

# Preferences for Lisdexamfetamine vs Cognitive-Behavioral Therapy for Binge-Eating Disorder:

## Correlates and Outcomes

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### Abstract

**Background:** Efficacious treatments for binge-eating disorder (BED) have been identified, but research is lacking regarding patients' treatment preferences and their effects on outcomes. We investigated the frequency and correlates of patients' preferences for 2 distinct BED treatments—cognitive-behavioral therapy (CBT) and lisdexamfetamine (LDX)—and whether preferences predicted and/or moderated outcomes.

**Method:** In a randomized controlled trial (performed March 2019 to September 2023) testing CBT and LDX for DSM-5-defined BED, 102 participants indicated their preference after treatments were described and prior to beginning

treatment. Treatment was randomly assigned (not influenced by preferences). Independent assessors, blinded to treatments and to patients' treatment preferences, performed outcome assessments.

**Results:** 43.1% (44/102) preferred LDX, 23.5% (24/102) preferred CBT, and 33.3% (34/102) reported no preference. Treatment preference was not significantly associated with any sociodemographic or baseline clinical characteristics. Logistic regression models (for binge-eating remission and attaining  $\geq 5\%$  weight loss) and mixed models (for changes in binge-eating frequency, weight, eating disorder psychopathology, and depression) testing main effects of treatments, main effects of treatment preferences, and their

interaction effects converged. No significant interaction effects between treatment and treatment preferences were observed.

**Conclusions:** In this study comparing CBT and LDX treatments for BED in patients with obesity, participants' preferences for treatments were not associated with their sociodemographic or clinical characteristics and did not moderate treatment outcomes of these 2 effective interventions. Implications for clinical practice and future research are discussed.

**Trial Registration:** ClinicalTrials.gov identifier: NCT03924193.

*J Clin Psychiatry* 2025;86(2):24m15552

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Binge-eating disorder (BED) is a prevalent, persistent, and serious eating disorder associated with heightened psychiatric/medical comorbidities and impairments and associated strongly with obesity.<sup>1,2</sup> Research has identified specific treatments with efficacy for BED.<sup>3</sup> The leading psychological (cognitive behavioral therapy [CBT<sup>4-6</sup>]) and pharmacologic (lisdexamfetamine dimesylate [LDX<sup>7,8</sup>]) treatments for BED produce significant improvements in binge eating and associated eating disorder psychopathology.

With the development of new and effective treatments for BED, a better understanding of patients' preferences for different forms of treatments is needed.

Finding reliable patient predictors of outcomes has been difficult, and moderators of treatment outcomes have yet to be identified for BED.<sup>9</sup> While it seems logical to examine patients' preferences for different treatments and their potential significance/effects on outcomes—particularly when they are especially distinct as in psychological vs pharmacologic approaches<sup>10</sup>—to our knowledge, this has yet to be investigated in BED. In a systematic review of patients' preferences for treatments of psychiatric disorders, McHugh and colleagues<sup>10</sup> identified a total of 34 studies, but none for eating disorders. We are aware of no relevant studies for BED since that report, and we identified only one relevant study with BED. In

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## Clinical Points

- Research has identified effective treatments for binge-eating disorder but has yet to examine patients' preferences for different treatments and whether they impact outcomes.
- Cognitive-behavioral therapy and pharmacotherapy with lisdexamfetamine resulted in significant improvements in binge-eating disorder.
- Although patients with binge-eating disorder expressed varied preferences for these 2 distinct "leading" treatments, their preferences were not related to their demographic or clinical characteristics and did not moderate the outcomes of these 2 effective interventions.

a study of 103 patients' preferences for CBT vs behavioral weight loss, 63% reported a preference for CBT.<sup>11</sup> Preferences were not significantly related to sociodemographic or clinical characteristics but were associated with their primary goal for treatment (eliminating binge eating vs losing weight); this study, however, did not examine effects on treatment outcomes.<sup>11</sup>

The present study investigated the relative frequency and correlates of patients' preferences for 2 leading distinct treatments for BED—CBT and LDX—and whether those preferences predicted or moderated outcomes. This study is a secondary analysis of a randomized clinical trial (RCT)<sup>12</sup> that tested CBT, LDX, and their combination (CBT + LDX) for BED with coexisting obesity.

The primary RCT found that CBT, LDX, and CBT + LDX resulted in significant improvements in BED, with CBT + LDX being significantly superior to the 2 individual treatments, which differed little from one another except for significantly greater weight loss in LDX than in CBT.<sup>12</sup> CBT + LDX had the highest binge-eating remission rates (70.2%), followed by CBT (44.7%) and LDX (40.4%). Frequency of binge eating decreased significantly in all treatments, with CBT + LDX resulting in the largest reductions, which were significantly greater than for CBT and LDX, which did not differ from each other. Percent weight loss, a second coprimary outcome, was significantly greater with CBT + LDX (−4.76% [SD = 3.57]) and LDX (−5.49% [SD = 3.47]) than with CBT (which had essentially no change [−0.50% {SD = 2.7}]); LDX had the highest rate of attaining ≥5% weight loss (53.2%), followed by CBT + LDX (42.6%) and CBT (4.3%). Analyses of secondary outcomes (eating disorder psychopathology and depression levels) revealed significant reductions over time in all 3 treatments, with no significant differences between CBT and LDX. Understanding patients' preferences for CBT vs LDX, viewed as 2 leading treatments for BED,<sup>3</sup> and whether they predict/moderate outcomes—which differed little (except for weight loss) in the RCT<sup>12</sup>—could inform treatment recommendations.

## METHODS

### Participants

Participants were N = 102 patients aged between 18 and 64 who met *Diagnostic and Statistical Manual of Mental Disorders*<sup>13</sup> criteria for BED and coexisting obesity (operationalized as body mass index (BMI) ≥30.0 and ≤50.0 (or ≥27.0 with obesity-related comorbidity) and participated in a RCT comparing CBT and LDX.<sup>12</sup> Exclusionary criteria included taking certain medications (eg, opiates, selective serotonin reuptake inhibitors [SSRIs], monoamine oxidase inhibitors), severe psychiatric conditions that are contraindications to LDX and/or require alternative treatments (eg, substance/alcohol use disorder, psychosis/bipolar disorder; note, anxiety disorders and major depressive disorder were not exclusionary), medical conditions that are contraindication to LDX (eg, cardiovascular disease, hypertension, or tachycardia), participating in another clinical study, receiving evidence-based treatment for BED/obesity, or if pregnant/breastfeeding.

In the primary RCT,<sup>12</sup> a total of N = 141 participants were randomized to 1 of 3 treatments (CBT, LDX, or CBT + LDX). Of the N = 141 participants, N = 102 completed the "treatment preference" measure and thus serve as the study group for this specific substudy. The 102 participants had mean age of 43.7 (SD = 11.2) years and mean BMI of 38.4 (SD = 5.0); 83.3% (N = 85) were female, 71.6% (N = 73) attained a college degree or greater, and 74.5% (N = 76) were White (see Table 1). The study was approved by Yale Institutional Review Board. All participants provided written informed consent. During the informed consent process, both LDX and CBT interventions were described in detail (standardized institutional review board (IRB)-approved consent procedures delivered in *both* written format and verbal review) including their rationale, potential risks, and uncertain benefits.

### Assessments

**Treatment preference.** Treatment preference (CBT vs LDX) was assessed using a single-item measure after the different treatments were described in detail (but not used to influence randomization or treatment assignment) which patients completed in private at their first appointment (prior to starting treatment). The measure was written as follows: "If you could pick your treatment program, cognitive behavioral therapy (CBT) or LDX (medication), which would you prefer?" Answers ranged from −2 "Strongly prefer CBT" to +2 "Strongly prefer MED," with zero being no preference. Participants were recoded into 3 groups: prefer CBT (N = 24), no preference (N = 34), and prefer LDX (N = 44).

**Eating Disorder Examination.** The Eating Disorder Examination (EDE<sup>14</sup>) was completed by doctoral-level clinicians who were monitored by licensed psychologists throughout the course of the study. The EDE is a valid and reliable measure<sup>15</sup> of eating disorder psychopathology and

Table 1.

**Demographic, Psychiatric, and Clinical Characteristics Overall and Across Treatment Preferences**

	Overall (N = 102)	Prefer CBT (N = 24)	Prefer LDX (N = 44)	No preference (N = 34)	Statistics
<b>Age, mean (SD), y</b>	43.68 (11.24)	43.92 (13.44)	44.41 (10.95)	42.56 (10.13)	$F_{2,99} = 0.26, P = .77, \eta_p^2 < .01$
<b>Gender, n (%)<sup>a</sup></b>					$\chi^2_2 = 3.53; P = .17; \Phi = .19$
Female	85 (83.3)	23 (95.8)	35 (79.5)	27 (79.4)	
Male	17 (16.7)	1 (4.2)	9 (20.5)	7 (20.6)	
<b>Race, n (%)</b>					$\chi^2_8 = 13.53; P = .10; \Phi = .36$
White	76 (74.5)	18 (75.0)	30 (68.2)	28 (82.4)	
Black	15 (14.7)	2 (8.3)	11 (25.0)	2 (5.9)	
Asian	4 (3.9)	1 (4.2)	0 (0)	3 (8.8)	
Multiracial	4 (3.9)	1 (4.2)	2 (4.4)	1 (2.9)	
Other	3 (8.3)	2 (8.3)	1 (2.3)	0 (0)	
<b>Ethnicity, n (%)</b>					$\chi^2_2 = 0.94; P = .62; \Phi = .10$
Hispanic or Latinx	16 (15.7)	3 (12.5)	6 (13.6)	7 (20.6)	
Not Hispanic or Latinx	86 (84.3)	21 (87.5)	38 (86.4)	27 (79.4)	
<b>Sexual orientation, n (%)</b>					$\chi^2_6 = 6.86; P = .33; \Phi = .26$
Heterosexual	91 (89.2)	20 (83.3)	40 (90.9)	31 (91.2)	
Gay or lesbian	4 (3.9)	1 (4.2)	2 (4.5)	1 (2.9)	
Bisexual	5 (4.9)	1 (4.2)	2 (4.5)	2 (5.9)	
Other	2 (2.0)	2 (8.3)	0 (0)	0 (0)	
<b>Education, n (%)</b>					$\chi^2_6 = 8.48; P = .21; \Phi = .29$
Up to high school	8 (7.8)	1 (4.2)	6 (13.6)	1 (2.9)	
Some college	21 (20.6)	6 (25.0)	6 (13.6)	9 (26.5)	
College	26 (25.5)	4 (16.7)	15 (34.1)	7 (20.6)	
More than college	47 (46.1)	13 (54.2)	17 (38.6)	17 (50.0)	
<b>BMI, mean (SD)</b>	38.39 (4.97)	37.86 (5.22)	39.06 (5.08)	37.90 (4.67)	$F_{2,99} = 0.70, P = .50, \eta_p^2 = .01$
<b>Age at onset of BED, mean (SD), y</b>	24.86 (13.25)	23.50 (13.67)	24.05 (12.67)	26.88 (13.84)	$F_{2,99} = 0.60, P = .55, \eta_p^2 = .01$
<b>MDD</b>					
Current, n (%)	11 (10.8)	3 (12.5)	4 (9.1)	4 (11.8)	$\chi^2_2 = 0.24; P = .89; \Phi = .05$
Lifetime, n (%)	26 (25.7)	7 (29.2)	10 (22.7)	9 (27.3)	$\chi^2_2 = 0.40; P = .82; \Phi = .06$
<b>Current anxiety disorder, n (%)<sup>b</sup></b>	14 (13.7)	4 (16.7)	3 (6.8)	7 (20.6)	$\chi^2_2 = 3.30; P = .19; \Phi = .18$
<b>EDE Binge Eating, mean (SD)</b>	15.72 (11.55)	16.33 (8.79)	15.09 (10.76)	16.09 (14.23)	$F_{2,99} = 0.11, P = .89, \eta_p^2 < .01$
<b>EDE Global Score, mean (SD)</b>	2.69 (0.86)	2.81 (0.83)	2.79 (0.88)	2.46 (0.83)	$F_{2,95} = 1.37, P = .26, \eta_p^2 = .03$
<b>EDE subscales, mean (SD)</b>					
Restraint	1.64 (1.23)	1.97 (1.13)	1.72 (1.34)	1.30 (1.12)	$F_{2,98} = 2.21, P = .12, \eta_p^2 = .04$
Eating concern	2.08 (1.20)	2.05 (1.21)	2.16 (1.19)	1.98 (1.23)	$F_{2,97} = 0.24, P = .79, \eta_p^2 < .01$
Shape concern	3.73 (1.16)	3.82 (0.97)	3.82 (1.16)	3.55 (1.30)	$F_{2,96} = 60, P = .55, \eta_p^2 = .01$
Weight concern	3.25 (1.02)	3.33 (0.99)	3.44 (1.02)	2.93 (0.98)	$F_{2,97} = 2.57, P = .08, \eta_p^2 = .05$
<b>BDI-II, mean (SD)</b>	17.69 (10.30)	19.21 (10.08)	16.93 (10.06)	17.59 (10.94)	$F_{2,99} = 0.38, P = .69, \eta_p^2 = .01$

<sup>a</sup>Gender (not biologic sex construct assigned at birth), race, and ethnicity were based on the participants' self-identification and reporting thereof.

<sup>b</sup>Current anxiety disorder includes current panic disorder, agoraphobia, social phobia, or generalized anxiety disorder.

Abbreviations: BDI-II = Beck Depression Inventory-II, BED = binge-eating disorder, BMI = body mass index, CBT = cognitive behavioral therapy, EDE = Eating Disorder Examination Interview, LDX = lisdexamfetamine, MDD = major depressive disorder, N = number.

was used to aid in diagnosing BED as well as assessing remission. The primary measures of interest were binge episodes (ie, an objectively large amount of food in a short period of time while experiencing a subjective loss of control) as well as a global score, which measures overall levels of psychopathology by averaging the 4 EDE subscales (restraint, eating concern, shape concern, and weight concern).

**Weight and height.** Height was assessed at the start of the study, and weight was measured at baseline, throughout treatment, and at posttreatment. Height and weight at both baseline and posttreatment were used to calculate BMI, weight change, percent weight change, and whether participant attained 5% weight loss.

**Beck Depression Inventory-II.** The Beck Depression Inventory-II (BDI-II<sup>16</sup>) was included as a part of an online

self-report battery completed by participants at both baseline and posttreatment. The BDI-II is a well-established measure of symptoms and severity of depression with higher scores representing higher levels.<sup>17</sup>

**MINI International Neuropsychiatric Interview.** The MINI International Neuropsychiatric Interview (MINI<sup>18</sup>) is a brief structured diagnostic interview used to assess and inform *DSM-5*–defined psychiatric disorders. The MINI was used primarily to determine inclusion criteria (ie, meeting diagnostic criteria for BED) and exclusion criteria (ie, meeting diagnostic criteria for any psychotic disorders, alcohol/substance use disorders, and bipolar disorders). Further, age of BED onset, current/lifetime major depressive disorder, and current anxiety disorders were determined using the MINI.

## Treatment

Participants were randomized to 12 weeks of CBT (N = 34), LDX (N = 37), or a combination of the two (CBT + LDX, N = 31). CBT was administered in twelve 1-hour weekly sessions over the course of 3 months following a manualized protocol<sup>19</sup> with demonstrated efficacy for BED<sup>4,5</sup> by experienced and trained research—clinicians who were closely supervised to maintain treatment fidelity.<sup>12</sup> LDX was administered following the dose-optimization protocol (targeting 50–70 mg daily) found effective for BED<sup>7</sup> by a faculty-level study physician. The study physician delivering the LDX pharmacotherapy focused on medication management (compliance, side effects, safety) without any additional psychotherapeutic or nutritional interventions. CBT and LDX interventions and primary outcomes have previously been described in detail.<sup>12</sup>

**Statistical Analyses.** Demographic and clinical features of those who preferred CBT, preferred LDX, or had no preference were compared with  $\chi^2$  tests for categorical variables and analyses of variance for continuous variables.

To examine the effects of patients' treatment preferences on outcomes, the primary analyses were performed on the subgroup of patients who preferred CBT or LDX; those who reported no preferences were excluded from this series of analyses (their outcomes were explored separately). Logistic regression models (for categorical outcomes of remission from binge eating and attaining 5% weight loss) and mixed models (for changes in continuous outcomes of binge-eating frequency, weight, eating disorder psychopathology, and depression levels) testing main effects of treatments (CBT, LDX) and of patients' treatment preferences (CBT, LDX), and their interaction effects.

## RESULTS

### Treatment Preferences

Participants who completed (N = 102) compared to those that did not complete (N = 39) the treatment preference measure did not differ on any sociodemographic, psychiatric, or baseline clinical characteristics (Supplementary Table 1). Of the 102 participants, 43.1% (44/102) preferred LDX, 23.5% (24/102) preferred CBT, and 33.3% (34/102) reported no preference. Table 1 summarizes participants' sociodemographic features, psychiatric characteristics, and clinical measures at baseline, overall, and across treatment preferences. Analyses revealed no significant differences in sociodemographic, psychiatric, or any clinical measures (or subscales) for participants who preferred CBT, preferred LDX, or had no preference (all  $P$ s > .05). Supplementary Table 2 summarizes exploratory analyses restricted to those participants with "strong" preference for either CBT or LDX,

which also revealed no significant differences in any sociodemographic, psychiatric, or baseline clinical variables.

Overall, one-third of the overall 102 participants indicated they had no preference for treatment (N = 34, 33.3%). Of the 34 participants, 24 (70.6%) attained remission and 13 (38.2%) attained  $\geq 5\%$  weight loss. Participants who expressed no treatment preferences did not differ significantly from those who preferred CBT or LDX at either pretreatment (sociodemographic, psychiatric, or clinical measures) (Table 1) or posttreatment (clinical outcome measures) (Supplementary Table 3) either before or when covarying for treatment group (all  $P$ s > .05).

### Patient Treatment Preferences and Categorical Treatment Outcomes

Logistic regression analyses of binge-eating remission rates revealed nonsignificant main effects of treatment (CBT [N = 11, 44.0%] vs LDX [N = 11, 40.7%]) ( $\chi^2_1 = 0.45$ ,  $P = .50$ ) and treatment preference (CBT vs LDX) ( $\chi^2_1 = 0.67$ ,  $P = .41$ ), and a nonsignificant interaction effect between treatment and preference ( $\chi^2_1 = 2.05$ ,  $P = .15$ ). While logistic regression analyses of attaining  $\geq 5\%$  weight loss revealed a significant main effect of treatment (LDX [N = 18, 66.7%] > CBT [N = 2, 8%];  $\chi^2_1 = 8.63$ ,  $P = .003$ ), the main effect of treatment preferences ( $\chi^2_1 = 0.47$ ,  $P = .49$ ) and the treatment-by-preference interaction ( $\chi^2_1 = 1.93$ ,  $P = .17$ ) were not significant.

### Patient Treatment Preferences and Continuous Treatment Outcomes

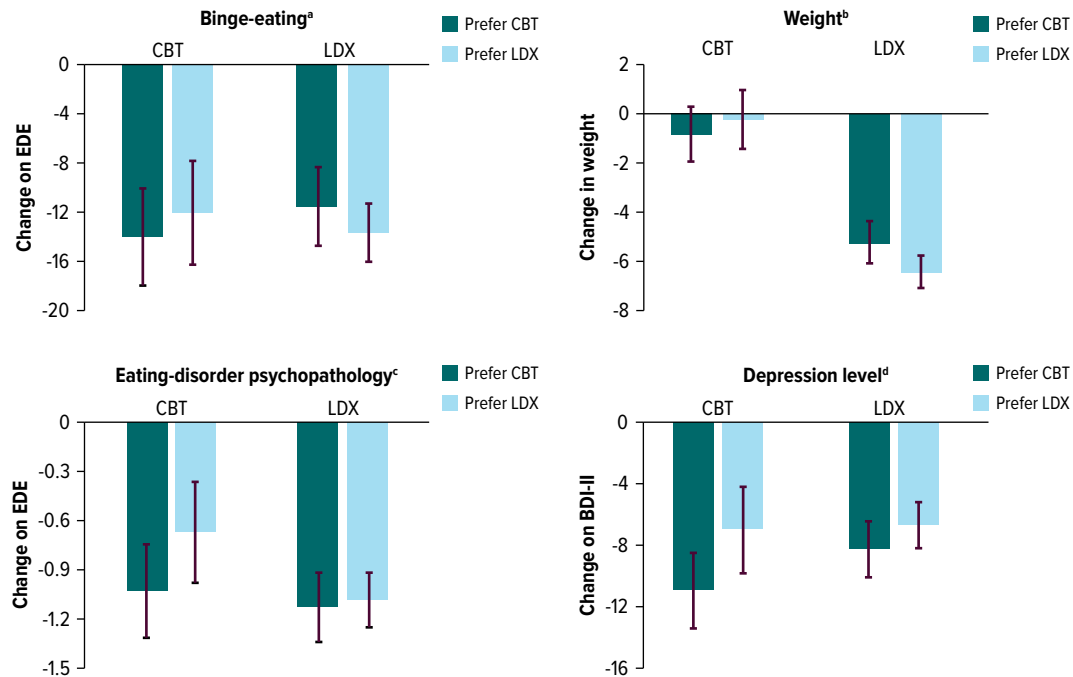
Figure 1 summarizes outcomes for the 4 continuous outcome measures. Mixed models revealed no significant interaction effects between treatment and treatment preference for any outcome, including changes in binge-eating frequency ( $F_{1,40} = 0.33$ ,  $P = .57$ ), weight ( $F_{1,40} = 0.86$ ,  $P = .36$ ), eating disorder psychopathology ( $F_{1,36} = 0.39$ ,  $P = .54$ ), and depression scores ( $F_{1,38} = 0.29$ ,  $P = .60$ ).

### Exploratory Descriptive "Sensitivity" Analyses

Two additional exploratory descriptive "sensitivity" analyses were performed for additional context for the primary results described above. Supplementary Table 3 summarizes clinical outcomes by treatment preference "match" (ie, for those who received their preferred treatment ["matched"], those who did not receive their preferred treatment ["mismatched"], and those who had "no preference"). The 3 "match" groups did not differ significantly in outcome in binge eating, eating disorder psychopathology, or depression. The one statistical difference observed was for weight change, which we emphasize *cannot* be interpreted in isolation

Figure 1.

# Changes in Binge Eating, Weight, Eating Disorder Psychopathology, and Depression Level Across Cognitive-Behavioral Therapy and Lisdexamfetamine Treatments Shown Separately by Patients' Treatment Preference



<sup>a</sup>Binge eating measured by changes in total frequency of objective binge-eating episodes in the past month on the EDE from baseline to posttreatment.

<sup>b</sup>Weight represents the percent weight change.

<sup>c</sup>Eating disorder psychopathology change is the change in EDE global score.

<sup>d</sup>Depression level change measured by BDI-II.

Abbreviations: BDI-II = Beck Depression Inventory-II, CBT = cognitive behavioral therapy, EDE = Eating Disorder Examination, LDX = lisdexamfetamine.

without considering the actual treatments received, as the weight change outcome reflected the impact of LDX (CBT had no impact on weight). Supplementary Figure 2 summarizes the outcomes for the 4 continuous outcome measures restricted to participants who had “strong” preferences.

## DISCUSSION

In this treatment-seeking group of patients with BED and co-occurring obesity participating in a RCT testing LDX and CBT, when asked about their treatment preferences, 43.1% preferred LDX, 23.5% CBT, and 33.3% had no preference. Participants' preferences for the treatments were not associated with any of their sociodemographic, psychiatric, or clinical characteristics at baseline (eg, depression levels or eating disorder psychopathology including binge-eating frequency; overall global severity; restraint; or specific eating, weight, or shape concerns). Our analyses, which jointly

considered treatment effects, revealed that participants' preferences did not predict nor moderate treatment outcomes of any categorical or continuous clinical measures which improved substantially with these effective interventions. We emphasize that our findings pertain to two very effective and distinct treatments for BED (CBT or LDX), and it is possible that patients' preferences for other treatments or modalities might predict/moderate those outcomes.

These findings, the first for BED (or any eating disorder), show some similarities and differences from the relevant treatment literature for depression, where this issue has received greater attention.<sup>10,20</sup> Overall, studies with depression have reported that patients' preferences for specific psychological vs pharmacologic treatments are mostly unrelated to demographic/clinical features,<sup>10,21,22</sup> but findings regarding whether receiving preferred treatment predicted outcomes, while positive *overall* across studies in meta-analytic reviews,<sup>10</sup> are in fact quite mixed upon closer examination.<sup>20</sup> Kocsis and colleagues,<sup>21</sup> in their study comparing CBT and



antidepressant treatments for major depressive disorder, found that combined CBT and medication was most effective, but if individuals received the individual treatment they preferred, outcomes were comparable to or better than the combined treatment. Mergl and colleagues,<sup>22</sup> in an RCT testing CBT and SSRI antidepressants in primary care, found that patients who received their preferred treatment experienced greater improvements compared to those who did not.<sup>22</sup> However, in contrast, some RCTs testing CBT and antidepressant medication,<sup>23</sup> including the large rigorous PRaDiCT Study,<sup>24</sup> found that among patients willing to be randomized to treatment, patients' treatment preferences did not significantly moderate depression outcomes. Thus, our findings for patients willing to be randomized to CBT or LDX for BED that their preferences did not moderate outcomes with these effective interventions echo the more recent findings for CBT and antidepressants for depression from the PRaDiCT study.<sup>24</sup>

Strengths of this study include rigorously delivered CBT and LDX treatment protocols by experienced and closely supervised clinicians, high retention rates, and independent blinded reliably administered assessments of important biopsychological domains. We note and address potential limitations as context for the findings. First, 39 patients did not indicate their treatment preference. However, those data were missing at random, and analyses revealed the missing data were not related to any sociodemographic, psychiatric, or clinical features (including depression levels or various global and specific aspects of eating disorder psychopathology including binge-eating frequency, restraint, and eating-, weight-, and shape-concerns). Most of these data were lost during COVID-19 transition, in which treatment preference was shifted from a (blinded) paper-and-pencil questionnaire to online administration. Moreover, the treatment outcomes for the study subgroup for the current analyses are quite similar to those for the full study group in the RCT.<sup>12</sup> Specifically, CBT and LDX had binge-eating remission rates of 44.0% and 40.7%, respectively, in the current study compared with 44.7% and 40.4%, respectively, in the full RCT.<sup>12</sup> These outcomes for CBT and LDX are also nearly identical to those in the RCT literature for CBT (eg, 44.4% by Grilo et al<sup>5</sup>) and for LDX (eg, 36.2%–40.0% by McElroy et al<sup>7</sup>).

Generalizability of findings is limited to these specific treatments (CBT and LDX) delivered within the context of a RCT and within a specific medical school–based clinical setting. These findings might not generalize to patients with different sociodemographic characteristics (our sample was largely female [83.3%], non-Hispanic [84.3%], White [74.5%], and well educated [71.6% attained a college degree or greater]). As context for our

levels of sociodemographic diversity, we note that the RCT literature for eating disorders comprises high majority of White women<sup>25</sup> and epidemiologic studies reveal men and minority groups seek treatments for BED at low rates,<sup>26</sup> but that studies of aggregated RCT data across psychological and pharmacologic interventions for BED have found that sex/gender,<sup>27</sup> race,<sup>28,29</sup> and education<sup>29</sup> have not significantly moderated outcomes. These findings might also not generalize to different clinical settings, to other healthcare providers, to other treatment methods, or to patients with different treatment priorities, to those uninterested in participating in research, and to those initially unwilling to consider this medication intervention (not just those with contraindications) or this CBT type of psychological intervention. We note that while treatment preference was determined using a single-item, as per previous studies of CBT vs. medication for depression,<sup>21–24</sup> empirical research has supported the validity and reliability of such single-item measures for concrete and important psychological phenomena and decisions.<sup>30,31</sup>

Patients' preferences were assessed *after* standardized detailed descriptions of both treatments including their rationales, and potential risks and uncertain benefits, which had been provided in written and verbal formats during the IRB-approved consent procedures. These procedures included determining patients' understanding and after allowing for any questions or concerns to be answered and addressed. Thus, patients had reasonable understanding of the LDX and CBT treatments, and they understood that their preferences were asked for research purposes but would not impact the treatment assignment, which was determined randomly.

It is uncertain whether, or how, the RCT nature of the study (and that participants did not actually have a choice of which treatment) potentially impacted the responses or findings. Moreover, by agreeing to participate in this clinical trial, the participants were presumably open to receiving either treatment even if they had a preference for one over the other. That is, those with a sufficiently strong preference not to receive one of the two specific treatments (CBT or LDX) might not have agreed to take part in this trial, and thus the findings here may not generalize adequately to such individuals. We note, however, that some participants enrolled in the study despite expressing a “strong” preference for one of the specific interventions (6.9% strongly preferred CBT and 23.5% strongly preferred LDX). Exploratory analyses (Supplementary Table 2) revealed no significant differences between those with strong preferences for CBT vs LDX on any demographic, psychiatric, or baseline clinical measures, and descriptive analyses of outcomes (Supplementary Figure 1) suggested similar patterning as the primary

analyses although the low frequencies precluded formal analysis. Moreover, exploratory descriptive analyses of outcomes by treatment preference match (ie, match vs mismatch vs no preference) revealed no significant differences (other than for weight, which was clearly driven by LDX effects). We note that a large RCT for major depressive disorder reported that “mismatch” between participants’ preference and actual treatment received (CBT or antidepressant) was not associated with depression outcomes.<sup>24</sup>

With these strengths/limitations in mind, the findings are important for clinicians in discussing BED treatments with patients. Our findings suggest that both CBT and LDX are effective for BED and that their outcomes are not moderated by patients’ preferences. Patients’ preferences, and the specific findings here that preferences for CBT and LDX do not moderate outcomes are important considerations in several common clinical situations. For example, in the case of a patient who prefers LDX over CBT but who has psychiatric or medical contraindications to using LDX, they can be advised that CBT is a leading and effective treatment for BED without those safety concerns and that it has good likelihood of benefitting the patient even if it is the less preferred option. Conversely, in the case of a patient with BED with coexisting obesity who might favor psychotherapy (CBT) over pharmacotherapy (LDX) but also has weight loss as a salient *patient* goal alongside elevated cardiometabolic risk factors, clinicians might discuss the potential advantage of LDX given its association with weight losses. More broadly, access to—and/or the availability of—CBT (a “specialist” psychological treatment”) may be limited in some geographic locations, whereas skilled pharmacotherapy management might be more readily available. In such instances, our data here (keeping in mind the relative strengths and limitations of the study) suggest that LDX represents a logical treatment to consider. We emphasize that the context for these discussions and clinical scenarios pertains to 2 “leading” evidence-based treatments (ie, CBT and LDX)<sup>3</sup> and not to other forms of treatments that are either sought by patients or offered to patients in clinical settings. Indeed, research with national samples has documented that the majority of treatments sought by and/or provided naturalistically to those with BED are not evidence-based.<sup>26</sup> It is possible, for example, that patients’ preferences impact outcomes more significantly when the treatment options are less potent. Future research should aim to compare the possible impact of treatment preferences across other psychological and pharmacologic treatments for BED, and this should be pursued in both RCTs (where interventions are experimentally controlled) and across diverse clinical settings (where available interventions are naturalistically sought and provided).

## Article Information

**Published Online:** May 7, 2025. <https://doi.org/10.4088/JCP.24m15552>

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**Submitted:** August 7, 2024; accepted February 19, 2025.

**To Cite:** Yurkow S, Ivezaj V, Pittman B, et al. Preferences for lisdexamfetamine vs cognitive-behavioral therapy for binge-eating disorder: correlates and outcomes. *J Clin Psychiatry* 2025;86(2):24m15552.

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**Relevant Financial Relationships:** The authors declare no competing interest. **Dr Grilo** reports broader interests, which did not influence this research, including honoraria for lectures and royalties from Guilford Press and Taylor & Francis Publishers for academic books.

**Funding/Support:** This study was funded by the National Institutes of Health (NIH) grant R01DK114075 (Grilo). This research was also supported, in part, by the NIH and National Center for Advancing Translational Science CTSA grant UL1 TR001863.

**Role of the Sponsors:** The NIH played no role in the content of this paper. Takeda provided lisdexamfetamine medication in response to investigator-initiated request but played no role in any aspect of the study design or study conduct and played no role in the content of this paper.

**Data Sharing:** De-identified data will be provided in response to reasonable written request to achieve goals in an approved written proposal (from noncommercial academic researchers).

**Supplementary Material:** Available at [Psychiatrist.com](https://www.psychiatrist.com).

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