

## THE PREDICTIVE VALUE OF FAMILY EXPRESSED EMOTION IN EATING DISORDERS

*M.A. Besharat*

*Department of Psychology, Faculty of Psychology and Education, University of Tehran, Tehran*

### ABSTRACT

**Background:** The measure of Expressed Emotion (EE) has been extensively used for the investigation of family interaction in different clinical populations. However, very few clinical data exist which clarify the nature of the relationship between family EE and eating disorders, as well as the prognostic value of the EE variables.

**Objective:** The purpose of this study is to determine if family EE predicts psychotherapy outcome in eating disorders.

**Methods:** Using the Standardised Clinical Family Interview (SCFI), fifty-eight eating disorder patients (45 anorexia nervosa, 13 bulimia nervosa), were randomly assigned to one of four types of psychological treatments: Family Therapy, Individual Focal Psychoanalytic Psychotherapy, Cognitive Analytic Therapy, or Supportive Therapy. An extensive evaluation for both pre- and post-treatment phases was made of the patients and their families.

**Results:** This study showed remarkable potential for measuring family EE in families with an eating disorder patient. The results revealed that EE is sensitive to changes in the patient. Symptomatic improvement could reduce level of negative attitudes, as well as increase in positive attitudes like warmth. It also became apparent that EE can predict the treatment outcome.

**Conclusion:** In general, the findings revealed that EE can predict the treatment outcome. This study has demonstrated that at least two factors - a family attitude (EE), and a patient attribute (symptomatology) - interact in some manner with the treatment settings in determining outcome of treatment.

**Irn J Med Sci 2001; 26(3&4):110-115**

**Key Words** • Eating disorders • emotions • predictive value of tests

### Introduction

Research into the influence of family interaction, as measured by Expressed Emotion (EE) variables, in schizophrenia dates back to the works of Brown et al.<sup>1,2</sup> Since then, several studies have investigated the influence of family EE in either schizophrenia<sup>3-4</sup> or other diagnostic populations including depressive neurosis,<sup>5,6</sup> bipolar illness,<sup>7</sup> diabetics.<sup>8</sup>

In eating disorders, a number of studies have used EE measures to investigate family interaction, prognostic value of EE, the role of EE in dropping out of treatment, and variability of EE over the course of therapy.<sup>9-12</sup>

Using an individual standard interview (Camberwell Family Interview; CFI), several studies<sup>11-13</sup> have reported that EE scales discriminate between families of anorexics and families of bulimics. Dare, Le Grange, Eisler, Rutherford,<sup>14</sup> however, failed to find significant differences between the two families on EE ratings as measured by the Standardized Clinical Family Interview (SCFI).

Little is known about the prognostic value of

**Correspondence:** M. A. Besharat, Department of Psychology, Faculty of Psychology and Education, University of Tehran, P.O. Box: 14155-6456, Tehran, Iran, E-mail: besharat@chamran.ut.ac.ir

EE in eating disorders. It has been shown that the levels of family Critical Comments (CC) at the beginning of therapy can predict the treatment outcome<sup>10,13</sup> and treatment drop-out rates.<sup>11,15</sup> Using the same instrument, however, Van Furth,<sup>12</sup> failed to find any association between EE variables and the treatment drop-out.

More consistently, intervention studies<sup>10,12-13,16</sup> have shown that the level of EE variables change during the course of therapy.

Our understanding of the relationship between family EE and eating disorders is in the early stages of development. This study investigates to what extent treatment outcome can be predicted from family EE at intake (T1). It will be examined whether changes in family EE over the treatment period may be predicted by changes in the patients' symptomatology.

## Materials and Methods

### Sample

The sample in this study consisted of 58 families in two main groups: 45 families with an anorexic patient, 'the anorexic families'; and 13 families with a bulimic patient, 'the bulimic families'. Our eventual sample of 88 relatives consisted of 45 mothers, 31 fathers, and 12 husbands. In 53.3%, the family composition was dual-parental, composed of mother, father and patient, while 26.6% were single-parent families, mainly mothers and the patient, and 20% were marital families, husband and wife. The patient sample comprised 58 eating disorder patients who met DSM-IV<sup>17</sup> and ICD-10<sup>18</sup> criteria for anorexia nervosa (AN) or bulimia nervosa (BN).

The mean age for the sample was 26.1 (6.6) years, 73% were single, 19% were married, and 8% divorced. Forty-five patients (77.5%) had AN and 13 (22.5%) BN. The average body weight, expressed as a percentage of the mean population weight matched for age and height,<sup>19</sup> for the entire sample was 71.8 kg (7.8%). Patients reported mean onset of illness at 18.7 (5.2) years, with 74% previously treated for eating disorders elsewhere.

### Procedures and Measures

Once the patient had satisfied the criteria for AN or BN, the patient and family were assessed. The family interviews using Standardized Clinical Family Interview (SCFI),<sup>20</sup> were video-recorded and later used for the rating of family EE following the standard rules.<sup>6</sup> The family EE was again rated at the end of the 12 months treatment period using the same procedure.

The Morgan-Russell Outcome Assessment Schedule<sup>21,22</sup> was used at the beginning and end of treatment to assess the clinical progress of the patients. Following family and personal interviews, all patients were randomly allocated to either family therapy, individual focal psychoanalytic psychotherapy, cognitive analytic therapy, or a control treatment, supportive therapy for up to one year.

As soon as treatment terminated, both patients and relatives were invited to a post-treatment assessment meeting (T2) similar to the pre-treatment assessment (T1).

## Results

### The distribution of family EE

Results of EE in families with an eating disorder patient revealed that levels of Critical Comments (CC), Hostility (HOS), Emotional Over-Involvement (EOI) and Positive Remarks (PR) were rated low; 34.5% of relatives scored no CC, 92.2% no HOS, and 21.6% no EOI, 25.9% made only one CC, and 39.2% displayed only one EOI. The relatives were rated as being moderately warm in the way they related to the patient during the interview.

A comparison between mothers and fathers revealed that the mothers' score on EOI was significantly more than fathers' ( $t = -4.31$ ,  $df = 29$ ,  $p < 0.001$ ). Mothers also scored higher on Warmth (W) ( $t = -3.25$ ,  $df = 29$ ,  $p < 0.003$ ) and PR ( $t = -2.83$ ,  $df = 29$ ,  $p < 0.008$ ) than did fathers. There was no significant difference among relatives in their scores of CC.

A comparison between single and two-parent families showed that the level of CC in the

**Table 1:** Distribution of ED diagnostic groups for general outcome categories  
General Outcome Category, Number of patients(%)

Diagnosis	Recovered	Sign. Improved	Improved	Poor
AN	5 (10.2)	5 (10.2)	16 (32.7)	23 (46.9)
BN	1 (7.7)	2 (15.4)	0 (0.0)	10 (76.9)

Two Tail Fisher's Exact  $p = 0.04$

ED= Eating Disorder; AN= Anorexia Nervosa; BN= Bulimia Nervosa

former ( $M = 2.45$ ,  $s.d. = 2.42$ ) setting is higher than the latter ( $M = 1.33$ ,  $s.d. = 1.36$ ) and the difference reached levels of statistical significance ( $t = 1.97$ ,  $df = 41.86$ ,  $p < 0.05$ ).

#### The association between family EE and eating disorder subgroups

Family EE variables were associated with diagnosis in some aspects. Mothers of bulimic patients scored higher on CC ( $M = 2.72$ ,  $s.d. = 2.45$ ) than did mothers of anorexic patients ( $M = 1.23$ ,  $s.d. = 1.75$ ). This difference, however, just failed to reach statistical significance ( $t = -1.87$ ,  $df = 13.49$ ,  $p < 0.08$ ). Mothers of bulimics also showed significantly more EOI ( $M = 2.45$ ,  $s.d. = .93$ ) than mothers of anorexics ( $M = 1.64$ ,  $s.d. = 1.25$ ;  $t = -2.28$ ,  $df = 22.69$ ,  $p < 0.03$ ).

#### Comparison of family EE at intake and termination of treatment

Analysis of EE scales at T1 and T2 revealed significant differences between the mother's CC ( $t = 2.62$ ,  $df = 25$ ,  $p < 0.01$ ), EOI ( $t = 2.91$ ,  $df = 25$ ,  $p < 0.007$ ), and W ( $t = 2.28$ ,  $df = 25$ ,  $p < 0.03$ ). The father's CC, EOI, and W at T2 were also significantly different than those at T1 (CC:  $t = 3.17$ ,  $df = 18$ ,  $p < 0.005$ ; EOI:  $t = 3.52$ ,  $df = 18$ ,  $p < 0.002$ ; W:  $t = 3.17$ ,  $df = 18$ ,  $p < 0.005$ ). No significant association was found between EE scales at T1 and T2 on the parent's HOS and PR, nor on the husband's EE scales.

#### The distribution of treatment outcome for AN and BN patients

General outcome categories for the two diagnostic groups, AN and BN, are summarized in Table 1. Among the patients, 53% (26/49) of

anorexics were rated as either recovered, significantly improved, or improved whereas 23% (3/13) of bulimics were rated in this way. A comparison between the two diagnostic groups revealed that AN patients showed significantly more progress during the course of treatment than did BN patients (Fisher's Exact  $p = 0.04$ ).

#### Prognostic value of family EE

In order to investigate the predictive value of EE, a comparison was made between EE ratings at T1 and the General Outcome Scores (GOS; 22) at T2. The ANOVA analysis revealed that the mothers' CC ratings were significantly different for the four outcome categories ( $F_{3,35} = 4.47$ ,  $p = 0.009$ ). A comparison was made between the poor outcome cases and the rest of the outcome categories by using contrast (with coefficient -1, -1, -1, 3). The difference between the poorly progressed group and those who rated as either improved, significantly improved, or recovered at T2 was statistically significant in terms of the mothers' CC ratings ( $t = 3.36$ ,  $df = 35.0$ ,  $p = 0.002$ ). No statistically significant association was found between fathers' and husbands' EE ratings with general outcome categories.

Further, to investigate the association of family EE levels (high/low) with general outcome categories, Chi-square statistics were performed. In a comparison of the poor outcome group compared to the rest of the outcome categories, family EE levels at T1 were significantly associated with outcome. Fifty per cent (8/16) of mothers of the poor outcome group were rated as high EE at T1 whereas 13% (3/23) of mothers of the rest of the treatment outcome

**Table 2:** Distribution of family EE levels at T1 for general outcome categories at T2  
General Outcome Category (Number of patients)

EE Levels at T1	Recovered	Sign. Improved	Improved	Poor
<b>Mothers(N=45)</b>				
Low EE	5	5	10	8
High EE	0	2	1	8
Two-Tail Fisher's Exact (Poor vs Rest), p=0.02				
<b>Fathers(N=31)</b>				
Low EE	3	1	6	9
High EE	1	2	1	4
Two-Tail Fisher's Exact (Poor vs Rest), p=1.00				
<b>Husbands(N=12)</b>				
Low EE	1	0	1	3
High EE	0	0	3	4
Two-Tail Fisher's Exact (Poor vs Rest), p=0.44				

EE= Expressed Emotion; T1= Intake; T2= Termination of treatment

were rated as high at T1; a statistically significant difference (Fisher's Exact  $p = 0.02$ ). No significant association was found between fathers' and husbands' EE levels with general outcome categories (Table 2).

## Discussion

The family EE ratings reported in this study are low on CC, HOS, EOI, and PR; and moderate on W. These levels of family EE are comparable to the low levels of EE reported by Le Grange et al.,<sup>10</sup> and Dare et al.,<sup>14</sup> who studied family EE in a younger eating disorder sample using the same instrument (SCFI). Van Furth<sup>12</sup> and Van Furth et al.,<sup>13</sup> also investigated family EE in a younger eating disorder sample, but using a standard individual interview (CFI). Using the CFI, however, Szmukler et al.<sup>11</sup> found higher levels of parental EE, especially for mothers (mean score of mothers' CC = 5.33) in a sample of eating disorder patients. Methodological, cultural, and family-related factors could be considered as possible explanations for similarities and differences between these findings.

In a family interview like SCFI, each family member has less time to express his/her emotion.<sup>10,14</sup> A comparison between single and

two-parent families showed that single-parent families scored significantly higher on CC than did two-parent families. This finding suggests that the variables involved in measuring EE may well be influenced by the situation in which they are assessed.

Minuchin et al.<sup>8,23</sup> outlined a psychosomatic family model which proposed four qualities for families containing an eating disorder patient: enmeshment, over-protectiveness, rigidity, and the lack of conflict resolution. Based on the Minuchin et al.<sup>8,23</sup> definition of these constructs, one might predict higher levels of EOI and lower scores of criticism as rated on EE.<sup>14</sup> Consistent with Dare et al.,<sup>14</sup> however, the results of the present study do not confirm these predictions. The low level of family EOI in this eating disorder sample, either as expressing exaggerated emotional responses which is the most closely related to enmeshment, or as over-protectiveness which more closely resembles the Minuchin et al.<sup>23</sup> description of over-protectiveness, is in contrast with the psychosomatic model. As "a family with a problem" rather than "dysfunctional family",<sup>24</sup> in the case of higher levels of EOI, over-protectiveness could be explained as having a high level of "commitment"<sup>8</sup> or "concern"<sup>25</sup> to each other especially towards the patient. However, as Dare

et al.<sup>14</sup> point out, lower levels of EOI limits channels of communication which supports to the Minuchin et al. account of rigidity.<sup>8,23</sup> And, as can be seen later, interactional dynamics of some family and patient-related factors of high EE relatives might be explained in terms of "enmeshment" and "over-protectiveness" in this group of families.

Mothers tended to be more positive and displayed more emotion and warmth towards the patients than did fathers. This is consistent with the finding of Dare et al.<sup>14</sup> and may provide empirical confirmation for the view often put forward by family therapists that problems often arise in families when there is an overly close relationship between mother and child and the father is peripheral.

An overall change in the level of CC and EOI during the course of therapy was reported in families containing an eating disorder patient<sup>10,12,13,16</sup>. In the present study, changes in family EE scales were significant for CC, EOI, and W over the treatment period. Regardless of treatment outcome, families tended to make less CC and EOI, and display more W to the patients over time. These changes in family EE scales, thus, can be considered as adaptive coping strategies.<sup>26,27</sup> Changes in family EE, however, were significantly greater in the patients who had made at least some progress than those who made poor progress. This may indicate that changes in the EE variables are associated with the symptomatic changes in the patients. Changing from low to high EE in three families in which the patients had made poor outcome, further supports the notion that symptomatic improvement may reduce the levels of EE.

It has been shown that treatment outcome can be predicted by parental CC in a sample of eating disorder patients.<sup>10,11,13,28</sup> The prognostic value of family EE is further supported by the findings in this study. Levels of the maternal CC in the poor outcome group were significantly higher than those of the rest of the outcome categories. A comparison between the two groups revealed significant differences in terms of the mothers'

CC ratings for the two groups. Consistent with the data regarding the predictive value of EE in other diagnostic groups<sup>2,4,6,29</sup> this finding indicates the direction of the relationship between family EE and treatment outcome.

## References

- 1 Brown GW, Carstairs GM, Topping G: Post-hospital adjustment of chronic mental patients. *Lancet* 1958; ii: 685-9.
- 2 Brown GW, Monck EM, Carstairs GM, Wing JK: Influence of family life on the course of schizophrenic illness. *Br J Prev Soc Med* 1962;16:55-68.
- 3 Paley G, Shapiro DA, Worrall DA: Familial origins of expressed emotion in relatives of people with schizophrenia. *J Mental Health* 2000;9:655-63.
- 4 Mottaghipour Y, Pourmand D, Maleki H, Davidian L: Expressed emotion and the course of schizophrenia in Iran. *Soc Psychiatr Epidemiol* 2001;36:195-9.
- 5 Hooley JM, Teasdale J: Predictors of relapse in unipolar depressives, EE, marital distress and perceived criticism. *J Abnorm Psychol* 1989;98:229-35.
- 6 Mino Y, Shimodera S, Inoue S, et al: Expressed emotion of families and the course of mood disorders: A cohort study in Japan. *J Affect Disord* 2001;63:43-9.
- 7 Miklowitz DJ, Goldstein MJ, Nuechterlein KH, et al: Family factors and the course of bipolar affective disorder. *Arch Gen Psychiatry* 1988;45:225-31.
- 8 Minuchin S, Baker L, Rosman BL, et al: A conceptual model of psychosomatic illness in children: Family organization and family therapy. *Arch Gen Psychiatry* 1975;32:1031-8.
- 9 Hodes M, Dare C, Dodge E, Eisler I: The assessment of expressed emotion in standardised family interview. *J Child Psycho Psychiatr Allied Disciplines* 1999;40:617-25.
- 10 LeGrange D, Eisler I, Dare C, Hodes M: Family criticism and self starvation: a study of expressed emotion. *J Famil Ther* 1992;14:177-92.
- 11 Szmukler GL, Eisler I, Russell GFM, Dare C: Anorexia nervosa, parental "expressed emotion" and dropping out of treatment. *Br J Psychiatry* 1985;147:265-71.
- 12 Van Furth EF: *Parental Expressed Emotion and Eating Disorders*. Unpublished Ph.D. thesis. Utrecht University, The Netherlands, 1991.
- 13 Van Furth EF, Van Strien DC, Martina LML, et al: Expressed emotion and the prediction of outcome in adolescent eating disorders. *Int J Eat Disord* 1996;20:19-31.
- 14 Dare C, LeGrange D, Eisler I, Rutherford J: Redefining the psychosomatic family: family process

- of 26 eating disorder families. *Int J Eat Disord* 1995;16:211-26.
- 15 Dare C, Eisler I, Russell GFM, Szmulker G: The clinical and theoretical impact of a controlled trial of family therapy in anorexia nervosa. *J Marital Fam Ther* 1990; 16: 39-57.
  - 16 Uehara T, Kawashima Y, Goto M, et al: Psychoeducation for the families of patients with eating disorders and changes in expressed emotion: A preliminary study. *Comprehen Psychiatr* 2001;42:132-8.
  - 17 American Psychiatrist Association: *D'agnostic and Statistical Manual of Mental Disorders*. 4th ed. (DSM-IV). Washington, DC: APA, 1994.
  - 18 World Health Organization: *International Classification of Disease*, eighth revision. Geneva, 1992.
  - 19 Diem K, Lentner C: *Geigy Scientific Tables*. Basel, Switzerland: JR Geigy, 1970:711.
  - 20 Kinston W, Loader P: Eliciting whole-family interaction with a standardized clinical interview. *J Fam Ther* 1984;6:347-63.
  - 21 Morgan HG, Hayward AE: Clinical assessment of anorexia nervosa. *Br J Psychiatry* 1988;152:367-71.
  - 22 Morgan HG, Russel GFM: Value of family background and clinical features as predictors of long term outcome in anorexia nervosa: A four-year follow-up study of 41 patients. *Psychol Med* 1975;5: 355-71.
  - 23 Minuchin S, Rosman BL, Baker L: *Psychosomatic Families: Anorexia Nervosa in Context*. Cambridge, Mass: Harvard University Press, 1978.
  - 24 Frude N. *Understanding Family Problems*. Chichester: John Wiley & Sons, 1990.
  - 25 Hooley JM, Teasdale J: Predictors of relapse in unipolar depressives. EE, marital distress and perceived criticism. *J Abnorm Psychol* 1989;98:229-35.
  - 26 Kavanagh DJ: Recent developments in expressed emotion and schizophrenia. *Br J Psychiatry* 1992;160:601-20.
  - 27 Besharat MA, Eisler I, Dare C: The Self- and Other-Blame Scale (SOBS). The background and presentation of a new instrument for measuring blame in families. *J Fam Therap* 2001;23:208-23.
  - 28 Sarason BR, Duck S: *Personal relationships: Implications for clinical and community psychology*. Chichester, England: John Wiley & Sons, 2001.
  - 29 Hall MJ, Docherty NM: Parent coping styles and schizophrenic patient behavior as predictors of expressed emotion. *Fam Process* 2000;39:435-44.



St. Thaddeus church, entrance portal, Maku,  
West Azarbayjan (10<sup>th</sup> century)