Treatment Rates for Patients With Borderline Personality Disorder and Other Personality Disorders: A 16-Year Study

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Objective: The goal of this study was to document the use of 16 treatment modalities reported by 290 patients with borderline personality disorder and 72 patients with other axis II disorders over 16 years of prospective follow-up.

Methods: This study built upon previous findings of the McLean Study of Adult Development. Treatment use was assessed at baseline and at eight two-year follow-up periods with a semistructured interview of proven reliability and validity.

Results: Patients with borderline personality disorder reported significantly higher rates of use of 12 of the 16 treatment modalities studied. Only four of the 16 treatment modalities were used by roughly the same percentage of patients with borderline personality disorder and those with other axis II disorders: individual therapy, intensive individual therapy, couples or family therapy, and electroconvulsive therapy. In addition, rates of participation in 13 treatment modalities declined significantly over the first eight years of follow-up for those in both study groups. However, the rates of participation in 15 of 16 treatment modalities did not decline significantly over the second eight years of follow-up for those in either study group.

Conclusions: The results of this study suggest that rates of treatment use by patients with borderline personality disorder decline significantly over the short and medium term. They also suggest that these rates remain stable or fail to decline further over the longer term.

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Clinical experience suggests that patients with borderline personality disorder are more likely than patients with other psychiatric diagnoses to have a history of both outpatient and inpatient psychiatric treatment. Five cross-sectional studies have confirmed this impression (1–5). In two of these studies, researchers have also followed their sample of patients with borderline personality disorder and the comparison participants longitudinally. In a three-year prospective study from the Collaborative Longitudinal Personality Disorders Study, Bender and colleagues (6) found that patients with borderline personality disorder were significantly more likely than those with major depression and no serious axis II psychopathology to have been in individual therapy, taken psychotropic medication, had an emergency department visit, and been hospitalized for psychiatric reasons. In a six-year prospective study, Zanarini and colleagues (7) found that patients with borderline personality disorder who had been hospitalized at the start of the study reported here—the McLean Study of Adult Development—were significantly more likely than those with other axis II disorders to have participated in 11 of the 16 treatment modalities studied. These investigators also found that participation in 12 of the 16 treatment modalities studied declined significantly over time for those in both study groups.

Treatment utilization in the McLean Study of Adult Development sample was also assessed after ten years of prospective follow-up (8). Only three modalities were studied: individual therapy, standing medication, and psychiatric hospitalization. It was found that over 40% of patients with borderline personality disorder did not use individual therapy or standing medications for at least one two-year follow-up period. However, over 60% of these patients resumed these treatments at a later time. It was also found that over 80% of patients with borderline personality disorder were not rehospitalized during at least one two-year follow-up period. However, almost half of these patients were later hospitalized for psychiatric reasons.

The study reported here built on the earlier findings of the McLean Study of Adult Development in three important ways. First, it returned to the inclusive list of treatment modalities assessed in the first of the two longitudinal studies. Second, it added an additional decade of prospective

follow-up to the study of the inclusive list of 16 treatment modalities. Third, it assessed time trends encompassing the first and second eight years of follow-up separately—allowing us to determine the significance of short- and medium-term declines in use versus long-term declines in use of the 16 treatment modalities studied.

METHODS

As noted above, the study is part of the McLean Study of Adult Development, a multifaceted longitudinal study of the course of borderline personality disorder. The methodology, which was reviewed and approved by the McLean Hospital Institutional Review Board, has been described in detail elsewhere (9). Briefly, all participants were initially inpatients at McLean Hospital in Belmont, Massachusetts. Each patient was screened to determine that he or she was between the ages of 18 and 35; had a known or estimated IQ of ≥71; had no history or current symptoms of schizophrenia, schizoaffective disorder, or bipolar I disorder or an organic condition that could cause serious psychiatric symptoms (for example, lupus and multiple sclerosis); and was fluent in English.

After the study procedures were explained, written informed consent was obtained. Each patient then met with a masters-level interviewer who was blind to the patient's clinical diagnoses for a thorough treatment history and a diagnostic assessment. Four semistructured interviews were administered: the Background Information Schedule, which assesses lifetime psychiatric treatment history (5); the Structured Clinical Interview for DSM-III-R Axis I Disorders (10); the Revised Diagnostic Interview for Borderlines (11); and the Diagnostic Interview for Personality Disorders (12). The interrater reliability of the Background Information Schedule was carefully assessed in a sample of 45 patients with personality disorders and was found to be good to excellent (5). As a measure of validity, we compared self-report of treatment history according to this interview with the medical records of 15 patients who had received all of their psychiatric care at McLean Hospital. Convergent validity was also found to be good to excellent (5). In addition, the interrater and test-retest reliability of all three diagnostic measures have been found to be good to excellent (13,14).

The psychiatric treatments used by study participants over the years of follow-up were assessed with the treatment section of the Revised Borderline Follow-up Interview (15)—the follow-up analog to the Background Information Schedule. This measure, as well as our diagnostic battery, was readministered every two years over 16 years of prospective follow-up by raters blind to previously collected information. The follow-up interrater reliability (within one generation of follow-up raters) and follow-up longitudinal reliability (from one generation of raters to the next) of these four interviews have also been found to be good to excellent (7,13,14).

A vast majority of our follow-up interviews were conducted within several months of the date of each participant's scheduled interview. However, two participants who were unavailable for interview at the 12- and 14-year waves of data collection provided six years of data at the 16-year follow-up. A third participant who was unavailable for interview at the eight-, ten-, 12-, and 14-year waves of data collection provided ten years of data at the 16-year follow-up. Overall, eight of 2,881 interviews (or .3%) assessed a longer time period than our typical two years.

Data on psychiatric treatment were assembled in panel format (that is, multiple records per patient, with one record for each follow-up period for which data were available). Generalized estimating equations, appropriately accounting for repeated measures for the same patients, were used to fit log-linear regression models assessing the association between diagnostic group and the prevalence of treatment use over time. Specifically, these analyses modeled the log prevalence as a piecewise-linear function of time, with separate slopes for the change from baseline to eight-year follow-up and for the corresponding change from eight- to 16-year follow-up; the models also included the effect of diagnostic group. Preliminary tests of diagnostic group × time interactions were also conducted to assess whether the pattern of change in prevalence differed by diagnostic group. Because there was no evidence of interaction, main effects of diagnostic group and time are reported; results of these analyses yielded an adjusted relative risk ratio and 95% confidence interval for diagnostic group and the two time trends. Given the large number of comparisons for the 16 treatment modalities, we applied the Bonferroni correction for multiple comparisons to the analysis of each treatment modality, resulting in a corrected alpha level of .0031 (.05/16).

RESULTS

The sample and its diagnostic characteristics have been described before (9). A total of 290 patients met *DSM-III-R* criteria for borderline personality disorder as well as the criteria in the Revised Diagnostic Interview for Borderlines. A total of 72 patients met *DSM-III-R* criteria for at least one nonborderline axis II disorder (and met neither criteria set for borderline personality disorder). Of these 72 comparison participants, three (4%) met *DSM-III-R* criteria for a personality disorder in the odd cluster, 24 (33%) met *DSM-III-R* criteria for a personality disorder in the anxious cluster, 13 (18%) met *DSM-III-R* criteria for a personality disorder in the nonborderline dramatic cluster, and 38 (53%) met *DSM-III-R* criteria for a personality disorder not otherwise specified (which was operationally defined in the Revised Diagnostic Interview for Personality Disorders 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 also been reported before (9). Briefly, 279 (77%) of the 362 participants were female. A total of 315 (87%) were white, 20 (6%) were African American, nine (3%) were Hispanic, eight (2%) were Asian, and ten (3%) were biracial. The mean±SD age of the participants was 27.0±6.3. The mean score on a measure of socioeconomic

status was 3.3±1.5 (possible scores range from 1 to 5, with higher scores indicating lower status). The mean Global Assessment of Functioning score was 39.8±7.8, indicating major impairment in several areas, such as work or school, family relations, judgment, thinking, or mood.

In terms of continuing participation in the study, which has also been described before (16), 231 (88%) of 264 of surviving patients with borderline personality disorder were reinterviewed at all eight follow-up waves (13 died by suicide and 13 died of other causes). A similar rate of participation was found for the comparison participants; 58 (83%) of 70 surviving patients in this group were reassessed at all eight follow-up waves (one died by suicide and one died of other causes).

Table 1 summarizes data on rates of outpatient treatments and more intensive treatments, such as psychiatric hospitalizations, reported by participants in the two groups over 16 years of prospective follow-up. Patients with borderline personality disorder were not significantly more likely than those with other axis II disorders to report being in individual therapy, intensive psychotherapy, or couples or family therapy. However, they were significantly more likely to report being in group therapy and self-help groups. They were also significantly more likely to report taking any standing medication, all forms of polypharmacy (from taking two to five standing medications), and all forms of more intensive treatment studied except electroconvulsive therapy (ECT) (day treatment, residential treatment, any psychiatric hospitalizations, multiple hospitalizations, and hospitalizations of ≥30 days).

During the first eight years of follow-up, reported rates of all forms of treatment were found to decline significantly for those in both study groups, except for taking four or more or five or more medications concurrently and ECT. Conversely, during the most recent eight years of follow-up (year 8 to year 16), reported rates of almost all forms of treatment remained relatively flat or stable over time for both groups; the only exception was ≥30 days of psychiatric hospitalization; this rate continued to decline significantly for both groups.

Because these results are complicated, we present two examples from Table 1 so that they can be better understood. As noted above, the rates of reported individual therapy were not significantly different between the groups over time. However, a significant decline in the rates during the first eight years of follow-up was noted, which was the same for both groups; specifically, there was a 29% decline ([1–.71] × 100%) in the rates from baseline to year 8 in both groups. Thereafter, during years 8–16, no significant change was noted in rates for either group. As also noted above, patients with borderline personality disorder reported significantly higher rates (2.3 times higher) of ≥30 days of psychiatric hospitalization than participants in the comparison group. However, the significant declines in the reported rates were the same for those in both groups ([1–.14] × 100%=86% decline in years 0–8, followed by [1–.39] × 100%=61% decline in years 8–16).

DISCUSSION AND CONCLUSIONS

Three main findings emerged from this study. The first is that compared with patients with other axis II disorders, patients with borderline personality disorder reported significantly higher rates of use of 12 of the 16 treatment modalities studied—all but individual therapy, intensive psychotherapy, couples or family therapy, and ECT. Looked at another way, all forms of pharmacotherapy and more intensive treatment studied (for example, psychiatric hospitalizations and day treatment) were reported by a significantly larger proportion of patients with borderline personality disorder over time, compared with patients who had other axis II disorders. This finding is consistent with participants' treatment history at study entry (5) and over six years of prospective follow-up (7). It also highlights the consistent severity of the psychopathology of borderline personality disorder compared with that of other personality disorders (17). In addition, it is consistent with the higher rates of co-occurring disorders reported over time by patients with borderline personality disorder compared with participants with other axis II disorders (18,19).

The second main finding is that rates of participation in 13 treatment modalities declined significantly over the first eight years of follow-up for participants in both groups. Only the rates of four or five concurrent medications and ECT remained stable over these eight years. This finding too is consistent with the results we found at the six-year follow-up (7).

The third main finding is that the rates of participation in 15 of 16 treatment modalities did not continue to decline significantly over the second eight years of follow-up for those in either study group. Only the rate of psychiatric hospitalizations of ≥30 days declined significantly from year 8 to year 16 of follow-up for both groups. This is a new finding and an important one with public health significance. It suggests that the cost of treating patients with borderline personality disorder declines in the short and medium terms, but is relatively stable in the longer term. For example, 97% of all participants reported participating in individual therapy at study entry, and this rate declined significantly to 73% at the eight-year follow-up. However, this 73% declined only to 65% at the 16-year follow-up. The same pattern was found, for example, for any standing medication. More specifically, 84% of patients with borderline personality disorder reported taking a standing medication at study entry, and this rate declined significantly to 71% over the first eight years of follow-up. However, the rate remained a steady 71% over the second eight years of follow-up. As a third example, 79% of patients with borderline personality disorder had a history of prior hospitalizations at baseline, and the rate of hospitalizations declined significantly to 28% at the eight-year follow-up. However, this 28% rate declined only to 24% by the time of the 16-year follow-up.

Although rates for these three major treatment modalities declined substantially over time for patients with borderline personality disorder, the fact that they barely declined in the second eight years of follow-up suggests that these may be

TABLE 1. Rates of psychiatric treatment reported by patients with borderline personality disorder (BPD) and patients with other axis II disorders (other) over 16 years of prospective follow-up

	Baseline		Follow-up year																RRR[a,b]			95% CI[b]			p[b]		
			2		4		6		8		10		12		14		16										
Treatment	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	Dx.	T1	T2	Dx.	T1	T2	Dx.	T1	T2
Outpatient psychosocial treatments																											
Individual therapy																			1.06	.71	.91	.99–1.14	.66–.76	.84–1.00	ns	<.001	ns
BPD	279	97	257	93	211	78	197	75	186	73	181	73	167	68	154	65	149	65									
Other	62	86	59	88	42	66	40	64	28	45	27	44	36	60	28	48	32	55									
Intensive psychotherapy																			1.78	.40	.86	1.13–2.78	.31–.51	.63–1.16	ns	<.001	ns
BPD	105	36	102	37	63	23	42	16	44	17	40	16	33	14	33	14	30	13									
Other	14	19	13	19	6	9	7	11	4	7	5	8	5	8	4	7	5	9									
Group therapy																			1.78	.29	1.06	1.23–2.59	.22–.39	.71–1.61	.002	<.001	ns
BPD	105	36	63	23	46	17	32	12	35	14	24	10	29	12	33	14	17	7									
Other	13	18	4	6	4	6	4	6	2	3	0	—	3	5	3	5	6	10									
Couples or family therapy																			1.23	.19	1.07	.87–1.73	.13–.27	.65–1.78	ns	<.001	ns
BPD	112	39	53	19	30	11	22	8	25	10	19	8	19	8	17	7	12	5									
Other	21	29	9	13	6	9	4	6	5	8	4	7	5	8	4	7	5	9									
Self-help groups																			1.86	.31	1.05	1.30–2.65	.24–.41	.77–1.43	.001	<.001	ns
BPD	148	51	80	29	68	25	54	21	41	16	36	15	36	15	35	15	34	15									
Other	23	32	11	16	6	9	8	13	7	11	7	12	6	10	7	12	6	10									
Standing medications																											
Any																			1.29	.81	1.03	1.13–1.48	.75–.88	.95–1.11	<.001	<.001	ns
BPD	244	84	237	86	204	76	187	71	180	71	179	72	183	75	172	72	165	71									
Other	44	61	52	78	34	53	34	54	30	48	32	53	35	58	30	51	30	52									
≥2 concurrent																			2.10	.75	1.05	1.60–2.76	.66–.84	.93–1.18	<.001	<.001	ns
BPD	190	66	176	64	149	55	130	49	134	53	130	52	121	50	119	50	119	52									
Other	18	25	28	42	16	25	12	19	10	16	17	28	17	28	16	27	19	33									
≥3 concurrent																			2.82	.73	1.06	1.89–4.20	.62–.85	.90–1.24	<.001	<.001	ns
BPD	132	46	116	42	107	40	92	35	91	36	81	33	79	32	82	35	82	36									
Other	9	13	15	22	8	13	5	8	3	5	9	15	10	17	8	14	9	16									
≥4 concurrent																			4.65	.72	1.06	2.54–8.51	.56–.93	.82–1.38	<.001	ns	ns
BPD	83	29	62	23	58	22	46	17	55	22	53	21	43	18	51	21	43	19									
Other	1	1	6	9	5	8	1	2	0	—	3	5	3	5	4	7	4	7									
≥5 concurrent																			8.37	.58	.81	2.89–24.2	.39–.85	.52–1.27	<.001	ns	ns
BPD	52	18	32	12	27	10	25	10	25	10	26	10	19	8	19	8	16	7									
Other	62	86	59	88	42	66	40	64	28	45	27	44	36	60	28	48	32	55									
More intensive treatments																											
Day																			1.92	.28	.63	1.37–2.69	.22–.37	.43–.93	<.001	<.001	ns
BPD	123	42	113	41	62	23	47	18	34	13	27	11	31	13	26	11	18	8									
Other	14	19	20	30	5	8	4	6	2	3	1	2	3	5	2	3	1	2									
Residential																			3.94	.19	.74	2.25–6.91	.13–.27	.45–1.23	<.001	<.001	ns
BPD	107	37	78	28	32	12	26	10	25	10	12	5	16	7	13	6	10	4									
Other	7	10	6	9	1	2	1	2	1	2	0	—	0	—	2	3	1	2									

continued

TABLE 1, *continued*

Treatment	Baseline		Follow-up year														RRR[a,b]		95% CI[b]			p[b]		
			2		4		6		8		10		12		14		16							
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	Dx.	T1	T2	Dx.	T1	T2
Any psychiatric hospitalization																			1.80	.31	.99	1.41–2.30	.26–.37	.80–1.21	<.001	<.001	ns
BPD	228	79	164	60	97	36	86	33	71	28	72	29	71	29	58	24	55	24									
Other	36	50	15	22	9	14	9	14	7	11	2	3	7	12	3	5	5	9									
Multiple hospitalizations																			3.25	.26	.94	2.11–5.00	.20–.33	.70–1.27	<.001	<.001	ns
BPD	175	60	117	43	70	26	61	23	45	18	36	15	40	16	34	14	35	15									
Other	15	21	7	11	5	8	2	3	3	5	0	—	5	8	1	2	2	4									
≥30 days hospitalization																			2.34	.14	.39	1.68–3.27	.11–.19	.22–.69	<.001	<.001	.001
BPD	174	60	95	35	55	21	49	19	19	8	18	7	17	7	10	4	8	4									
Other	21	29	9	13	2	3	2	3	2	3	0	—	1	2	0	—	0	—									
ECT[c]																			1.60	.54	.43	.81–3.15	.28–1.02	.20–.95	ns	ns	ns
BPD	20	7	19	7	11	4	10	4	12	5	8	3	9	4	2	1	4	2									
Other	4	6	4	6	0	—	1	2	2	3	0	—	2	3	2	3	0	—									

[a] Relative risk ratio
[b] Dx, for comparison between the two diagnostic groups; T1, for change over the first 8 years of follow-up (years 0–8); T2, for change over the second 8 years of follow-up (years 8–16)
[c] Electroconvulsive therapy

chronic rates of treatment going forward. The good news in terms of cost is the relatively low rate of psychiatric hospitalizations at the 16-year follow-up among patients with borderline personality disorder (24%). In a similar vein, only 15% of patients with borderline personality disorder had multiple hospitalizations, while only 4% spent ≥30 days in a psychiatric inpatient unit.

However, the question remains whether these rates will remain stable going forward or whether there is anything clinicians or the health care system can do or would want to do to lower these rates further. Among patients with borderline personality disorder at the 16-year follow-up, 65% were receiving individual therapy and 71% were receiving standing medication (71%); these interventions may be helping these patients stay out of the hospital. The rate of more costly forms of these outpatient modalities had also dropped. More specifically, the rate of intensive individual therapy dropped from 36% to 13%, and the rate of aggressive polypharmacy (three or more concurrent medications) dropped from 46% to 36%.

However, the relatively large percentages of patients who reported that they were using individual therapy and standing medications over the second eight years of follow-up is striking, particularly given the high rates of sustained remissions found over the 16 years (16). For example, 99% of the patients with borderline personality disorder reported a two-year remission, 95% reported a four-year remission, and 90% reported a six-year remission (16). It may be that these patients were dealing with residual symptoms of borderline personality disorder, particularly the less dramatic or temperamental symptoms (for example, anxiety, abandonment concerns, and undue dependency) that have been found to resolve more slowly than the acute symptoms of this disorder (for example, self-harm, suicide attempts, and quasi-psychotic thought) (17). It may also be that these patients were being treated for axis I disorders that had never remitted or that had recurred (18).

The main limitation of this study was that all the patients with borderline personality disorder were severely ill inpatients at the time of study entry. Rates of treatment use might be substantially lower for individuals with borderline personality disorder who have never been hospitalized or in psychiatric treatment. This limitation also applies to the axis II comparison participants. In addition, reported rates of many forms of more intensive treatments (for example, residential treatment and ≥30 days of psychiatric hospitalization) were very low for axis II comparison participants during the most recent eight years of follow-up; consequently, because of the sparseness of data, extra caution is required when interpreting results from our regression analyses for these particular treatments.

It is worth noting that most study participants were treated in the community. Psychotherapy was primarily provided by hundreds of community-based psychologists and social workers located throughout the United States. In addition, these therapies were mostly supportive in nature,

and almost none were empirically based (20–24). Medications were prescribed by psychiatrists in general practice or, increasingly, by primary care physicians.

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REFERENCES

1. Skodol AE, Buckley P, Charles E: Is there a characteristic pattern to the treatment history of clinic outpatients with borderline personality? Journal of Nervous and Mental Disease 171:405–410, 1983
2. Perry JC, Cooper SH: Psychodynamics, symptoms, and outcome in borderline and antisocial personality disorders and bipolar type II affective disorder; in The Borderline: Current Empirical Research. Edited by McGlashan TH. Washington, DC, American Psychiatric Press, 1985
3. Swartz M, Blazer D, George L, et al: Estimating the prevalence of borderline personality disorder in the community. Journal of Personality Disorders 4:252–272, 1990
4. Bender DS, Dolan RT, Skodol AE, et al: Treatment utilization by patients with personality disorders. American Journal of Psychiatry 158:295–302, 2001
5. Zanarini MC, Frankenburg FR, Khera GS, et al: Treatment histories of borderline inpatients. Comprehensive Psychiatry 42:144–150, 2001
6. Bender DS, Skodol AE, Pagano ME, et al: Prospective assessment of treatment use by patients with personality disorders. Psychiatric Services 57:254–257, 2006
7. Zanarini MC, Frankenburg FR, Hennen J, et al: Mental health service utilization by borderline personality disorder patients and axis II comparison subjects followed prospectively for 6 years. Journal of Clinical Psychiatry 65:28–36, 2004
8. Hörz S, Zanarini MC, Frankenburg FR, et al: Ten-year use of mental health services by patients with borderline personality disorder and with other axis II disorders. Psychiatric Services 61: 612–616, 2010
9. Zanarini MC, Frankenburg FR, Hennen J, et al: The longitudinal course of borderline psychopathology: 6-year prospective follow-up of the phenomenology of borderline personality disorder. American Journal of Psychiatry 160:274–283, 2003
10. Spitzer RL, Williams JB, Gibbon M, et al: The Structured Clinical Interview for DSM-III-R (SCID). I: history, rationale, and description. Archives of General Psychiatry 49:624–629, 1992
11. Zanarini MC, Gunderson J, Frankenburg FR, et al: The Revised Diagnostic Interview for Borderlines: discriminating BPD from other Axis II disorders. Journal of Personality Disorders 3:10–18, 1989
12. Zanarini MC, Frankenburg FR, Chauncey DL, et al: The Diagnostic Interview for Personality Disorders: interrater and test-retest reliability. Comprehensive Psychiatry 28:467–480, 1987
13. Zanarini MC, Frankenburg FR: Attainment and maintenance of reliability of axis I and II disorders over the course of a longitudinal study. Comprehensive Psychiatry 42:369–374, 2001
14. Zanarini MC, Frankenburg FR, Vujanovic AA: Inter-rater and test-retest reliability of the Revised Diagnostic Interview for Borderlines. Journal of Personality Disorders 16:270–276, 2002
15. Zanarini MC: Revised Borderline Follow-up Interview. Belmont, Mass, McLean Hospital, 1994
16. Zanarini MC, Frankenburg FR, Reich DB, et al: Attainment and stability of sustained symptomatic remission and recovery among patients with borderline personality disorder and axis II comparison subjects: a 16-year prospective follow-up study. American Journal of Psychiatry 169:476–483, 2012
17. Zanarini MC, Frankenburg FR, Reich DB, et al: The subsyndromal phenomenology of borderline personality disorder: a 10-year follow-up study. American Journal of Psychiatry 164:929–935, 2007
18. Zanarini MC, Frankenburg FR, Hennen J, et al: Axis I comorbidity in patients with borderline personality disorder: 6-year follow-up and prediction of time to remission. American Journal of Psychiatry 161:2108–2114, 2004
19. Zanarini MC, Frankenburg FR, Vujanovic AA, et al: Axis II comorbidity of borderline personality disorder: description of 6-year course and prediction to time-to-remission. Acta Psychiatrica Scandinavica 110:416–420, 2004
20. Linehan MM, Armstrong HE, Suarez A, et al: Cognitive-behavioral treatment of chronically parasuicidal borderline patients. Archives of General Psychiatry 48:1060–1064, 1991
21. Bateman A, Fonagy P: Effectiveness of partial hospitalization in the treatment of borderline personality disorder: a randomized controlled trial. American Journal of Psychiatry 156:1563–1569, 1999
22. Giesen-Bloo J, van Dyck R, Spinhoven P, et al: Outpatient psychotherapy for borderline personality disorder: randomized trial of schema-focused therapy vs transference-focused psychotherapy. Archives of General Psychiatry 63:649–658, 2006
23. Clarkin JF, Levy KN, Lenzenweger MF, et al: Evaluating three treatments for borderline personality disorder: a multiwave study. American Journal of Psychiatry 164:922–928, 2007
24. McMain SF, Links PS, Gnam WH, et al: A randomized trial of dialectical behavior therapy versus general psychiatric management for borderline personality disorder. American Journal of Psychiatry 166:1365–1374, 2009