L. Rodríguez Santos[1]
F. J. Vaz Leal[1,2]

Assessment of expressed emotion in families of patients with eating disorders: using the Camberwell Family Interview on a Spanish sample

[1] Psychiatry Area
Medicine School
University of Extremadura

[2] Mental Health Unit no 2/Eating Disorders Unit
Complejo Hospitalario Universitario de Badajoz
Servicio Extremeño de Salud

Introduction. The level of expressed emotion (EE) in the family members has been related to several clinical and outcome realted factors in patients with eating disorders. This study aimed to study the levels of EE in families of patients with eating disorders using the Camberwell Family Interview (CFI) in order to determine whether they were similar to those reported in other studies developed outside Spain.

Methods. Seventy-one parents of 43 eating disorders patients were evaluated using a Spanish version of the CFI.

Results. In our sample, 46.5 % of the families had EE high levels. There were no significant differences between mothers and fathers in global scores, but mothers tended to have higher emotional overinvolvement with the patient.

Conclusions. The percentage of families that had high EE in our sample was lower than that reported for families with a member with schizophrenia and slightly higher than that detected in other studies on eating disorders. Mothers tended to have higher EE levels than fathers.

Key words:
Expressed emotion. Camberwell family interview. Eating disorders. Anorexia nervosa. Bulimia nervosa.

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Valoración de la expresividad emocional en familias de pacientes con trastornos alimentarios: aplicación de la *Camberwell Family Interview* en una muestra española

Introducción. La expresividad emocional (EE) familiar ha sido relacionada con diversos factores clínicos y evolutivos en pacientes con trastornos alimentarios. El objetivo del presente trabajo fue estudiar la EE en familiares de pacientes con trastornos alimentarios utilizando la *Camberwell Family Interview* (CFI) con la intención de comparar los resultados con los detectados en otras patologías o en otros estudios sobre trastornos alimentarios desarrollados fuera de España.

Métodos. Setenta y un progenitores de 43 pacientes con un trastorno alimentario fueron evaluados utilizando la CFI.

Resultados. El 46,5 % de las familias evaluadas presentaron una alta EE. No se encontraron diferencias significativas entre las madres y los padres con respecto a la EE global, pero sí se observó una mayor tendencia en las madres a la sobreimplicación emocional.

Conclusiones. El número de familias que presentan una alta EE en la población estudiada es inferior a la encontrada en los trabajos sobre EE en esquizofrenia y ligeramente superior a la encontrada en otros estudios realizados en trastornos alimentarios. Existe una tendencia a que las madres presenten una mayor EE que los padres.

Palabras clave:
Expresividad emocional. *Camberwell Family Interview*. Trastornos alimentarios. Anorexia nerviosa. Bulimia nerviosa.

INTRODUCTION

Some studies hypothesize that anorexia nervosa (AN) is associated to a special form of family interaction[1-3], however it is not clear up to what point these family conditions have an etiological importance or are a response of the families to the disorder[2]. The criticism made on some of the studies is focused on the difficulty of evaluating the hypotheses subjected to validation by standardized measures[4,5]. Development of reliable family interaction measures, as expressed emotion (EE)[6,7], has increased interest for knowing the relationship between family and AN.

The EE concept was developed pragmatically to indicate some aspects of emotional behavior manifested by the family towards the ill family member. The Camberwell Family Interview (CFI)[8,9] makes it possible to assess the family EE. It is a semistructured interview that makes it possible to evaluate the emotions expressed by a family

Correspondence:
Laura Rodríguez Santos
Departamento de Farmacología y Psiquiatría
Facultad de Medicina
Av. Elvas, s/n
06071 Badajoz. Spain
E-mail: laura@unex.es

member towards the ill member, considering both the verbal and non-verbal aspects of his/her behavior. Vaughn and Leff[8] consider five factors when analyzing EE: critical comments (CC), hostility (H), emotional overinvolvement (EOI), warmth (W), and positive remarks (PR). The EE global index is dichotomic, classifying the family as high EE if the family member makes six or more critical comments on the patient's behavior during the interview and/or there is hostility towards him/her, and/or emotional overinvolvement appears. These three scales have been used for the global index, since they have been the ones that have been demonstrated to have prognostic value in the studies performed with schizophrenic patient family members[10,11]. This has led to the statement that EE is a good predictive index of the disease course.

Russell and associates have[5,12-14] has conducted most of the studies on family interaction and eating disorders, evaluating it through EE and some of its subscales. Szmukler et al.[12] have studied the relationship between EE that the parents have and treatment drop-out by the patients, observing that the mothers and fathers of the patients who drop-out of treatment have higher levels of criticism and overinvolvement than the parents of patients who continued the treatment. On the other hand, Le Grange et al.[13,14] have studied EE and its relationship with the course of family therapy[15] while Dare et al.[5] have compared the effectiveness of two forms of family intervention to manage eating disorders in adolescents, evaluating EE and its subscales for it with an adaptation of the CFI, the Scheduled Camberwell Family Interview (SCFI).

Other authors have compared family interaction of families of AN patients and families of patients with other diseases[16,17]. A study carried out by Goldstein[16] has included a number of family interaction measures as «affective style» and «deviated communication» in families of adolescents with schizophrenia and in families of AN adolescents. The main difference found between both groups was that the parents of AN adolescents did not generally make personal criticisms of their child, on the contrary to parents of patients with schizophrenia, in whom the personal critical attitude was the one that predominated most. Blair et al.[17] evaluated the EE, comparing families of patients with AN, cystic fibrosis and a healthy control group. They found that the proportion of families of AN patients who had high EE was greater in comparison with the other two groups.

Van Furth et al.[18] analyzed the family EE as predictor of the disease outcome in a sample of families of adolescent patient with eating disorder. In general, the EE scores decreased in the treatment period, but only the decrease in emotional overinvolvement in both the mothers and fathers was significant.

More recently, Uehara et al.[19] have conducted a preliminary study in which the EE (evaluated by the Five Minute Speech Sample [FMSS])[20], family factors and symptoms observed in the course of a multifamily pyschoeducative treatment were compared. The percentage of family members with high EE decreased significantly after treatment. The number of persons who scores in emotional overinvolvement also decreased significantly, although the same did not occur with the critical comments, that decreased, but not significantly.

The studies reviewed show that the proportion of family members that have a high EE is less in family members of patients with eating disorders than in those of patients with schizophrenia, but this difference does not seem to be so clear in relationship to the global index as in the scores of the subscales.

Within this context, the objective of this study was to observe if the same results appear in a Spanish population of relatives of patients with eating disorders as in studies conducted in other countries and also to compare our results with those obtained with relatives of schizophrenic patients inside and outside our country.

METHODS

Procedure

The present study was developed in a population of families with a daughter who had been diagnosed of anorexia nervosa (AN) or bulimia nervosa (BN) and who lived in the same house as her parents at that time. The study setting was four health care areas of the Regional Community of Extremadura. The sample was chosen from families who belonged to the delegations of the Association for the Defense of Treatment of Eating Disorders of Extremadura (ADETAEX) and who lived in the previously mentioned health care areas. The family members who participated in the study were the parents and daughter who had the eating disorder. A list of the families was obtained through the Association. A total of 50 were chosen randomly, later establishing telephone contact to inform them on the performance of the study and to ask them to participate.

Characteristics of the sample

A total of 43 of the 50 families selected to participate in the study collaborated in it. The family members who collaborated were 43 patients and 71 family members (43 mothers and 28 fathers).

The age range of the patients was 13 to 31 years, with a mean age of 20.4 years (SD: 4.2). All lived with their parents (42 were single and 1 divorced) and most were students (69.8 %). The most frequent diagnosis was AN (65.1 %), while the diagnosis of BN was made in 34.9 % of the sample. A total of 48.8 % of the sample corresponded to patients with

restrictive anorexia, while the type of bulimia detected most frequently was purgative (25.6 %). Mean weight of the patients was 50.6 kilos (SD: 7.3), with a range going from 35.5 to 75.0, the body mass index (BMI) being 19.2 kg/m^2 (SD: 2.4). Mean age of onset of the problem in the total patient sample was 16.7 years (SD: 3.2), with a mean evolution time of 44 months (SD: 40.8) and mean number of admissions 0.6 (SD: 1.4). A total of 72.0 % of the patients had no admission, 18.6 % had had at least one admission and 9.3 % three or more admissions.

Regarding the family members, age range was 33 to 70 years, with a mean age of 49.3 years (SD: 7.3). Mean age of the mothers was 48.6 years (SD: 6.6) and that of the fathers 50.3 years (SD: 8.2). Most of the family members had primary studies (74.6 %) and were working (53.5 %).

Evaluation instrument

A Spanish version of the Camberwell Family Interview (CFI)[8], translated to Spanish by Montero Piñar with additional questions that Espina Eizaguirre proposed to assess family EE in eating disorders added to this was used in the study. This is a semistructured interview that is commonly given to parents, to the family members that live with the patient daily or to the closest caregiver or caregivers. The interview is recorded and then evaluated on the five scales making it up, although only critical comments, hostility and emotional overinvolvement scales have prognostic validity and are used to establish the EE global index. It must be stressed that previous training is required for both the application and evaluation of this interview, so that the evaluator needs to have obtained a reliability certificate.

Description of the CFI subscales

There are two types of measurements:

- *Frequency.* Two scales («critical comments» and «positive remarks») in which specific comments must be recognized, counting those made at any time of the interview.
- *Global.* A series of specific comments should also be recognized, but their evaluation involves more than a sum. The evaluator should make a judgment on the degree in which emotion is demonstrated, considering the interview as a whole, to evaluate these three scales («emotional overinvolvement», «hostility» and «warmth»). Each score is within a continuum.

The definition of the subscales and cut-offs appears in table 1.

A family was classified as high EE when one or both of the parents made six or more critical comments and/or had a score of three or more on emotional overinvolvement and/or showed hostility.

Statistical analysis

The mean, standard deviation and measurement of frequencies were analyzed for the descriptive study. The chi-squared test was applied, since the variables to study were qualitative (dichotomic in this case). The statistical analysis was performed using the SPSS program for Windows (version 10.0).

Table 1 Subescales of the Camberwell Family Interview

Scale	Definition	Cut-offs
Critical comments (CC)	Critical comment is defined as a declaration which, by that way it is expressed, makes up an unfavorable comment on the behavior or personality of the person it refers to	High EE: ≥ 6 CC Low EE: < 6 CC
Hostility (H)	Hostility is said to be present when the person is attacked because of what he/she is more than for what he/she does	High EE: presence Low EE: absence
Overinvolvement (EOI)	This scale assesses an exaggerated and disproportionate emotional response of the family member in the presence of the patient's disorder an includes exaggeratedly overprotective behavior towards the patient or involves excessive sacrifice for the relative	High EE: ≥ 3 Low: < 3
Warmth (W)	Only warmth or affection expressed in the interview on the person affected is assessed	Scale of 0-5
Positive remarks (PR)	A positive remark is a declaration that expressess praises, approval or appreciation of the behavior or personality about the person	Frequency of the appearance of positive remarks

RESULTS

As can be observed in table 2, 46.5 % of the families evaluated had a high EE. A total of 41.9 % of the mothers and 21.4 % of the fathers had high EE, although this difference between fathers and mothers did not reach statistical significance.

It can also be observed how the scores of the subscales that make up the EE in each one of the family members are distributed. A total of 29.6 % of the parents scored high on critical comments, the mothers scoring higher than the fathers, although this difference was also not significant.

However, there is a significant difference in overinvolvement, since the mothers tend to have greater overinvolvement than the fathers.

Regarding hostility, 14.1 % of the family members scored on this item: the mothers 16.3 %, within their group, and the fathers 10.7 %. The type of hostility that appears most in the mothers is that of hostility as generalization and rejection together, while the fathers had more hostility as generalization.

DISCUSSION

It is difficult to compare the results of this study with others having similar desings, since many of them evaluate EE only through the scores of the subscales, while the objective of our study was to observe the differences through the global index. Even so, it must be stressed that the proportion of family members who have high EE in this study is higher than that in the studies of Le Grange et al.[13] (36.5 %; using two or more CC as cut-off) and of Uehara et al.[19] (28.6 %; using the FMSS). Although some of these studies support the idea that eating disorders have low EE levels, we have found some studies where the appearance of a high EE approaches the data we have obtained. For example, Szmukler et al.[12] using critical comments to classify the family members in high and low EE (six or more for the mothers, three or more for the fathers) found 41.3 % high EE, while Blair et al.[17] found 42 %, using the traditional cut-offs. Some of those already given in other studies could serve as an explanation for the present results among the possible ones for these differences. In this sense, it has been observed that when the SCFI is used, the family EE levels are lower than when the CFI is used, especially because there are fewer critical comments. This may be due to the fact that the patient is present during the interview and because, as all the family members are present, the time each one has to speak is less and thus the possibilities that critical comments may appear are less[13]. This may be one of the reasons why our results are closer to those of Szmukler et al.[12] who used the CFI to assess EE. Another explanation is that the families with AN patients could have a lower EE than those of patients with BN, since the parents of the latter would respond to greater impulsivity and a more disorganized behavior, making more criti-

Table 2 Frequencies and percentages of emotional expressivity, critical comments, emotional overinvolvement and hostility of the family members. Differences between mother and fathers

	Family members		Mothers		Fathers		χ^2	p
	N	%	N	%	N	%		
Emotional expressivity								
Low	23	53.5	25	58.1	22	78.6	3.164	NS
High	20	46.5	18	41.9	6	21.4		
Critical comments								
Low	50	70.4	28	65.1	22	78.6	1.474	NS
High	21	29.6	15	34.9	6	21.4		
Emotional overinvolvement								
Low	63	88.7	35	81.4	28	100	5.871	0.010
High	8	11.3	8	18.6	–	–		
Hostility								
Absence	61	85.9	36	83.7	25	89.3	0.434	NS
Presence	10	14.1	7	16.3	3	10.7		
General	3	2.6	1	2.3	2	7.1		
Rejection	2	1.8	2	4.7	–	–		
Hostility and rejection	5	4.4	4	9.3	1	3.6		

cal comments[12]. Thus, what could be expected in our study was that there would be a higher proportion of family members with high EE, since patients with bulimia were included.

According to the psychosomatic family model of Minuchin[1], families with eating disorders, and more specifically those of patients with AN, have a strong tendency to conflict avoidance. This could explain the fact that the family members of these patients make fewer critical comments and have less hostility. In short, conflict avoidance in families with AN may lead to the appearance of lower EE levels than in those having schizophrenia, but the greater number of conflicts in families with BN could act by increasing it.

On the other hand, Szmukler et al.[12] have found that the parents are more critical with older patients who have a longer disease duration. This could explain the fact that there are low levels of EE and lower scores on all the subscales in the studies of Le Grange et al.[13] and Dare et al.[5], since, in addition to the fact that they used the SCFI, the mean age and duration of the disease were significantly lower in comparison with the other studies and this one.

To understand the results better, the data obtained in the subscales are analyzed in the following.

The mean score of «critical comments» found in this study (mean: 4.34; SD: 4.36) is higher than those found even by Szmukler et al.[12,21], that are the highest detected in the review of the literature. The mean in «emotional overinvolvement» is slightly higher than in most of these studies, except for the van Furth et al.[18] study in which the percentage of family members having high emotional overinvolvement is also much greater. The hostility that the families have in our study is also higher than that found in the previously mentioned studies.

Our data on «hostility» are those that differ most from those provided by the literature. In the studies on EE in family of schizophrenia patients, it is generally observed that the family member who has a higher number of critical comments, significantly exceeding the cut-off (six or more), generally also scores in «hostility». The fact that a superior mean of critical comments has appeared in this population leads to the suspicion that many of the family members who have a high number of critical comments have also scored in «hostility».

Regarding the differences between fathers and mothers, there are no differences in our study in relationship to global EE. This also is true in the van Furth et al. study[18]. However, there is a tendency for the mothers to have high EE in greater amount than the fathers. In our case, we observe how the mothers score higher on all the subscales, and significantly on the «emotional overinvolvement scale». Thus, the mothers seem to be more overinvolved than the fathers, this result coinciding with that of other studies on EE in eating disorders[5,12,21]. One possible explanation about these results could be the fact that most of the mothers of the patients in our study were housewives, which means that they were those who spent the most time with the patient. This may condition the fact that they were «burnt out» by the situation and this would cause them to make more critical comments and to express greater hostility towards the patient while being more overinvolved than the fathers. Van Furth et al.[5] have found that the mothers who are critical also have greater overinvolvement while the fathers tend to be less critical and have low overinvolvement.

Based on the attribution model, Brewin et al.[22] hypothesized that relatives who were hostile or critical made more attributions to personal factors of the patient and to control that the patient has on his/her disease than the relatives who were emotionally overinvolved. In the eating disorders, we find many parents who think that the patients have this problem because they want to or because they give in to stupid desires regarding food and the body («if you do not eat, it is because you do not want to», «this is stupidity on your part», etc.). Perhaps the lack of knowledge of many parents on eating problems leads them to think that the patient can control his/her eating, and this could be one of the causes of the critical comments and hostility of these family members towards the patients. When comparing our results with those provided by the different studies on EE in schizophrenia, we generally find a lower percentage of EE in our case than those found in the studies with schizophrenic patients in non-Spanish population[8,23]. However, in the studies on the Spanish population, the percentage is similar to that found by Montero et al[24], higher than that of Gutiérrez et al.[25] and lower than that of Arévalo and Vizcarro[26]. Then the question is: how is it possible that the percentage is similar to other studies on EE in schizophrenia if the percentage of family members who score on the subscales in much lower? This could be due to two circumstances: one, that in this study, the parents scored on a single subscale, and another, that the scores were also very limited, factors that would not only contribute to the fact that the percentage of high EE was higher but also to the fact that the percentage of mean scores of the subscales was low.

In comparison with the studies of patients with schizophrenia, we have found a lower mean of «critical comments» in our study. However, the percentage of family members who score high on «critical comments» is comparable to that found in the Spanish studies, but lower than those found in the non-Spanish population. On the one hand, there is a percentage of relatives who present hostility comparable to those found in some studies conducted in relatives of patients with schizophrenia[9,26,27].

All the mean scores of the «emotional overinvolvement» scale and the percentage of relatives with emotional over-

involvement are below those found in the studies on patients with schizophrenia. The fact that schizophrenia occurs as a crisis may cause these families to have greater emotional overinvolvement (anxiety, anguish, etc.) than the families with eating disorders, who gradually enter into the problem. In addition, the fact that the relatives also see the problem as somewhat transitory and curable (not chronic) may cause this anxiety to not be so acute in the beginning.

In summary, on the one hand, we have found a greater percentage of EE in our population than in the other studies on eating disorders, using the traditional cut-offs. On the other hand, we have found that the scores of the subscales in general are lower. One explanation for this result is that the criticism and hostility level found in our sample is greater than in the remaining studies that analyze EE in eating disorders, above all in that regarding hostility. This could be greatly due to the differences existing between the samples, since it has been seen that both the type of eating disorder and the patient's age and duration of the disease have an influence on the EE of the parents and that there are differences between the results according to the type of interview used (CFI or SCFI). In this way, the results of our study have greater coincidence with the data supplied by Szmukler et al.[12] and Uehara et al.[19], in which the samples are similar and the same interview was used.

In conclusion, the results found in our study are similar to the results found in studies performed with non-Spanish samples, always considering the patient's age and duration of the disease and the interview used. Our results are also comparable to studies performed in schizophrenic patients, although the scores of the subscales are lower in our study. We consider the fact that the number of fathers (but not mothers) does not reach that required statistically as a limitation of the study.

It is necessary to continue to conduct studies on EE and eating disorders since we consider it is important to know if the EE is influencing the course of the eating disorder and, if such is the case, to be able to perform new interventions in the family.

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