Prevalence and Clinical Impact of Childhood Trauma in Patients With Severe Mental Disorders

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Abstract: A high prevalence of childhood abuse has been reported in patients with severe mental illness. We conducted a cross-sectional study of 102 patients with schizophrenia, bipolar disorder, or schizoaffective disorder. Social, demographic, and clinical data were obtained. Patients were evaluated using Brief Psychotic Relative Scale, and Traumatic Life Events and Distressing Event questionnaires. Almost half (47.5%) of these patients had suffered some kind of child abuse, and our results confirmed a relationship between a history of childhood abuse and more severe psychosis. Diagnosis of schizophrenia was determined 4.1 years earlier in victims of childhood abuse. Hospital admissions were twice as high in victims of psychological abuse. Patients with a history of sexual abuse were more than twice as likely to attempt suicide (68% vs. 28.9%).

Key Words: Childhood abuse, severe mental illness, schizophrenia, bipolar disorder, suicide.

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The study of environmental factors in the development of schizophrenia and bipolar disorder is increasingly of interest to researchers, and several studies have included the experience of early traumatic events among these factors. Read et al. (2005) reviewed 51 studies conducted between 1987 and 2005 that found high rates of childhood sexual and physical abuse among psychotic patients: sexual abuse (48% of females and 28% of males) and physical abuse (48% of females and 50% of males). A later review of 20 articles, by Morgan and Fisher (2007), showed a lesser relationship between trauma and psychosis; although, the prevalence of childhood sexual abuse was comparable in males (28%); 42% of female patients were victims of sexual abuse; and the prevalence of physical abuse was 35% in females and 38% in males.

The first studies to apply rigorous methodology to analyze the relationship between trauma and psychosis appeared in 2004. Spataro et al. (2004) analyzed a sample of individuals with documented sexual abuse in childhood and published the only study to date that did not find a relationship between abuse and psychosis. The limitations of this study include a systematic bias introduced by the presence of subjects from the general population and the inclusion of only the most severe forms of childhood sexual abuse.

In contrast, analysis of a sample from the British National Survey of Psychiatric Morbidity containing 8580 people aged 16 to 74 years (Bebbington et al., 2004), found a significant relationship between childhood sexual trauma and psychosis in adults. Specifically, victims of childhood sexual abuse were 15 times more likely to develop a psychotic disorder.

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A prospective study of the general Dutch population (Jansen et al., 2004) analyzed 4045 adults from the Netherlands Health Survey and Incidence Study. Early childhood trauma increased the risk of developing psychotic symptoms in adulthood, an association that persisted after adjusting for demographic variables and preexisting diagnosis of a pathology.

In a study of 2524 patients that included 42 months of follow-up, Spauwen et al. (2006) associated the experience of any trauma over the course of an individual's life—not only during childhood—with the likelihood of suffering from 3 or more psychotic symptoms. Recently, a prospective study of the Turkish population (Uçok and Bikmaz, 2007) associated childhood trauma (including physical, psychological, and sexual abuse, and psychological negligence) with the appearance of the first psychotic episodes. The presence of such events was linked to earlier onset and to more severe symptoms than in cases where trauma is absent.

Schizophrenic-spectrum patients with childhood trauma history show higher positive symptoms, specially hallucinations (Ross et al., 1994; Read et al., 1999; Kilcommons and Morrisson, 2005), cognitive deficits and poorer social functioning (Lysaker et al., 2001; Cusack et al., 2004), and lower compliance with treatment (Lecomte et al., 2008) than those who did not experience abuse. One study of 200 adult outpatients found that suicidal tendency was better predicted by childhood abuse than by a current diagnosis of depression (Read et al., 2001).

A recent study reported that patients with a first episode of psychosis and a history of physical and/or sexual abuse were more likely to present another psychiatric disorder, have worse premorbid function levels, have made a suicide attempt, and attempt suicide during treatment (Conus et al., 2009).

In other studies, the prevalence of childhood abuse was 49% in bipolar patients (Garno et al., 2005). In patients with childhood trauma, bipolar disorder has been associated with earlier age onset, worse clinical evolution, more suicide attempts, and higher prevalence of a faster cycling pattern (Garno et al., 2005; Leverich et al., 2002). As in patients with schizophrenia, a high frequency of positive symptoms, especially auditory hallucinations, has been found in patients with bipolar disorder and a history of childhood abuse (Hammersley et al., 2003).

The aim of this study, the first of its kind for Spain, is to determine the prevalence of childhood abuse and assess its clinical and prognostic impact on patients with severe mental disorder in a public mental health clinic in a midsize city in Spain.

Questions that have arisen over recent decades about the reliability of traumatic recollections in patients with severe mental health needs could be used to criticize the methodology we chose. Furthermore, clinicians may justify not asking patients about abuse with the rationale that such inquiry could be suggestive and possibly induce false memories. However, in recent studies, such disclosures have been shown to be reliable and the credibility of the methodology has been established (Read et al., 2005; Fisher et al., 2010).

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METHODOLOGY

We conducted a cross-sectional study of 102 adult patients from a public mental health care center in the city of Vic in Catalonia, Spain. All patients attending mental health consultation between November 2007 and April 2009, who have Diagnostic and Stadistical Manual and Mental Disorders, fourth edition (DSM-IV) criteria for schizophrenia, bipolar disorder, or schizoaffective disorder, were invited to participate in the study. Patients were excluded if they refused participation, scored 4 in any of the 18 items from the "Brief Psychotic Relative Scale," or scored 3 or more in conceptual organization, disorganized and unusual thinking, or auditory hallucinations. The study protocol was approved by the hospital's research ethics committee. All participants or their guardians provided signed informed consent.

Demographic data was obtained during the study intake interview: sex, age, marital and employment status, and educational level. Clinical data obtained included diagnosis and number of admittances to an acute psychiatric unit, partial or day psychiatric hospitalization in the previous 2 years, age at the time of illness onset, and number of suicide attempts during their lives. To confirm patient inclusion, Brief Psychotic Relative Scale as along with the questionnaries "Traumatic Life Events Questionnaire" (TLEQ) (Table 1) and "Distressing Event Questionnaire" (DEQ) as defined by Kubany and Haynes (Kubany and Haynes, 2001; Kubany, 2001), and both translated and validated in the Spanish language by Pereda (Pereda, 2006), were used. The TLEQ asks about 22 potentially traumatic events, ordered from external stressing events to interpersonal traumas. This minimizes possible false negatives provoked by the more intimate or intrusive questions. Distressing event questionnaire has 17 items that evaluate and measure the presence and degree of posttraumatic stress disorder according to DSM-IV criteria.

Focusing on traumatic childhood events reported on the TLEQ, 5 subgroups were defined for analysis (Table 1): (*a*) physical abuse (question 12), (*b*) sexual abuse (any affirmative answer to questions 15, 16, and 17), (*c*) witness to family violence (question 13), (*d*) psychological abuse and/or childhood negligence (open-ended question 23), and (*e*) any type of childhood abuse, including all patients who reported at least 1 type of childhood abuse.

Using Statistical Package for Social Sciences software version 17.0 (SPSS Inc., Chicago, IL), we considered uni- and bivariate analyses of the independent variables from questionnaire answers. To establish the relationship between quantitative and qualitative variables, the Student t and analysis of variance (ANOVA) tests were performed (using nonparametric equivalents when the distributions were not normal). When the ANOVA test showed statistical significance, the Bonferroni test indicated the connections between subgroups. For categorical variables, the *chi square* test was used. Logistic regression analysis was done in STATA software version 9.0 (Stata Corp., College Station, TX). Statistical significance was set at $p < 0.05$.

RESULTS

Of the 102 patients tested, 54 were male (52.9%) and 48 were female (47.1%). Mean age was 39.4 years (standard deviation, 10.4), with no significant difference between sexes. Other sociodemographic and clinical participant characteristics are described in Table 2. Differences between sexes and diagnoses are detailed in Table 3, where a *chi square* test was significant due to the large number of schizophrenic males, of whom 20.8% had suffered physical abuse, 36.3% psychological abuse, and 24.8% sexual abuse; 28.4% had witnessed domestic violence; and 47.5% had experienced some kind of abuse during childhood (1 or more of the previous types).

TABLE 1. Traumatic Life Events Questionnaire (TLEQ)

1. Have you ever experienced a natural disaster (flood, hurricane, earthquake, etc)?
2. Were you involved in a motor vehicle accident for which you received medical attention or that badly injured or killed someone?
3. Have you been involved in any other kind of accident in which you or someone else was badly hard?
4. Have you lived, worked or had military service in a war zone? If yes, were you ever exposed to warfare or combat?
5. Have you experienced the sudden and unexpected death of a close friend or loved one?
6. Has a loved one ever survived a life-threatening or permanently disabling accident, assault, or illness?
7. Have you ever had a life-threatening illness?
8. Have you been robbed or been present during a robbery in which the robber(s) used or displayed a weapon?
9. Have you ever been hit or beaten up and badly hurt by a strange or someone you didn't know very well?
10. Have you seen a stranger (or someone you didn't know very well) attack or beat up someone and seriously injure or kill him or her?
11. Has anyone ever threatened to kill you or to cause you serious physical harm?
12. While growing up: Were you physically punished in a way that resulted in bruises, burns, cuts, or broken bones?
13. While growing up: Did you see or hear family violence?
14. Have you ever been slapped, punched, kicked, beaten up, or otherwise physically hurt by your spouse (or former spouse), a boyfriend or girlfriend, or some other intimate partner?
15. Before your 13th birthday: Did anyone who was at least 5 years older than you touch or fondle your body in a sexual way or make you touch or fondle his or her body in a sexual way?
16. Before your 13th birthday: Did anyone close to your age touch sexual parts of your body or make you touch sexual parts of his or her body against your will or without your consent?
17. After your 13th birthday and before your 18th birthday: Did anyone touch sexual parts of your body or make you touch sexual parts of his or her body against your will or without your consent?
18. After your 18th birthday: Did anyone touch sexual parts of your body or make you touch sexual parts of his or her body against your will or without your consent?
19. Were you ever subjected to uninvited or unwanted sexual attention?
20. Has anyone stalked you (in other words, followed you or kept track of your activities) causing you to feel intimidate or concerned for your safety?
21. Have you or an intimate partner ever had a miscarriage?
22. Have you or an intimate partner ever had an abortion?
23. Have you experienced (or seen) any other events that were life threatening, caused serious injury, or were highly disturbing or distressing?

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TABLE 2. Socio-Demographic and Clinical Characteristics

Characteristics	n (%)
Marital status	
Single	54 (53.5)
Separated, divorced, or widowed	18 (17.8)
Married	29 (28.7)
Working status	
Disabled	63 (62.4)
Employed	22 (21.8)
Unemployed	16 (18.8)
Studies	
Primary studies	57 (55.9)
Diagnoses	
Bipolar disorder	40 (39.2)
Schizophrenia	52 (51.0)
Schizoaffective disorder	10 (9.8)
Family history	
Without antecedents	56 (64.4)
Bipolar disorder	13 (14.9)
Schizophrenia	18 (20.7)
Suicide attempts	
Affirmative	39 (38.2)
No. suicide attempts	0.91 (1.9)[a]
Age at first diagnosis	24.8 (8.1)[a]
No. admittances, last 2 yr	1.43 (1.9)[a]

[a]Mean and standard deviation.

TABLE 3. Sex Distribution by Diagnosis

Diagnoses	Males (%)	Females (%)
Bipolar disorder	14 (35.0)	26 (65.0)
Schizophrenia	37 (71.2)	15 (28.8)
Schizoaffective disorder	3 (30.0)	7 (70.0)

$p < 0.05$.

TABLE 4. Odds Ratio of Childhood Trauma by Sex

	Physical Abuse	Psychological Abuse	Sexual Abuse	Domestic Violence Witness	Any Kind of Abuse
Males	1	1	1	1	1
Females	0.727	2.2	1.77	2.34	1.87
p	0.515	0.06	0.211	0.059	0.119

Odds ratio of childhood trauma is detailed by sex in Table 4. In the female patients, we observed twice the probability of suffering from psychological abuse and having witnessed domestic violence (both without statistical significance).

The correspondence between traumatic experiences and diagnosis is shown in Table 5. No significant differences were recorded.

Age at Mental Illness Diagnosis

Mental illness was diagnosed 3 years earlier (Table 6) in those patients who reported some kind of childhood abuse and in those who specifically reported psychological abuse during childhood ($p = 0.071$ and $p = 0.072$, respectively; not significant).

TABLE 5. Childhood Trauma by Diagnosis

Childhood Trauma	Schizophrenia n = 52 (%)	Bipolar Disorder n = 40 (%)	Schizoaffective Disorder n = 10 (%)
Physical abuse	12 (23.1)	8 (20.0)	1 (10.0)
Psychological abuse	18 (34.6)	14 (35.0)	5 (50.0)
Sexual abuse	13 (25.0)	11 (27.5)	1 (10.0)
Domestic violence witness	15 (28.8)	11 (27.5)	3 (30.0)
Any kind of abuse	24 (46.1)	20 (50.0)	4 (40.0)

Schizophrenic patients were diagnosed 4.1 years earlier if they had experienced some kind of childhood abuse ($p = 0.015$); among the abuse-specific subgroups, this finding was significant only in cases of physical abuse ($p = 0.045$). In bipolar patients, no significant differences were observed.

Number of Admittances

The number of admittances in the previous 2 years (Table 7) was correlated with significant differences in the diagnosis (ANOVA, $p = 0.024$). A Bonferroni test indicated that significance was due to the comparison between schizophrenic patients (0.94 admittances) and bipolar disorder patients (1.87 admittances). The subgroups of all patients with childhood psychological abuse and witnesses of domestic violence had been admitted twice in the previous 2 years, compared with 1 hospital admission for the other groups; this difference was significant for psychological abuse ($p = 0.028$). When compared by diagnosis, only bipolar patients showed a significant relationship between number of admittances and history of psychological abuse ($p = 0.035$) or witnessing domestic violence ($p = 0.042$). This significance did not exist for patients diagnosed with schizophrenia.

Number of Suicide Attempts

At least once in their lives, 52.1% of females and 25.9% of males had attempted suicide ($p = 0.007$). The average number of lifetime suicide attempts was 1.5 for females, contrasting with a 0.3 average for men ($p = 0.002$). The influence of childhood abuse history was studied to determine possible relationships (Table 8): 68% of patients who had suffered from sexual abuse during childhood attempted suicide; 28.9% of those who had not been sexually abused tried to take their own lives ($p = 0.001$). There was a significant difference between schizophrenic patients ($p = 0.001$) and bipolar ones ($p = 0.030$). Patients who had experienced some kind of childhood abuse had a higher likelihood of attempting to commit suicide than those who did not experience childhood abuse (63.2% vs. 36.8%, $p = 0.015$). Under bivariate analysis, this significance was maintained in the schizophrenic group ($p = 0.007$), but not in the bipolar group ($p = 0.204$).

The logistic regression pattern to predict suicide attempts we hoped to establish was not possible because the predictive variables (sex, age, diagnosis, and type of abuse) did not reach the level of significance in bivariate analysis.

DISCUSSION

Prevalence

Our results show lower numbers of physical and sexual abuse than the average reported in an earlier review (Morgan and Fisher, 2007). Our data shows a prevalence of physical abuse of 22% in males and 18% in females compared with 38% and 35%, respectively, in the study by Morgan et al., and prevalence of sexual abuse

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TABLE 6. Age of Mental Illness Diagnosis by Childhood Trauma and Diagnosis

	Schizophrenia		Bipolar Disorder		All Patients	
Childhood Trauma	**Age (*SD*)**	***p***	**Age (*SD*)**	***p***	**Age (*SD*)**	***p***
Physical abuse		0.045		0.574		0.165
Yes	20.8 (5.8)		24.5 (9.6)		22.7 (7.5)	
No	24.9 (6.0)		26.9 (10.8)		25.5 (8.3)	
Psychological abuse		0.057		0.426		0.072
Yes	21.7 (6.9)		24.6 (9.5)		22.9 (7.8)	
No	25.1 (5.4)		27.4 (11.0)		25.9 (8.2)	
Sexual abuse		0.098		0.457		0.132
Yes	21.5 (3.9)		24.4 (10.2)		22.8 (7.3)	
No	24.8 (6.6)		27.2 (10.7)		25.6 (8.3)	
Domestic violence witness		0.055	24.7 (9.8)	0.542	23.1 (8.0)	0.168
Yes	21.3 (7.2)		27.0 (10.9)		25.5 (8.1)	
No	24.9 (5.4)					
Any kind of abuse		0.015		0.406		0.071
Yes	21.8 (6.1)		25.0 (10.0)		23.3 (7.9)	
No	25.9 (5.7)		27.8 (11.0)		26.3 (8.2)	

SD indicates standard deviation.

TABLE 7. Number of Admittances (NA) in the Last 2 Years by Childhood Trauma and Diagnosis

	Schizophrenia		Bipolar Disorder		All Patients	
Childhood Trauma	**NA (*SD*)**	***p***	**NA (*SD*)**	***p***	**NA (*SD*)**	***p***
Physical abuse		0.902		0.619		0.413
Yes	1.00 (1.75)		1.50 (1.51)		1.14 (1.62)	
No	0.95 (1.07)		1.97 (2.52)		1.53 (1.96)	
Psychological abuse		0.112		0.035		0.028
Yes	1.39 (1.61)		2.93 (3.22)		2.05 (2.40)	
No	0.71 (0.93)		1.31 (1.49)		1.08 (1.42)	
Sexual abuse		0.111		0.271		0.799
Yes	0.46 (0.66)		2.55 (3.80)		1.52 (2.75)	
No	1.11 (1.37)		1.62 (1.49)		1.41 (1.54)	
Domestic violence witness		0.060		0.042		0.076
Yes	1.60 (1.68)		3.09 (3.61)		2.10 (2.61)	
No	0.68 (0.91)		1.41 (1.47)		1.16 (1.45)	
Any kind of abuse		0.667		0.257		0.368
Yes	1.04 (1.51)		2.30 (2.92)		1.63 (2.26)	
No	0.89 (0.97)		1.45 (1.53)		1.28 (1.48)	

of 18.5% and 31.3% compared with 28% and 42%, respectively. The lower rates of physical abuse we report can be explained by the strict definition of the term employed in the TLEQ, question 12: While growing up: Were you physically punished in a way that resulted in bruises, burns, cuts, or broken bones? (Table 2) With respect to sexual abuse, in a recent meta-analysis (Pereda et al., 2009) of 65 reports from 22 countries, the average rates of sexual abuse differ greatly by country and region: Africa reported the highest rate (34.4%), Europe, including 3 studies in Spain, had the lowest rates (9.2%), and America, Asia, and Oceania showed intermediate rates that range from 10.1% to 23.9%. The author of the review suggests that these differences could be not due to actual differences in the populations studied but rather due to different definitions of abuse in the various methodologies used. Furthermore, Runyan (1998) was among the first to suggest that any attempt to study prevalence of sexual abuse is affected by the ease or difficulty with which study participants, male or female, can explain their sexual experiences, a factor that varies greatly across the world's cultures.

The prevalence of childhood abuse was similar in the 3 diagnostic groups studied (schizophrenia, bipolar, and schizoaffective disorders), with almost half of the patients having a history of traumatic life events in childhood.

Our findings agree with published results (Read et al., 2005) showing that females are more likely to suffer abuse than males. However, males are more frequently victims of physical abuse.

Clinical Data

This study presents clinical data related to a worse psychosis in victims of childhood trauma: a higher number of adult patients

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TABLE 8. Number of Suicide Attempts by Childhood Trauma and Diagnosis

	Schizophrenia		Bipolar Disorder		All Patients	
Childhood Trauma	***N* (%)**	***p***	***N* (%)**	***p***	***N* (%)**	***p***
Physical abuse		0.379		0.634		0.960
Yes	5 (41.6)		3 (37.5)		8 (38.1)	
No	11 (27.5)		15 (46.8)		30 (37.0)	
Psychological abuse		0.189		0.641		0.227
Yes	8 (44.4)		7 (50.0)		17 (45.9)	
No	9 (26.4)		11 (42.3)		22 (33.8)	
Sexual abuse		0.001		0.030		0.001
Yes	9 (69.2)		8 (72.7)		17 (68.0)	
No	8 (20.5)		10 (34.4)		22 (28.9)	
Domestic violence witness		0.474		0.972		0.680
Yes	6 (40.0)		5 (45.4)		12 (41.4)	
No	11 (29.7)		13 (44.8)		27 (37.0)	
Any kind of abuse		0.007		0.204		0.015
Yes	12 (50.0)		11 (55.0)		24 (50.0)	
No	4 (14.2)		7 (35.0)		14 (25.9)	

with suicide attempts, earlier onset in schizophrenic patients, and higher number of hospital admittances in the previous 2 years.

Age at Mental Illness Diagnosis

Within the subgroup of schizophrenic patients, our study found an earlier diagnosis (4.1 years) of mental illness in patients with a history of childhood trauma, as did Uçok and Bikmaz (2007). Despite previous reports (Garno et al., 2005), we did not find a connection between any kind of trauma and earlier diagnosis of bipolar disorder. However, this could be related to the age at which the diagnosis was made: the time lag between first symptoms and diagnosis of bipolar disorder is well established. Leverich et al. (2002) showed a lag of 13 years between the onset of symptoms and diagnosis in a group of patients who had been severely traumatized in childhood, compared with 8 years in those who had not.

Number of Admittances

The influence of childhood trauma in hospital admissions in patients with a psychosis has been detailed in other studies (Hammersley et al., 2003). Although we found significant differences in the number of admittances in the previous 2 years in bipolar patients with a history of psychological abuse in childhood, this was not the case for physical or sexual abuse, and did not apply to patients with schizophrenia who were victims of any type of abuse.

Number of Suicide Attempts

Childhood trauma is a well-known risk factor for suicide, increasing the number of suicide attempts in adulthood and bringing forward the onset of the first attempt (Roy and Janal, 2005; Roy, 2004). The highest incidence of suicide attempts in patients with childhood trauma is present in bipolar disorder (Dilsaver et al., 2007). Although we did not find a connection in the literature between childhood trauma and suicide attempts in schizophrenic patients, our study significantly correlated a history of sexual or any kind of abuse with a higher number of suicide attempts. A history of sexual abuse yields a higher probability of attempted suicide (68.0%) than in patients who did not present such abuses, 68.0% versus 28.9%, respectively ($p = 0.001$). When compared by diagnosis, both schizophrenic and bipolar patients tend to make more suicide attempts if they experienced childhood sexual abuse.

Clinical Implications

In severe mental disorders, a history of childhood trauma modifies the progression of the illness. Therefore, it is essential to know more about the traumatic experiences of those patients. Collecting more information will allow more personalized attempts to modify the clinical evolution of the disease. Read et al. (2007) provided guidelines on collecting this information, including this simple approach: "Asking (the) patient about childhood abuse and responding well when the answer is yes."

Limitations

In the absence of a control group, we compared our results to data collected by the same questionnaire in a Spanish university population (Pereda and Forns, 2007). That study found a lower prevalence of sexual abuse in males and females (15.5% and 19.0%, respectively) than that of our study (18.5% and 31.3%, respectively). The second limitation is that the TELQ instrument used to assess the history of trauma has no specific item concerning psychological abuse or neglect in childhood, and therefore an open-ended question was used to gather information about this abuse subtype. This assessment approach could have triggered infradiagnosis.

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