The Role of Expressed Emotion, Self-Concept, Coping, and Depression in Parasuicidal Behavior: A Follow-up Study

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The objective of this study was to characterize Expressed Emotion in families of individuals with parasuicidal behavior, a non-fatal act in which there is self-harm or deliberate excessive ingestion of a substance and to examine the significant relationships between Expressed Emotion (EE), Coping, Depression, Self-concept, and parasuicidal behaviors. The sample consisted of 67 subjects divided into two groups. The first group was made up of 34 parasuicides. Parasuicidal behavior, self-concept, coping, depression and the family’s EE were assessed in this group. The control group was composed of 33 young people with identical characteristics (age: 15–24; gender: more female; and residence). All the subjects were followed up for a 9 month period, during which time EE and recurrent parasuicidal behaviors were assessed. Parasuicides showed significant differences (at a 0.05% significance level) in comparison to the control group. They showed more Depressed, less Coping, and less Self-concept. There was also an intimate family atmosphere with a high EE. The parasuicides whose families had a high EE showed more recurrent parasuicidal behaviors. The results demonstrate that EE is a predictor of recurrent parasuicidal behaviors and that its assessment in families of young parasuicides is useful.

Keywords coping, depression, expressed emotion, family, parasuicide, self-concept

INTRODUCTION

Parasuicide is a non-fatal act in which an individual deliberately initiates a non-habitual behavior that, without intervention from others, will cause self-harm, or deliberately ingests a substance in excess of the prescribed or generally recognized therapeutic dosage, and which is aimed at realizing changes which the subject desired via the actual or expected physical consequences (Kerkhof, 2000; Kreitman, Philip, Greer et al., 1969).

Suicidal behaviors constitute a public health problem that is increasing around the world. According to WHO estimates for the year 2020 and based on current trends, approximately 1.53 million people will die from suicide and 10–20 times more people will attempt suicide worldwide. This represents on average one death every 20 seconds and one attempted every
1–2 seconds (Bertolote & Fleischmann, 2002).

This approach to Expressed Emotion (EE) arises from an interest in applying the concept to the families of parasuicides, given that very few studies have been conducted in this area.

EE is a construct defined by the family setting, and it is assessed by hostility, emotional over-involvement, critical comments, warmth and positive comments. This construct was first implemented on the relatives of schizophrenia patients (Vaughn & Leff, 1976). A strong body of evidence supported the idea that someone with a family characterized with high EE (criticism, hostility, or emotional over-involvement) had more probabilities of relapsing than someone with low EE. Nowadays there are a lot of studies on EE and psychiatric disorders as well as other physical disorders all around the world. Below are several examples of such studies.

Pollard (1996) studied two groups of adolescents with different psychiatric disorders. One group consisted of suicide attempters. After a 12-month follow-up, he concluded that parental hostility and criticism were associated with suicide attempts. However, these were not the only predictors. Pollard used the Five-Minute Speech Sample (FMSS) to assess EE.

Another study conducted in this area was Tarrier, Barrowclough, Andrews et al. (2004). They studied the suicidal ideation and parasuicidal behavior of 59 schizophrenic patients between the ages of 18 and 48. In this sample, 19% of the patients had attempted suicide and 27.6% had attempted suicide two or more times. In this study, the Camberwell Family Interview (CFI) was used to analyze EE. They concluded that although criticism was significantly associated with depression, affective warmth and emotional over-involvement had a protective function. Criticism was further related to despair. They considered that the psycho-educational work with the families was important to reduce criticism.

It is difficult to draw conclusions from these studies since different assessment tools were used and the samples were so diverse. All the studies considered that the influence of parental relationship on parasuicidal behavior is very important. However, as mentioned by Santos, Saraiva, and De Sousa (2003), an accurate individual characterization of Portuguese parasuicides is essential to understand the influence of EE on parasuicidal behaviors.

Fox and Hawton (2004) found that the following risk factors were associated with parasuicidal behaviors: difficulties in problem solving, impulsiveness, despair, anger and hostility, psychiatric disorder, depression, substance abuse, and behavior problems. In relationship to the family, they identified the following risk factors as very important: living with only one parent (separation or divorce), family instability and a family history of suicide. According to Webb (2002), depression and despair are very common, with significant differences in the control groups in terms of impulsivity and difficulties in problem-solving. The psychosocial factors emerging from these studies are associated with family communication problems and issues related to social relationships, sexuality and academic and professional pressure. The author concluded that family problems, though difficult to analyze, represent a key issue in adolescent parasuicidal behaviors. According to Beautrais (2003), some of the factors associated with suicidal behaviors among young people are: low self-esteem, high levels of neuroticism and despair, high external locus of control, and a high introversion and impulsivity. Among these factors, psychiatric morbidity stands out, including mood changes, substance abuse, anti-social behaviors, and anxiety disorders.
Sampaio (1994) conducted a study in Portugal with 53 adolescents who had attempted suicide. He found that these adolescents had a more negative self-perception, difficulties in family relationships and a lower social integration than those in the control group.

Another Portuguese study was Saraiva (1999) who studied 330 subjects divided into three groups: “normal” subjects (165), parasuicides with a low recurrence rate (116) and parasuicides with three or more suicide attempts (49). There was a significant difference in problem-solving skills and self-esteem between the groups, with lowest scores in the group with a high recurrence rate. The Inventory of Clinical Assessment of Depression showed increased levels of depressive symptomatology and neuroticism among parasuicides.

The authors of this paper consider depression, low self-esteem and coping as decisive individual characteristics and our aim was to determine the characteristics of parasuicides and also the levels of EE in their family environment.

METHOD
Survey Design and Interview Procedures

Our sample was composed of 67 individuals divided into two groups. One group consisted of individuals (15 to 24 years old) with parasuicidal behaviors residing in the city of Coimbra (center region of Portugal) or in the surrounding areas who had been admitted to the Emergency Room from September 15, 2003 to March 31, 2004. The second group was a control group with individuals who did not have parasuicidal behaviors but had identical characteristics (age, gender, and residence) and the same number of subjects as the first group.

The most parasuicidal subjects filled out questionnaires at home during the first week after the suicide attempt. Their relatives were also interviewed during this period. A similar procedure was used on the control group recruited from the general population of Coimbra. EE was assessed during the week after the suicide attempt in their homes and 9 months later. The control group was also assessed after this 9-month period.

The study was carried out from September 15, 2003 to April 12, 2005. Of the original subjects, only 34 parasuicides and 33 individuals from the control group completed the study.

Measurement Tools

The adapted version of the Interview for Suicidal Behaviour Assessment (Entrevista de Avaliação de Comportamentos Suicidários—EACOS) is a measurement tool created by and used at the Coimbra University Hospital’s Suicide Research and Prevention Unit. It contains 77 questions and 11 parts (Saraiva, 1998). Given the aim of the present study, we selected 33 items according to the objectives mentioned above, taking into account social-demographic characteristics, family interaction, personal antecedents, circumstantial factors and suicidal behavior.

The Clinical Self-Concept Inventory (Inventário Clínico de Auto-Conceito—ICAC) is a 20 question self-report inventory aimed to measure self-concept through 6 factors (social acceptance/rejection; self-effectiveness: psychological maturity; impulsivity/activity) and the others are a mixture of factors. The questions are scored from 1–5, with higher scores corresponding to better individual self-concept. Spearman-Brown coefficient = 0.791 (Vaz-Serra, 1986).

The Problem-Solving Inventory (Inventário da Resolução de Problemas—IRP) is a self-report inventory aimed to evaluate coping strategies. It has 40 questions related to three
different types of situations: threat, harm and challenge. Nine factors were distinguished: request for help; confrontation and active problem solving; emotional abandonment in the face of the situation; internal/external locus of control; emotional control strategies; an active attitude in not allowing incidents interfere with daily living; internalized/externalized aggression; self-responsibility and fear of the consequences; facing the problem and planning strategies. The questions are scored on a 1–5 scale: the higher the score, the better are the coping strategies. Spearman-Brown coefficient = 0.860 (Vaz-Serra, 1988).

The Clinical Depression Assessment Inventory (Inventário de Avaliação Clínica da Depressão—IACLIDE) is a self-report inventory aimed to measure the intensity of the frame of reference in clinically depressed patients. It is made of 23 Likert-scale questions ranging from 0 to 4 and concerning four different types of disorders: biological, cognitive, interpersonal and task performance. We found 5 factors based on the mentioned dimensions, which explain 54.2% of total variance. Factor 1 allows us to distinguish endogenous and reactive depressions (according to DSM-III-R). Factor 2 suggests that the individual has an underlying obsessive personality. The suicide constellation is assembled in Factor 3 (suicide ideas; loss of zest for life; feeling unhappy; hopelessness about the future). Factor 4 corresponds to symptoms developed by an appealing personality; and Factor 5 comprises two types of sleep disorder. Spearman-Brown coefficient = 0.92 (Vaz-Serra, 1994).

The Camberwell Family Interview (CFI) consists of a semi-structured interview script. It was developed by Brown, Birley and Wing for the 1972 study with relatives of schizophrenic patients. The abbreviated version of the CFI developed by Leff and Vaughn (1985) combines three global scales: hostility (H) (0–3); emotional over-involvement (EOI) (0–5); and warmth (W) (0–5); and two frequency counts: critical comments (CC) and positive remarks (PR). There is a high EE if H is present, EOI is higher than 2 and CC is more than 5. The first author of this paper has attended a training course of EE in London lectured by Professor Christine Vaughn. The CFI is also the best tool to evaluate the EE, because it is more reliable in the assessment of the family environment (Van Humbeeck, Van Audenhove, De Hert et al., 2002).

Statistical Procedures

Data were analyzed using SPSS 11 (Statistical Package for Social Sciences). Descriptive statistics were obtained to characterize the respondents. Comparisons were made between the group of parasuicides and the control group on hypothesis testing. A 5% significance level was used.

RESULTS

Demographic Characteristics of Participants

The mean age of parasuicides was 19.31 (sd = 2.97), most of them were female 82.3% and single 91.7%. Students represented 60% of the group, and 31.4% of these were enrolled in higher education. The control group had similar characteristics of age, gender, and residence, with no statistically significant differences. The majority (77.1%) of parasuicides mentioned affective problems (mainly marital or family conflicts/quarrels), but did not have financial difficulties (82.9%). The majority did not mention the grieving process (82.9%), denying cases of suicide of friends (74.3%), in the family (68.6%) or in the community (68.6%). Most parasuicidal patients had attempted suicide only once (54.3%) and indicated an affective conflict
as the reason for the suicide attempt (77.1%). The method most used to commit suicide was drug intoxication (88.6%). This parasuicidal behavior did not occur on any specific day of the week but took place more often from 4 p.m. to 12 p.m. (48.6%).

Parasuicidal and Non-Parasuicidal Behavior

Self-Concept. As for the dimensions of ICAC, significant differences (p < 0.05) were obtained after the application of the t test: means of 71.45 in the control group and 63.53 in the group of parasuicides, which means low self-concept among parasuicides.

Coping. We registered significant differences in the overall value of the problem-solving strategies on the t test: 101.15 in the group of parasuicides and 108 in the control group. The parasuicidal group showed difficulties solving problems and had lower scores in the following factors: request for help; confrontation and active problem solving; an active attitude in not allowing incidents to interfere with daily living; facing the problem and planning strategies. The control group presented lower values in the dimensions: internal/external control of the problems; strategies for controlling the emotions; internalized/externalized aggressiveness. The other dimensions did not register statistically significant differences.

Depression. The level of depression was higher among parasuicides in terms of the overall value and all the dimensions. The overall average value was 45.94 in parasuicides and 9.76 in the control group. They showed strongly significant values (p < 0.001) after the application of the t test, which means more depressive symptomatology among the parasuicide group.

Expressed Emotion. With regard to reference people, parents are mentioned more often, although there were also other relatives and friends mentioned among

TABLE 1. Characteristics of the Families of Parasuicidal Patients

<table>
<thead>
<tr>
<th>Family environment</th>
<th>Father n (%)</th>
<th>Mother n (%)</th>
<th>Siblings n (%)</th>
<th>Children n (%)</th>
<th>Isolation n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good-24 (70.6)</td>
<td>Absent-7 (20.6)</td>
<td>Punitive-6 (17.6)</td>
<td>Yes-31 (91.2)</td>
<td>Yes-1 (2.9)</td>
<td>Yes-3 (8.8)</td>
</tr>
<tr>
<td>Bad-10 (29.4)</td>
<td>Authoritarian-23.5</td>
<td>Over-protective-5 (44.1)</td>
<td>No-3 (8.8)</td>
<td>No-33 (97.1)</td>
<td>No-31 (91.2)</td>
</tr>
<tr>
<td></td>
<td>Over-protective 6 (17.6)</td>
<td>Permissive-6 (17.6)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Others 13 (37.3) | Others 7 (20.6) |

TABLE 2. Characteristics of Parasuicidal Patients

<table>
<thead>
<tr>
<th>Religion n (%)</th>
<th>Smoking habits n (%)</th>
<th>Alcohol habits n (%)</th>
<th>Psychotropic drugs n (%)</th>
<th>Drugs n (%)</th>
<th>Psychiatric hospitalization n (%)</th>
<th>Other diseases n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catholic-23 (67.6)</td>
<td>Yes-14 (41.2)</td>
<td>Yes-6 (17.6)</td>
<td>Yes-8 (23.5)</td>
<td>Yes-3 (8.8)</td>
<td>Yes-6 (17.6)</td>
<td>Yes-11 (32.4)</td>
</tr>
<tr>
<td>No-11 (32.4)</td>
<td>No-20 (56.8)</td>
<td>No-28 (82.4)</td>
<td>No-26 (76.5)</td>
<td>No-31 (91.2)</td>
<td>No-28 (82.4)</td>
<td>No-23 (67.6)</td>
</tr>
</tbody>
</table>
parasuicides. We found high values (73.5%) of EE in the relatives of parasuicides, whereas in the control group this value fell to 6.1%. The dimensions which account for a high EE in this sample were EOI (23), CC (18), and H (7). In some situations, more than one dimension was found to be high. In the control group, all the dimensions were significantly different, with the exception of PR.

At the 9-month evaluation, the sample registered a slight decrease in EE (70.6%), while the value in the control group remained 6.1%. Once again, EOI was the highest dimension, but significant differences were registered in all the dimensions, with the exception of H.

In order to understand EE stability over the 9-month period, we compared the values obtained at the beginning of this study and those obtained at the 9-month evaluation period. We verified a decrease in the average values of the dimensions, with significant differences in CC, EOI, and PR.

Eight individuals repeated parasuicide during these 9 months. Seven individuals came from families with high EE and one came from a family with low EE.

The proportion of individuals with repeated parasuicidal behavior and whose family atmosphere had a high EE is significantly higher than the individuals whose family atmosphere had a low EE.

Correlation Between EE and Self-Concept, Coping, and Depression

Table 5 displays the correlations between the following constructs: depression, self-concept, coping and expressed emotion. One should note that there is a positive correlation between coping and self-concept, whereas correlations between coping and depression and between self-concept and depression are negative. Furthermore, expressed emotion correlates positively with depression, and negatively with both self-concept and coping.
After acknowledging the importance of EE in parasuicidal behaviors, we correlated its dimensions with the individual characteristics. A negative correlation was found between the overall value of self-concept and the emotional and positive over-involvement for family warmth. Factor 2 (self-effectiveness) correlates negatively with hostility, and Factor 4 (impulsivity/activity) correlates positively with family warmth. In Factor 1 (request for help), there is a significant negative correlation between coping and critical comments/emotional over-involvement. In Factor 2 (confrontation and active problem-solving), there is also a negative correlation with critical comments, hostility and emotional over-involvement. Factor 6 (an active attitude in not allowing incidents to interfere with daily living) correlates negatively with hostility and emotional over-involvement, whereas Factor 7 (internalized/externalized aggression) correlates positively with critical comments, hostility and emotional over-involvement and negatively with affective warmth. Factor 9 (facing the problem and planning strategies) correlates negatively with critical comments and hostility and positively with affective warmth. In these dimensions, the individual’s depressive symptomatology correlates positively with critical comments, hostility and emotional over-involvement. Nonetheless, it correlates negatively with affective warmth in all the dimensions, and in dimension 4 (symptoms developed by an appealing personality) it correlates negatively with positive comments.

**TABLE 5. Correlations between Constructs**

<table>
<thead>
<tr>
<th></th>
<th>Self-concept</th>
<th>Coping</th>
<th>Expressed emotion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression</td>
<td>0.57</td>
<td>0.22</td>
<td>0.43</td>
</tr>
<tr>
<td>Self-concept</td>
<td>-0.57</td>
<td>0.81</td>
<td>-0.27</td>
</tr>
<tr>
<td>Coping</td>
<td></td>
<td>0.22</td>
<td>-0.20</td>
</tr>
</tbody>
</table>

Note. All correlations are statistically significant.

**DISCUSSION**

Most parasuicides were female, single, and higher education students. This profile corresponds to other studies developed with suicidal individuals in Portugal, namely Santos (2000).

The fact that the majority had a good family environment does not support Saraiva’s conclusions (1999), since the environment was described as mostly bad. The problems mentioned more often were emotional problems, as found by Saraiva (1999).

We concluded that, in this sample, individuals with parasuicidal behaviors have higher depressive symptomatology scores, higher difficulties in problem-solving and a lower self-concept than the control group. We can, therefore, state that this profile of the parasuicidal patient coincides with the one outlined by Sampaio (1994), Saraiva (1999, 2006) and Santos (2007) for the Portuguese population, as well as other authors such as Webb (2002), Beauvais (2003), and Fox and Hawton (2004).

Only a few parasuicidals had been hospitalized, which means that the criteria for hospitalization was not met. However, this also means that the influence of a high EE is higher because the family contact time is relevant. This issue can explain part of the difference between the parasuicidal group and control group. More family contact and interaction time with underlying conflict would increase the EE.

Most interviews were conducted in the homes of parasuicides. These interviews showed a high EE in most family atmospheres. The factor “emotional over-involvement” was found more often, followed by critical comments and hostility. This situation is explained by the overprotective type of mother most mentioned in the interviews, and by the authoritarian type of father. These three scales are usually co-predictors of a relapse. The
values obtained in the "protection" scales (affective warmth and positive comments) were lower than in the control group, which contradicts the perception of parasuicides who mentioned having a good relationship. We can speculate about the expectations of the individuals concerning a good family relationship, or assume they answered according to socially desirable behaviors.

The high levels of EE found do not support Pollard’s conclusions (1996). These differences may be explained since this author used the FMSS as a data collection instrument in which the family member is invited to talk about the individual under analysis for 5 minutes. The interview is audio- and video-recorded and analyzed afterwards. Now, all the studies that assess the sensitivity of EE measurement instruments agree that the FMSS is less sensitive in detecting a high EE than the CFI (Van Humbeeck, Van Audenhove, De Hert et al., 2002; Vaughn, 2003). We easily understand this situation after comparing the average interview length in our study (50 minutes) with the FMSS, as well as its significance in terms of information. Moreover, Pollard (1996) only assessed hostility and criticism, not including the scale most mentioned by the family members in our study, emotional over-involvement.

Emotional over-involvement was mainly expressed in individual excessive self-sacrifice and becoming over-emotional during the interview. Critical comments were related to parasuicidal behavior or personal characteristics.

Furthermore, with regard to the low percentage of high EE found in the control group, the importance of EE can be inferred as a distinguishing element between the families of parasuicides and those of the control group.

In relation to EE stability, we verified that, even if the majority of the interviews contained a high EE, all dimensions decreased with significant differences at the 9-month evaluation period, with the exception of H and W. Nevertheless, this decrease was not enough to be considered a low EE. This behavior does not support the results of stability during this period found by Sczufca and Kuipers (1998), Patterson, Birchwood, Cochrane et al. (2005) and Schreiber, Brier, and Pickar (1995). This change in the dimensions was contrary to that mentioned by Sczufca and Kuipers (1998), from high to low EE. The situation remained the same due to the time that had passed (9 months) since the crisis that influenced the parasuicidal behavior. In the case of a repeated parasuicidal behavior, EE did not decrease during this period.

Over the 9-month follow-up period, we registered eight cases of repeated parasuicidal behaviors, using the same methods that had been previously used (six cases of drug intoxication, one by domestic chemicals and one by phlebotomy).

Once again, these results do not coincide with the ones obtained by Pollard (1996), who only registered 3 relapses out of 20 cases. This difference may be explained by the follow-up which was carried out. In Pollard’s sample, the individuals were, in a first phase, inpatients, which may indicate a more severe suicidal ideation or parasuicidal behavior, but also suggests a higher proximity in the follow-up and intervention to solve the crisis situation that triggered the behavior. In our study, only three individuals were hospitalized immediately after the parasuicidal behavior. However, as mentioned before, they all resorted to the Emergency Room due to a parasuicidal behavior.

In the comprehensive model of parasuicidal behaviors and EE, we verified that self-concept and coping were considered protective factors and depression was a facilitating factor. This situation is in accordance with previous studies.
(Beautrais, 2003; Fox & Hawton, 2004; Hawton, Rodham, Evans et al., 2002; Sampaio, 1994; Santos, Saraiva, & Sousa, 2004; Saraiva, 1999; Webb, 2002). A high EE emerges as an important family factor for parasuicidal behavior, and, therefore, we would like to draw attention to this fact due to its impact on dealing with the families of parasuicides.

CONCLUSIONS

Based on our research, we can conclude:

- The profile of the parasuicidal patient in Coimbra (central region of Portugal) corresponds to a young, single female, enrolled in higher education, with a depressive symptomatology, low self-concept, problem-solving difficulties and a family environment with high EE.
- The EE of the relatives of these parasuicides is characterized mainly by EOI (marked by an individual excessive self-sacrifice and assertions of attitude), followed by criticism and hostility.
- EE can be considered a predictor of repeated parasuicidal behaviors. Seven out of the eight individuals with repeated behaviors, had a family atmosphere with a high EE.
- Overall, EE remained stable during the 9-month period, decreasing, although still high, in the dimensions after parasuicidal behavior.

Clinical Implications

The need to evaluate the EE of the family of young parasuicides is acknowledged, taking into account its importance in predicting repeated parasuicidal behaviors.

Limitations

The study sample is too small to draw firm conclusions.

AUTHOR NOTE

The authors declare there is no conflict of interest.

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