

Group cognitive-behavioral treatment for internalized weight stigma: a pilot study

Rebecca L. Pearl¹ · Christina H. Hopkins^{1,2} · Robert I. Berkowitz^{1,3} · Thomas A. Wadden¹

Received: 9 September 2016 / Accepted: 15 October 2016 / Published online: 27 October 2016
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Abstract

Objective This study tested a novel group-based, cognitive-behavioral intervention designed to reduce internalized weight stigma among individuals with obesity.

Methods A total of eight men and women with obesity who had experienced weight stigma and reported high levels of internalized weight stigma attended the Weight Bias Internalization and Stigma (BIAS) Program. The program provided eight weekly sessions of cognitive-behavioral treatment to cope with weight stigma. Participants completed questionnaires pre- and post-intervention, including the Weight Bias Internalization Scale (WBIS), Fat Phobia Scale, Weight Efficacy Life-Style Questionnaire (WEL), and Beck Depression Inventory-II (BDI-II). Six additional participants were included in a quasi-control group that received no intervention until after completing all study measures.

Results Participants in the Weight BIAS Program reported significantly greater decreases in WBIS and Fat Phobia scores, and greater increases in WEL scores than participants in the quasi-control group ($ps < .04$). Changes in

BDI-II scores did not differ between groups. Treatment-acceptability ratings were high among participants who received the intervention.

Conclusion Including cognitive-behavioral strategies to address weight stigma in weight management programs could potentially reduce internalized weight stigma and enhance treatment outcomes.

Keywords Cognitive-behavioral · Internalized weight stigma · Obesity · Self-efficacy

Introduction

Experiencing weight stigma adversely affects individuals with obesity by increasing risk for depression, disordered eating, weight gain, and all-cause mortality [1, 2]. Some individuals may internalize weight stigma (or self-stigmatize) by applying weight-based stereotypes to themselves [3]. Such internalized weight stigma (IWS) also is associated with increased symptoms of depression and disordered eating (e.g., binge eating), and reduced physical activity [4]. Recent studies have revealed that IWS may be a more robust predictor of adverse health outcomes than the experience of weight stigma alone [5, 6]. A proposed mechanism for these negative associations is reduced self-efficacy to achieve one's goals, particularly related to eating and weight control [7, 8]. For example, if individuals with obesity think they lack willpower (internalized stereotype), they may not think they can resist cravings for high-caloric foods (reduced self-efficacy) and thus stop trying.

Patients with obesity and high IWS could potentially benefit from a targeted psychological intervention to reduce self-stigma. Some weight- and eating-management

Electronic supplementary material The online version of this article (doi:10.1007/s40519-016-0336-y) contains supplementary material, which is available to authorized users.

✉ Rebecca L. Pearl
rpearl@mail.med.upenn.edu

¹ Department of Psychiatry, Perelman School of Medicine at the University of Pennsylvania, Philadelphia, PA, USA

² Department of Psychology, Duke University, Durham, NC, USA

³ Department of Child and Adolescent Psychiatry and Behavioral Science, Children's Hospital of Philadelphia, Philadelphia, PA, USA

interventions have included information related to weight stigma and observed improvements in IWS [9, 10]. However, these studies could not separate the possible benefits of the weight stigma intervention from those of weight loss or improved eating behavior. Group-based interventions for internalized stigma related to mental illness have used cognitive-behavioral techniques to help individuals challenge negative beliefs, cope with stigmatizing situations, and build self-efficacy to achieve goals [11]. Applying these strategies to reduce IWS may benefit persons with obesity.

The current study tested a novel group-based, cognitive-behavioral intervention designed to help individuals with obesity cope with weight stigma. It was hypothesized that this intervention would reduce IWS and increase self-efficacy to control one's eating. This study also explored whether an intervention targeting IWS would improve depressive symptoms.

Methods

Participants

Participants were recruited from the greater Philadelphia area. Eligibility criteria included: 18 years or older; body mass index (BMI) of 30 kg/m² or above;¹ prior weight-stigmatizing experiences; high levels of IWS; and concern about controlling body weight. Exclusion criteria included: current severe symptoms of major psychiatric illnesses (excluding binge eating disorder; BED); alcohol/substance dependence or abuse; active suicidal ideation; receiving psychotherapy from a mental health professional or taking antidepressants (unless dose was stable for 6 months); pregnant or nursing; currently using pharmacotherapy for weight loss; or a history of bariatric surgery.

Procedures

Screening

All participants completed a telephone screening to assess eligibility, which included administration of the weight bias internalization scale (WBIS) [3] and three yes/no questions assessing whether they had ever been discriminated against, teased or bullied, or treated unfairly due to their body weight [12]. Eligible participants were required to have a score of at least four (midpoint) on the WBIS and endorse at least one item pertaining to experiencing weight stigma. Participants deemed eligible attended an in-person screening interview conducted by a doctoral-level

psychology fellow (who also served as the group leader). Participants completed the Beck Depression Inventory-II (BDI-II) [13], and height and weight were measured.

Group assignment

Eighteen participants who met eligibility criteria were consented and randomly assigned to the Weight Bias Internalization and Stigma (BIAS) Program or an Education-Control group (nine per group). Prior to the start of the intervention, two participants in the intervention group were lost to follow-up, and one withdrew due to a medical condition. Due to the low sample size, the study was converted to an open-label trial, and all participants were invited to receive the intervention. Three participants from the Education-Control group joined the intervention group, leaving six in a quasi-control group (no longer a randomized control). One participant receiving the intervention withdrew after the first session due to a scheduling conflict, leaving eight participants in the intervention group.

Intervention

Participants in the intervention group attended the 8-week Weight BIAS Program, which consisted of 60-min weekly group sessions. Participants were provided cognitive-behavioral strategies to reduce self-stigma. Session topics included psychoeducation about obesity and weight stigma; myths and stereotypes about weight; weight-related cognitive distortions; thought records; cognitive restructuring and reappraisal; assertiveness training; empowerment; and body acceptance (see Supplemental Material for session content summary). Although participants were not directly instructed to change their health behaviors, the effects of weight stigma on eating and physical activity were discussed. Participants received weekly homework assignments that were reviewed at the start of the subsequent group meetings. Make-up sessions were offered if participants were absent. At study completion, participants in the quasi-control group were invited to attend one 90-min session providing a summary of the Weight BIAS Program.

Assessment

In addition to screening assessments, all participants completed questionnaires online via REDcap [14] (or paper copies if preferred) one week before the intervention that included demographic information and dependent measures (described below). The questionnaires were re-administered after the final group session. Weight was also measured at the final group session for participants in the intervention group, and at the time of the quasi-control group meeting for those who chose to attend. All participants were compensated \$50

¹ One participant in the intervention group had a BMI of 29.7 kg/m².

for their participation. All procedures were approved by the university's institutional review board.

Dependent measures

IWS was assessed with the 11-item WBIS, a widely used scale evaluating the degree to which individuals with obesity self-stigmatize [3]. Items were rated on a scale of 1 (strongly disagree) to 7 (strongly agree), and scores were averaged. The Fat Phobia Scale [15] was included as a secondary measure of IWS. This 14-item scale prompts participants to rate their endorsement of weight-related stereotypes on a 1–5 scale, with higher averaged scores signifying greater endorsement and, among individuals with obesity, internalization of stereotypes. The 20-item

Weight Efficacy Life-Style Questionnaire (WEL) [16] assessed participants' confidence in their ability to control their eating in various situations (e.g., when experiencing negative emotions). Items were rated on a 0–9 scale and summed, with higher values representing greater self-efficacy to control one's eating. Symptoms of depression were assessed with the BDI-II [13], with higher summed scores signifying greater symptom severity. After the final session, a treatment-acceptability questionnaire asked participants to rate how helpful, acceptable, fair, and suitable they found the Weight BIAS Program, and how much they liked and felt satisfied with the intervention. Items were rated on a scale of 1 (not at all) to 7 (extremely) and averaged. Participants also rated (1–7) how likely they were to recommend the program to others.

Table 1 Sample characteristics

Variable	Intervention group <i>N</i> (%)	Control group <i>N</i> (%)
Gender		
Women	7 (87.5)	4 (66.7)
Men	1 (12.5)	2 (33.3)
Race		
White	1 (12.5)	2 (33.3)
Black	5 (62.5)	3 (50.0)
Multiracial	2 (25.0)	1 (16.7)
Education		
8th grade or less	1 (12.5)	0
High school graduate/GED	2 (25.0)	0
Some college, trade school	3 (37.5)	2 (33.3)
4-year college graduate	1 (12.5)	2 (33.3)
Post-college education	1 (12.5)	2 (33.3)
Employment		
Working full-time	1 (12.5)	4 (66.7)
Working part-time	1 (12.5)	1 (16.7)
Income		
Less than \$25,000 per year	6 (75.0)	0
\$25,000–\$50,000	2 (25.0)	1 (16.7)
\$50,000–\$75,000	0	3 (50.0)
\$75,000–\$100,000	0	1 (16.7)
Greater than \$100,000	0	1 (16.7)
Marital status		
Single	5 (62.5)	3 (50.0)
Married/in committed relationship	0	2 (33.3)
Divorced	2 (25.0)	1 (16.7)
Separated	1 (12.5)	0
Mean age \pm SD (years)	54.0 \pm 9.7	52.7 \pm 9.1
Mean weight \pm SD (kg)	115.6 \pm 38.2	106.9 \pm 13.8
Mean BMI \pm SD (kg/m ²)	42.2 \pm 12.1	38.6 \pm 5.3

SD: Standard deviation; BMI: Body mass index

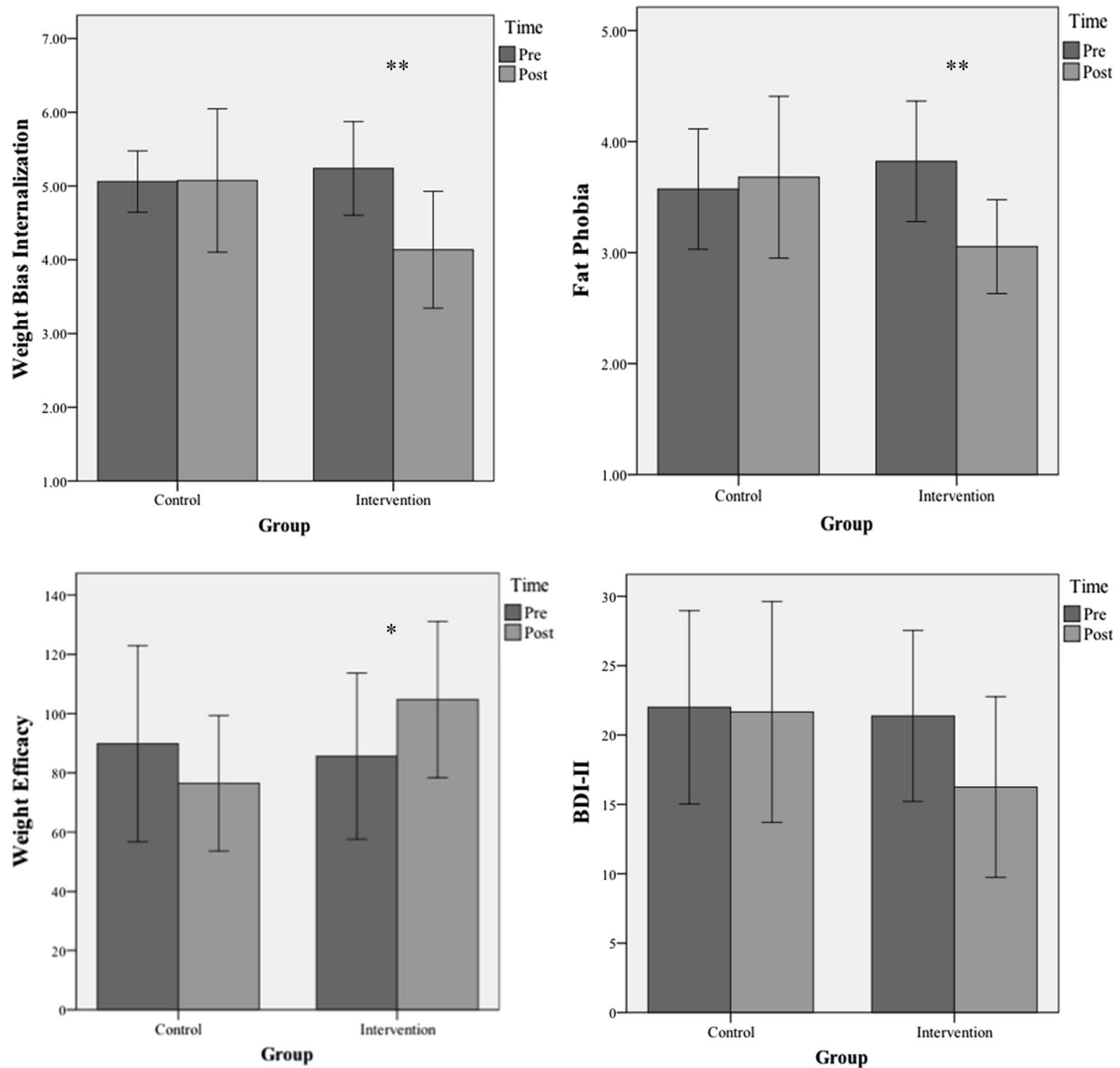


Fig. 1 Means and standard errors (± 2) of dependent measures. BDI-II: Beck Depression Inventory-II. Two BDI-II items were missing for one control group participant's post-intervention questionnaires

(score was summed without these items); and one Fat Phobia Scale item was missing for one intervention group participant at baseline (average score was prorated). ** $p < .01$ * $p < .05$

Results

Table 1 presents participant characteristics. Participants in the intervention group attended an average of 6.25 ± 1.67 sessions. Average weight remained stable in the intervention and quasi-control groups from pre- to post-intervention (1.00 and -2.13 kg, respectively; $ps > 0.30$).²

Figure 1 displays pre-and post-intervention scores on the primary dependent measures. Scores did not differ

significantly between groups at baseline. Multivariate analysis of variance, (including all dependent measures) revealed that participants in the intervention group, compared to the quasi-control group, had significantly greater decreases in WBIS and Fat Phobia scores [$F(1,12) = 6.73$, $p = 0.023$, $\eta_p^2 = 0.36$ and $F(1,12) = 7.67$, $p = 0.017$, $\eta_p^2 = 0.39$] and significantly greater increases in WEL scores [$F(1,12) = 10.42$, $p = 0.007$, $\eta_p^2 = 0.47$]. Changes in BDI-II scores did not differ between groups [$F(1,12) = 0.13$, $p = 0.72$, $\eta_p^2 = 0.01$]. Participants in the intervention group indicated that they were highly likely to

² Post-intervention weights were not obtained for two quasi-control group participants.

recommend the Weight BIAS Program to others (all scores ≥ 5 , mean 6.38 ± 0.92) and rated the treatment as highly acceptable (mean 6.21 ± 0.87).

Discussion

The Weight BIAS Program was associated with decreased IWS and increased eating self-efficacy among individuals with obesity who had experienced and internalized weight stigma. Participants' body weight remained stable, suggesting that reductions in self-stigma were attributable to the intervention rather than weight loss. Changes in depressive symptoms did not differ between the intervention and quasi-control groups. This intervention was designed specifically to reduce IWS and thus may not serve as a substitute for treatment targeting depression.

Limitations of this pilot study included a non-randomized design, small sample size, and limited follow-up. A large-scale, randomized controlled trial is needed to replicate the findings. Future studies should also examine possible differences in treatment responses associated with gender and race/ethnicity. Although participants' self-efficacy to control eating improved significantly in the intervention group, actual changes in eating behavior were not assessed. Given negative associations between IWS and health behaviors [4], further research is needed to determine whether reducing IWS may lead to healthier eating and more physical activity.

A recent study found that women with obesity and high IWS did not benefit from weight-loss and weight-neutral interventions [9]. Weight-control interventions could be enriched by incorporating cognitive-behavioral strategies to reduce IWS, as tested here. Self- and body-acceptance are not necessarily at odds with the desire to change health behaviors and lose weight: acceptance may in fact facilitate these changes, if patients feel more confident and motivated to improve their health as they stop devaluing themselves due to weight. Thus, studies are needed that test the effects on weight loss and psychological well-being of the present intervention for IWS combined with behavioral weight control. Weight-neutral eating interventions serving patients for whom weight loss is not indicated also may benefit from including the cognitive-behavioral strategies tested here. While investigators advance efforts to reduce societal weight bias and stigmatizing experiences, research also is needed to develop clinical interventions to help individuals who have experienced and internalized weight stigma.

Compliance with ethical standards

Funding None to report.

Conflict of interest TAW discloses serving on advisory boards for Novo Nordisk, Nutrisystem, and Weight Watchers, as well as receiving grant support, on behalf of the University of Pennsylvania, from Eisai Pharmaceutical Co. None of the other authors declares any conflicts.

Ethical approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed consent Informed consent was obtained from all individual participants included in the study.

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