Clinicians' Practices Regarding Blind versus Open Weighing among Patients with Eating Disorders

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ABSTRACT

Background: Empirically supported treatments for eating disorders, such as cognitive-behavioral therapy and family-based treatment, stress the importance of weighing patients during therapy and using this information as part of treatment. However, weighing practices vary widely across eating disorders professionals, including those that purport to provide empirically supported interventions.

Objectives: To characterize clinicians' practices regarding the decision to share (open weighing) or withhold (blind weighing) weight information with patients, a topic that has received limited prior attention.

Method: Clinicians (N = 114; 85% female) who regularly treat individuals with an eating disorder completed an online survey to identify factors that might impact their decision to practice blind or open weighing.

Results: Approximately half of the clinicians reported generally using open weighing procedures (n = 53; 46.49%). Endorsement of cognitive-behavioral or family-based therapeutic orientation was not significantly associated with open

weighing. However, clinicians who endorsed therapeutic modalities that do not specifically encourage open weighing were significantly more likely to engage in blind weighing. Clinicians working with clients with anorexia nervosa were significantly more likely to practice blind weighing, compared to clients with other eating disorder diagnoses, and cognitive or emotional impairment from malnutrition emerged as the strongest predictor of clinicians' decisions to practice blind weighing, controlling for all other variables.

Discussion: Development of specific training modules may be useful for improving adherence to empirically supported protocols that recommend open weighing. More importantly, however, our results highlight the need for future treatment studies to identify whether blind or open weighing is beneficial for improving patient outcomes. © 2014 Wiley Periodicals, Inc.

Keywords: blind weighing; open weighing; eating disorders; clinician practices; therapist drift; adherence

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Introduction

Eating disorders (EDs) are serious mental illnesses that are associated with substantial medical and psychiatric morbidity. Although cognitive-behavioral and interpersonal psychotherapies for bulimia nervosa and binge eating disorder show positive outcomes for over 50% of participants in randomized clinical trials (for a recent review, see Ref. 4), results are less positive for persons with

anorexia nervosa,5,6 and additional work is needed to improve treatment efficacy for individuals who do not respond to empirically supported interventions. Efforts to identify aspects of the therapeutic process that may lead to good (vs. poor) outcomes include dismantling studies,^{7,8} which seek to deconstruct psychotherapy treatments to identify which specific components of the therapy may have led to improvement. Other recent efforts have focused on clinician adherence,9-15 given that lackof-adherence to empirically supported protocols may reduce the effectiveness of therapies for EDs in the real-world. A specific source of nonadherence among cognitive-behavioral and familybased therapists is not weighing patients during the therapy process. ^{14,15} However, as we describe below, the decision of whether to weigh patients with EDs is widely debated, and few studies characterizing the weighing practices of clinicians

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Because over-concern with weight, shape, or their control represents a critical aspect of the psychopathology of most EDs, 16 it is not surprising that a number of psychological treatments for EDs utilize techniques that are designed to reduce morbid preoccupation with body weight and shape. Most therapeutic modalities for EDs encourage patients with EDs to decrease or eliminate selfweighing, but empirically supported therapies differ with respect to whether clinicians are encouraged to share their patients' weights with them during therapy. 17-21 "Blind weighing" involves weighing a patient, but not sharing this information with him or her. Anecdotally, the rationale for blind weighing may include the desire to minimize potential anxiety and distress that may result from patients seeing their weight increase (which could potentially interfere with weight restoration), to reduce patients' focus on the specific number on the scale, to prevent potential ruptures to the therapeutic alliance, or institutional policies that preclude clinicians from sharing their patients' weights with them.²² Another reason for blind weighing may be clinician (not patient) anxiety about patient reactions. Indeed, a recent study indicated that therapist anxiety was significantly negatively correlated with the frequency of weighing patients (although it was not clear whether therapists shared or withheld information about the patients' weights from their patients).¹⁴

"Open weighing" refers to weighing the patient during therapy and sharing this information with him or her. Information about the patient's weight is conveyed by allowing the patient to see the number on the scale and/or by plotting this information on a "weight progress chart" that is shared with the patient (and possibly also the patient's familv). 18,19,21,23 Open weighing is thought to provide an opportunity for the patient to become exposed to his or her weight-gain fears, which is hypothesized to reduce anxiety- and fear-related behavior related to body weight.²³ The rationale for exposing patients to changes in their body weights comes from the results of randomized controlled trials of behavioral therapy for anxiety disorders, which clearly indicate that repeated non-reinforced exposure to external or internal fear-related stimuli reduces symptoms of phobias, panic disorder, posttraumatic stress disorder, obsessive-compulsive disorder, and generalized anxiety disorder (for a review and meta-analysis, see Ref. 24). In order for exposure to be effective for decreasing anxiety symptoms, exposure must be non-reinforced, meaning that the habitual response is not positively reinforced and maladaptive coping strategies and

responses are blocked.²⁵ Many individuals with EDs engage in repeated "weight-checking" behaviors outside of therapy, ^{26–28} but these behaviors often increase weight preoccupation because of individuals' tendency to attribute random, trivial weight changes to their own "successes" or "failures" in their eating disorder behavior. Open weighing may provide an opportunity for therapists to help patients manage their reactions and concerns about weight during the therapy session. However, it is always possible that open weighing might inadvertently reinforce anxiety about weight change if it is followed by ED behaviors, or by self-congratulation for weight loss or self-castigation for weight gain. Therefore, many therapy protocols that recommend open weighing provide guidance on how to manage these contingencies.

Empirically supported treatments for EDs, such as cognitive-behavioral therapy and family-based treatment, stress the importance of weighing patients during therapy and using this information as a part of treatment. 19,21,23 However, weighing practices may vary widely across ED professionals, including those that purport to provide empirically supported interventions. Kosmerly et al.¹⁴ found that only 57.4% of family-based therapists weighed their patients at the beginning of every therapy session, and another study found that 37.5% of family-based therapists did not weight their patients at all.¹² Among family-based therapists, weighing the patient at the beginning of therapy was not significantly correlated with diagnoses of anorexia nervosa or "other specified feeding and eating disorders," and weighing patients at the beginning of therapy was significantly negatively correlated with diagnoses of bulimia nervosa.¹⁴ Similar findings have been documented for therapists practicing cognitive-behavioral therapy. Waller et al.15 found that only 38.2% of cognitivebehavioral therapists weighed their patients at every session.

In summary, many evidence-based and manualized treatments for EDs recommend open weighing, yet the limited research on this topic suggests that clinicians may be reluctant to engage in open weighing in practice. To our knowledge no studies have characterized clinicians' practices regarding weighing their patients with EDs across the range of therapeutic orientations and professional disciplines. We hypothesized that clinicians self-reporting a cognitive-behavioral or family-based therapeutic orientation would be more likely to engage in open weighing practices. We also posited that higher levels of patient anxiety and cognitive or emotional impairment due to malnourishment

would be associated with blind weighing, whereas greater patient motivation to change would be associated with greater likelihood of open weighing.

Method

Participants and Procedure

This study was approved by the Institutional Review Boards at Purdue University and Indiana University School of Medicine. Participants were ED clinicians (N = 114) who regularly treated individuals with EDs. Participants were invited to complete an anonymous 10minute online survey regarding their practices weighing patients with an ED. Participants were recruited via the Academy for Eating Disorders Listserv, an advertisement posted in the Academy for Eating Disorders Forum Newsletter, and the Eating Disorder Task Force of Indiana (a state-wide group of ED treatment professionals). Participants were included if they were age 18 or older and regularly treating individuals with EDs. To obtain a sample broadly representative of clinicians who treat persons with eating pathology, we did not exclude any professional disciplines.

Participants reported a mean (SD) age of 44.21 (11.77), and the majority of participants were female (88.5%; one participant did not report gender). Participants self-reported the following races/ethnicities (note that participants were allowed to select more than one race): Caucasian (95.5%), Asian (1.8%), multi-racial (1.8%), "other" race (1.8%), and Hispanic (4.5%). Most clinicians resided in the United States (85.8%), Canada (6.2%), or Australia/New Zealand (5.3%), and few participants lived in Western Europe (1.8%) or Eastern Europe (0.9%).

Clinicians had been treating patients with EDs for a mean (SD) of 12.64 (9.57) years. The majority of clinicians had received their Ph.D. (37.2%), M.D. (20.4%), or Psy.D. (6.2%). Of those who had received their Ph.D. or Psy.D., the majority were clinical psychologists (57.1%). Other professional disciplines included social work (15%), dietetics (12.4%), and nutrition (3.5%). Most clinicians worked with outpatients (69%), and most worked with adults (88.5%) or teens (87.6%), whereas approximately half of clinicians surveyed reported working with children (50.4%). Treatment settings within which clinicians worked included: private practice (44.2%), academic medical centers (28.3%), university counseling centers (3.5%), and non-academic medical centers (1.8%). Clinicians reported a range of therapeutic orientations (note that clinicians could select more than one orientation): cognitive-behavioral (83%), family-based or Maudsley (55.4%), motivational enhancement (44.6%), behavioral (41.1%), interpersonal (33%), acceptancebased (33%), eclectic (32.1%), family-systems (22.3%),

psychodynamic (17%), psychoanalytic (1.8%), or "other" model (21.4%).

Measures

Clinicians were asked questions to collect demographic information (e.g., age, duration of experience in the ED field, education, and professional identity) and clinical practice information (e.g., clinical setting and therapeutic orientation). Clinicians were asked to respond "yes" or "no" to whether they generally used blind weighing procedures. For the purposes of the survey, "blind weighing" was defined as a weighing procedure in which information about the patient's weight is not shared with him/her. Clinicians were asked a series of questions to identify factors that might impact their decision to practice blind (vs. open) weighing. The online survey design enabled us to use skip-logic so that therapists who practiced open weighing were directed to a series of questions that asked about factors that might impact their decision to share their clients' weights with them (such as believing sharing their clients' weights with them leads to better treatment outcomes). Clinicians who practiced blind weighing were directed to a different series of questions that inquired about when during the course of treatment the clinician used blind weighing. Next, all clinicians answered a series of questions that asked about their typical weighing practices separately for each ED diagnostic category (i.e., anorexia nervosa, bulimia nervosa, binge eating disorder, and purging disorder^{a,b}, and factors that might have influenced their weighing practices. These factors included: patient motivation for change, patients who display excessive worry or strong obsessive symptoms regarding their weight, patient-reported history of relapse in response to knowing his or her weight, patients' desire not to know their weight, and impairment in cognitive or emotional functioning due to malnutrition. Questions about the diagnostic categories were asked in a way that could be appropriately answered by clinicians who either did or did not blind weight their clients, and clinicians had the option to select "not applicable" as a response to each item. We chose to separate questions by ED diagnosis, given that weighing practices may vary due to specific weight change goals that are associated with different forms of eating pathology. Survey questions were developed by the study authors (KTF and JR), with

^aBecause purging disorder has only recently been introduced into the diagnostic nomenclature as a specific form of an "otherwise specified feeding or eating disorder,"³¹ we provided an explicit definition based on guidelines provided by Keel et al.³² to assist clinicians who may not be familiar with the specific criteria for purging disorder.

^bResults did not change as a result of disaggregating cognitivebehavioral therapy and behavior therapy or psychoanalytic and psychodynamic modalities.

TABLE 1. Typical patient weighing practices among eating disorder clinicians (percentages)

	AN	BN	BED	PD
Share with patient his/her exact weight	24.78	21.43	18.75	16.22
Display the patient's past and current weights on a graph.	10.62	8.04	5.36	5.41
Share with patient the direction and magnitude of change (e.g., tell him/her that he/she gained a little bit, or lost about two pounds), but not an exact weight	15.93	9.82	8.04	9.91
Share with patient the direction of weight change only (e.g., telling the patient his/her weight has increased, decreased, or stayed the same)	20.35	14.29	12.50	18.92
Share with patient whether he/she is in or out of a specified range	12.39	20.54	4.46	16.22
Share with patient only whether he/she is "on track" with regard to weight gain	10.62	3.57	5.36	3.60
It depends on the weight of the patient.	_	11.61	9.82	_
Do not share any information about his or her weight	2.65	6.25	10.71	7.21
Not applicable	2.65	4.46	25.00	22.52

Note. AN = anorexia nervosa, BN = bulimia nervosa, BED = binge eating disorder, PD = purging disorder. Questions were asked separately for each diagnosis with different stems (e.g., "What is your typical practice when treating a patient with anorexia nervosa,..."). Given that purging disorder is a relatively newly identified form of other specified feeding or eating disorder, we provided the explicit diagnostic definition of purging disorder based on criteria outlined by Keel et al.³²

additional group input from members of the Eating Disorders Task Force of Indiana during a 2-h, interactive feedback session in which clinicians provided their input to the initial survey items. The survey was revised based on clinicians' feedback prior to launching the online survey. The full questionnaire may be obtained from the first author, upon request (KTF).

Statistical Analyses

Data were analyzed using SAS 9.3.29 Frequency counts (percentages) were used to characterize weighing practices utilized by ED clinicians. Tetrachoric correlations were used to identify associations among professional characteristics (e.g., therapeutic orientation) and weighing practice (data were coded: 0 = open weighing, 1 = blind weighing). Positive correlations indicated increased blind weighing, whereas negative correlations indicated decreased blind weighing (or increased open weighing). We chose to use tetrachoric correlations because these statistics provide estimates of the Pearson product-moment coefficient that would have occurred if the constructs had been measured with continuous variables.30 Chi-square tests were used to identify whether patient diagnostic status was associated with clinicians' weighing practices. To identify the most important factors that affect clinicians' weighing practices, patient characteristics were entered as predictors of clinician weighing practices in binomial logistic regressions. This allowed for a test of clinicians' most important rationales for engaging in blind or open weighing, controlling for all other variables.

Results

Survey respondents reported a wide-range of weighing practices. Approximately half of participants reported "generally using" open weighing (n = 53; 46.49%), whereas the other half reported

"generally using" blind weighing procedures (n = 61, 53.51%). Even among clinicians who generally use blind weighing, most shared at least some weight information with their patients (see Table 1), and more so as treatment progressed. Among this group, the majority withheld patient weights from their patients during the early phase of treatment (94.74%), compared to the middle (65.79%) and late (18.42%) stages. Overall, more clinicians reported moving in the direction of open weighing over the course of their careers than vice versa: 42.5% used to share less information about patients' weight than they do now, whereas 8.8% used to share more information about weight than they do now. Nearly half of participants reported no change in their policy regarding blind (vs. open) weighing over time (48.7%). The majority of participants did not belong to a larger treatment team that dictated their policy regarding sharing patients' weights with them (68.42%).

Tetrachoric correlations were used to identify associations among clinicians' therapeutic orientation and blind (vs. open) weighing. To maximize power for these analyses, cognitive-behavioral and behavioral orientations were combined into one variable, and orientations that do not specifically encourage open weighing practices were combined into another variable (including psychodynamic, psychoanalytic, motivational enhancement therapy, and interpersonal therapy). As we predicted, clinicians who endorsed therapeutic modalities that do not specifically encourage open weighing were significantly more likely to engage in blind weighing (r = .43, p < .001, Cohen's d = .95). However, cognitive-behavioral (r = .10, p > .01, Cohen's d = .20) and family-based (r = .09, p > .01, Cohen's d = .18) orientations were not significantly associated with open weighing, although effect sizes were in the predicted direction.

TABLE 2. Binary logistic regression predicting general use of blind weighing from client factors

Item	AN		Other Eating Disorder Diagnoses	
	β	OR	β	OR
If a patient is more motivated for change, I am willing to share his/her weight	07	.88	.02	1.13
If a patient shows excessive worry or strong obsessive symptoms regarding his/her weight, I am less likely to share his/her weight	.20	1.49	.10	.91
If a patient does not want to know his/her weight, I will not share it with him/her	.39	2.18	.40	2.16
If a patient has relapsed in the past in response to knowing his/her weight, I am less likely to share his/her weight	.11	1.25	.20	1.19
If a patient's cognitive and emotional functioning seem impaired by malnourishment, I am less likely to share his/her weight	.68	3.93*	.57	5.71*

Note. *p < .01. Odds ratios close to zero or > 2 are bolded to indicate the presence of moderate to large effect sizes. AN = anorexia nervosa. Other Eating Disorder Diagnoses include bulimia nervosa, binge eating disorder, and purging disorder. Questions were asked separately for each diagnosis using different stems (e.g., "In regard to a patient with anorexia nervosa,..."). Positive β values and odds ratios > 1 indicate greater likelihood of blind weighing. Question 1 (motivation for change) was re-coded for ease of interpretation, so that negative β values and odds ratios < 1 indicate lower likelihood of blind weighing (or greater likelihood of open weighing).

Chi-square tests were used to identify whether patient diagnostic status was associated with clinicians' weighing practices. Because descriptive analyses indicated few differences among clinician's weighing practices for bulimia nervosa, binge eating disorder, and purging disorder (see Table 1), we combined these data to compare anorexia nervosa vs. all other diagnostic classes. Given that some weighing practices were associated with small cell sizes for individual diagnoses, we combined this variable into two categories: (a) weighing practices that involved providing some weight information to the client and (b) practices that reflected "pure" blind weighing (i.e., not sharing any weight information with one's client). Results indicated that clinicians were significantly more likely to blind weigh clients with anorexia nervosa compared to clients with other eating disorder diagnoses $(\chi^2 = 21.52, df = 1, p < .001, Cohen's d = .96).$

Next, we carried out separate logistic regressions for anorexia nervosa and the combined class of all other eating disorder diagnoses to identify the strongest predictors of blind weighing, controlling for all other variables. Compared to clinicians who generally weigh their patients openly, the odds of engaging in blind weighing increased significantly for all eating disorder diagnoses if patients' cognitive or emotional functioning seemed to be impaired by malnourishment, holding all other variables constant (see Table 2). Because professional discipline was differentially correlated with clinicians' weighing practices (data available upon request), we re-ran logistic regressions controlling for nutritionist/dietitian and clinical psychologist professions. The interpretation of our findings did not change as a result of including these professional disciplines as covariates in logistic regression models.

Finally, because it is possible that therapeutic setting may play a role in determining clinicians' weighing practices, we re-ran all analyses separately in outpatient clinicians. With one exception, the interpretation of our findings remained the same after excluding inpatient clinicians from analyses. Specifically, the difference among outpatient clinicians was that the odds of engaging in blind weighing for patients with anorexia nervosa was not significantly related to patients' cognitive or emotional impairments caused by malnourishment. This result may be because the majority of clients with anorexia nervosa who can be seen on an outpatient basis may not be experiencing the acute level of impairment that is more typical of inpatients.

Discussion

The purpose of this study was to characterize the weighing practices among ED clinicians. On the basis of the guidelines for weighing practices for cognitive-behavioral and family-based psychotherapies, we hypothesized that clinicians who endorsed these therapeutic orientations would be significantly more likely to practice open weighing. Contrary to our hypotheses, however, we did not find significant relations between endorsement of a cognitive-behavioral or family-based therapeutic orientation and open weighing (although estimates of effect size were in the predicted direction). Although these findings are consistent with other reports of lack-of-adherence to empirically supported protocols for EDs, 10,13-15 it is unclear what impact (if any) these deviations in weighing practices may have on clinical outcomes.

An additional study hypothesis was that higher levels of patient anxiety and cognitive or emotional impairment due to malnourishment would be associated with greater likelihood of blind weighing, whereas increased motivation to change would be associated with open weighing (or decreased likelihood of blind weighing). Although odds ratios were in the hypothesized directions, patient anxiety and motivation to change failed to reach statistical significance. Notably, cognitive and emotional impairments thought to result from malnourishment was the strongest predictor of blind weighing, controlling for all other variables in the model. These results dovetail with other descriptive findings from the present study, which indicated that of the clinicians who generally engaged in blind weighing, the majority did so during the early phases of therapy. By the late stages of treatment, when presumably few patients are experiencing the acute effects of poor nutrition, very few clinicians engage in blind weighing procedures. Given that the effects of nutritional status on patient functioning was an important predictor of blind weighing, additional studies are needed to determine whether withholding patients' weights from them during the early phases of treatment is beneficial.

From a theoretical perspective, in order for open weighing to be effective for decreasing weightrelated obsessions and anxiety, the exposure (e.g., weighing) needs to continue for a sufficient period of time, during which the anxiety must not be reinforced (e.g., followed by increased ED behaviors and accompanying relief or by treatment drop out). Therefore, it makes conceptual sense to modify or delay open weighing practices if the patient is unlikely to be able to persist in non-reinforced exposure. The data reported above, as well as the comments of participating clinicians at the end of the survey, where room was given for open-ended feedback, indicated that most clinicians modify their weighing practices from patient to patient depending on their beliefs about who is likely to benefit from open weighing. Our findings make clinical sense within this framework; clinicians are likely to share less information about weight with patients who are early in treatment (and perhaps less stable or less committed as a result) and highly vulnerable to relapse. Several clinicians also noted in their comments that they were more likely to share weights with patients who have specific distorted beliefs (e.g., about excessive weight gain) that would be corrected by sharing weight information. However, the standards by which clinicians decide who is and is not likely to benefit are not clear and consistent, and it therefore seems likely that both (helpful) clinical judgment and (unhelpful) clinician anxiety may be playing a role in the decision-making process.

Certain limitations may impact the interpretation of our findings. First, because participants completed the study anonymously and were approached via two e-mail lists (the Academy for Eating Disorders Listserv and an e-mail sent to members of the Eating Disorders Task Force of Indiana) and an announcement posted in the Academy for Eating Disorders Forum Newsletter, it is not possible to determine the study participation rate. These methods may have engendered selection bias, given that certain factors may have increased or decreased clinicians' likelihood of responding to this survey. Despite these concerns, it is noteworthy that participants were recruited from a variety of sources, including the largest world-wide organization of ED professionals, which may have improved the generalizability of our findings. Second, we were not able to determine whether the effects of professional discipline were independent of patient diagnosis. In other words, it was possible that some disciplines saw a disproportionate number of certain diagnoses (e.g., anorexia nervosa), which makes it difficult to determine if differences in weighing practices reflected true clinician effects or patient characteristics. To attempt to control for these effects, professional disciplines that were significantly correlated with blind or open weighing were entered as covariates in logistic regression models that predicted the likelihood of blind weighing. Controlling for professional discipline did not affect whether patient factors were significant predictors of blind weighing. Third, in order to carry out quantitative analyses of clinicians' weighing practices, the study was designed in such a way as to require specific answers to questions, which may have been challenging if clinicians utilized more nuanced approaches. Fourth, the heterogeneity of the sample (e.g., the variety of types of clinicians and settings of practice) may have reduced our ability to detect significant effects. Although we provided data on effect size in an effort to address this issue, future studies with larger sample sizes would be helpful for testing specific sources of heterogeneity that may have impacted clinicians' weighing practices. Finally, and perhaps most importantly, the results of this study do not provide information regarding whether or not blind or open weighing is preferable for patient outcomes. Additional randomized controlled trials are needed to determine whether recommendations for obtaining open weights are beneficial. Based on the results of the present study, it may be informative for future studies to test whether beginning with blind weighing and transitioning to open weighing over the course of treatment has clinical utility.

Our study had several notable strengths. This was the first study, to our knowledge, to characterize weighing practices among ED clinicians across therapeutic modalities, professional disciplines, and ED diagnoses. It was also the first study to characterize clinicians' weighing practices for binge eating disorder and purging disorder. Given the importance of weight and shape to the onset and maintenance of eating pathology, ¹⁶ and the lack of studies to characterize clinicians' practices regarding how they convey information about weight changes to their patients, this study may have important implications for future studies seeking to better understand ED treatment process and outcome.

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