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Parental Expressed Emotion of Adolescents with Anorexia Nervosa: Outcome in Family-Based Treatment

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Abstract

Objective—The purpose of this study was to determine the relationship between expressed emotion (EE) and outcome in family-based treatment (FBT) for anorexia nervosa (AN).

Method—86 adolescents with AN participated in an RCT comparing two doses of FBT. Seventy-nine of these patients and their parents participated in a structured interview, from which EE ratings were made at baseline. Parents were compared on five subscales of EE as well as overall level of EE (high vs. low).

Results—Overall EE levels were low with 32.9% of families presenting as High EE at baseline. Ratings of baseline warmth for both mothers ($p=.014$) and fathers ($p=.037$) were related to good outcome at end-of-treatment.

Discussion—EE in parents of adolescents with AN is remarkably low. Notwithstanding, parental warmth may be a predictor of good outcome.

Keywords

anorexia nervosa; expressed emotion; family-based treatment; adolescents

Introduction

Interest in the familial behavioral and emotional context on expression of psychiatric illness has been an interest of clinical researchers. One specific avenue of such research is the role of Expressed Emotion (EE). EE is a measure of relatives' (usually parental) attitudes and behaviors toward an ill family member along five dimensions: critical comments, hostility, emotional over involvement, positive remarks, and warmth.¹ High EE families are more critical, hostile, and/or emotionally over involved than low EE families. Most studies of EE are in schizophrenia and depression,^{2–3} where affected offspring of families with high EE scores have poorer outcomes in treatment.

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EE has also been examined to a more limited extent in eating disorders.^{4–8} These studies have demonstrated that high EE is associated with treatment dropout and poor treatment outcome in anorexia nervosa (AN),^{4–8} suggesting that the nature of family interaction has important treatment implications for patients with an eating disorder. For instance, in the context of family therapy for AN, families with high EE fared better in this treatment when the parents and the affected child were seen separately.⁹

Although these studies suggest that EE status may play an important role in treatment, the relationship between levels of EE and treatment outcome remains poorly understood. The purpose of this brief report was to examine baseline levels of EE as well as the predictive value of parental EE in families receiving family-based treatment (FBT) for their adolescent with AN.

Method

Participants and Procedure

Eighty-six patients and their families participated in a randomized controlled trial (RCT) of two doses of FBT for adolescent AN.¹⁰ FBT is a treatment that encourages parents to take charge directly of restoring their child's weight through their efforts; however, unlike previous versions of family therapy for AN using a similar model, manualized FBT directly addresses family criticism, models and encourages a non-critical stance as parents try to change their child's behavior. Eligible participants were males or females between the ages of 12 and 18 who were living with their family or an adult caregiver. Patients meeting Diagnostic and Statistical Manual of Mental Disorders 4th Edition (DSM-IV)¹¹ criteria for AN (both subtypes) were included. Of these, 79 patients participated in the Structured Clinical Family Interview (SCFI)¹² with one or both parents. The remaining 7 families were excluded (e.g., refusal to be videotaped, language challenges). The Institutional Review Board of Stanford University approved this study.

Measures

Participants and their families completed a battery of self-report and interview-based assessment measures at baseline and post-treatment. For the purposes of this report, we are primarily interested in the *Standardized Clinical Family Interview (SCFI)*¹² as well as the *Eating Disorder Examination (EDE)*.¹³ The SCFI is an assessment of family interaction in which all family members are interviewed at the same time. The SCFI includes questions on family cohesiveness, discipline, conflicts, decision-making, and roles and responsibilities in the household. EE was derived from these videotaped interviews and rated by two trained assessors (RH & DLG). Interrater reliability was established at 0.80. The five dimensions of EE are measured as follows: Critical Comments (CCs) and Positive Remarks are measured as frequency counts. Hostility, defined as generalization of criticism about the patient, rejection of the person, or both, is a global measure and rated 0–3. Warmth, a measure of a relative's sympathy, concern, and interest in the patient, is a global scale rated 0–5. Emotional Overinvolvement (EOI), also a global scale and rated 0–5, includes overprotection by the parent, self-sacrificing behaviors, or extreme emotional responses. In studies of patients with schizophrenia, high EE is considered when parents make >5 CCs, or express any hostility toward the patient, or have an EOI rating >2 (2). However, families of eating disorder patients have been found to make fewer CCs than families of patients with schizophrenia, and thus studies of eating disorders have used much lower cutoffs for high EE (e.g., 5,6).

*Eating Disorder Examination (EDE)*¹³ is a standardized investigator-based interview that measures the severity of eating disorder psychopathology and generates operational eating disorder diagnoses.

Data Analysis

Good outcome in treatment was defined as achieving weight at or above 95% Ideal Body Weight (IBW) for age and gender by the end of treatment. High EE was defined as one parent with elevated scores ($CC > 0$, or $Hostility > 0$ or $EOI > 2$), similar to cut-offs used in depression and other eating disorder studies, but lower than that used in schizophrenia studies.^{2,7} Because EE subscale distributions were positively skewed, these data were recoded to indicate presence (> 0) or absence ($= 0$) of each of the ratings for the purposes of this report. Chi-square analysis was used to compare the rates of high EE and the occurrence of EE subscales between the 2 outcome categories. The sample size ($n < 10$ in each group to allow for adequate estimation) was insufficient for moderator analysis on this variable.

Results

Seventy-nine patients with DSM-IV AN (71 females, 8 males) participated in the SCFI at baseline. Participants' mean age was 15.2 ($SD = 1.6$), with a mean %IBW of 84.6 ($SD = 6.1$). Average illness duration was 11.3 months ($SD = 10.0$). Sixty-two patients (78.5%) came from intact and 17 (21.5%) from single-parent families. Sixty-one (77.2%) patients were Caucasian, 7 (8.9%) Asian, 7 (8.9%) Hispanic, 1 (1.3%) American Indian, and 3 (3.8%) identified as "Other". Sixty-four percent of patients had college-educated parents. Seventy-eight mothers and sixty-nine fathers accompanied their children to the assessment and participated in the SCFI. Sixty-eight had two parental ratings, 10 had ratings for mothers only and 1 had only a father rating. Minorities were under-represented in the families that were rated (22.8%) compared to the group that was not (57.1%) ($X^2(1) = 4.0$ $p = .046$).

Parental Expressed Emotion at Baseline

Ratings on CC and hostility were similar for mothers and fathers. Less than one-fifth of the patients had parents who expressed any CC (Fathers-12 (17.4%), Mothers-16, 20.5%). Hostility was almost entirely absent: only 4 (5.8%) of the fathers and 3 (4.8%) of the mothers had any hostility. Mothers showed higher occurrences of EOI; 34 (43.6%) had EOI ratings > 0 compared to 15 (21.7%) of the fathers. Almost three-quarters of the mothers made at least one PR ($n = 55$, 70.5%) compared to half the fathers ($n = 36$, 52.2%). Almost every mother displayed warmth ($n = 75$, 96.2%), while 50 (72.5%) of the fathers displayed warmth ratings. Most subjects had parents who made no CC ($n = 58$, 73%) and families were categorized as high EE if either parents expressed any CC, any hostility or $EOI > 2$. Using these criteria, about one-third ($n = 26$, 32.9%) of families were rated as high EE. Figure 1 demonstrates the occurrence rate of EE for parents across the five subscales, while Table 1 presents the subscale mean scores.

There were no significant differences in the demographic characteristics between high and low EE families. However, 25 of the 26 families with high EE had daughters; only 1 family with sons was rated high EE. High EE was also not related to weight or EDE subscales.

Parental Expressed Emotion and Treatment Outcome

Sixty-two (78.5%) of the patients with baseline EE ratings had an outcome assessment at end of treatment (EOT). Patients missing the EOT assessment were much more likely to have been categorized as high EE (70.6% vs. 22.6%, $X^2(1) = 13.9$ $p < .001$). Forty-one (66.1%) reported a good outcome at EOT. There was no difference between the percent families with high EE in the *good* outcome group ($n = 7$, 17.1%) versus the *poor* outcome

group ($n=7$, 33.3%) ($X^2(1)=2.1$ $p=.15$). However, patients with good outcome were more likely to have fathers (83.3 % vs. 56.3%, $X^2(1)=4.3$ $p=.037$) and mothers (100% vs. 85.7% $X^2(1)=6.0$ $p=.014$) who displayed warmth.

Conclusion

Similar to previous studies,^{5,6} this report shows that levels of parental EE toward their adolescent with AN were exceptionally low. This is especially true for negative sentiments measured by EE (CC, Hostility and EOI), while positive sentiments (warmth and positive remarks) were more in evidence albeit at low levels. Less than one fifth of the mothers or fathers made any (one or more) CCs during the course of the family interview with about one-third (32.9%) of families rated high EE. Therefore, and similar to earlier reports with eating disorder patients where about one third (36.5%) of families were rated high EE,⁵ families in this study can be described as generally having a low-key pattern of affective expression and a muted response style. While low levels of CCs are not unique to eating disorders (e.g., depression), they remain in marked contrast to studies of schizophrenia.^{1–3}

We did not replicate our earlier finding⁵ showing a relationship between levels of CC at baseline and treatment outcome. However, evidence of both maternal and paternal warmth was related to good outcome. As part of FBT for adolescents with AN, we emphasize a reduction of parental CC by lowering parental blame and enhancing family problem solving. Nonetheless, the majority of parents in this study made no or few CCs. It seems feasible to suggest that *any* CC would have a negative impact on treatment outcome for these patients. Studies suggest that persons with AN may be more sensitive to negative stimuli than others based on a neurobiological vulnerability. Because of an anxious temperament and tendency to being easily over stimulated (over sensitivity to reward), patients with AN may be particularly vulnerable to CCs when they are present.¹⁴ In contrast and as suggested for patients with schizophrenia,¹⁵ it is possible that parental warmth may play a more important role in treatment outcome than would CC or hostility. If levels of CC are low to start out with, then therapy could aim to support parents to show more warmth and make more positive remarks in reference to their adolescent with AN.

Some limitations to the current study should be noted. Due to the relatively small number of high EE families as well as few treatment dropouts (no sessions after 3 months, $n=6$), we were unable to analyze the relationship between EE and dropping from treatment. However, it does appear that high EE was related to non-participation in assessments. There may also be a limitation to the generalizability of the findings as we have studied an outpatient sample of mild to moderate severity. It is therefore not possible to say whether the same relationship between EE and parental warmth, for instance, will hold in other samples.

This report suggests that high EE is not prominent in parents with an adolescent with AN. While criticism toward the patient is low and might have relatively little impact on family therapy outcome, warmth seems more prominent and could therefore support good treatment outcome.

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Figure 1.
Distribution of EE subscales among Parents

Table 1

EE subscales for fathers and mothers (mean, sd, median and range)

Measure	Parent	Mean	Standard deviation	Median	Range
CC	Father	.46	1.24	0	0–7
	Mother	.55	1.63	0	0–11
EOI	Father	.36	.77	0	0–3
	Mother	.85	1.14	0	0–4
H	Father	.09	.37	0	0–2
	Mother	.06	.37	0	0–3
PR	Father	1.10	1.48	1.0	0–6
	Mother	1.60	1.65	1.0	0–7
W	Father	1.39	1.20	1.0	0–4
	Mother	2.05	1.04	2.0	0–5

CC = Critical Comments; EOI = Emotional Overinvolvement; H = Hostility; PR = Positive Remarks; W = Warmth