



Cognitive-Behavioral and Psychodynamic Therapy in Female Adolescents With Bulimia Nervosa: A Randomized Controlled Trial

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Objective: The authors compared cognitive-behavioral therapy (CBT) and psychodynamic therapy (PDT) for the treatment of bulimia nervosa (BN) in female adolescents.

Method: In this randomized controlled trial, 81 female adolescents with BN or partial BN according to the DSM-IV received a mean of 36.6 sessions of manualized disorder-oriented PDT or CBT. Trained psychologists blinded to treatment condition administered the outcome measures at baseline, during treatment, at the end of treatment, and 12 months after treatment. The primary outcome was the rate of remission, defined as a lack of DSM-IV diagnosis for BN or partial BN at the end of therapy. Several secondary outcome measures were evaluated.

Results: The remission rates for CBT and PDT were 33.3% and 31.0%, respectively, with no significant differences between them (odds ratio [OR] = 0.90, 95% CI = 0.35–2.28, $p = .82$). The within-group effect sizes were $h = 1.22$ for CBT and $h = 1.18$ for PDT. Significant improvements in all secondary outcome measures were found for both CBT ($d = 0.51$ – 0.82) and PDT

($d = 0.24$ – 1.10). The improvements remained stable at the 12-month follow-up in both groups. There were small between-group effect sizes for binge eating ($d = 0.23$) and purging ($d = 0.26$) in favor of CBT and for eating concern ($d = -0.35$) in favor of PDT.

Conclusion: CBT and PDT were effective in promoting recovery from BN in female adolescents. The rates of remission for both therapies were similar to those in other studies evaluating CBT. This trial identified differences with small effects in binge eating, purging, and eating concern.

Clinical trial registration information—Treating Bulimia Nervosa in Female Adolescents With Either Cognitive-Behavioral Therapy (CBT) or Psychodynamic Therapy (PDT). <http://isrctn.com/>; ISRCTN14806095.

Key words: bulimia nervosa, female adolescents, cognitive-behavioral therapy, psychodynamic therapy

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Although the prevalence and incidence of bulimia nervosa (BN) seem to be declining in recent years, there is evidence of a shift in incidence, with the usual age of onset of BN in women changing from 25 to 29 years in the 1980s to 15 to 19 years in the 1990s.^{1–5} Only a few nonepidemiologic studies to date have examined psychotherapy for adolescents with BN. In general, cognitive-behavioral therapy (CBT) is considered the first-line treatment for BN,⁶ with rates of 37% for abstinence of binge eating compared to no treatment and 34% compared cumulatively to other treatments.⁷ In total, 30% to 50% of participants with BN were reported to have fully recovered after CBT.^{6,8,9} The mean age (SD) of participants in these previous studies was 29.0 (10.7) years⁸ and 28.1 (7.2)⁹ years. Family-based treatment (FBT) has also shown effectiveness in promoting abstinence from binge eating and purging in adolescents with BN,^{10–12} with rates of abstinence after 12 months of 41.4% in FBT and 36.0% in self-care CBT.¹² Another study with young adolescents with a mean age (SD) of 15.8 (1.5) years showed abstinence rates of 39% in FBT vs. 20% in CBT,¹¹ indicating a lower response to CBT in

younger participants compared to older adolescents and young adults.¹²

Another common form of psychotherapeutic treatment for children and adolescents with eating disorders is psychodynamic therapy (PDT). Data from the German National Association of Statutory Health Insurance Physicians show that 58.9% of psychotherapists for children and adolescents practice psychodynamic treatments.¹³ However, only two studies of psychodynamic treatments have been conducted to date and were completed in the 1990s,^{14,15} showing improvement in eating disorder symptoms with PDT, although CBT obtained higher remission rates.¹⁴ A recent comparison of psychoanalytic psychotherapy (PP) and CBT¹⁶ showed that CBT more successfully reduced binge and purge behavior. The treatment duration in that study also differed considerably: CBT treatment comprised 20 sessions, whereas PP treatment included weekly sessions for 2 years with a mean of 72.3 sessions. CBT reduced eating disorder symptoms and general psychopathology more quickly than PP. However, the psychodynamic treatment was not specifically tailored or focused on bulimic

symptoms in that study, and the participants were also young adults with a mean age of 25 years. A recently published review of PDT for eating disorders¹⁷ showed that research on BN has failed to identify an effective psychodynamic approach, at least one delivered in the short term. Moreover, in contrast to clinical practice, no studies have investigated the efficacy of psychodynamic treatment in adolescents and adults with BN.^{17,18}

This study aimed to address this gap and to evaluate the efficacy of CBT and PDT in adolescents and young adults with BN. We expected both treatments to lead to relevant improvements; however, based on the literature,^{6,8,12} we hypothesized that CBT would result in higher remission rates at the end of therapy, in particular because the participants were older adolescents and young adults.

METHOD

Study Design

This randomized controlled study examined changes in eating disorder pathology from pre- to posttreatment and at 12-month follow-up among female adolescents and young adults with BN. The participants received up to 60 sessions of either CBT or PDT over a 1-year period in an outpatient setting. The duration of therapy was adjusted to the guidelines of the German Federal Joint Committee¹⁹ and hence to clinical practice in Germany. Within the German public healthcare system, providing 60 therapy sessions is common when treating BN. This study was conducted between 2007 and 2012 in cooperation with local psychotherapists at two research centers affiliated with psychiatric and psychosomatic university hospitals. The effects of the two treatment approaches on outcome measures over time were assessed at baseline, at the 15th, 30th, and 45th sessions, and at the final therapy session. Follow-up data were collected 12 months posttreatment.

Recruitment and Participants

Participants were recruited through regular outpatient clinic visits, public advertising on the research center's website, newspaper articles, and flyers in the waiting rooms of local psychotherapists and in schools. Eligible participants were female individuals between 14 and 20 years of age who met the *DSM-IV* criteria for BN or partial BN. Our definition of partial BN, similar to those of other studies,^{11,20} included participants who had binged and purged less than two times per week in 3 months. The exclusion criteria were a diagnosis of anorexia nervosa; other severe physical or mental conditions such as current psychosis, alcohol or drug abuse or addiction, suicidality, and attention-deficit/hyperactivity disorder (ADHD); or an IQ of <80. Further exclusion criteria included current psychotherapeutic or psychotropic treatment. Mental disorders were diagnosed using the Structured Clinical Interview for *DSM-IV* Disorders (SCID) and the Eating Disorder Examination (EDE) interview. Participants provided written informed consent; if they were less than 18 years of age, parental consent was required for enrollment in the study.

The inclusion of adolescents and young adults from 14 to 20 years is comparable to the age range in other studies investigating BN in adolescence.²¹

Randomization

Participants were randomly assigned to receive either CBT or PDT using block randomization, which was conducted by a research assistant who was not involved in the diagnostic procedures or

outcome evaluation. Participants were informed about their treatment assignment after completing the baseline assessments.

Treatments

Both manualized treatments were conducted for up to 60 sessions within 12 months. The number of therapy sessions for both approaches had to be equal and similar to usual practice in insurance-financed outpatient therapies in Germany. Therapy sessions were held once or twice per week according to the manual's guidelines. The psychodynamic and cognitive-behavioral treatments were based on manuals that were either developed for this study (PDT) or were enhanced for practice in the German health system (CBT). All treatments were conducted in an outpatient setting. The therapists were licensed, had their own practice, or were advanced psychologists in training who practiced one of the two therapies. Fifteen female therapists and one male therapist practiced CBT, and 15 female therapists and one male therapist practiced PDT. All psychotherapists were trained in using the respective treatment manuals. Trainings for CBT and PDT were conducted separately at both research centers as weekend workshops. During treatment, the therapists received monthly continuous supervision by other therapists experienced in applying the manual. Three sessions per patient (the 3rd, 30th, and 55th sessions) were videotaped, and therapists' adherence to the study manuals was assessed by independent clinically trained raters who rated the use of core treatment aspects.

Cognitive-Behavioral Therapy

The manualized CBT applied in this study^{22,23} was mainly based on Fairburn's manual for treating eating disorders²⁴ and its extensions for perfectionism, low self-esteem, and interpersonal problems; this manual was modified to adhere to the usual treatment volume of outpatient psychotherapy regularly funded by German health insurance. This manual organizes CBT into five phases: phase 1 focuses on exploring problematic behavior, educating patients about the disorder and the rationale for treatment, and thereby motivating them by building a reliable working relationship. The focus of phase 2 is on correcting disordered eating behavior and reducing purging behavior through eating protocols and education about body mass index (BMI) and the physiological processes associated with eating. In phase 3, the patient and therapist assess and work on dysfunctional cognitions and fears concerning eating, weight, and body shape. In addition to the foci and strategies introduced in phases 1 to 3, phase 4 comprises training in social skills, affect regulation, and problem solving, as needed, to address the problems underlying and associated with the eating disorder. The last treatment phase primarily addresses relapse prevention. Patients' autonomy and self-efficacy in regulating eating behavior are stressed, problematic situations are anticipated, and patients choose skills that they found helpful during therapy to prepare for these critical situations. In phases 1 to 4, one or two sessions per phase are held with significant others, and this is also an option in phase 5.

Psychodynamic Therapy

The manualized PDT applied in this study was developed specifically for adolescents and young adults with BN.^{25,26} The manual organizes treatment into three phases. In the initial phase, therapists build good working relationships with patients, frame the disorder in psychodynamic terms, and help patients to understand bulimic symptoms as a displacement from psychological self to body self. Consensus regarding the conflicts and deficits that the participants intend to overcome to improve their bulimic behavior must be established. Bulimic symptoms are contextualized and targeted

according to the participants' conflicts and ego-structural deficits. The involvement of significant others in treatment is discussed with the patient and adapted to the patient's needs. In the second phase, the patient and therapist work on foci that are part of the overall therapeutic aim, as defined in the initial phase. In PDT, the topics typically highlighted include typical patterns of interpersonal relationships, transference, conflict, defense, and structural problems, and these issues are worked through while explicitly addressing bulimic symptoms. In this phase, special attention is paid to implementing alternative behaviors and associated problems and improving self-monitoring and introspection, shame and guilt, perfectionism, and symptoms serving as defense and coping mechanisms. Patients are encouraged to develop an increased awareness of the emotional and social meaning of symptoms, the functionality of symptoms, and the symbolic nature of their actions. The final phase consolidates the essential aspects of therapy, and patients should be able to identify and thus anticipate difficult situations and apply the strategies learned in therapy. Another important feature of this final phase is valuing the progress that has been attained and accepting disappointments.

Considered together, both treatments share a disorder-specific and symptom-oriented approach, but they have differently weighted foci regarding emotions, cognitions, and behavior. Furthermore, the treatments are based on diverging theoretical assumptions and vary in the therapeutic techniques used.

Assessment Measures

To diagnose and assess the severity of BN, the German version of the EDE²⁷ was used. The EDE is a structured clinical interview that assesses the key behavioral features and associated psychopathology of eating disorders. It can also generate operational eating disorder diagnoses for the *DSM-IV*. To assess comorbidities, we used the German versions of the SCID-I²⁸ and SCID-II²⁹ for the *DSM-IV*. The EDE Questionnaire (EDE-Q)³⁰ was administered to obtain self-evaluated specific psychopathologies of eating disorders equivalent to those in the EDE Interview. The Symptom Check List (SCL-90-R)³¹ was used to capture the overall severity of mental symptoms.

The study protocol was approved by local ethics committees.

Statistical Analysis

The study was powered to test the primary hypothesis of differences in remission rates between CBT and PDT after therapy. Power analyses were calculated with the SAS Power procedure. Based on the literature,^{20,32} we expected CBT to show greater reductions in bulimic symptoms with a remission rate difference of 20% (CBT 40% versus PDT 20%). To detect a rate difference of 0.2 with a power of 0.85 ($\alpha = 0.05$), 35 participants per group were needed. Baseline comparisons of the study sites and treatment groups were performed using *t* tests for continuous variables and χ^2 tests for categorical variables. For the primary outcome measure, between-group differences were assessed using χ^2 tests and odds ratios (ORs) with respective CIs. For the secondary outcome measures, repeated-measures analysis of variance was used to assess the main and interaction effects of the within-subjects factor time and the between-subjects factor therapy. We calculated within-group effect sizes and between-group effect sizes (*h* for remission rates, *d* for continuous variables) as proposed by Cohen.³³ The long-term stability of the expected treatment effects was examined by comparing posttreatment and 12-month follow-up data with analyses of variance. Analyses were performed with SAS version 9.3 (SAS Institute, Cary, NC).³⁴

For all analyses, the intent-to-treat sample was used. Missing posttreatment data were substituted by the last observation carried forward (LOCF) procedure. Measures from the 15th, 30th, and 45th sessions were used for LOCF.

RESULTS

Sample Characteristics

The 81 participants with BN or partial BN had a mean age (SD) of 18.7 (1.9) years; 39 were randomly allocated to CBT and 42 to PDT. Figure 1 displays the flow of participants. Approximately 41% had a comorbid mental disorder, 35% lived outside of their parental home, and 22% had partial rather than full BN according to the *DSM-IV*. The baseline data for age, diagnosis, binge frequency (last 28 days), purge frequency (last 28 days), and EDE measures did not significantly differ between treatment groups or sites. Previous diagnoses of depression had a significantly higher frequency in PDT participants (Table 1).

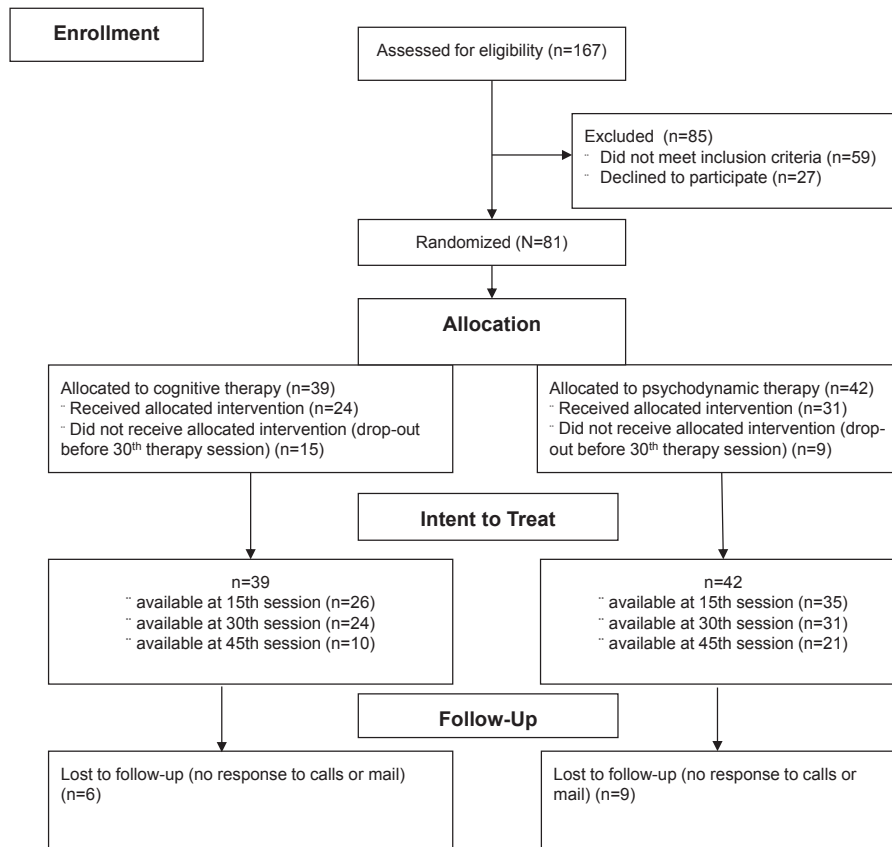
Participants with BN differed significantly from those with partial BN in EDE global score (mean_{BN} = 3.42 versus mean_{partial BN} = 2.82, $t = 2.12$, $p = .04$) and binge frequency (mean_{BN} = 18.40 versus mean_{partial BN} = 8.83, $t = 3.30$, $p = .002$). Despite these differences, participants diagnosed with BN and with partial BN both had eating disorder psychopathology scores in the clinically significant range.

Treatment Outcomes

The mean (SD) number of therapy sessions was 33.0 (25.3) for CBT and 40.7 (22.2) for PDT, with no significant differences between groups ($p = .15$). In all, 15 of 39 CBT participants (38.5%) and 9 of 42 PDT participants (21.4%) dropped out, with no statically significant differences ($p = .09$) (Figure 1). To assess adherence, a checklist containing items reflecting the core features of the respective treatments was used. The mean scores of treatment adherence ranged from 0 to 2. The mean (SD) adherence was 1.16 (0.38) for CBT and 0.92 (0.43) for PDT, indicating a lower range of acceptable adherence in PDT.

Primary Outcome. At posttreatment, 13 CBT participants (33.3%) and 13 PDT participants (30.2%) were no longer diagnosed with an eating disorder. Therefore, participants in both treatment groups had similar remission rates, with no significant difference between groups ($\chi^2 = 0.05$, $p = .81$; odds ratio [OR] = 1.12, 95% CI = 0.44–2.84). The between-group effect size for remission did not significantly differ between groups ($h = 0.05$). The within-group effect size for remission was $h = 1.22$ for CBT and $h = 1.18$ for PDT.

In the CBT group, 15 participants (38.46%) were still diagnosed with BN and 11 (28.21%) with partial BN. However, four participants (10.26%) with BN at baseline had only partial BN at the end of therapy, suggesting a reduction in eating disorder pathology. In the PDT group, 16 participants (38.10%) were still diagnosed with BN, and 13 (30.95%) fulfilled the diagnostic criteria for partial BN. Seven participants (16.67%) with BN at baseline met only the partial BN diagnostic criteria after therapy.

FIGURE 1 Flow diagram of study participants with bulimia nervosa.

Secondary Outcomes. Secondary outcome data are presented in Table 2. In CBT participants, the frequency of binge and purge behavior decreased significantly (all $p < .001$) from baseline to posttreatment. These patients improved significantly in all EDE and EDE-Q measures (all $p < .001$), and their general pathology measured by the SCL-90 also decreased over time ($p < .001$). In addition, we found medium within-group effect sizes for binge frequency ($d = 0.61$) and purge frequency ($d = 0.66$). The EDE interview and EDE-Q scales showed medium to high effect sizes ranging from $d = 0.57$ for EDE "Weight concerns" to $d = 0.82$ for EDE-Q "Global," and the global severity index (GSI) score (SCL-90) showed a medium effect size ($d = 0.51$).

PDT participants also showed significantly decreased frequencies of binge eating ($p = .01$) and purging ($p = .05$) (Table 2). EDE and EDE-Q measures showed significant improvements (all $p < .001$) among patients treated with PDT, and general pathology (GSI) decreased significantly as well ($p < .001$). For PDT, we found small within-group effect sizes for the frequencies of binge ($d = 0.44$) and purge ($d = 0.31$) behavior. The EDE and EDE-Q scales showed medium ($d = 0.53$, EDE-Q Restraint) to high ($d = 1.10$, EDE Eating concern) effect sizes, whereas changes in general pathology (GSI) showed a small effect size, with $d = 0.24$.

The treatment comparisons showed no significant interaction between treatments in dependent variables over time. The comparison of the two treatments showed no ($d < 0.2$) to small ($d \geq 0.2$) between-group effects. The small effects of $d = 0.23$ for binge episodes and $d = 0.26$ for purging episodes demonstrated a small advantage of CBT in reducing these behaviors. A similar effect size was calculated for EDE-Q Restraint ($d = 0.25$). The small effect size for EDE Eating concern ($d = -0.35$) indicated a greater reduction among patients treated with PDT.

Follow-Up

The follow-up assessment 12 months after the end of therapy showed further improvement or stability in the results. During the follow-up period, none of the participants received further treatment. At follow-up, 15 CBT participants (38.5%) had remitted. A total of 13 (30.2%) were diagnosed with BN, and 10 (25.6%) with partial BN. Of PDT participants, 13 (31%) had remitted. A total of 14 (33.3%) were diagnosed with BN, and 15 (35.7%) with partial BN. Thus, the rates of remission were stable at follow-up (CBT: $\chi^2 = 1.74$, $p = .42$; PDT: $\chi^2 = 0.74$, $p = .69$), with no significant differences between groups ($\chi^2 = 0.51$, $p = .48$). Binge (mean = 6.9, SD = 10.9) and purge (mean = 7.3, SD = 10.1)

TABLE 1 Baseline Patient Characteristics by Treatment Group

Characteristic	CBT Group (n = 39)	PDT Group (n = 42)	Total (N = 81)
Age, y	18.8 (2.3)	18.6 (1.4)	18.7 (1.9)
No. diagnosed as having BN/partial BN	29/10	34/8	63/18
Comorbid diagnoses	18	15	33
Duration of illness, y	3.5 (1.9)	4.1 (3.3)	3.8 (2.8)
Education			
Still a student	17	23	40
9 y of school	0	2	2
10 y of school	3	4	7
12 y of school	19	13	32
Family Status			
Single	24	17	41
Partner	15	25	40
Past Mental Diagnosis (no ED)	10	3	13
Past Eating Disorder Diagnosis			
Anorexia nervosa	9	6	15
Bulimia nervosa	7	8	15
Binge eating disorder	1	0	1
Past Treatment for Eating Disorders			
Inpatient	2	4	6
Outpatient	4	5	9
Both	9	2	11
EDE Measures			
Binge frequency	16.31 (15.2)	16.24 (15.2)	16.27 (15.1)
Purge frequency	19.49 (20.2)	24.31 (25.5)	21.99 (23.1)
Global	3.29 (1.1)	3.28 (1.1)	3.28 (1.1)
Restraint	3.64 (1.3)	3.34 (1.3)	3.50 (1.3)
Eating concern	2.44 (1.3)	2.91 (1.2)	2.68 (1.3)
Weight concern	3.32 (1.6)	3.14 (1.4)	3.23 (1.5)
Shape concern	3.76 (1.4)	3.70 (1.3)	3.73 (1.3)

Note: Data are absolute numbers or are mean with standard deviations given in parentheses. BN = bulimia nervosa; CBT = cognitive-behavioral therapy; ED = eating disorder; EDE = Eating Disorder Examination; PDT = psychodynamic therapy.

behavior at follow-up showed consistent frequencies for patients in the CBT group. There were no significant changes between the end of therapy and follow-up (binge: $F_{1,38}=1.89$, $p = .18$; $F_{1,38}=2.06$, $p = .16$). PDT participants showed a stable frequency of binge eating (mean = 8.7, $SD = 12.5$; $F_{1,42} = 0.01$, $p = .92$) and slight improvement in the frequency of purging (mean = 12.4, $SD = 19.9$) 12 months after treatment, with no significant effects from the end of therapy to follow-up ($F_{1,42} = 0.87$, $p = .36$). There were no significant interaction effects for time and treatment group for binge ($F_{1,79} = 0.43$, $p = .51$) or purge ($F_{1,79} = 1.53$, $p = .22$) frequency.

Taken together, the improvements attained at the end of therapy were stable at the 12-month follow-up in both treatment groups.

DISCUSSION

The present study was designed to evaluate the efficacy of manualized CBT and PDT for female adolescents and young adults with BN, as little is known about the efficacy of

psychotherapy in this age group. The findings showed that outpatient treatment with either CBT or PDT led to a relevant decrease in eating disorder-specific and general psychopathology. Reductions in eating disorder psychopathology were observed both in participants' ratings and in the diagnostic evaluations for both treatment groups.

In all, 33% of CBT participants and 30% of PDT participants were no longer diagnosed with an eating disorder at the end of treatment; this finding indicated a lack of difference between the two treatment groups regarding rates of remission. However, for the secondary outcome measures, participants treated with CBT showed a small advantage in reduced frequency of binge eating and purging and in restrained eating (EDE-Q), whereas patients receiving PDT had greater improvements in eating concerns (EDE). These differences corresponded to small between-group effect sizes. All of the improvements identified remained stable at 12-month follow-up.

The study outcomes were similar to those found in adult studies of CBT for BN.^{7,9} A multicenter randomized controlled trial⁹ of CBT and interpersonal therapy for BN

TABLE 2 Primary and Secondary Outcome Measures Pre- and Posttreatment

	CBT (n = 39)					ES _w	PDT (n = 42)					ES _w	p	ES _b
	Pre		Post		p _w		Pre		Post		p _w			
	Mean	SD	Mean	SD			Mean	SD	Mean	SD				
Diagnosis														
Yes/No	39/0	100/0%	26/13	66.7/33.3%		1.22	42/0	100/0%	30/12	69.8/30.2%		1.18	.82	0.05
EDE														
Global	3.29	1.08	2.23	1.41	<.001	0.74	3.28	1.09	2.05	1.39	<.001	1.06	.54	-0.12
Restraint	3.33	1.36	2.09	1.48	<.001	0.74	3.38	1.33	2.11	1.49	<.001	0.88	.91	0.02
Eating concern	2.44	1.30	1.36	1.41	<.001	0.66	2.91	1.23	1.39	1.43	<.001	1.10	.19	-0.35
Weight concern	3.32	1.57	2.41	1.65	<.001	0.57	3.14	1.44	2.13	1.66	<.001	0.68	.78	-0.05
Shape concern	3.76	1.36	2.76	1.71	<.001	0.60	3.70	1.26	2.57	1.61	<.001	0.81	.72	-0.06
Objective binges/28 days	16.31	15.21	6.26	9.76	<.001	0.61	16.24	15.20	8.81	12.55	.01	0.44	.48	0.23
Purging episodes/28 days	19.49	20.20	6.46	9.88	<.001	0.66	24.31	25.49	14.83	22.97	.05	0.31	.54	0.26
EDE-Q														
Global	3.69	1.20	2.54	1.66	<.001	0.82	3.19	1.39	2.43	1.60	<.001	0.73	.60	0.16
Restraint	3.67	1.35	2.61	1.81	<.001	0.62	2.96	1.28	1.93	1.64	<.001	0.53	.39	0.25
Eating concern	3.01	1.46	1.87	1.49	<.001	0.75	3.24	1.69	2.27	1.81	<.001	0.66	.74	0.08
Weight concern	3.81	1.59	2.69	1.91	<.001	0.71	3.94	1.38	2.74	1.72	<.001	0.60	.67	0.12
Shape concern	4.23	1.48	3.06	1.90	<.001	0.71	3.33	1.23	2.34	1.54	<.001	0.77	.95	0.01
SCL-90-R GSI	1.07	0.55	0.89	0.59	<.001	0.51	0.95	0.47	0.86	0.48	<.001	0.24	.35	0.16

Note: EDE = Eating Disorder Examination; EDE-Q = Eating Disorder Examination Questionnaire; ES_b = between-group effect size; ES_w = within-group effect size; GSI = global severity index; p = χ^2 and interaction effect therapy with time; SCL-90 = Symptom Check List.

showed remission rates of 29% versus 7%, respectively. Higher remission rates for CBT have also been reported by Poulsen *et al.*¹⁶ Importantly, the disorder-oriented psychodynamic treatment provided in our study was clearly more effective than nonspecific psychodynamic treatment.¹⁶

Although both treatments in our study led to similar outcomes, it is important to note that our study was not powered to be an equivalence trial. Due to the small sample size, potentially small differences between the two treatments were not detectable.

The study has several additional limitations. First, we did not use a waiting control group, because BN is usually a severe illness that quickly becomes chronic. Thus, it would not have been ethically justifiable to allow participants to wait for a year before receiving treatment. Although the study intended to address female adolescents and young adults at an early stage of illness, the participants had experienced symptoms for an average (SD) of 5.52 (3.16) months before starting treatment. A waiting group would have augmented this problem. However, data regarding the natural course of eating disorders without psychotherapy do exist and show stability in eating pathology over a course of 30 months.³⁵ Therefore, we can assume that the improvements identified are related to the treatments administered.

Second, the participants received up to 60 therapy sessions over a 1-year period. This duration of CBT exceeds the

international standards for CBT,^{24,36} which is typically conducted with up to 20 sessions over 6 months. In this study, our trial was modified to adhere to the clinical practice and guidelines of the German Federal Joint Committee,¹⁹ which recommends up to 60 therapy sessions for CBT and PDT. However, this higher dose of CBT could have weakened the therapeutic effects for obtaining quicker changes when working with limited time. At least compared to other studies of CBT and FBT,¹² the higher doses of CBT and PDT in this study did not improve remission rates.

The dropout rate of 30% in this study could be explained by the participants' age and life changes. For example, some participants started university studies and moved to other cities. In CBT, the dropout rates (38.5%) exceeded the remission rate (33.3%). This high dropout rate may partially be the result of the long treatment duration. Another problem among participants in this age group is limited illness insight, which hinders their motivation for therapy. Finally, we included only young women, despite the fact that young men are also at an increased risk for eating disorders.³⁷

With these reservations in mind, the results show that CBT and PDT are both helpful for individuals with BN. PDT is especially effective when implemented in a disorder-focused manner. Clinicians treating this age group should consider CBT, PDT, and FBT as potentially effective approaches for older adolescents and young adults with BN. \otimes

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