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ORIGINAL PAPER

Giuseppe Carrà · Cristina Montomoli · Massimo Clerici · Carlo Lorenzo Cazzullo

Family interventions for schizophrenia in Italy: randomized controlled trial

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Abstract *Objective* To evaluate the effectiveness of multiple group family treatment for Schizophrenia. *Method* Relatives were randomly provided with an informative programme ($n = 50$), or allocated to receive an additional support programme ($n = 26$). Patients did not attend the programme to overcome cultural and organizational implementation barriers. The 12 and 24 months clinical and family outcomes were assessed. *Results* Patients' compliance with standard care was greater at 12 months in the more intensive behavioural management group over a control group receiving treatment as usual (TAU) ($n = 25$). A reduction in levels of expressed emotion (EE), significantly more frequent in those receiving the additional support programme than just the informative, occurred after treatment completion. Other clinical and family outcomes did not differ. However, treatment benefits declined at 24 months, when baseline high EE was again predictive of patient's admission and relatives were more vulnerable to objective burden. Baseline illness severity variables predicted a number of medium and long-term poor clinical outcomes. *Conclusions* Although family psychoeducation has been tested in a wide range of Anglo-Saxon settings, there remains need to assess outcomes more internationally. Effective family interventions for people with schizophrenia probably require continued administration of key-elements or ongoing informal support to deal with the vicissitudes of illnesses.

Key words schizophrenia · psychoeducation · family · expressed emotion · randomized controlled trials

G. Carrà (✉)
Department of Mental Health Sciences
Royal Free and University College Medical School
48 Riding House Street
London W1W 7EY, UK
Tel.: +44(0)20/7679-9428
Fax: +44(0)20/7679-9426
E-Mail: g.carra@ucl.ac.uk

C. Montomoli
Department of Health Sciences
Section of Medical Statistics
University of Pavia
Via Bassi 21
27100 Pavia, Italy

M. Clerici
Department of Psychiatry
San Paolo's Hospital Medical School
University of Milan
Via A. Di Rudinì 8
20144 Milan, Italy

C.L. Cazzullo · G. Carrà · M. Clerici
Association for Research on Schizophrenia (ARS)
Via Tamagno 5
20124 Milan, Italy

Introduction

The influence of the family emotional climate on the course of schizophrenia has been empirically and repeatedly demonstrated over the past four decades since Rutter and Brown's (1966) pioneering work. A number of observational studies have indicated that the Expressed Emotion (EE) index, as rated by the Camberwell Family Interview (CFI-Vaughn and Leff 1976), is predictive of relapse after hospital discharge (e.g., Vaughn et al. 1984). The predictive ability and the clinical utility of the family EE have been demonstrated in a variety of international community settings (Bebbington and Kuipers 1994a, b; Butzlaff and Hooley 1998; Wearden et al. 2000), but some individual studies report different results in Northern (McCreadie and Phillips 1988) and Southern Europe (Montero et al. 1992) and in ethnic minority populations in the United States (Kopelowicz et al. 2002). As a result, a number of family intervention strategies have been developed to augment standard care for schizophrenia by reducing the level of EEs within families (Mari and Streiner 1994; Pitschel-Walz et al. 2001; Pilling et al. 2002), thereby improving clinical outcomes as well as the burden of care (Dixon et al. 2000; Pharoah et al. 2003). Family psychoeducation has been widely tested in a range of Anglo-Saxon settings (Bustillo et al. 2001) and a few from China (Xiong et al. 1994; Ram et al. 2003; Chien and Chan 2004). However some evidence from Spanish-speaking immigrants (Telles et al. 1995) and Dutch (Linszen et al. 1996) samples suggest that cultural differences may be an impediment to successfully applying existing family therapy interventions to diverse cultural groups. Furthermore, despite the extensive documentation of its basic benefits, family psychoeducation is still rarely offered because of large attitudinal, knowledge, practical, and systemic implementation obstacles (Dixon et al. 2001). The World Schizophrenia Fellowship (1998) has delineated the core components of a successful family intervention but the minimal ingredients are still uncertain (McFarlane et al. 2003) and it is worthwhile to look for selected combinations, which can be realistically implemented and accepted within standard care. In Italy, since the deinstitutionalization of the '70s (de Girolamo and Cozza 2000), the key issue in implementing effective treatment systems for severe psychiatric disorders has been balancing community- and hospital-based mental health care (Thornicroft and Tansella 2004). There has been an increasing acknowledgment of the importance of families in terms of the care they give, their therapeutic potential and the burden they carry, and as political lobbying groups (Cazzullo et al. 1994). Although the predictive ability of the EE index has been confirmed in an Italian urban setting (Bertrando et al. 1992), family interventions have been implemented slowly within mental health services. This has been due to an under appreciation on the part of mental health care providers of the utility and importance of this treatment approach and to some cultural barriers—stigma and sense of hopelessness—to patient's participation at the level of the individual consumer and members of his or her family. The main aim of this study was to carry out a randomized controlled trial to assess the medium (12 months) and long-term outcomes (24 months) of two programmes of family intervention for the care of schizophrenia, compared to the standard community mental health care in Italy. The primary measures of outcome were hospital admission, relapse, compliance with standard community care, and employment status. Outcome was also assessed measuring relative's subjective burden as well as the objective one regarding the patient's self-sufficiency and social functioning. Finally, there is the need to study correlates of outcomes in a multidimensional perspective (Hofer et al. 2006), thus the secondary aim was to evaluate the predictive utility of baseline patients' demographic and clinical assessment, and the relatives' EE, in relation to outcome.

Methods

Setting

The study was carried out in a non-profit, family advocacy and support agency, the *Association for Research on Schizophrenia* (ARS), which is funded by a charity (Legrenzi Foundation) in Milan, Italy. Lombardy Health System encourages non-statutory charities, funded by the National Health Service (NHS), to complement existing teams by providing not otherwise available treatments. Due to organizational and cultural barriers to patient's participation ARS provides programmes for relatives of people with schizophrenia, in the absence of the latter. NHS community mental health centres in the metropolitan catchment area refer the relatives. The different therapeutic options consist of two elements. The first involves weekly meetings with an information group (IG) composed of 16–18 relatives for 24 sessions (1.75 h per session) using an informative approach. Contents and goals are mainly derived from the model of relatives groups (Leff et al. 1989) but the preliminary in-home individual family sessions. Curricula include: aetiology, positive symptoms, negative symptoms, mood disorders, problem behaviours, medical and psychiatric treatment, denial and non-compliance, interpersonal and social issues, relationship with family, education, independence and dependence, resources and benefits. Educational tools include lectures, videos and leaflets. The second element comprises weekly meetings for 48 sessions (1.5 h per session) over 2 years with a support group (SG), made up of 8–9 relatives who have previously attended the IG. The general character of the SG programme can be summarized as consisting of two components that roughly correspond to the phases of the group. The first phase involves training on communication and coping skills, stress identification and management, and multiple family group-based problem solving, basically derived from the second stage of the psychoeducational multiple family group approach (McFarlane et al. 2002). This usually occurs during the first year. The second phase emphasizes mutual support and consists of deliberate efforts to mould the group into a social network that can persist for an extended period and satisfy family needs for social contact, support, and ongoing monitoring. Expansion of the families' social networks occurs through problem solving, direct emotional support, and out-of-group socializing, all involving members of different families in the group. Both the IG and SG programmes are co-led by two specifically trained psychiatrists not involved in patients' community standard care. Different clinicians lead the different types of intervention. Greater details about the interventions used are given in Cazzullo et al. (1989).

Participants

From those who had been referred to ARS consecutively from 1995 to 2000 ($n = 320$), relatives were selected with the following inclusion criteria ($n = 205$):

- they were living with someone suffering from schizophrenia and had not attended family groups or other support services before the study intervention;
- the patient was clinically stable (having had no psychiatric hospitalization or any relapse for six months prior to study entry) and was not receiving any psychosocial or rehabilitative treatment other than standard care;
- the patient did not have a primary diagnosis of alcohol or drug dependence or organic disease.

Fifty relatives were randomized, using a random numbers table, to enter the study to complete only the information group programme (IG). By the same method of random sequence generation 26 relatives were allocated to receive subsequent additional treatment through the SG programme (IG + SG). Both relatives and clinicians in the IG groups programme were blind as to successive participation to the SG. Finally, a further group of relatives from those on the agency waiting list (i.e., those referred, but for which available resources did not allow immediate provision) were as randomly allocated to a control group and the corresponding patients received only treatment as usual (TAU). Participants were intentionally allocated in unequal numbers to IG or IG + SG and TAU groups with a randomization ratio 2:1:1. This decision was taken in order to focus on the basic intervention effectiveness and to limit costs of the trial. Allocation concealment was ensured by the external involvement of a statistician (C.M.), who was not involved in enrolling participants, and was responsible for the method of sequence generation. In total, 101 relatives agreed to participate, gave informed consent and completed the assigned treatment as appropriate. Both family programmes involved only one relative from each patient's family, and all patients received just standard care, which entailed key worker's management and consistent pharmacological interventions monitored by a consultant psychiatrist in community mental health centres of the Milan metropolitan area.

Measures and procedures

Community-based service managers were contacted personally by research assistants not involved in the treatment to check the following criteria: (a) patients' DSM-IV diagnoses of schizophrenia (American Psychiatric Association 1994); (b) current satisfactory functioning, as measured by a Global Assessment Scale-GAS score of 30 or more (Endicott et al. 1976); (c) compliance with standard care, with a specifically designed 3 point scale defining non-compliance as a rating of 3 (refusal of every proposed treatment), and (d) consistency of prescribed pharmacological treatment, with all but 3 patients receiving standard doses (300–1,000 mg chlorpromazine equivalents). In addition, at induction each relative was given a standardized questionnaire on clinical and social characteristics of patient and family. Clinicians from the community settings supplied missing information on treatment variables. Finally, the relatives' EE was evaluated by the Camberwell Family Interview-CFI (Vaughn and Leff 1976). Every interview was tape recorded. The two evaluators had been trained by Dr. C.E. Vaughn. Relatives were defined as high EE if they made six or more critical comments, expressed hostility, or were rated as four or more on the EOI in the course of the interview. The latter is in accordance with the Italian field study on predictive value (Bertrando et al. 1992) and not with the classical (>3) scoring criteria (Leff and Vaughn 1985). Positive remarks (a frequency count) and warmth (a 6-point scale: 0–5) were rated as well. At the end of the assigned programme, the relatives' EE was evaluated again to determine whether the levels had indeed been reduced by family intervention. Follow-up assessments were carried out by research assistants blind about the treatment assigned. Each community-based service manager was contacted 12 and 24 months after the relatives completed their assigned programme to fill in a follow-up questionnaire that recorded: (a) hospital admission; (b) the patient's relapse by means of an operational definition that included a GAS score of less than 30; (c) compliance with standard community care, where improvement consisted of scores lower than at baseline; and (d) employment in the past 12 months. At the same time periods, the relatives were contacted to ascertain the objective burden in terms of patients' (i) self-sufficiency and (ii) social functioning in the past year and their own subjective burden. Measure of elements of objective burden included disruption of household routines, disruption of relatives' leisure time and career (self-sufficiency), and strain on family relationships, and reduction of social support (social functioning). Subjective burden was measured in terms of emotional exhaustion referring to feelings of being emotionally overextended and depleted of one's emotional resources. These outcomes were measured on a 2 point scale (0 = improved/unchanged, 1 = worsened). Objective burden ratings were checked through a contact with the relevant community-based service manager. Inter-observer reliability was evaluated using Cohen's kappa with kappa values ranging from 0.82 for patient's self-sufficiency and 0.91 for social functioning. At 24 months, six relatives were lost to follow up (three IG, two IG + SG, and one control relative as three left home or moved out of Lombardy, one committed suicide and two refused to be re-interviewed), giving a resulting overall sample of 95 relatives. However, since the patients' data regarding hospital admission, relapse, compliance with standard community care and current employment were available from community-based service managers also for drop-outs, an intention-to-treat analysis was applied to that extent in both follow-up years. The inability to follow up relatives' drop-outs at 24 months rendered the intention to treat methodology problematic by this time point. Therefore, all the relatives entered the statistical analysis with the burden outcome variables at 12 months but drop-outs were excluded at 24 months, adopting analysis per-protocol as the most applicable design.

Statistical analysis

We used regional unpublished data for the power calculation. About one-quarter of patients suffering from schizophrenia are admitted to hospital each year in the Milan metropolitan area, actually confirmed by recent published figures in Northern Italy (Ruggeri et al. 2004). We estimated that 25 participants per group would yield 75% power to detect a 10% difference in admission rates as primary outcome, at a two sided 5% level of significance. Participants selected on the basis of inclusion criteria were compared to non-participants as regards patients' main baseline sociodemographic and clinical characteristics, as well as on family variables using one-way ANOVA for continuous variables, and Fisher's exact test for nominal variables. The equivalence of IG, IG + SG and TAU groups in terms of participating patients' and relatives' baseline characteristics was assessed, using the same tests. Fisher's exact test for nominal variables was also used to compare the changes from baseline high EE between the IG and IG + SG groups. The equivalence of treatment groups for clinical and family outcomes at 12 and 24 months was first tested by Fisher's exact test. However, multiple logistic regression models with a stepwise procedure were used to analyze the association between clinical and family outcomes at 12 and 24 months and the following independent variables: treatment group, baseline demographic and clinical variables, and EE. The clinical dependent variables in the regression models were dichotomized according to the definitions provided. The family outcome variables were analyzed yielding odds ratios with respect to improved or unchanged outcome. The statistical package Stata 7.0 (Stata Corporation 2001) was used for these analyses, with a level of significance of 0.05.

Results

Descriptive analysis

Comparison of trial participants and non-participants on all measures used in the study showed no significant differences on sociodemographic, clinical, or family variables at baseline. Patients' and family main baseline sociodemographic and clinical characteristics did not differ between the IG, IG + SG and TAU groups (Table 1). The overall mean age of patients was less than 30 years, and 28% were women. Furthermore, medium levels of education did not support consistent regular employment status (21/101) and only a few (9/101) had stable intimate relationships, with most patients still living with their family of origin. The clinical profile corresponded to that usually reflected in studies of this type in terms of onset age, duration of illness, and number of previous hospitalizations. Most of the key-relatives were parents (80/101) with a corresponding mean age, gender bias (71% of mothers overall) and

Table 1 Baseline comparison of patients' and relatives' characteristics

	IG $N = 50$	IG + SG $N = 26$	TAU $N = 25$	P
PATIENTS				
Age: Mean (SD), y	29.9 (8.9)	29.6 (5.8)	29.9 (10.6)	0.99[a]
Gender: Male No (%)	35 (70)	22 (85)	16 (64)	0.23[b]
Education: Mean (SD), y	12.2 (3.6)	12.3 (2.4)	10.9 (2.9)	0.19[c]
Ordinary employed, No. (%)	12 (24)	3 (12)	6 (24)	0.45[b]
Married/cohabiting: No. (%)	7 (14)	0 (0)	2 (8)	0.18[b]
Residence: No. (%)				
In parental home	40 (80)	24 (92)	17 (68)	
In conjugal home	5 (10)	0 (0)	2 (8)	
Alone	5 (10)	2 (8)	6 (24)	0.16[b]
Onset age: Mean (SD), y	21.1 (7.7)	18.7 (4.2)	19.9 (6.4)	0.33[d]
Duration of illness: Mean (SD), y	9.6 (8.1)	11.3 (7.6)	10.3 (9.2)	0.68[e]
Previous hospitalizations: Mean (SD), No.	2.7 (3.0)	4.8 (8.0)	3.0 (4.3)	0.23[f]
RELATIVES				
Age: Mean (SD), y	53.2 (10.7)	58.5 (8.5)	53.6 (11.5)	0.10[g]
Gender: No. Male (%)	17 (34)	6 (23)	12 (48)	0.20[b]
Education: Mean (SD), y	9.5 (3.9)	10.3 (3.7)	10.1 (4.1)	0.65[h]
Relative's h per week spent in contact with the patient > 35: No. (%)	40 (80)	21 (81)	17 (68)	0.43[b]
Worsened family's social contacts after illness onset: No. (%)	16 (32)	8 (31)	9 (36)	0.88[b]
High EE: No. (%)	19 (38)	10 (38)	10 (40)	1.0[b]
High warmth (4–5): No. (%)	14 (28)	3 (12)	1 (4)	0.34[b]
High EE relatives moved to low: No. (%)	9 (47)	10 (100)		0.005[b]

IG indicates Information Group, SG Support Group, and TAU Treatment As Usual

ANOVAs: [a] $F = 0.01$; [c] $F = 1.69$; [d] $F = 1.15$; [e] $F = 0.36$; [f] $F = 1.34$; [g] $F = 2.4$; [h] $F = 0.43$ (for all ANOVAs df = 2.98)

[b] Fisher's exact test

rate (77%) of high contact dichotomized as more than 35 h face-to-face contact per week. A third of the key-relatives reported that the family's social contacts had worsened after illness onset. The distribution of high EE baseline rates did not show any significant difference between the three groups. This was also the case for the high warmth rates. However, assessing EE again at the end of the family program for all participants, no low EE relative became high, and there were significantly more frequent downward changes from baseline high EE in the IG + SG (10/10) than in the IG (9/19) group ($P = 0.005$).

Follow-up at 12 and 24 months

The univariate analysis of patients' clinical outcomes (hospital admission, relapse, compliance with standard community care, and current employment) over 12 and 24 months did not show any significant difference between the three groups (Table 2). However, controlling for baseline demographic and clinical variables, and EE levels the stepwise multiple logistic regression model (Table 3) showed that compliance with standard care was significantly greater at 1-year follow-up in the IG + SG group than in the TAU one. Most of the hospital admissions and relapses in each family program group occurred within the first year after treatment ended, while compliance with standard care benefits of the IG + SG group compared to TAU (54% vs. 32%) was fairly reduced at 24 months. Rates of currently employed clients—overall between 30% and 50%—slightly increased over time in all the groups. With regard to the family outcome variables at the 12 and 24 month follow-up there were no significant differences reported in the relatives' objective burden in relation to the patient's self-sufficiency or in the subjective burden. Interestingly, there was a significant difference at 24 months in the objective burden in relation to the patients' social functioning, with the IG + SG group faring less well. However, negative trends in terms of proportions of worsened outcomes as compared to the past year mostly occurred within the first 12 months after treatment completion for all the groups, with a relative stabilization at 24 months.

Table 3 shows the OR and the corresponding 95% Confidence Intervals (95% CI) for the logistic regression models testing potential predictors of patients' and family outcomes. According to multivariate analysis, none of the independent variables were significantly associated with patient's compliance at 24 months or relapse at 12 and 24 months. The number of previous hospitalizations assessed at baseline was a significant predictor of further hospital admissions at both 12 and 24 months and of unfavourable employment status at 1-year follow-up. Relatives' high EE became again predictive of readmission at 24 months, while the duration of illness predicted the patients' occupational status at 24 months. As regards the relative's outcomes, at 12 months subjective burden appeared to be associated per se with the number of past hospitalizations at baseline, while the objective dimensions of social functioning at 12 months and self-sufficiency at 2-year follow-up were both associated with a high EE level at entry to the programme.

Table 2 Clinical and family outcomes up to 12- and 24 months after psychoeducational treatment completion

	IG $N = 50$	IG + SG $N = 26$	TAU $N = 25$	P^a
PATIENTS				
12 months				
Hospital admission No. (%)	13 (26)	6 (23)	7 (28)	0.92
Relapse No. (%)	13 (26)	7 (27)	9 (36)	0.65
Compliance with standard community care No. (%)	14 (28)	14 (54)	8 (32)	0.07
Current employment No. (%)	22 (44)	8 (31)	12 (48)	0.40
24 months				
Hospital admission No. (%)	10 (20)	4 (15)	3 (12)	0.66
Relapse No. (%)	13 (26)	9 (35)	9 (36)	0.59
Compliance with standard community care No. (%)	18 (36)	11 (42)	8 (32)	0.68
Current employment No.(%)	23 (46)	8 (31)	12 (48)	0.45
FAMILY				
12 months				
Objective burden related to Self-sufficiency No. (%)				
Improved/unchanged	37 (74)	21 (81)	16 (64)	0.41
Worsened	13 (26)	5 (19)	9 (36)	
Objective burden related to Social functioning No. (%)				
Improved/unchanged	39 (78)	21 (81)	20 (80)	1.0
Worsened	11 (22)	5 (19)	5 (20)	
Subjective burden No.(%)				
Improved/unchanged	39 (78)	17 (65)	19 (76)	
Worsened	11 (22)	9 (35)	6 (24)	0.53
24 months[b]				
Objective burden related to Self-sufficiency No. (%)				
Improved/unchanged	42 (89)	22 (91)	23 (96)	0.89
Worsened	5 (11)	2 (8)	1 (4)	
Objective burden related to Social functioning No. (%)				
Improved/unchanged	46 (98)	18 (75)	22 (92)	0.007
Worsened	1 (2)	6 (25)	2 (8)	
Subjective burden No.(%)				
Improved/unchanged	40 (85)	21 (87)	19 (79)	
Worsened	7 (15)	3 (13)	5 (21)	0.76

IG indicates Information Group, SG Support Group, and TAU Treatment As Usual

[a] Fisher's exact test

[b] Number of relatives at the 24 months follow-up for IG was 47; for IG + SG 24; and for TAU 24

Table 3 Logistic regression models for patients' and family outcome variables

	Independent variable	OR	P	95% CI
PATIENTS				
12 months				
Hospital admission	Number of hospitalizations	1.20	0.012	1.04–1.39
Compliance with standard care	IG + SG group versus TAU group	2.80	0.027	1.12–7.03
Current employment	Number of hospitalizations	0.83	0.034	0.70–0.98
24 months				
Hospital admission	Number of hospitalizations	1.26	0.008	1.06–1.49
	High EE	3.05	0.033	1.09–8.5
Current employment	Duration of illness	0.93	0.012	0.87–0.98
FAMILY				
12 months				
Subjective burden	Number of hospitalizations	1.12	0.025	1.01–1.23
Social functioning	High EE	3.37	0.017	1.24–9.14
24 months[a]				
Self-sufficiency	High EE	5.42	0.046	1.03–28.5
Social functioning	IG + SG group versus TAU group	7.55	0.007	1.72–33.2

IG indicates Information Group, SG Support Group, and TAU Treatment As Usual

[a] Number of relatives at the 24 months follow-up for IG was 47; for IG + SG 24; and for TAU 24

Discussion

Although family psychoeducation has been tested in a wide range of national settings, there remains a need to assess outcomes more internationally. Furthermore, as knowledge about empirical advantages of family psychoeducation interventions may carry almost no weight in convincing clinicians to change their attitudes toward families and adopt them within standard practices (McFarlane et al. 2001), efforts are needed to identify the least intensive and smallest "dose" of family psychoeducation in terms of cost-effectiveness (McFarlane et al. 2003). This study sought to examine the effectiveness of two programmes of family intervention for the care of schizophrenia in a non Anglo-Saxon cultural context and with some modifications in content and form to overcome obstacles related to their delivery on a regular basis in routine services. The family programmes of the current study have already been shown to improve knowledge about schizophrenia (Cazzullo et al. 1989), and study findings show that they are effective in lowering overall EE levels in relatives attending the information programme only and more in those receiving the additional psychoeducational multiple family group. However, the basis for evaluating the effectiveness of group family treatment has to comprise readmission and relapse rates during intervals starting from the end of treatment, and effects on family burden (Pilling et al. 2002). Despite neither of the two programs showing any advantage in terms of relapse, readmission, or employment in the medium or the long term, compliance with standard care was significantly greater at 1-year follow-up for patients of families having attended the IG + SG than in the standard care group. Behavioural management and multiple-family approaches seem to improve patient's treatment adherence in his/her absence although not affecting relapses and hospital admissions. However, this effect appears to decline over time, being absent 2 years after the end of the program, and at the same time high EE levels become predictive of hospital admission again (Bebbington and Kuipers 1994a). This confirms the mediating effect of reductions in EEs. Furthermore, relatives attending the psychoeducational multiple family group report at the same 24 month follow-up greater objective burden related with patients' social functioning, suggesting that previously learnt skills might be a risk factor if not regularly boosted. As a whole our findings seem to draw a picture where relatives attending an intensive and prolonged programme, that over 3 years has combined educational and behavioural elements, can beneficially affect the attitude of patients towards care in the medium term, though not their main clinical outcomes. The same relatives seem more vulnerable to some form of objective burden in the long-term when the predictive value of high EE for relapse became evident again. Neither the subjective nor objective burden of care are effectively reduced, despite a lowering in EE levels, even within the multiple family group treatment. This has been similarly found in some recent trials (McDonell et al. 2003; Stengard 2003). However, the attempt of the program to overcome consumer's barriers to implementation (Dixon et al. 2001)—by excluding the patient from the family programme—does not seem successful, confirming the need for fidelity to the minimal components of a family intervention (McFarlane et al. 2003). The unifocal format does not seem comparable to the bifocal psychoeducational interventions as regards effectiveness (Hornung et al. 1999) and more importantly in terms of cost effectiveness if a relatively small extent of psychosocial intervention, but including the patient (Pitschel-Walz et al. 2006), can reach positive outcomes. Unsurprisingly, variables that may be regarded as indicators of baseline severity of illness (Üçok et al. 2006) predict unfavourable medium and long term clinical outcomes: hospital admission is significantly associated with number of previous hospitalizations, which predict also poor employment status at 12 months, significantly associated in the long term with baseline duration of illness. Regarding family variables, personal emotional exhaustion seem, in any case, associated with the essential factor of illness severity as measured by baseline admissions (Baronet 1999). However, only high EE baseline relatives cannot cope with the objective dimensions of burden suggesting that the two dimensions are actually related and dependent on relatives' appraisal of the patient condition rather than on his/her clinical severity, thus emphasising the special needs of continuing treatment for this subpopulation (Scazufca and Kuipers 1998; Möller-Leimkühler 2005). It is questionable whether these just partially positive results can be explained by the cultural, non Anglo-Saxon context as would be suggested by similar evidence from Greece (Tomaras et al. 2000) and Spanish-speaking immigrants (Telles et al. 1995), with comparable recruitment of relatives of patients in remission, and receiving care in the community. Other possible explanations relate to the specific characteristics of the programmes that aimed to overcome organizational and cultural barriers but have excluded some potentially basic components of successful family treatments for schizophrenia: participation of the patient, recruitment at a relapse episode, full inclusion in routine mental health services (McFarlane et al. 2003). The study program was carried out by a non-profit agency, which was not part of the statutory mental health services providing care for the patients. Access was based on referral by community staff and such recruitment could have affected the generalizability of the findings. The relative's motivation to accept family intervention not otherwise available could be similar to that in early family programs (Grella and Grusky 1989) and could have biased the results. On the other hand, the involvement of a number of clinicians providing standard care in different community mental health centres was a potential source of confounding, in spite of our attempts to minimize this through the cross-checking procedure described. Our results should be interpreted with caution because of these study limitations. However, the impact of complex models of family treatments within non Anglo-Saxon cultures remains unclear. Further international research is needed assessing higher fidelity implemented family interventions in a wider range of cultures. Furthermore, the current claim for new and differently designed family programmes seems appropriate. The enthusiasm for the "second generation" interventions that incorporated the advantages of each of their sources should not be lost at this stage, although their effect might decline over time. Effective care for people with schizophrenia probably requires a "third generation" of family interventions that would administer the key-elements of training and management over time (Liberman and Liberman 2003). What happens after a family has completed a family psychoeducation programme? Families of patients with long-term problems and disability may need ongoing support and problem solving skills to deal with the vicissitudes of illnesses. Programmes in informal settings such as ongoing family support groups (Lefley 2001), open-ended multifamily group structure for families in need (McFarlane et al. 2002), offers of continuity in the NAMI support and educational groups (Burland 1998), all represent examples of how implementation of family psychoeducation could match long-term realities in the lives of potential participants.

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