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Effects of Family Psychoeducation on Expressed Emotion and Burden of Care in First-Episode Psychosis: A Prospective Observational Study

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The present study aimed to examine the levels and interactions of family burden (FB) and expressed emotion (EE) in first episode psychosis (FEP) patients and, secondly, to observe the potential change after a brief psychoeducational group intervention implemented in a real world clinical setting. Twenty-three key relatives of FEP patients received a brief psychoeducational group intervention. FB and EE were assessed before and after the intervention. EE-change and correlations between variables were examined. Half of the sample of key-relatives showed high levels of EE. No severe family burden was observed. FB and EE did not change after the intervention. Family subjective and objective burden were correlated with emotional overinvolvement, but not with criticism. Brief psychoeducational groups may not be sufficient to reduce FB and EE associated to the experience of caregiving for a family member with a first-episode psychotic disorder.

Keywords: expressed emotion, burden, first-episode psychosis, psychoeducation, family intervention.

El presente estudio tiene por objetivo examinar los niveles y las interacciones de la sobrecarga familiar (SF) y emoción expresada (EE) en cuidadores de pacientes con un primer episodio de psicosis (PEP) y, secundariamente, observar su potencial cambio después de un grupo psicoeducativo breve implementado en un contexto asistencial rutinario. Veintitrés familiares clave de pacientes con un PEP recibieron una breve intervención grupal de tipo psicoeducativo. SF y EE fueron evaluados antes y después de la intervención. Se examinó tanto el cambio de la SF y la EE como las correlaciones entre ellas. La mitad de la muestra de familiares mostró altos nivel de EE. No se observó una SF grave. Ni la SF ni la EE cambiaron después de la intervención. La sobrecarga familiar objetiva y subjetiva correlacionaron con la sobreimplicación, pero no con los comentarios críticos. Los grupos psicoeducativos breves pueden no ser suficiente para reducir la SF y la EE asociada a la experiencia

Palabras clave: emoción expresada, sobrecarga, primer episodio de psicosis, psicoeducación, intervención con familias.

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Ever since George Brown's seminal studies of the families of people with schizophrenia (Brown, Birley & Wing, 1972), the role of family in the course of the illness has been examined thoroughly. Family members' attitudes toward the patient, as measured by the level of expressed emotion (EE) and family burden (FB) associated with the caring role, have received most of the research attention (Awad & Voruganti, 2008; Wearden, Tarrier, Barrowclough, Zastowny & Rahill, 2000).

These concepts are especially important in the early stages of the illness since this is when most of the changes are observed (Birchwood & Macmillan, 1993) and a reappraisal of family expectations must be undertaken (Gleeson, Jackson, Stavely & Burnett, 1999). The few extant studies in the early stages of the illness suggest that approximately half of the families show high EE (Raune, Kuipers & Bebbington, 2004) which is a reliably predictor of relapse (King & Dixon, 1999). On the other hand, FB may be higher in carers of FEP patients compared to their counterparts later in the course of the illness (Martens & Addington, 2001). However, the origins of EE and FB have received little research attention, and their mutual interactions are not yet well understood. Recent research suggests that EE and FB may have a complex pattern of interactions. Longitudinal studies indicate that EE is a significant predictor of caregiver burden at 2-year follow-up, meaning that caregivers experienced a higher level of burden when they were more strongly emotionally involved (Moller-Leimkuhler & Obermeier, 2008). Álvarez-Jiménez et al. (2010) have postulated that emotional overinvolvement, not criticism, at index admission may be specifically influencing burden in key family members in the early course of the illness. Although for a proportion of relatives EE is not stable over time, improvement in burden of care has shown to be one of the best predictors of EE at follow-up (Scazufca & Kuipers, 1998).

Most of previous research has been conducted in populations with chronic schizophrenia, thus effects of family interventions in the early stages are largely unknown (Askey, Gamble & Gray, 2007). While some studies showed family interventions result in burden reductions (Jeppesen et al., 2005), earlier trials showed that, for those families with low EE pre-treatment levels, the EE status worsened after treatment (Linszen et al., 1996). In this context, elucidating the benefits of brief psychoeducational groups becomes particularly salient.

The main purpose of the present study was: (i) to determine the levels of EE and burden in the early stages of the illness; and (ii) to examine the relationship between EE and FB; secondly, we aimed to observe whether the levels of EE and FB change after a brief psychoeducational group intervention.

Methods

Participants

This was a prospective observational study performed in an integrated clinical and research program for intervention in first-episode psychosis, the Cantabria (Spain) First-Episode Psychosis Program (PAFIP). PAFIP referrals came from primary care, emergency services and mental health professionals. Inclusion criteria for the patients were: age 15-60 years; DSM-IV criteria for schizophrenia, schizophreniform disorder, schizoaffective disorder, brief psychotic disorder or psychosis not otherwise specified (NOS); and living in the catchment area (see Crespo-Facorro et al., 2006). Patients meeting these criteria provided written informed consent to be included. The study was approved by the Ethics Committee of the University Hospital "Marques de Valdecilla".

Twenty-three key relatives who took part of psychoeducational groups from April 2006 through May 2007 were enrolled in the present study. Key-relative was defined as a caregiver who had the most daily contact with the patient. During the enrolment period, 30 families entered the psychoeducational group. Of those, 23 (76.7%) consented to participate in the present study. Patients and their key-relatives characteristics are depicted in Table 1.

Measures

Key-relatives' EE and burden were assessed before and after the psychoeducational group. The rater (VM-M) did not have any clinical contact with the patients and their relatives between the baseline and follow-up assessments. To assess the subjective and objective burden we used the Spanish adaptation of the Platt and colleagues (1980) Social Behavior Assessment Schedule (SBAS) (Otero, Navascu & Rebolledo, 1990). The SBAS is a standardised, semi-structured interview which provides objective definitions for rating various aspects of a patient's behavior and also allows scoring of the caregiver's subjective evaluation of the stress these may cause. In the present study we used the burden and stress scales to evaluate the caregiver's experience of objective and subjective burden in three domains that covered the patient's problem behaviors, the patient's social role dysfunction, and the impact of the illness on caregivers' work, social, and leisure time. To measure objective burden caregivers were asked to rate the degree to which each of 9 problems were present on a 3-point scale (0 = "no problem"; 1 = "moderate problem; 2 = "severe problem"). To measure subjective burden caregivers rated the degree of stress that they experienced in relation to each item that they had rated as objectively present, using the same scale. The use of these sub-scales

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of the SBAS can be done without losing its psychometric properties (Platt et al., 1980).

Expressed emotion was measured via the Family Questionnaire (FQ) (Wiedemann, Rayki, Feinstein & Hahlweg, 2002). The FQ is a 20-item self-report questionnaire measuring the EE status (emotional overinvolvement (EOI) and criticism [critical comments, CC]) of relatives of patients with schizophrenia. EOI includes unusually over-intrusive, self-sacrificing, overprotective, or devoted behavior, exaggerated emotional response, and over-identification with the patient. CC is defined as an unfavourable comment on the behavior or the personality of the patient. The measure consists of 10 items for each subscale. Responses range from 1, "never/very rarely" to 4, "very often". The authors give a cut-off point of 23 as an indication of high CC, and 27 for EOI. The FQ was created as an efficient self-report alternative to the Camberwell Family Interview (CFI), it has good correlations with the ratings in the CFI subcategories CC (78% correct classifications) and EOI (71% correct classifications), as well as with the overall CFI EE ratings (74% correct classifications) (Wiedemann et al., 2002).

Family intervention

As part of the treatment protocol, all patients and their relatives are offered to participate in a brief psychoeducational group during the first year of treatment.

Table 1
Sample sociodemographic characteristics (n = 23)

		Key-relatives	Patients
Gender: *n* (%)	Female	17 (73.9)	11 (47.8)
Age (years): mean (*sd*)		54.1 (13.8)	29.5 (6.6)
Occupational status: *n* (%)	Working	10 (43.5)	9 (39.1)
	Studying	5 (21.7)	1 (4.3)
	Incapacity for work	3 (13.0)	-
	Unemployed	4 (17.4)	8 (34.8)
	Disability pension	1 (4.3)	5 (21.7)
Marital Status: *n* (%)	Single	4 (17.4)	20 (87.0)
	Married	12 (52.2)	-
	Separated/divorced	5 (21.7)	3 (13.0)
	Widow/widower	2 (8.7)	-
Diagnoses: *n* (%)	Schizophrenia	-	14 (60.9)
	Schizophreniform	-	6 (26.1)
	Schizoaffective disorder	-	1 (4.3)
	Brief psychotic disorder	-	1 (4.3)
	Psychosis disorder NOS	-	1 (4.3)
Family socio-economic level: *n* (%)	Low	3 (13.0)	
	Medium	18 (78.3)	
	High	2 (8.7)	
Relationship: *n* (%)	Father/mother	19 (82.6)	
	Sibling	3 (13.0)	
	Couple	1 (4.3)	
Cohabitation: *n* (%)	Yes	19 (82.6)	

Note. NOS: not otherwise specified

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Family psychoeducation is provided when the patient reaches clinical remission and when a group of at least six families are available. Family groups are scheduled fortnightly. The intervention was designed and supervised by an experienced clinical psychologist (CG-B). Family sessions were delivered by a multidisciplinary clinical team consisting of a clinical psychologist, nurse and social worker. The session on medication was delivered by a psychiatrist, also part of the treatment team.

Group interventions ran for four months, with eight sessions covering the following themes: *Session 1*: What is an illness? What is a mental disorder? Introduction to brain functions and its disorders. *Session 2*: Psychosis and its symptoms. *Session 3*: Causes and triggers; introduction to the stress-vulnerability model. *Session 4*: Promoting recovery; psychological and pharmacological therapies; main risk factors. *Session 5*: Early warning signs identification and coping. *Session 6*: Medication and its effects. *Session 7*: Rationale for basic communication skills (listening to others, making requests, expressing positive feelings, and expressing unpleasant feelings). *Session 8*: Review of topics previously covered, disclosure and feedback about the program.

Statistical analysis

All analyses were conducted using SPSS version 12.0. Nonparametric Wilcoxon test were employed to compare tests scores before and after the psychoeducational group. Spearman's correlations were used to explore the relationship between burden and expressed emotion variables. For all tests the two-tailed level of significance was set at.05.

Results

Twenty-three key relatives were included in the study. Nineteen key-relatives (83%) were parents, of whom 15 were mothers. Relatives' mean age was 54.1 years (*SD* = 13.8), 17 (74%) were women. Nineteen (83%) of the relatives were living with the patient. Twenty (87%) of the patients have a diagnosis of schizophrenia or schizophreniform disorder (see Table 1).

Table 2

Categorization of Family Burden and Expressed Emotion in key-relatives before (pre) and after (post) psychoeducation group program

Variables			*n**	pre	post
Objective burden	Objective burden	Not present	23	8	7
		Moderate		15	16
		Severe		0	0
Subjective Burden	Disturbed behaviors	Not present	23	5	6
		Moderate		18	17
		Severe		0	0
	Social performance deficits	Not present	23	6	6
		Moderate		14	15
		Severe		3	2
	Adverse effects	Not present	23	10	10
		Moderate		12	13
		Severe		1	0
	Global burden	Not present	23	4	4
		Moderate		19	19
		Severe		0	0
Expressed emotion	Criticism	High	19	6	6
		Low		13	13
	Overinvolvement	High	19	7	5
		Low		12	14
	Global EE	High	19	10	10
		Low		9	9

Note. EE, Expressed Emotion
*4 missing cases for Family Questionnaire.

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The group attendance rate was relatively high; key-carers attended 86% of the sessions. The sample for the FQ was of 19 participants due to 4 missing questionnaires. At follow-up assessment the number of participants scoring above the critical level in the overinvolvement subscale changed from 7 (37%) to 5 (26%). There was no change in the number of participants (n = 6; 32%) scoring above the cut-off point in the criticism subscale. In sum, 10 participants (53%) showed communication styles within the high EE category before and after the psychoeducational intervention (Table 2). Likewise, comparison of the means before and after the treatment did not show significant differences (Table 3).

Levels of FB ranged from "not present" to "moderate", before and after the intervention, with no significant change for any objective or subjective component of burden (all $p > .1$; see Table 3).

Baseline global EE levels were significantly correlated with subjective burden ($rho = 725$; $p < .001$), but not with objective burden. The correlations of EE components showed that EOI was associated with subjective ($rho = 752$; $p < .001$) and objective ($rho = .547$; $p = .015$) burden. Conversely, CC was not correlated with either objective or subjective burden.

Discussion

Main findings

Findings from this study suggest no severe family burden, but high levels of EE in nearly half of the key-relatives in the background of a specialized early psychosis program. The analysis of the relationship between the components of family burden and EE showed that both family subjective and objective burden was highly correlated with EOI, but not with CC. Levels of EE and FB did not change during the four month period in which families attended the psychoeducational group.

Associations between Expressed Emotion and Family Burden

This exploratory study provides some evidence on the relationship between two major concepts of the experience of caregiving in the context of a real world clinical setting for first-episode psychotic disorders. Only a few other studies have focused on these relationships. The present findings are partially in agreement with other studies which suggest that subjective family burden and higher levels of EE are related (Patterson, Birchwood & Cochrane, 2005; Raune et al., 2004; Smith, Birchwood, Cochrane & George, 1993). In our study, this finding can

Table 3

Family Expressed Emotion and Burden in key-relatives: comparisons before (pre) and after (post) psychoeducation group program

			pre		post		Statistics	
	Variables	*n**	Mean (*SD*)	Median	Mean (*SD*)	Median	*Z*	*p*
Objective burden	Objective burden	23	.28 (.28)	.29	.31 (.29)	.29	-.647	.518
Subjective Burden	Disturbed behaviors	23	.27 (.26)	.18	.17 (.18)	.09	-1.644	.100
	Social performance deficits	23	.38 (.38)	.27	.32 (.37)	.18	-.896	.370
	Adverse effects	23	.27 (.33)	.14	.28 (.30)	.29	-.337	.736
	Global burden	23	.30 (.25)	.31	.26 (.23)	.18	-.817	.414
Expressed emotion	Criticism	19	18.7 (7.1)	18.0	(19.4) (6.9)	19.0	-.987	.324
	Overinvolvement	19	24.3 (7.0)	25.0	23.0 (7.1)	24.0	-1.683	.092
	Global EE	19	43.0 (12.3)	44.0	42.4 (12.7)	44.0	-.181	.856

Note. EE, Expressed Emotion

*4 missing cases for Family Questionnaire.

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be interpreted to mean that EE at early stages of the illness is more related to personal reactions to caregiving than to the direct and indirect tasks of care. However, other studies have reported that high-EE relatives have significantly higher scores on objective as well as subjective burden (Scazufca & Kuipers, 1996).

Interestingly, EOI, and not CC, was related with burden of care. Conversely, Jackson et al (1990) found that CC was associated with burden of care. A possible explanation for this discrepancy between studies, among other methodological differences, may be due to the stage of the illness in which the evaluations took place. An earlier prospective study in FEP suggested that burden is a feature mainly associated to relatives with high EOI (Patterson et al., 2005). Our study, along with other recent reports on expressed emotion in early psychosis, supports the view that EOI and CC have differential associations (Álvarez-Jiménez et al., 2010).

No changes in levels of expressed emotion and family burden

Family interventions are widely recognized to be effective treatments for schizophrenia. They have shown to be effective in attenuating those factors which generate an adverse family atmosphere, such as EE or family burden (Pharoah, Mari, Rathbone & Wong, 2006). Over the last two decades there have been increasing efforts to expand psychosocial interventions as soon as possible in the course of the illness (Álvarez-Jiménez, González-Blanch, Pérez-Pardal, Rodríguez-Sánchez & Crespo-Facorro, 2007). However, their effectiveness of family interventions in the early stages of the illness remains to be fully clarified (Askey et al., 2007). The fact that FB and EE did not change in the present study may be interpreted as a preliminary evidence for the lack of effectiveness of the psychoeducational group therapy for this population. This interpretation will be in agreement with Szmukler et al. (2003) who suggested that engaging careers in interventions of intermediate in intensity and duration does not reduce the adverse effects of caregiving. In the context of Spanish mental health care, previous reports have indicated that psychoeducational intervention alone may be ineffective to change parents' perceptions of subjective distress and burden (Cañive et al., 1993). On the other hand, EE has proved to be relatively stable in Spanish families with schizophrenia when their relatives are not in crisis (Santos et al., 2001). It can be argued that the fact that the intervention was provided when patient have reached a clinical remission could attenuate the possibilities of finding changes in EE and burden. However, a number of studies have shown that levels of EE and burden are not related to the severity of positive symptoms (Moller-Leimkuhler & Obermeier, 2008; Raj, Kulhara & Avasthi, 1991; Scazufca & Kuipers, 1996). Nevertheless, the absence of changes in EE and FB after the intervention should be interpreted with caution given the limitations of the present study.

The findings reported here and past research on this area can provide useful insight into desirable features of future controlled trials of family treatments in early psychosis: (a) interventions may need to be delivered to families with low and high levels of burden and EE separately; thus index assessment should determined who will incorporated to what intervention; (b) more intense training in communication skills and problem solving may be necessary to achieve positive results; (c) subsequently, group treatments may need to include patients as well as their relatives; (d) patients' negative and depressive symptoms, and functional status may have to be considered potential mediators of family distress; (e) sample size should be justified by power calculation; (f) there is a need to conduct intent-to-treat analysis with characterization of those lost to follow-up.

Limitations

This study has some limitations owing to its preliminary stage. First, the lack of a control group precludes any conclusion to be drawn on the effectiveness of the intervention. Second, the study was conducted with a unique and small sample and, therefore, had limited power to detect small effects. Furthermore, unmeasured variables could potentially confound the relationship between EE and FB. Third, given the short duration of the intervention the present findings are restricted to the short term psychoeducational interventions. It is worth to note that prolonged therapies, and not necessary more intensive, may be more efficacious (Addington, Collins, McCleery & Addington, 2005). Finally, this study used a self-report measure to assess carers' EE. Although this has shown adequate psychometric properties in relation to interview-based assessments (Wiedemann et al., 2002), there is, to the best of our knowledge, no available Spanish validation of this questionnaire; therefore, the data from this version of the FQ should be interpreted with caution.

Conclusion

This study provides some preliminary evidence on the presence and the specific relationships between two basic concepts related to the experience of caregiving in the early stages of a psychotic disorder. While there is a need of controlled trials to state more definitive conclusions on the effectiveness of brief psychoeducational interventions in reducing (or preventing) high EE and FB, the low levels of attrition of relatives and the positive comments received from the group members, allows us to consider this type intervention feasible and adequate at this stage of the illness, but may not be sufficient to reduce the consequences of the experience of caregiving for a family member with a diagnosis of first-episode psychosis.

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