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Psycho-education in bipolar disorder: effect on expressed emotion

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Abstract

In a waiting-list controlled study on a multi-family psycho-educational intervention in bipolar disorder, key relatives in the treatment group showed a significant change from high to low levels of expressed emotion (EE) compared with the control group. In addition, patients with low-EE key relatives had a significantly lower number of hospital admissions compared with those living with high-EE key relatives. The multi-family groups were well received by the participants, and there were only a few drop-outs. © 1997 Elsevier Science Ireland Ltd.

Keywords: Affective disorder; Family therapy; Speech analysis; Prognosis

1. Introduction

Psycho-education has been shown to play an important role in reducing the level of expressed emotion (EE) in family members and thereby

reducing the relapse rate in schizophrenia (Anderson et al., 1986; Berkowitz et al., 1990). Bipolar disorder is a chronic disorder that imposes a psycho-social burden on family members comparable to that associated with schizophrenia (Anderson et al., 1986). The influence of family interactions on the course of chronic illness, whether psychiatric or somatic, is well established. EE reflects the extent to which rela-

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tives of patients express critical, hostile, or emotionally overinvolved attitudes towards their disturbed family member.

High EE in family members proved to be a predictor of relapse in schizophrenia (Parker and Hadzi-Pavlovic, 1990), recent onset mania (Miklowitz et al., 1987), bipolar disorder (Priebe et al., 1989; O'Connell et al., 1991), and unipolar disorder (Hooley and Teasdale, 1989). Interventions designed to reduce levels of EE in family members include psycho-education and training in communication skills and problem solving. These interventions have been shown to lower the levels of EE in key relatives of schizophrenic patients (Leff et al., 1982; Hogarty et al., 1986; TARRIER et al., 1988). Psycho-educational programs have also been developed for bipolar disorder (Anderson et al., 1986) and major depressive disorder (Glick et al., 1994), as well as for specific treatment modalities such as a videotaped educational program for patients being treated with lithium (Peet and Harvey, 1991). Exposure to such programs is associated with improved outcome (Glick et al., 1994), but increased medical knowledge, per se, has not been shown to be effective (Berkowitz et al., 1990), as patients cannot apply textbook psychiatry to their individual cases. Although education will certainly help those involved to overcome their general misinformation and fear related to the illness, psycho-educational programs have broader aims than merely imparting information. They are designed to provide both patients and key relatives with a neutral but engaging introduction to a therapeutic relationship. To date, little information is available about the effects of psycho-educational programs on the level of EE of key relatives in bipolar disorder.

The EE assessment instrument used in this study is the Five-Minute Speech Sample (FMSS; Magaña et al., 1986). In this procedure, the key relative (not in the presence of the patient) is asked to speak without interruption for 5 min about what kind of person the patient is and how they get along together. The FMSS is a simple and valid instrument for the measurement of EE. Its scores show a high degree of correspondence

with those of the more time-consuming Camberwell Family Interview (Magaña et al., 1986; Leeb et al., 1991; Malla et al., 1991; Stark and Buchkremer, 1992), although ratings derived from the FMSS show some underestimation of high-EE scores (Malla et al., 1991).

In our clinic, the first author developed a psycho-educational program for bipolar disorder (Hofman et al., 1992; Honig et al., 1995). This program focuses on the provision of illness-related information, on methods of coping more effectively with the illness, and on the recognition of the need for support by both patients and family members.

The hypothesis tested in this study was that psycho-education would lower EE levels of key relatives in the treatment groups and not in the waiting-list control group. In addition, it was hypothesized that this type of intervention would fulfil a need of both patients and key relatives.

2. Methods

All patients were recruited from the Social Psychiatric Unit of the Community Psychiatric Centre Maastricht, the lithium out-patient clinic of the attached psychiatric hospital (PMS Vijverdal), and the psychiatric in-patient and day patient clinic of the Academic Hospital Maastricht. All patients fulfilled DSM-IV criteria (American Psychiatric Association, 1994) for bipolar disorder based on information from the referring psychiatrist, the medical record, and descriptive data from other family members. The population consisted predominantly of patients with long-standing psychiatric histories (mean = 11 years), many relapses (mean = 9), and multiple hospital admissions (mean = 3). Relapse was defined as a period of recurrence or increase of symptoms warranting increased psychiatric care and a change in medication. The mean age in the treatment group was 43.8 years (S.D. = 13.0) for patients and 47.1 years (S.D. = 13.7) for key relatives. All but five patients in the treatment group and also all but five in the control group were taking lithium as a prophylactic.

EE levels of key relatives were measured by

means of the FMSS in the week before the psycho-education course began and also in the week the course ended. In case more than one key relative attended, the EE level was measured from the key relative with the highest amount of face-to-face contact with the patient. Audiotapes of the speech samples were rated afterwards for the level of EE using a system devised by Magaña et al. (1986). The speech samples were rated separately and independently by the first two authors. Both authors were formally trained to evaluate the FMSS and had an interrater reliability ranging from 0.70 to 0.80 (Cohen's kappa) for judgment of high versus low EE level status. In cases of disagreement (10%), the score was based on consensus.

Demographic and illness-related data were collected, and the Brief Psychiatric Rating Scale (Dingemans et al., 1983) was completed. The psycho-educational program was evaluated by a questionnaire specially designed for this purpose with mostly closed questions. All patients completed the questionnaire anonymously at the end of the program. In total, 29 couples (patient with partner or other significant key relative) participated in nine consecutive psycho-educational groups. Twenty-three couples were placed on a waiting list and served as controls.

In the treatment group, 19 patients were accompanied by their partner; six by a parent; and the other four by another significant key relative. The control group consisted of 21 couples and two patients accompanied by a parent. In the treatment group, 10 patients (35%) were male compared with nine (39%) in the control group. The majority of the patients in both groups were married. Only three patients in both treatment and control groups had finished primary school training only. The others had higher levels of education. Two couples stopped attending the psycho-educational course after one session and were excluded from further analysis; two patients missed one session due to somatic illness; and one patient missed one session due to a brief recurrence of hypomanic symptoms.

The psycho-educational program has been described in greater detail elsewhere (Hofman et al., 1992; Honig et al., 1995). It consists of six 2-h

sessions, given biweekly. The first three sessions are educational in nature. The following three sessions stress the importance of coping strategies to deal with bipolar disorder. In the sixth session participants were introduced to representatives of the Manic-Depressives Foundation, a Dutch national non-profit association founded by patients with bipolar disorder for purposes of self-help. Participants were informed about the purposes of the foundation and the ways in which they could be involved.

A waiting-list controlled design was chosen. For each consecutive course patients were allocated to either a treatment or control condition on a first-come, first-served basis. Therefore, from the second course onward, all courses consisted of both treatment couples and couples who had been in the waiting-list condition of the previous group. Controls were told the group was currently full and that they would be offered a place in the next one. Of course, those who were evaluated in the waiting-list condition and who later entered the treatment condition could not also be included in the EE evaluation of the treatment condition. All those who wished to enrol were interviewed before the start of each psycho-educational group.

3. Results

There were no statistically significant differences between patients in the treatment and control groups in age, duration of illness, number of relapses, duration of remission, lithium dose, number of admissions, Brief Psychiatric Rating Scale score, and level of pre-treatment EE. Table 1 presents the EE ratings in both groups. As a main finding, nine key relatives (31%) in the treatment group changed from high (H) to low (L) EE rating (in the following called HL group) compared with none in the control group ($P < 0.03$; McNemar Change Test).

3.1. FMSS-based EE and relapse rate

The dosage of lithium was significantly lower for patients in the continuously high EE group ($P < 0.01$). The comparison of all key relatives in both treatment and control groups with continu-

Table 1
Pre- and post-course EE between treatment and control group measurements of BD

EE level		Treatment		Control	
		EE		EE	
Pre	Post	<i>n</i>	Group %	<i>n</i>	Group %
Low	Low	16	56	14	62
High	High	3 ^a	10	8 ^b	34
High	Low	9 ^c	31*	0	0
Low	High	1	3	1	4
Total		29	100	23	100

EE level % means percentage of EE level group.

* $P < 0.03$.

^a1 critical, 2 overinvolved.

^b5 critical, 1 overinvolved and 2 both critical and overinvolved.

^c4 critical, 5 overinvolved.

Statistical analysis: for statistical analysis we used SPSS® for Macintosh (version 4.0). Continuous variables were compared by means of Student's *t*-test. Furthermore, for non-continuous variables we used the Mann-Whitney *U* and Pearsons χ^2 — if necessary with Yates correction — test and/or Fisher Exact as appropriate. The dichotomous outcome measure (EE-level) was analyzed using the McNemar Change Test.

ously high and continuously low EE levels revealed that the average number of admissions to hospital before this study was significantly lower in the continuously low EE population ($P < 0.05$). The levels of EE seemed to be stable over a 3-month period as more than 75% of the EE ratings remained unchanged in both treatment and control groups.

3.2. Evaluation by the participants

The participation of key relatives was perceived by the patients as fruitful. The key relatives regarded their participation as a recognition of their experience and expertise, as in the past they often had felt excluded from therapy and professional support. The exchange of information with and support from others in similar circumstances was unanimously perceived as positive.

The subjective effects in the patients were predominantly feelings of control over bipolar disorder (62%). Also, the relationship with the par-

ticipating key relatives was felt to be positively influenced by the program. Acceptance of bipolar disorder was in 59% of the patients subjectively enhanced by the program. After the study's completion, most participants continued in some form of self-help group or joined the National Manic-Depressives Foundation.

4. Discussion

This report is an extension of a sample previously reported (Honig et al., 1995). Controlled efficacy trials of psycho-education are scarce. There are two primary reasons for the lack of research in this area.

1. The majority of participating key relatives were low in initial EE ($n = 17$ in the treatment condition and $n = 15$ in the control condition), which is probably a good reflection of EE levels in the bipolar disorder population. Furthermore, for an adequate functioning of the psycho-educational group, examples of good coping in low-EE participants are necessary as many authors in this field have stated. For a trial to demonstrate a significant change in EE, a large number of couples have to be included (in this study, $n = 52$).
2. As yet, no satisfactory outcome measurement has been applied in these studies. FMSS-based EE as a predictor of outcome of bipolar disorder seems to provide a good and sensitive instrument for this purpose.

The waiting-list condition used in this research design has been applied by other workers in the field (Atkinson et al., 1996). It proved to be an acceptable control for the consumers, mimicking normal everyday routine psychiatry.

The statistically significant change ($P < 0.03$) from high to low EE in family members following a limited number of psycho-educational sessions is clinically important as high EE is related to poorer outcome (Priebe et al., 1989; O'Connell et al., 1991), a conclusion that is supported by the finding in our own study that high EE levels are

related to a higher number of previous admissions ($P < 0.05$). Stable levels of EE were found over a 3-month rating period in our study as more than 75% of the EE ratings remained unchanged in both treatment and control groups. This is in line with findings of Leeb et al. (1991) and might indicate that EE is more a trait than a state phenomenon.

One of the three EE raters was not completely blind to the treatment or control condition, which may have been a confounder of the outcome presented in this study.

Psycho-educational multi-family groups are cost-effective (Leff et al., 1989), relatively easy to conduct, and engage patients and families readily in further treatment. The groups also help participants to accept their chronic disease as part of daily life. Given in this form, psycho-educational courses are an effective means to change key relatives' attitudes towards the patient in a similar way as has been described in schizophrenia (Anderson et al., 1986; Berkowitz et al., 1990). Based on our results, more systematic evaluation of psycho-educational programs with the FMSS as the primary outcome measure is warranted in larger groups of bipolar patients.

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