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## The Course of Adult Experiences of Abuse in Patients with Borderline Personality Disorder and Axis II Comparison Subjects: A 10-Year Follow-Up Study

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### Abstract

The first objective of this study was to assess the rates of adult experiences of verbal, emotional, physical, and sexual abuse reported by borderline patients and axis II comparison subjects over ten years of prospective follow-up. The second objective was to determine time-to-cessation, recurrence, and new onset of each type of abuse. The Abuse History Interview was administered to 290 borderline patients and 72 axis II comparison subjects at baseline. The AHI Follow-up Version was administered at five contiguous follow-up waves. Over ten years of follow-up, the rates of all four types of abuse declined significantly for borderline patients. For borderline patients, rates of cessation were high for all types of abuse (>90%). However, recurrences and new onsets of verbal and emotional abuse were relatively common (>60%). Contrastingly, they were relatively uncommon for physical and sexual abuse (<30%), suggesting that verbal and emotional abuse represent more stable forms of abuse.

### Keywords

borderline personality disorder; adult abuse; longitudinal

### INTRODUCTION

While numerous studies have found that both physical and sexual abuse during childhood are common among patients with borderline personality disorder (BPD) (Herman et al., 1989; Links et al., 1988; Ogata et al., 1990; Paris et al., 1994a; Paris et al., 1994b; Salzman et al., 1993; Shearer et al., 1990; Westen et al., 1990; Zanarini et al., 1989b; Zanarini et al., 1997), studies of adult experiences of abuse among patients with BPD are rare. One study, which was published by our research group (Zanarini et al., 1999), found that borderline patients reported high rates of having a physically abusive partner as an adult (33.1%) or being sexually assaulted as an adult (31.4%). It was also found that these rates were significantly higher than those reported by axis II comparison subjects (16.7% and 9.7% respectively). We also studied the rates of verbal, emotional, physical, and sexual abuse reported by these patients over six years of prospective follow-up (Zanarini et al., 2005). We found that borderline patients reported higher rates of all four forms of abuse than axis II

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comparison subjects but that these rates declined significantly over time for all subjects considered together.

The current study expands on our earlier research in two ways. First, we have now followed these patients prospectively for a decade and thus, will be reporting on two additional waves of prevalence data. Second, we will be reporting time-to-cessation, time-to-recurrence, and time-to-new-onset of each of the four types of abuse studied.

## METHODS

All subjects were initially inpatients at McLean Hospital in Belmont, Massachusetts. Each patient was first screened to determine that he or she: (1) was between the ages of 18–35; (2) had a known or estimated IQ of 71 or higher; (3) had no history of or current symptoms of schizophrenia, schizoaffective disorder, bipolar I disorder, or an organic condition that could cause psychiatric symptoms; and (4) was fluent in English.

After the study procedures were explained, written informed consent was obtained. As part of a larger study (Zanarini et al., 2003), each patient then met with a masters-level interviewer blind to the patient's clinical diagnoses for a thorough diagnostic assessment. Three semi-structured interviews were administered. These diagnostic interviews were: (1) the Structured Clinical Interview for DSM-III-R Axis I Disorders (SCID-I; Spitzer et al., 1992), (2) the Revised Diagnostic Interview for Borderlines (DIB-R; Zanarini et al., 1989), and (3) the Diagnostic Interview for DSM-III-R Personality Disorders (DIPD-R; Zanarini et al., 1987). The inter-rater and test-retest reliability of these measures have been found to be good-excellent (Zanarini and Frankenburg, 2001; Zanarini et al., 2002).

Lifetime experiences of adult abuse were assessed at baseline using the Abuse History Inventory (AHI). The AHI assesses four types of abuse: verbal, emotional, physical, and sexual. Examples of each type are provided to subjects, and subsequently they are asked to describe their experience of abuse in their own words. Verbal abuse is defined as someone often putting you down or screaming and yelling at you. Emotional abuse is defined as someone often shaming or humiliating you, or repeatedly frustrating you by giving you mixed messages or putting you in impossible situations. Examples of physical abuse include someone often slapping you, throwing things at you, or beating you until you have bruises. Examples of sexual abuse include someone repeatedly fondling you, forcing you to perform sexual acts, or having intercourse with you against your will. The psychometric properties of this instrument have been described before (Zanarini et al., 1999). Briefly, inter-rater kappas based on 45 interviews ranged between .60–1.0 (median = .93). Test-retest kappas based on 30 interviews ranged between .44–1.0 (median = .63).

At each of the study's five follow-up periods, staff members obtained informed consent from all of the continuing subjects. Each subject was then interviewed by a staff member who was blind to the patient's baseline diagnoses. The interview battery consisted of measures similar to those at baseline and included the SCID-I, the DIB-R, and the DIPD-R. Good-excellent inter-rater reliability has been maintained throughout the course of the study for both axis I and II disorders (Zanarini and Frankenburg, 2001; Zanarini et al., 2002). Abuse experienced during each follow-up period was assessed with the Follow-Up Version of the AHI (AHI-FUV). Both conjoint patient interviews (involving one rater interviewing the subject and the other observing and then both scoring independently) and videotapes from previous periods were used to maintain high levels of inter-rater reliability and prevent rater drift throughout the years of follow-up (Zanarini et al., 2005). In terms of the conjoint interviews (N=48), kappas ranged from .76–1.0 (median = .91). For videotaped interviews from earlier follow-up periods (N=36), kappas ranged from .48–1.0 (median = .83).

## Statistical Analyses

To properly account for the correlation among repeated measures, generalized estimating equations (GEE), with diagnosis and time as main effects and their interaction, were used in longitudinal analyses of prevalence data. These analyses model the log prevalence of the four types of abuse with gender as an additional covariate (as borderline patients were significantly more likely than axis II comparison subjects to be female), yielding an adjusted relative risk ratio (RRR) and 95% confidence interval (95%CI) for diagnosis and time.

The Kaplan-Meier product-limit estimator (of the survival function) was used to assess time-to-cessation, time-to-recurrence, and time-to-new onset of each type of abuse. We defined time-to-cessation as the follow-up period at which abuse no longer occurred. Thus, possible values for this time-to-cessation measure were 2, 4, 6, 8, or 10 years, with time=2 years for persons first achieving a cessation of that particular form of abuse during the first follow-up period, time=4 years for persons first achieving such a cessation during the second follow-up period, etc. We defined time-to-new onset in a like manner. We defined time-to-recurrence as the number of years after a cessation had been achieved that recurrence first occurred. Thus, time-to-recurrences were 2, 4, 6, or 8 years after first cessation. It should be noted that cessations, recurrences, and new onsets of each type of abuse were independent of one another. For example, someone who reported experiencing physical abuse at baseline but not sexual abuse could have a new onset of sexual abuse at the two-year follow-up. Between-group comparisons of borderline patients and axis II comparison subjects were assessed using Cox proportional hazard ratios. All analyses were performed using Stata 9.2 software (StataCorp, College Station, Texas, 2007).

## RESULTS

At baseline, two hundred and ninety patients met both DIB-R and DSM-III-R criteria for BPD and 72 met DSM-III-R criteria for at least one nonborderline axis II disorder (and neither criteria set for BPD). Of these 72 comparison subjects, 4% met DSM-III-R criteria for an odd cluster personality disorder, 33% met DSM-III-R criteria for an anxious cluster personality disorder, 18% met DSM-III-R criteria for a nonborderline dramatic cluster personality disorder, and 53% met DSM-III-R criteria for personality disorder not otherwise specified (which was operationally defined in the DIPD-R as meeting all but one of the required number of criteria for at least two of the 13 axis II disorders described in DSM-III-R).

Baseline demographic data have been reported before (Zanarini et al., 2003). Briefly, 77.1% (N = 279) of the subjects were female and 87% (N = 315) were white. The average age of the subjects was 27 years (SD = 6.3), the mean socioeconomic status was 3.3 (SD = 1.5), where 1 = highest and 5 = lowest (Hollingshead, 1957), and their mean GAF score was 39.8 (SD = 7.8) indicating major impairment in several areas, such as work or school, family relations, judgment, thinking, or mood.

Retention rates have remained high throughout the duration of the study. At the time of the ten-year follow-up wave, 41 borderline patients were no longer in the study: 12 had committed suicide, seven died of other causes, nine discontinued their participation, and 13 were lost to follow-up. Overall, 91.9% (N=249/271) of surviving borderline patients and 84.5% of surviving axis II comparison subjects (60/71) were reinterviewed at all five follow-up waves.

Table 1 shows the prevalence rates of adult experiences of abuse for both borderline and axis II comparison subjects over ten years of prospective follow-up. The table details the prevalence rates for all four types of abuse (verbal, emotional, physical, sexual) as well as

the combinations verbal and/or emotional, physical and/or sexual, and any abuse at six different time periods. Overall, for both the borderline group and the axis II comparison subjects, all types of abuse declined significantly between baseline and the ten-year follow-up period. When comparing the prevalence of abuse experienced among borderline patients and axis II comparison subjects, all types of abuse (and all combinations) were significantly more common among borderline patients. There were no significant interactions between diagnosis and time.

Table 1 additionally reports relative risk ratios (RRRs) for diagnosis and time. In terms of verbal abuse, emotional abuse, or a combination of the two, RRRs all were about 1.5, indicating that borderline patients are about one and a half times more likely to experience these types of abuse than axis II comparison subjects. Over time, these types of abuse decrease 64%, 56%, and 56% for verbal, emotional, and the combination of verbal and/or emotional abuse.

The RRRs for both physical and sexual abuse indicate that borderline subjects are notably more likely to experience both types of abuse than axis II comparison subjects. Specifically, the RRR of 2.61 indicates that borderline patients were more than two and a half times more likely to have experienced physical abuse than axis II comparison subjects over ten years of follow-up, and the RRR of 3.88 indicates that borderline patients were almost four times more likely to experience sexual abuse over ten years than axis II comparison subjects. In combination, the RRR of 3.06 indicates that borderline patients were approximately three times more likely to experience either physical and/or sexual abuse. Both physical and sexual abuse, as well as physical and/or sexual abuse, declined significantly over time for all subjects, as indicated by RRRs of 0.22, 0.07, and 0.19, respectively. These RRRs represent declines over ten years of 78% for physical abuse ( $[1-0.22] \times 100$ ), 93% for sexual abuse ( $[1-0.07] \times 100$ ), and 81% for physical abuse and/or sexual abuse ( $[1-0.19] \times 100$ ).

When considering all types of abuse together, borderline patients were about one and a half times more likely to experience any abuse than axis II comparison subjects (RRR= 1.44). Any abuse decreased among all subjects by 58% over time ( $[1-.42] \times 100$ ).

Figure 1 shows time-to-cessation of all four types of abuse among borderline patients over 10 years of prospective follow-up. By the time of the 10-year follow-up, very high rates of cessation were present for all four types of abuse (>90%).

Figure 2 shows time-to-recurrence of all four types of abuse among borderline patients over 10 years of prospective follow-up. Approximately 68% of borderline patients who had experienced a cessation of verbal abuse later experienced a recurrence. The same rate of recurrence, 68%, was found for emotional abuse. In terms of physical abuse, 36% of those experiencing cessations later experienced a recurrence over 10 years of prospective follow-up, while only about a quarter of borderline patients had a recurrence of sexual abuse over time.

Figure 3 shows time-to-new-onset of all four types of abuse among borderline patients over 10 years of prospective follow-up. By the ten-year follow-up, approximately 64% of those who had not experienced verbal abuse at baseline had a new onset of verbal abuse, 72% had a new onset of emotional abuse, 32% had a new onset of physical abuse, and 17% had a new onset of sexual abuse.

As for axis II comparison subjects, the following cumulative percentages were found for cessation of abuse: verbal abuse (95%, N=35), emotional abuse (93%, N=24), physical abuse (100%, N=12), and sexual abuse (100%, N=7). In addition, the following cumulative percentages were found for recurrence of abuse: verbal abuse (68%, N=19), emotional abuse

(57%, N=12), physical abuse (28%, N=2), and sexual abuse (0%, N=0). Finally, the following cumulative percentages were found for new onset of abuse: verbal abuse (43%, N=12), emotional abuse (44%, N=12), physical abuse (11%, N=5), and sexual abuse (2%, N=1).

When comparing the borderline patients and axis II comparison subjects, we found no between-group differences pertaining to cessations of any type of adult abuse. We also did not find any between-group differences pertaining to recurrences. However, we did find that borderline patients were more likely to report new onsets of emotional (HR=2.2; 95%CI=1.2–4.0), physical (HR=3.6; 95%CI=1.4–9.2), and sexual abuse (HR=10.4; 95%CI=1.4–76.9). However, the rates of new onsets of physical and sexual abuse reported by axis II comparison subjects were too low to make reliable statistical comparisons and thus, caution needs to be observed concerning our results pertaining to these between-group comparisons.

## DISCUSSION

This study has four main findings. The first finding is that prevalence rates of all types of abuse decreased significantly over 10 years of prospective follow-up for those in both groups. At baseline, 75.9%, or 220 of 290 borderline patients reported having experienced verbal abuse. After ten years of prospective follow-up, only 73 or 29.3% reported experiencing verbal abuse. The rates of emotional abuse declined in a similar manner (71.4% at baseline and 29.3% at 10-year follow-up). Fewer borderline patients experienced physical abuse at baseline, 33.1%, and by the 10-year follow-up, only 6.4% were experiencing such abuse. Likewise, 31.4% of borderline patients experienced sexual abuse at baseline and only 4% reported such abuse after 10 years of prospective follow-up. This finding is consistent with previous research conducted by our group at the six-year follow-up (Zanarini et al., 2005). However, it should be noted that the percentage decline for each form of abuse from six-year follow-up to 10-year follow-up was actually quite small.

The second main finding is that cessations from all four types of abuse were very common. By the 10-year follow-up, more than 90% of borderline patients who reported each of these forms of adult abuse at baseline had at least one two-year period without experiencing that type of abuse.

The third finding is that recurrences and new onsets of verbal abuse and emotional abuse were relatively common. More specifically, over 60% of the applicable borderline patients either experienced a recurrence or a new onset of verbal or emotional abuse. This is a new finding, suggesting that these forms of abuse in adulthood are relatively unstable as cessations, recurrences, and new onsets are all quite common.

The fourth finding is that recurrences and new onsets of physical abuse and sexual abuse were relatively uncommon. More specifically, about 30% of the applicable borderline patients either experienced a recurrence or a new onset of physical abuse. In addition, 25% of the applicable borderline patients experienced a recurrence of sexual abuse and 17% experienced a new onset. This finding is also new, suggesting that the majority of those reporting these experiences at baseline experienced a stable resolution over time. They also suggest that completely new cases of these forms of abuse are relatively rare.

The results of this study may have implications for treatment. More specifically, it might be helpful if clinicians were aware of the fluidity of adult experiences of abuse, particularly concerning recurrences and new onsets.

This study has three main limitations. First, all subjects in the study were initially inpatients and our findings are not necessarily generalizable to less severely ill people. Another limitation is that about 90% of those in both patient groups were in individual therapy and taking psychotropic medications at baseline and about 70% were participating in each of these outpatient modalities during each follow-up period. Thus, it is difficult to know if these results would generalize to people meeting criteria for BPD who are not in any treatment. The third limitation is that all information regarding experiences of abuse was collected by means of self-report. However, patients were asked to report detailed vignettes of their experiences and ambiguous events were not counted.

Taken together, the results of this study suggest that borderline patients (and axis II comparison subjects) report a declining rate of adult experiences of abuse of all kinds over time. They also suggest that verbal and emotional abuse represent more stable forms of abuse than physical or sexual abuse.

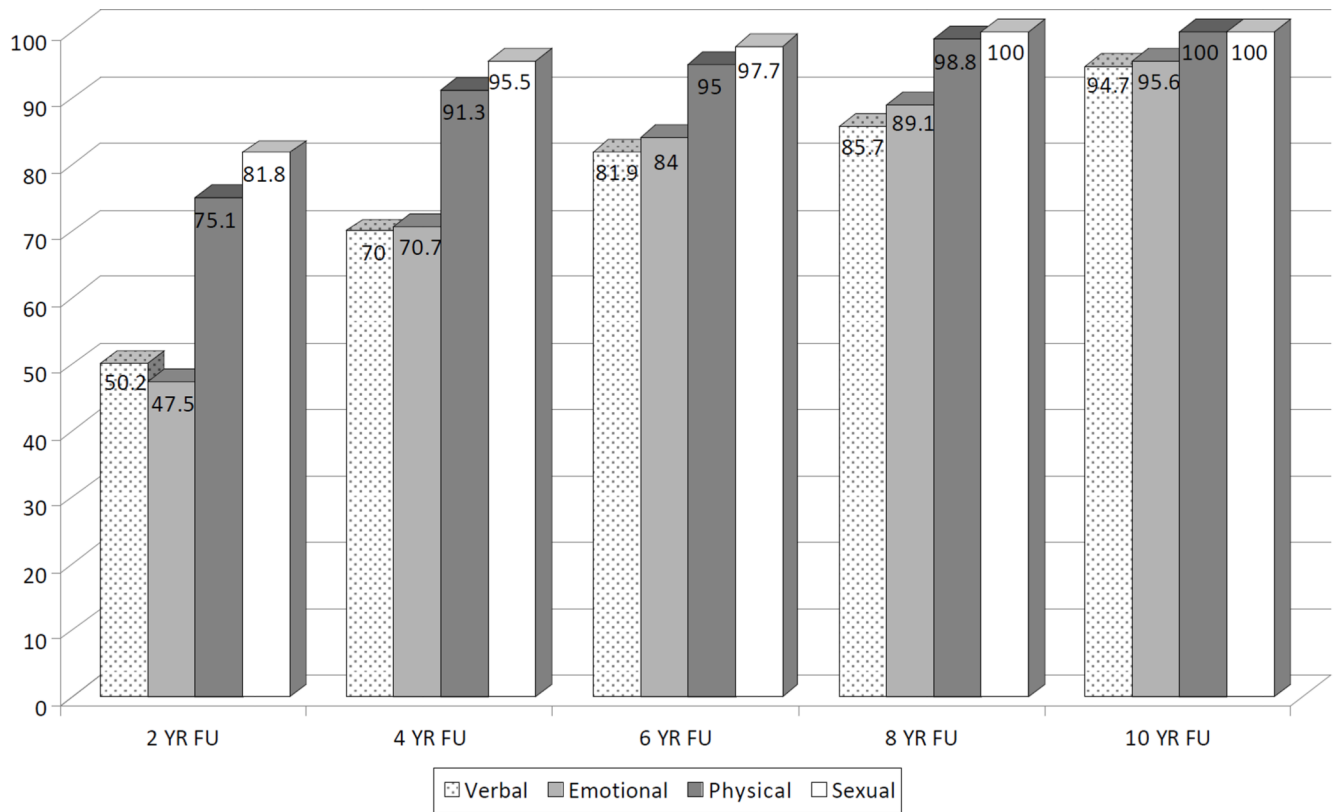
## Acknowledgments

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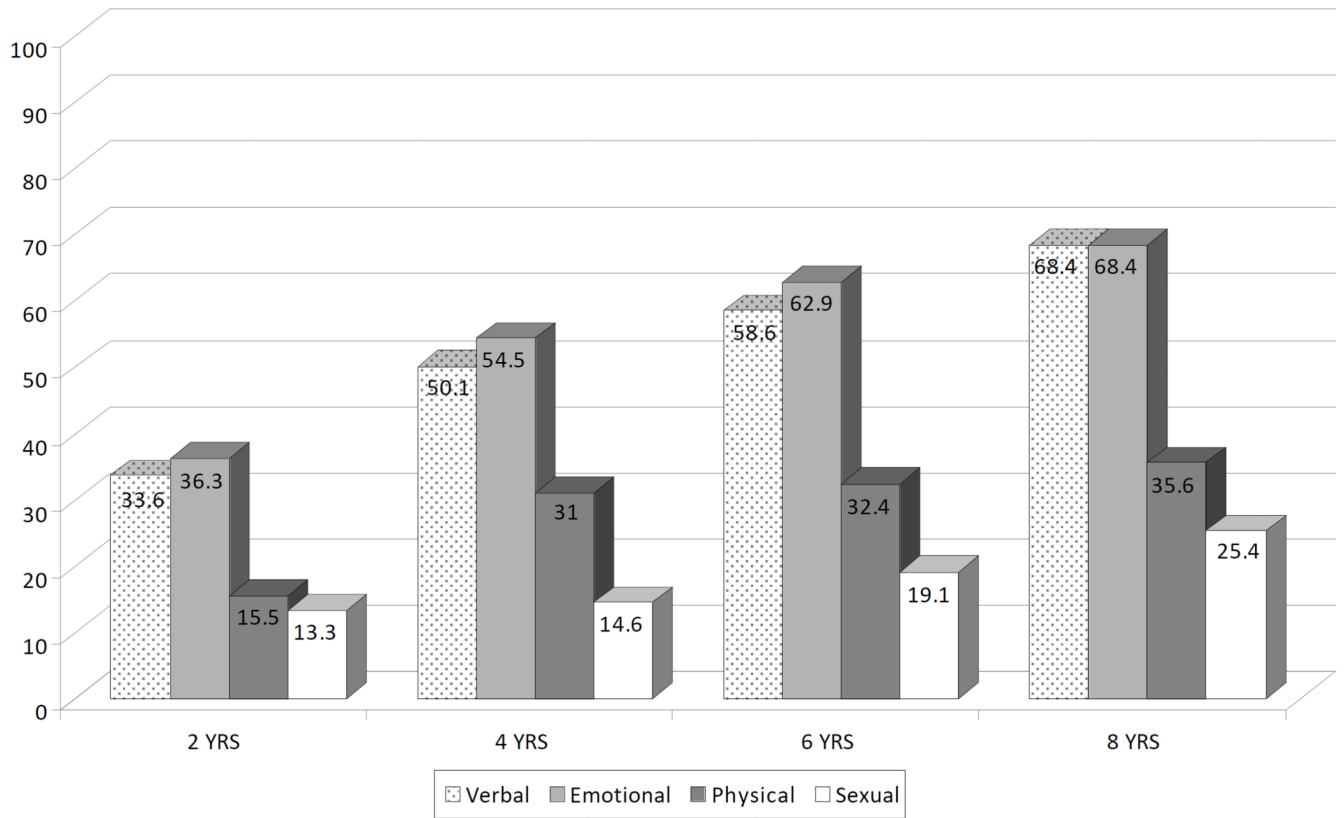
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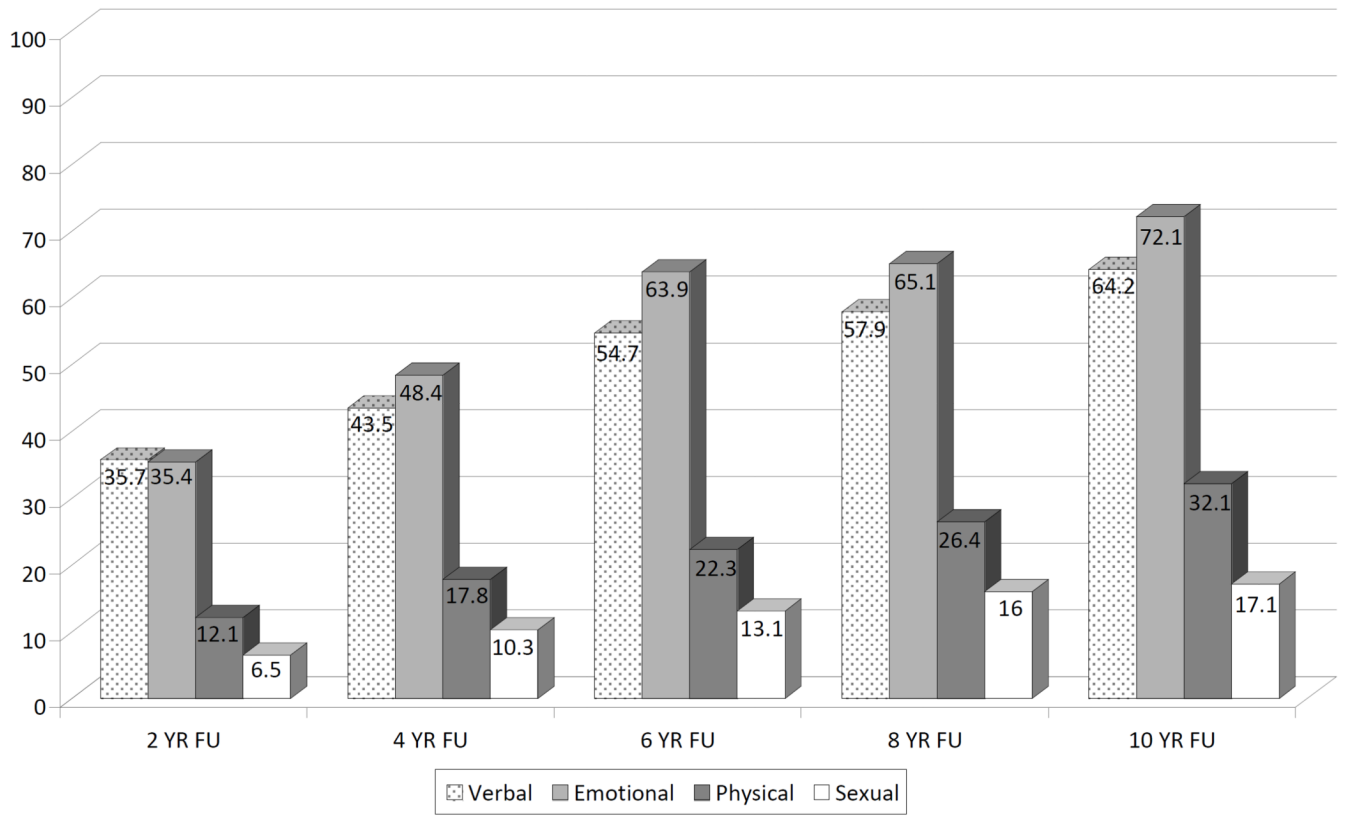


**Figure 1.** Time-to-Cessation of Verbal, Emotional, Physical, and Sexual Abuse Among Borderline Patients Followed Prospectively for 10 Years





**Figure 2.**  
Time-to-Recurrence of Verbal, Emotional, Physical, and Sexual Abuse Among Borderline Patients Followed Prospectively for 10 Years



**Figure 3.** Time-to-New-Onset of Verbal, Emotional, Physical, and Sexual Abuse Among Borderline Patients Followed Prospectively for 10 Years

**Table 1**  
Prevalence Rates of Adult Experiences of Abuse Reported by Borderline Patients and Axis II Comparison Subjects over Ten Years of Prospective Follow-up

Type of Abuse	Borderline Patients (%/N)					Axis II Comparison Subjects (%/N)							Relative Risk for Dx and Time	95% CI for Dx and Time
	BL (N=290)	2 Yr FU (N=275)	4 Yr FU (N=269)	6 Yr FU (N=264)	8 Yr FU (N=255)	10 Yr FU (N=249)	BL (N=72)	2 Yr FU (N=67)	4 Yr FU (N=64)	6 Yr FU (N=63)	8 Yr FU (N=61)	10 Yr FU (N=60)		
Verbal Abuse	75.9 (220)	46.6 (128)	40.2 (108)	33.3 (88)	35.7 (73)	29.3 (73)	58.3 (42)	28.4 (19)	21.9 (14)	25.4 (16)	18.1 (11)	21.7 (13)	1.42	1.17, 1.71
Emotional Abuse	71.4 (207)	47.27 (130)	40.2 (108)	36.7 (97)	40.8 (104)	29.3 (73)	44.4 (32)	28.4 (19)	21.9 (14)	25.4 (16)	22.95 (14)	11.7 (7)	1.54	1.22, 1.94
Verbal and/or Emotional Abuse	84.8 (246)	57.1 (157)	51.3 (138)	45.1 (119)	47.5 (121)	37.5 (93)	61.1 (44)	38.8 (26)	31.3 (20)	34.9 (22)	26.2 (16)	25.0 (15)	1.39	1.17, 1.65
Physical Abuse	33.1 (96)	16.4 (45)	13.0 (35)	12.1 (32)	10.6 (27)	6.4 (16)	16.7 (12)	2.99 (2)	0.0 (0)	3.2 (2)	3.3 (2)	6.7 (4)	2.61	1.64, 4.12
Sexual Abuse	31.4 (91)	10.2 (28)	7.4 (20)	6.8 (18)	4.3 (11)	4.0 (10)	9.7 (7)	1.5 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	3.88	1.99, 7.56
Physical and/or Sexual Abuse	45.5 (132)	21.1 (58)	16.0 (43)	15.2 (40)	12.6 (32)	9.6 (24)	18.1 (13)	4.5 (3)	0.0 (0)	3.2 (2)	3.3 (2)	6.7 (4)	3.06	1.98, 4.73
Any Abuse	90.0 (261)	60.0 (165)	53.5 (144)	47.4 (125)	49.4 (126)	39.4 (98)	63.9 (46)	38.8 (26)	31.3 (20)	34.9 (22)	26.2 (16)	25.0 (15)	1.44	1.22, 1.69