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ORIGINAL PAPER

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Childhood sexual abuse predicts poor outcome seven years after parasuicide

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Abstract *Background* There is substantial empirical research linking borderline personality disorder with prolonged mental instability and recurrent suicidality. At the same time, a growing body of observations links borderline personality disorder to sexual abuse and other forms of abuse and trauma in childhood. The aim of this study was to investigate among patients admitted for parasuicide the predictive value for outcome 7 years after the parasuicide of a diagnosis of borderline personality disorder compared to the predictive value of a history of childhood sexual abuse. *Methods* Semi-structured interviews were conducted at the time of the index parasuicide, with follow-up interviews 7 years later. In addition, information was collected from medical records at the psychiatric clinic. A logistic regression analysis was used to assess the specific influence of the covariates borderline personality disorder, gender and reported childhood sexual abuse on the outcome variables. *Results* Univariate regression analysis showed higher odds ratios for borderline personality disorder, female gender and childhood sexual abuse regarding prolonged psychiatric contact and repeated parasuicides. A combined logistic regression model found significantly higher odds ratios only for childhood sexual abuse with regard to suicidal ideation, repeated parasuicidal acts and more extensive psychiatric support. *Conclusion* The findings support the growing body of evidence linking the characteristic symptoms of borderline personality disorder to childhood sexual abuse, and identify sexual abuse rather than a diagnosis of borderline personality disorder as a predictor for poor outcome after a parasuicide. The findings are relevant to our understanding and treatment of parasuicide patients, especially those who fulfil the present criteria for borderline personality disorder.

Key words borderline personality disorder – sexual abuse – suicidal ideation – parasuicide – follow-up

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Introduction

Borderline personality disorder (BPD), a diagnostic category that we find primarily in women, has been a focus of research because of repeated findings of a very high prevalence of parasuicide (Bongar et al. 1990; Söderberg 2001). Follow-up studies after parasuicide often focus on the risk for repeated parasuicide and completed suicide (Suokas et al. 2001; Jenkins et al. 2002; Ostamo and Lonnqvist 2001; Tejedor et al. 1999). The BPD group has been found to have an increased overall risk for repeated parasuicides. The risk for completed suicide is around 10 %, which is comparable to other clinical groups such as schizophrenia and mood disorders (Paris 2002).

The concept of borderline personality disorder with its core symptoms of disturbed affect, cognition, impulsivity and interpersonal relationships implies prolonged problems in psychosocial functioning. In the last few years, however, an increasing number of studies have linked the symptoms of borderline personality disorder to sexual or physical abuse and neglect in childhood (Brodsky et al. 1997; Soloff et al. 2002; Zanarini et al. 2002; Söderberg et al. 2004). The odds ratio for suicide attempts among adults reporting childhood sexual abuse has been estimated at 1.3–25.6 times higher than among non-abused adults (Santa Mina and Gallop 1998). Coll et al. (2001) found that female overdose patients were 15 times more likely to have experienced sexual abuse than matched controls. These findings suggest that our understanding and treatment of the symptoms presently classified as borderline personality disorder may need revision.

The aim of our follow-up study 7 years after an index parasuicide was to investigate whether the presence of

childhood sexual abuse might be a better predictor than a diagnosis of borderline personality disorder for various outcome measures such as recurrent suicidal ideation, fatal and non-fatal suicidal behaviour, impairment of psychosocial functioning and a need for psychiatric support in the years following the index parasuicide.

Subjects and methods

Over a 10-month period in 1995 and 1996, semi-structured interviews were conducted with consecutive parasuicide patients admitted to inpatient care at a somatic or psychiatric ward at Umeå University Hospital in Sweden, which is the only inpatient hospital in the region. To define the cohort to be studied, we used the WHO/EURO multicentre study definition of parasuicide rather than the alternative terms attempted suicide or deliberate self-harm, which define a somewhat different group of behaviours. Parasuicide was, thus, defined as a self-destructive act with a non-fatal outcome, aimed at realizing changes in the life situation (Platt et al. 1992). Methodology and findings have been described in detail in a previous paper (Söderberg 2001).

Of the 78 identified patients, five (three men and two women) were excluded due to acute psychosis and nine (two men and seven women) chose not to participate. The remaining 64 patients (81 %) were included in the study. At the interview after the index parasuicide, 63 persons (98 %) gave their consent to be contacted for a follow-up interview after a few years. We also obtained the approval of the Research Ethics Committee of Umeå University for a follow-up interview.

At the initial interview, 35 persons (55 %) met the criteria for borderline personality disorder (BPD) according to DSM-IV, while 29 (45 %) did not fulfil these criteria (NoBPD). Within the NoBPD group, 15 (52 %) met the criteria for some other personality disorder (Söderberg 2001). Personality disorders were diagnosed using a version of the Structured Clinical Interview for Personality Disorders (Spitzer et al. 1992), adapted for DSM-IV (Ottosson et al. 1998).

Experience of childhood sexual abuse was common in the BPD group (Söderberg et al. 2004), with 17 (65 %) of the women in the BPD group reporting sexual abuse as a child compared to two of the women (13 %) in the NoBPD group. Life events such as childhood sexual abuse were investigated using the EPSIS Life Event Scale (European Parasuicide Study Interview Schedule) (Kerkhof et al. 1989). The procedures and results have been described in detail in a previous article (Söderberg et al. 2004).

The follow-up interviews were conducted (by S. S.) over a 5-month period starting in autumn 2002, with a mean time lapse between the first and second interview of 7.5 years (90 months, range 79–96 months). The majority of interviews were conducted by telephone. The interview focused on life experiences in the years following the index parasuicide, covering social relations, work situation and psychiatric problems. We also obtained the consent of the persons involved to review their medical records at the psychiatric clinic.

As outcome variables from the interview, we chose reported recurrent suicidal thoughts and parasuicidal acts. As an indicator of psychosocial functioning, we chose the reported ability to sustain work and partner relationships. From the medical records, we chose the outcome variables duration of outpatient treatment at the psychiatric clinic during the follow-up period and presence of current psychiatric in- or outpatient treatment at the time of the interview. Since there are no other in- or outpatient psychiatric clinics in the region, the records should sufficiently cover the treatment received.

When comparing the results of the initial and follow-up interviews, those persons who did not participate in the follow-up interview were excluded from the original BPD and NoBPD groups.

Statistical methods

In comparison of means Student's *t*-test was applied. The chi-square test was used to test differences between groups in categorical variables, except where expected values were below five, in which case Fisher's exact probability test was used. We used a logistic regression model to assess the specific influence on outcome variables of the covariates borderline personality disorder, female gender and sexual abuse in childhood in terms of crude and adjusted odds ratios. The adjusted odds ratios were controlled for age. The significance level was set at $p < 0.05$.

Results

We were able to trace 61 (95 %) of the persons who took part in the original interviews. One woman in the NoBPD group had died of natural causes. Five people (8 %), one man and one woman in the BPD group and two men and one woman in the NoBPD group, had died by suicide. Only one of these, a man in the BPD group, had reported a history of childhood sexual abuse. There was no significant difference with regard to borderline personality disorder diagnosis, gender or childhood sexual abuse for completed suicide.

Of the remaining 55 people contacted, 51 gave their consent to participate in the follow-up interview, thus covering 29 (83 %) of those in the original BPD group and 22 (76 %) in the original NoBPD group. The overall gender distribution was 19 men and 32 women.

The mean age was 37 years (range 24–59) in the BPD group compared to 42 years (range 24–61) in the NoBPD group (ns). There was a significant gender difference in that 22 of 29 (76 %) in the BPD group were women compared to 10 of 22 (46 %) in the NoBPD group ($\chi^2 = 4.948$, $p = 0.026$). In the BPD group, 14 (48 %) had reported childhood sexual abuse compared to one (5 %) in the NoBPD group ($\chi^2 = 11.523$, $p = 0.001$). All of these were women.

For psychosocial functioning, Table 1 shows the significant differences between the groups at the follow-up interview not found at the index parasuicide. Table 1 also shows figures on psychiatric care, suicidal thoughts and parasuicidal acts during the follow-up period.

The mean duration of continued psychiatric contact after the index parasuicide was 58 months in the BPD group and 26 months in the NoBPD group ($t = 2.782$, $p = 0.008$). In the BPD group, 69 % had committed at least one new parasuicide during the follow-up period compared to 36 % in the NoBPD group ($\chi^2 = 5.370$, $p = 0.020$). Repeated parasuicidal acts (two or more) were also significantly more common in the BPD group, as seen in Table 1.

Suicidal thoughts were not significantly more common in the BPD group than in the NoBPD group. The most common suicidal thoughts were poisoning, reported by 75 % in the BPD group and 32 % in the NoBPD group, and of cutting oneself, reported by 41 % and 14 %, respectively. Poisoning was also the most common parasuicidal method, with 65 % and 27 %, respectively, followed by cutting, with 28 % and 14 %, respectively.

Table 1 Psychosocial functioning at index parasuicide and at follow-up interview. Psychiatric problems and psychiatric care during the follow-up period after index parasuicide ($p < 0.05$)

	BPD		NoBPD			
	n	%	n	%	χ^2	p
At index parasuicide:						
Living with a partner with or without children	12	41	8	36	0.132	0.716
Attending work or school	12	41	10	46	0.085	0.771
At follow-up interview:						
Living with a partner with or without children	10	35	14	64	4.268	0.039
Attending work or school	6	21	13	59	7.892	0.005
Outpatient treatment ≥ 3 years after index parasuicide	18	62	5	23	7.820	0.005
Current psychiatric treatment	16	55	5	23	5.437	0.020
Suicidal thoughts in the past 3 months	11	38	4	18	2.350	0.125
Repeated parasuicides during follow-up period	14	48	4	18	4.961	0.026

n = 51 (BPD = 29, NoBPD = 22)

The majority of the BPD group were women. Fourteen (64 %) of the women in this group had reported experience of sexual abuse as a child compared to one (10 %) in the NoBPD group (Fisher's p = 0.007). None of the men reported childhood sexual abuse. Univariate logistic regression analyses to assess the specific influence of the covariates borderline personality disorder, female gender and childhood sexual abuse showed significance in most of the outcome measures (crude rates).

The univariate analysis was followed by a logistic regression analysis with all covariates entered in the same model. Since there were significant age differences in the dependent variables, we also controlled for age. The final model revealed significant odds ratios only for the covariate childhood sexual abuse with respect to presence of psychiatric care, suicidal thoughts and repeated parasuicidal acts. The adjusted odds ratios for the outcome measures regarding psychosocial situation were not significant for any of the covariates. The results are given in Table 2.

Discussion

This follow-up study found an overall suicide rate approximately equivalent to that reported in other studies (Paris 2002). The study supports earlier research linking borderline personality disorder to recurrent suicidal behaviour and a prolonged need for psychiatric support (e. g. Bongar et al. 1990; Jenkins et al. 2002; Suokas et al. 2001; Ostamo and Lonnqvist 2001; Tejedor et al. 1999). However, in our study, the crude rates showed female gender to be as strong a predictor of recurrent parasuicidal thoughts and acts as borderline personality disorder. This implies that simply being a woman is a risk factor for parasuicide, a finding that has also been reported by Salander Renberg (2001).

A large number of the women diagnosed with borderline personality disorder had a history of childhood sexual abuse, a variable that is usually not taken into consideration in studies of borderline personality disorder and suicidal behaviour. When accounting for a history of childhood sexual abuse, this rather than female gender or borderline personality disorder was found to be the main factor influencing the outcome measures.

We found a strong relationship between childhood sexual abuse and continued suicidal ideation and repeated parasuicidal acts in the follow-up period, as well as a more extensive presence of psychiatric support. The findings suggest that what at first may seem to be a characteristic of those with borderline personality disorder is better explained as a characteristic of sexually abused women.

Sexual abuse is regarded as a very serious adverse life event with long-term psychological consequences (Finkelhor and Browne 1985; Herman 1992; Silverman et al. 1996), including symptoms of depression, anxiety and low self-esteem as well as suicidal behaviour (Briere and Runtz 1988; Malinosky-Rummel and Hansen 1993; Romans et al. 1995). The sequelae of childhood abuse depend on its severity and the presence of protective factors (Malinosky-Rummel and Hansen 1993; Browne and Finkelhor 1986), and in clinical populations sexual abuse is often linked to other forms of abuse and neglect in childhood (Brodsky et al. 1997; Soloff et al. 2002; Zanarini et al. 2002; Söderberg et al. 2004).

Psychopathology seems to be a cumulative effect of adverse events (Rutter and Maughan 1997), although some authors argue that the abuse and neglect may not be causally linked to the psychopathology, rather that both may be due to a common genetic background of both parent and offspring, for example, in terms of shared impulsivity (Paris 1998). Some findings also suggest that personality traits themselves might influence the exposure to or occurrence of life events in adult life (Poulton and Andrews 1992; Kendler et al. 2003).

Regardless of the causality, the findings indicate that a history of childhood sexual abuse in a person with a recent parasuicide may also be related to other forms of severely dysfunctional relationships during childhood, which need to be addressed in subsequent treatment (Molnar et al. 2001). A person fulfilling the diagnostic criteria of borderline personality disorder should, therefore, be carefully evaluated for different forms of severely adverse family, social and interpersonal experiences underlying the presenting symptoms.

Table 2 Odds ratios for outcome measures according to the presence of BPD, female gender and childhood sexual abuse, respectively. Adjusted odds ratios controlled for age. Confidence intervals (CI 95%) in parentheses

Covariates		Dependent variables											
		Outpatient treatment ≥ 3 years after parasuicide			Current psychiatric treatment			Suicidal thoughts in the past 3 months			Repeated parasuicides during follow-up period		
	n	n	Crude (OR)	Adjusted (OR)	n	Crude (OR)	Adjusted (OR)	n	Crude (OR)	Adjusted (OR)	n	Crude (OR)	Adjusted (OR)
Presence of BPD													
No	22	5	Ref	Ref	5	Ref	Ref	4	Ref	Ref	4	Ref	Ref
Yes	29	18	5.6* (1.5–19.4)	2.2 (0.5–9.5)	16	4.2* (1.2–14.4)	1.6 (0.4–7.1)	11	2.8 (0.7–10.3)	0.3 (0.0–3.0)	15	4.8* (1.3–17.8)	1.6 (0.3–7.8)
Female gender													
No	19	4	Ref	Ref	4	Ref	Ref	1	Ref	Ref	2	Ref	Ref
Yes	32	19	5.5* (1.5–20.3)	1.8 (0.4–8.2)	17	4.3* (1.2–15.7)	1.4 (0.3–6.6)	14	14.0* (1.7–117.7)	3.4 (0.3–40.1)	17	9.6* (1.9–48.7)	3.1 (0.5–19.5)
Childhood sexual abuse													
No	36	10	Ref	Ref	9	Ref	Ref	4	Ref	Ref	7	Ref	Ref
Yes	15	13	16.9* (3.2–88.6)	7.9* (1.2–52.5)	12	12.0* (2.8–52.4)	7.3* (1.3–41.9)	11	22.0* (4.7–103.2)	25.1* (2.3–276.1)	12	16.6* (3.7–75.1)	7.3* (1.2–43.4)

* = $p < 0.05$

Methodological considerations

The initial interview included 81% of the consecutive parasuicide patients admitted for inpatient care at the university hospital, which is the only hospital in the region. Of these, 80% were included in the follow-up study 7 years later. In comparison with other studies, this is a high response rate (Coll et al. 1998). Therefore, in spite of the relatively small numbers, the figures should be representative.

The results regarding sexual abuse are based on a self-report questionnaire. Retrospective reports on sexual abuse have been criticized on the basis that there might be a recall problem (Paris 1995). It is well known that direct questions on sexual abuse give much higher rates than spontaneous reporting (Briere and Zaidi 1989). The confidential questionnaire used in the current study is thought to give more reliable answers than a personal interview, since it minimizes reporting bias (Coll et al. 1998). In spite of this, our figures on sexual abuse probably underestimate the real prevalence, since there is significant underreporting even on direct questioning, as has been shown by Fergusson and Lynskey (1995). Their findings were that there was a 50% false negative rate of reporting among those whose abuse had been documented in a longitudinal birth cohort study. Among those who had not been abused there were no false positive reports (Fergusson et al. 2000).

Conclusion

The findings support the growing body of evidence linking the characteristic symptoms of borderline personality disorder to childhood sexual abuse and other forms of childhood abuse and neglect. They identify sexual abuse rather than a diagnosis of borderline personality disorder as the predictor for a poor longitudinal outcome among parasuicide patients. The findings have a bearing on our understanding and treatment of parasuicide patients, especially those who fulfil the present criteria for borderline personality disorder.

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