

Risk factors in the early family life of patients suffering from dissociative disorders

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Objective: To test the hypothesis that not only intrafamilial childhood abuses inflicted to the patient, but also major losses or other severe life events suffered by the mother within 2 years of patient's birth, are risk factors for the development of dissociative disorders (DDs).

Method: A multicentric case-control study of 52 cases and 146 controls.

Results: We estimated a crude odds ratio (OR) of 2.6 (adjusted 1.9) for mothers' losses or other severe life events experienced within 2 years of patient's birth, and a crude OR of 7.6 (adjusted 7.2) for patient's early traumatic experiences.

Conclusion: Mother's losses or other severe life events within 2 years of patient's birth and patient's traumatic experiences during childhood are risk factors for the development of dissociative disorders. A possible explanation of these findings is that disorganized or insecure attachment may increase susceptibility to traumatic experiences and propensity to dissociation in adult life.

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Introduction

The core of dissociative disorders (DDs) consists of an alteration of identity, memory and self consciousness, and a loss of self-experience continuity. Several factors have been identified as playing a major role in the development of DDs (1).

First, trauma and abuse experiences that occurred in the patient's life during infancy and childhood are considered 'dissogenic' (2, 3), particularly sexual abuse (4–6).

Also, an association between loss events suffered by the mother within 2 years of patient's birth and DDs has been observed in a small case-control study

(7). A possible explanation of this finding is that such events may affect the mother–infant dyad in the crucial period when attachment takes form (8, 9), and that disorganization of attachment may increase propensity to dissociation in later life (10–12).

Disorganized attachment behaviour in the infant is linked to losses and other severely distressing events in the life of the caregiver, that have not been satisfactorily resolved (unresolved losses and traumas). This is a consistent finding, that has been repeatedly confirmed (13–17). Unresolved losses and traumas in the caregiver's life may exert disorganizing influences on the infant's attachment behaviour either through violent parental behaviour (i.e. the caregiver, under the influence of the painful emotions stemming from his/her post-traumatic stress reaction, becomes unwittingly aggressive towards the child), or through simply frightened, but not otherwise maltreating, parental behaviour (16–18).

A growing body of clinical, theoretical and empirical studies suggest that disorganization of early attachment represents a risk factor for the development of psychiatric disorders implying dissociation or propensity towards dissociative experiences (10–12, 15, 19–25). A recent case-control study conducted by our group on patients with borderline personality disorder (BPD) pointed in the same direction (26).

The hypothesis emerging from these studies can be put as follows: through the mediation of attachment disorganization, two risk factors could intervene in the development of DD: (1) abusive behaviour of the caregivers (linked to patient's early traumatic experiences): (2) simply frightened and/or distressed, but not otherwise maltreating, post-traumatic parental behaviour. If this hypothesis is tenable, then we should expect a higher prevalence of the exposure to these risk factors among cases of DD as compared with controls. We tested this expectation in the present study.

Material and methods

Study subjects were enrolled in a multicentric case-control study that was carried out in five general hospital psychiatric wards of the National Health Service, and in two out-patient clinics of University Departments. Fifty-two cases with DD and 146 controls were enrolled.

Case definition. Cases were subjects with a Dissociative Experiences Scale (DES) (27) score ≥ 25 , for whom diagnosis of DD was established after administration of the Structured Clinical Interview

for Diagnostic Statistical Manual (DSM)-IV Dissociative Disorders (SCID-D) (28). Comorbidity with BPD was assessed by administering the SCID-II (29).

Control definition. Controls were subjects recruited in the same settings, over the same time period, with a psychiatric disorder other than DD or BPD, who scored <25 on the DES. BPD patients were excluded on clinical grounds and by administering the SCID-II.

Exclusion criteria for both cases and controls. Age under 18 years; diagnosis of organic syndromes such as senile dementia; drug or alcohol intoxication.

As regards the definition of exposure to risk factors, severe life events experienced by the mother were considered as relevant if occurring over the 2 years before or after patient's birth. We considered the following events: bereavement because of a close relative's death, marital separation, serious health or financial problems, abortion. Patient's early traumatic experiences were considered if they occurred in the patients' life from birth to the age of 14. We considered the following experiences as relevant: bereavement, neglect, physical abuse, witnessing domestic violence, sexual abuse.

Study instruments

Dissociative experiences scale (DES) (27). The DES is a 28-item self-administered questionnaire, developed to measure dissociative experiences both in the general population and in psychiatric patients (30, 31). We used the validated Italian version (32). A cut-off score of 25 was selected for identifying patients with a probable dissociative disorder (33).

Structured clinical interview for DSM-IV dissociative disorders (SCID-D) (28). The SCID-D is a diagnostic instrument developed for the standardized assessment of diagnoses of dissociative disorders. Good reliability and validity have been reported (34).

Structured clinical interview for DSM-III-R Axis II personality disorders (SCID-II) (29). This is a well-known structured interview that allows to diagnose personality disorders according to the DSM-III-R criteria. We used the validated Italian version (35).

Questionnaire on losses and life events (QLE). The QLE is a 17-item questionnaire developed (by EM, RC, PP) to assess parental loss events and other

negative life events experienced by the mother within the 2 years preceding and the 2 years following patient's birth.

Trained professionals administered the QLE to the patient's mother or to a first grade relative. Information was usually collected from the patient's mother (direct information), only exceptionally from other close relatives (indirect information). The QLE includes three main sections collecting information on: (1) maternal sociodemographic data, number of mother's family members, number of children; (2) death of a child, abortion, death of a close relative (husband, parents and siblings); (3) severe negative life events such as being away from home against one's own will, worry about economic and/or health problems, marital separation.

Subjects were considered exposed to losses and/or severe life events if rated 'yes' at the end of at least one of the last two QLE sections. The interviewer was blinded to other relevant information such as diagnosis.

Infancy trauma interview (ITI). The ITI is a 46-item semistructured interview designed (by EM, RC, PP) to elicit a report on traumatic experiences in childhood (before age 14), and to assess retrospectively early loss/separation from parents, parental dysfunction, physical and emotional neglect, physical and emotional abuse, witnessing domestic violence, and sexual abuse. The interview includes a number of introductory questions for each domain in order to be relatively non-invasive. It explores the following areas:

Separation and losses. This category was defined as the loss of or separations from caretakers by death, divorce, illness, foster care or other reasons during a period of at least 3 months. A subject was classified as exposed only when such loss involved a caretaker who played a significant role in the child's life. As deaths of grandparents are common in childhood, these events were not taken into account.

Neglect refers to a caretaker's lack of appropriate attention to the child's emotional distress, suffering or pressing need, safety from physical harm, adequate food, shelter, clothing as well as the total lack of affection. It refers to actual behaviour of the parents.

Physical abuse was defined as severe parental (or caretaker) aggression that produced physical marks, bruises or an injury. Instances of culturally accepted corporal punishment were not rated as abusive.

Witnessing violence reflects seeing members of the family get physically attacked, hit or beaten.

Sexual abuse was defined as any kind of sexual act that included exposure to genitals without physical contact, or caressing of genitals, or sexual proposals, molesting, fondling, touching, or penetration.

When abusive events were reported, the interviewer inquired about perpetrators, frequency, and age of occurrence. Subjects were considered exposed to trauma if rated 'yes' at the end of at least one of the ITI sections.

The ITI was administered by a mental health professional or by a supervised research assistant or trainee. The interviewer was blinded to other relevant information, such as diagnosis.

Reliability management and measures

Training sessions were held at the beginning of the study using standard videotaped interviews. Four meetings with all study associates were organized over the study period, to monitor compliance with operational procedures spelt out in a manual provided to all raters. Also, study co-ordinators (GF, EM, AP) checked every subject included in the study with study associates before data entry. The Kappa statistic for inter-rater diagnostic agreement was 0.80 while inter-rater reliability for ITI was 0.89.

Statistical analysis

Some quantitative variables (i.e. age of subjects, number of mother's close relatives) were categorized on the basis of the distribution of controls. In order to take into account the likelihood of losing a close relative (partner, parents and siblings) in mother's life during the 2 years before and after birth of the subject, a variable 'size of family' was created.

All variables were tabulated for cases and controls and crude OR with 95% confidence intervals (CI) were calculated. A multivariate logistic regression model was produced to evaluate the independent role of the two hypothesised risk factors 'patient's traumatic experiences' and 'mother's losses and/or severe life events' removing the effect of actual confounders such as age and sex. All analyses were run under SPSS (36).

Results

The sample included a total of 52 cases and 146 controls, of whom 49 were males and 149 females; 116 were in-patients and 82 out-patients. Distribution of variables by case-control status is given in Table 1. There is a significant difference in gender distribution between cases and controls. Cases and controls were similar with respect to socio-economic

status, as suggested by similar distributions of years of school attended by subjects and by their mothers. Distributions of size of family and type of patient (in- or out-) were also similar in the two groups.

Distribution of diagnoses by case and control status is given in Table 2.

Actual number of subjects exposed and not exposed to losses and/or early traumatic experiences are presented in Table 3.

As shown in Table 4, the crude ORs for severe stressful life events experienced by mothers within 2 years of patient's birth and for patient's early traumatic experiences were, respectively, 2.6 (1.4–5.1) and 7.1 (2.8–17.6).

After adjusting for the effect of patient's early traumatic experiences, age and sex, the estimated OR for severe life events suffered by the mother within 2 years of patient's birth was 1.9 (95% CI: 0.9–4.0). The estimated risk associated with traumatic experiences, adjusted for the effect of severe life events suffered by the mother, age, and sex, was 7.2 (95% CI: 2.8–18.5).

Discussion

We took many precautions in order to minimize threats to the internal validity of the study. Cases

and controls were consecutively enrolled according to strict inclusion and exclusion criteria, that were clearly defined in the study documents available to all study associates. Cases and controls were recruited during the same period, in the same clinical settings. They lived in the same geographical areas, and had similar socio-economic status. At the moment of being enrolled in the study, subjects had still not given any information about traumatic experiences during childhood and/or stressful life events experienced by their mothers. Cases and controls were studied with the same instruments, and study associates who collected information on exposures were usually different from those who made the diagnosis. Therefore, even if selection or information biases cannot be completely excluded, it seems unlikely that their impact on the estimates of risk has been substantial. Furthermore, the possible confounding influence of gender and age has been controlled to the extent possible with a multiple logistic function.

We have observed differences between the group of cases and the group of controls in the distribution of both patient's early traumatic experiences and losses or other severe life events experienced by mothers within 2 years of patient's birth. The difference was significant for patient's traumatic

Table 1. Distribution of relevant variables by case and control status

Variables	Cases <i>n</i> = 52 <i>n</i> (%) [*]	Controls <i>n</i> = 146 <i>n</i> (%) [*]
Age		
≤ 29	24 (46.2)	46 (31.5)
30–38	17 (32.7)	51 (34.9)
≥ 9	11 (21.1)	49 (33.6)
Sex		
M	6 (11.5)	43 (29.5)
F	46 (88.5)	103 (70.5)
Patients' education		
≤ 8	18 (36.0)	53 (43.4)
> 8	32 (64.0)	69 (56.6)
Mothers' education		
≤ 8	38 (76.0)	110 (80.3)
> 8	12 (24.0)	27 (19.7)
Size of family (number of siblings and relatives)		
≤ 7	13 (30.2)	38 (29.0)
8–10	15 (34.9)	50 (38.2)
≥ 11	15 (34.9)	43 (32.8)
In- or out-patient		
In	34 (65.4)	82 (56.2)
Out	18 (34.6)	64 (43.8)

* Subjects with missing information were excluded from the computation of percentages.

Table 2. Diagnosis distributions among cases and controls

	Cases <i>n</i> = 52 <i>n</i> (%)	Controls <i>n</i> = 146 <i>n</i> (%)
Dissociative disorders	32 (69.7)	
Fugue (F)	1	
Identity disorder (ID)	1	
Depersonalization (D)	13	
Amnesia (A) + F + ID	1	
A + F + D	1	
A + D	3	
F + D	1	
ID + D	3	
DD NOS	8	
Dissociative disorders with comorbid BPD	20 (30.3)	
Amnesia (A)	2	
Identity disorder (ID)	2	
Depersonalization (D)	10	
A + F + D	1	
ID + D	2	
DD NOS	3	
Affective disorders		
Bipolar		33 (22.7)
Unipolar		37 (25.3)
Anxiety disorders		31 (21.2)
Delusional disorders		26 (17.8)
Personality disorders (excluding BPD)		11 (7.5)
Other diagnoses		8 (5.5)
Total	52 (100)	146 (100)

Table 3. Distribution of exposure to risk factors among cases and controls

Risk factors	Controls	Cases
	<i>n</i> = 52 <i>n</i> (%)	<i>n</i> = 146 <i>n</i> (%)
Mothers' severe stressful life events		
Yes	34 (63.5)	58 (39.7)
No	19 (36.5)	88 (60.3)
Patients' early traumatic experiences		
Yes	46 (88.5)	76 (52.1)
No	6 (11.5)	70 (47.9)

Table 4. Estimates of risks associated with mothers' severe stressful life events and patients' traumatic experiences

Risk factors	Estimated odds ratios (95% confidence limits)	
	Crude	Adjusted*
Mothers' severe stressful life events	2.6 (1.4–5.1)	1.9 (0.9–4.0)
Patients' traumatic experiences	7.1 (2.8–17.6)	7.2 (2.8–18.5)

* Odds ratios shown are adjusted one for the effect of the other and both of them for the confounding effect of age and sex, using a multiple logistic function.

experience and at the edge of significance for mother's severe life events. We have obtained similar estimates in a recent study on BPDs: adjusted OR were 5.3 (95% CI: 2.1–13) for patient's traumatic experiences and 2.5 (95% CI: 1.1–5.8) for mother's severe life events (26). Patient's traumatic experiences during infancy and childhood really emerge as a strong risk factor, as the risk of developing a DD for a child exposed to such experiences is more than 7-fold as compared with an unexposed child. Also, the probability of developing a DD for a child whose mother has suffered a severe life event within 2 years of the child's birth is about 2-fold with respect to a child whose mother did not suffer such an event. In spite of the relatively small size of the estimated relative risk for the latter exposure, it should be underlined that the attributable risk may be substantial because the prevalence of exposure to this risk factor in the general population is probably fairly high. In any case, it is clear that our results need to be confirmed by other investigators, as in analytical epidemiology and in research in general the concept of the need of replication always applies.

Many studies have already provided abundant evidence of an association between childhood traumatic experiences and DD. However, exposure to trauma, including physical and sexual abuse, has

been also implicated in the development of many other psychiatric disorders, such as affective disorders, anxiety disorders, alcohol and drug abuse, eating disorders and personality disorders (37–53).

The link between early traumatic experiences and DD (or between traumas and other disorders that may include dissociative experiences among their symptoms, such as BPD) needs therefore further clarification, if we aim to discriminate between the aetiological role of early traumas in dissociative psychopathology and in other mental disorders.

The different aetiological role of early traumas in different mental disorders is usually seen as the consequence of a complex interplay of temperamental factors, coping strategies (e.g. dissociation as a defense against painful emotions) and the quality of subjective traumatic experiences. It has been observed that disorganized attachment status might predispose to dissociative reactions by amplifying the effects of traumatic experiences (10–12). Attachment disorganization, moreover, is the likely consequence of traumas suffered at the hands of an attachment figure (15–18). However, it can also appear as the result of an interaction with a traumatized and frightened, but not otherwise maltreating, attachment figure, thus contributing to the understanding of how dissociative psychopathology may develop in the absence of obviously severe childhood abuses (a possibility that many clinicians dealing with mildly dissociative patients readily acknowledge).

In a sample of adults who have been abused during childhood, fearful attachment (a category of adult attachment that is conceptualized by many as equivalent to disorganized attachment in the child) was found to be related to dissociative symptoms, while abuse variables (age of onset, coercion, nature of the abuse, and relationship between the perpetrator and the victim) did not significantly predict dissociation (19). The results of a longitudinal study also tend to support the hypothesis of a link between early disorganization of attachment and later dissociative processes (20). Our findings are compatible with the hypothesis that disorganization of early attachment behaviour may predispose to dissociative responses later in life. As previously mentioned, we have reported the finding that infancy traumas and other severe life events in mother's life are risk factors for the development of BPD (26), another disorder that often implies dissociative experiences.

It should be emphasized that temperamental factors as well as genetic and familiar susceptibility towards dissociation may also play an important role in dissociative disorders. However, this

important issue was not part of the hypotheses we tested in our study. In our opinion, future studies on DD should devote their attention not only to traumatic experiences per se, but also to issues related to attachment dynamics in infancy and adulthood as well as to the possible effect of genetic and familiar predisposition towards dissociation and related disorders.

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