3. No significant difference in family attitude was demonstrated between the BFT group and the contrast group on admission. On discharge, however, 16 of the 17 contrast families assessed an attitude of resignation or rejection, whereas only 6 of the 14 BFT families rated likewise ($p < 0.01$).

Discussion

The results of the present study suggest that Behavioural Family Therapy (BFT), performed during an in-patient care period, reduces the self-assessed feeling of burden in the family of the schizophrenic patient. In addition, the family's attitude towards continuing to take care of the patient was influenced in a positive way. Finally, BFT entailed lower doses of neuroleptics and fewer short-term relapses for the patient. Below, these results will be discussed.

Table 3 The families' self-assessed attitude towards continuing to take care of the patient (14 families in the BFT group, 17 families in the contrast group)

Attitude score (Attitude Scale)	On admission		During treatment		On discharge	
	BFT	Contrast	BFT	Contrast	BFT	Contrast
1 (positive)	1	1	4	2	8	1
2 (resigning)	7	8	9	9	6	8
3 (rejecting)	6	8	1	6	0	8

Family burden and attitude towards continuing to take care of the patient

Several previous studies have shown that family-based intervention reduces family burden (for references, see Introduction). The angle of approach of the present study was: 1) to intervene within 24h after the schizophrenic patient's re-hospitalisation due to psychotic relapse and then continue the intervention until discharge from hospital, 2) to investigate family burden continuously during the hospitalisation period, and 3) to let the families themselves assess burden and attitude. Accordingly, the series of burden assessments were performed prior to any impending later relapse, whereby any effect that a change in relapse rate may have on family burden (cf. Bustillo et al. 2001) need not be considered in the study. Each family assessed its burden and attitude towards continuing to take care of the patient by means of Falloon's Distress Scale and Attitude Scale, respectively (Falloon et al. 1996a). These instruments have been scarcely employed in research studies on family burden, but have been widely used in psychiatric practice in the follow-up evaluations of family intervention.

Most families in the contrast group reported that the very same day the patient was discharged, whereby the therapist's contact with the family also came to a close, their sense of burden rose to about the same level as at the time of admission. They saw the family member's period in the closed ward as a "breathing space". Upon the discharge of the family member, most families in the contrast group reported that they felt as if they were back to square one again. By contrast, many families in the BFT group looked forward to welcoming the patient home again. They felt that they had learned coping strategies and also gained independence. In addition, the BFT families felt comforted by the fact that, if needed, the family therapist was within easy reach for short questions. This latter circumstance could, of course, be one cause for the difference in the self-assessed family burden between the two treatment groups upon discharge.

During the course of the study, some additional points of interest were noted. Firstly, two BFT families consisted of the patient and only one parent, the mother. In these families, the mother had more or less isolated herself, and the degree of burden was more difficult to influence. Secondly, in terms of EE variables, emotional over-involvement tended to be higher in the families who lived in the countryside compared to the families who lived in a town. "What will the neighbours say?" was a common worry.

Medication dosage

Earlier studies have also implicated a relationship between structured family intervention and lowered doses of neuroleptics (Montero et al. 2001; Wiedemann et al. 2001). In the present study, the dosage of neurolep-

tics was individually adjusted to the patient's clinical demands at any given time according to the principles of minimal neuroleptic dosage. Study limitations were, firstly, that medication was not prescribed blind to treatment allocation, and, secondly, that serum concentrations were not monitored within a structured study protocol. As a consequence of the latter limitation, possible non-compliance on the part of the patient could not be ruled out, particularly not in the follow-up period of open care (cf. Oehl et al. 2000).

■ Relapse into psychotic episode

The results regarding relapse rates in the present study conform to the results of several earlier studies (Penn and Mueser 1996; Bustillo et al. 2001). Anderson et al. (1986) also stated that in order to prevent relapse, the family must have the possibility to get support even after the formal therapy period is completed. The BFT model includes such support, and this was, accordingly, offered when it was needed in the BFT families in the present study. The support consisted of the possibility for the families to ask questions about the BFT model, for instance regarding details they had forgotten. This brief assistance was not given to the families in the contrast group since these families had their support organized in the psychiatric outpatient care. The possibility that this difference between the treatment groups in open care support may account for the different relapse rates in the groups cannot, of course, be ruled out. Further, since medication compliance was not formally tested by means of concentration measurements, possible compliance insufficiencies may also have affected the relapse rates in the study. Insufficient compliance was established in at least two cases, both of these patients belonged to the contrast group. Still, the results of the study suggest that prompt implementation of behavioural family treatment during the period of hospital care may reduce the risk of further psychotic relapse within 1 year.

Conclusion

The results suggest that Behavioural Family Therapy (BFT) reduces the feeling of burden in families with a schizophrenic family member, when provided to the patients and their families during a hospitalisation period caused by a psychotic relapse. A positive shift was also established as to the families' attitude towards continuing to take care of the patients.

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