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Culturally Adapted Cognitive Behavioral Guided Self-Help for Binge Eating: A Feasibility Study with Mexican Americans

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Abstract

Objective was to test feasibility and preliminary efficacy of a culturally adapted cognitive-behavioral self-help program to treat binge eating and related problems in Mexican Americans. Participants were 31 women recruited from the Los Angeles area and diagnosed with binge eating disorder, recurrent binge eating or bulimia nervosa. Participants completed a culturally adapted version of a CBT-based self-help program with 8 guidance sessions over a 3-month period. Treatment efficacy was evaluated in terms of binge eating, psychological functioning, and weight loss. Intent-to-treat analyses revealed 35.5% abstinence from binge eating at post-treatment and 38.7% diagnostic remission. Results indicated significant pre-treatment to post-treatment improvement on distress level, BMI, eating disorder psychopathology, and self-esteem. Satisfaction with the program was high. Findings demonstrate that the program is acceptable, feasible, and efficacious in reducing binge eating and associated symptoms for Mexican American women. Study provides “proof of concept” for implementation of culturally adapted forms of evidence-based programs.

Keywords

binge eating; cognitive behavioral treatment; ethnicity; guided self-help; Mexican American

There is a pressing need to advance the treatment of eating and weight disorders for ethnic minority women by developing effective and accessible intervention programs. The purpose of this study was to test the feasibility, acceptability and preliminary efficacy of a culturally adapted self-help program for binge eating and associated problems with a Mexican American sample. The elimination of health disparities has been one of the two major public health goals in the United States (U.S. Department of Health and Human Services, 2000). Latinos are the fastest growing and largest minority group in the United States. The National Healthcare Disparities Report from The Agency for Healthcare Research and Quality (2006) indicates that although disparities in access to health care have diminished for all other minority groups, they have increased among the Latino community. In addition, Latinos are more likely than any other racial or ethnic group to lack a regular source of care and are less likely to have health insurance. Furthermore, ethnic minority women, especially those from lower income backgrounds, continue to be underrepresented in therapy, treatment trials and research (Garvin & Striegel-Moore, 2001; Rosen, Tolman, Warner, 2008), and to suffer from unmet health needs (Center for Disease Control, 2004; National Poverty Center, 2008; National Women's Law Center, 2001).

Overeating problems are associated with obesity, psychosocial impairment including depression, and considerable medical co-morbidity, and pose serious health risks in Latinos and other ethnic minority populations. Research has demonstrated that binge eating problems, including binge eating disorder (BED) and bulimia nervosa (BN), and associated obesity are prevalent for Mexican American women and pose serious physical and mental health risks (Cachelin, Phinney, Schug, & Striegel-Moore, 2006; Cachelin, Schug, Juarez, & Monreal, 2005; Cachelin, Veisel, Striegel-Moore, & Barzegarnazari, 2000; Flegal, Carroll, Kit, & Ogden, 2012; Regan & Cachelin, 2006). Lifetime prevalence estimates for BN and BED among Latinas in the U.S. are similar to those of the general population of females, ranging from 1.9% to 2.0% for BN, and from 2.3% to 2.7% for BED (Alegría et al., 2007). Yet despite their problem severity, Latina women's eating disorders largely go undetected and untreated (Becker et al., 2010; Cachelin, Rebeck, Veisel, & Striegel-Moore, 2001; Cachelin, Striegel-Moore, & Regan, 2006). Research has demonstrated Latina women encounter numerous barriers—both on individual and institutional levels—to seeking professional help, including feelings of shame, perceived stigma, financial constraints, limited access to affordable healthcare services, and a paucity of culturally competent providers (Cachelin et al., 2001; Cachelin & Striegel-Moore, 2006; Dow, 2011). In one study, fewer than 28% of a sample of Mexican American women with weight and eating disorders ever had sought treatment, and of this group only 6.6% actually had received treatment (Cachelin et al., 2006).

Cognitive-behavioral therapy (CBT) is considered to be the treatment of choice for binge eating problems including BN and BED (Wilson, Grilo, & Vitousek, 2007). However, CBT requires extensive training and expertise, which can make it costly to implement. Therefore, implementation science researchers have examined the effectiveness of CBT-based guided self-help (CBTgsh) as a more easily disseminable intervention or first step in the treatment of binge eating related problems (see review by Wilson & Zandberg, 2012). Self-help interventions are low-cost, accessible, and empowering, hence overcoming many of the cultural and social barriers to seeking health care. Clients participating in a typical CBTgsh

program follow a self-help manual with programmatic steps based in CBT and attend regular guidance/support sessions with a “coach” or “supporter,” who may either be a specialist or non-specialist in clinical or nonclinical settings. A few such programs have been developed with similar components, with the program developed by Fairburn (1995) as the one most commonly evaluated in evidence-based research (Wilson & Zandberg, 2012).

Research conducted primarily with White (European/European American) women has demonstrated CBTgsh to be effective in reducing binge eating and vomiting, decreasing shape and weight concerns, and improving depression and self-esteem (Sysko & Walsh, 2008; Wilson & Zandberg, 2012). Reported abstinence rates from binge eating range from 24% – 64%, and improvement is typically maintained at follow-up (Wilson & Zandberg, 2012). Yet experts agree that, despite its promise, considerably more community-based research is needed before CBTgsh can be disseminated widely (Sysko & Walsh, 2008; Wilson & Zandberg, 2012). Most important is the notable lack of ethnic or cultural representation in these treatment studies.

Incorporating culturally sensitive components has been shown to increase ethnic minority clients’ treatment engagement (Flaskerud & Nyamanthi, 2000; Shea & Leong, 2013; Shea, Yang, & Leong, 2010; Vega et al., 2007). Moreover, culturally adapted interventions have been shown to be as equally or more effective than generic interventions (Falicov, 2009). Following the Stage Model of Behavioral Therapies (Rounsaville, Carroll, & Onken, 2001), we recently completed a series of studies to adapt the CBTgsh intervention (Fairburn, 1995) to Mexican American cultural beliefs and values, and to test its feasibility and preliminary efficacy in a community sample. First, using focus group methodology, we evaluated the acceptability of the CBTgsh program among Mexican American women with binge eating disorders and identified the cultural themes that need to be considered when implementing this program with such a group including: 1) navigating cultural expectations with regard to eating and body image; 2) attending to family dynamics; 3) incorporating culturally specific eating patterns and foods; 4) utilizing culturally relevant scenarios and activities; and 5) empowerment through self-help. Overall, all the focus group participants reported that they liked the CBTgsh program, would follow it, and would recommend it to a friend. They also believed that—with some modifications—the program would be feasible and acceptable for Mexican Americans (Shea et al., 2012).

In the study presented here we examined next the feasibility, acceptability and preliminary efficacy of the culturally adapted modification of the CBTgsh program with a community sample of Mexican American women with binge eating disorders. It is important to note that focus group sessions in the preliminary study (Shea et al., 2012) had been conducted in English (2 sessions) and Spanish (1 session), and participants were recruited from the similar communities as the sample presented here. English-speaking focus-group participants were very similar to the present sample in terms of age, acculturation level, education, and marital status. Themes and suggestions for change were similar across both sets of focus groups, and English- and Spanish-speaking participants alike expressed positive evaluation and acceptability of the program (Shea et al., 2012). For the present feasibility study, however, only English-speaking participants were recruited in order to control for any confounding effects of language or acculturation.

We hypothesized that treatment with the program would result in a reduction of or abstinence from binge eating (primary outcome), and improvement in secondary health outcomes including weight, depression, psychological functioning, self-esteem, level of distress regarding eating, and shape and weight concerns. We examined the intervention's acceptability, feasibility, and efficacy by assessing program acceptance rates, attrition rates, reasons for attrition, degrees of adherence, reduction in binge eating and associated symptoms, evaluation of each program step, and reported satisfaction with the program. This study is the first to examine a culturally-adapted self-help program for eating problems with an ethnic minority population.

Method

Participants

A case-finding procedure was used to recruit participants by posting flyers and ads in educational and community organizations throughout the greater Los Angeles area. Recruitment materials asked for Mexican American women experiencing problems with overeating or binge eating to participate in a women's health study; we focused in this study on women of Mexican origin to control for potential within-ethnic-group differences. To control for acculturation level, recruitment was done in English and the resulting participant sample was English speaking (i.e., English as primary language or fully bilingual). Respondents meeting initial eligibility criteria (i.e., female, Mexican American, ages 18-55, BMI ≥ 18 , self-report of regular binge eating) were assessed for presence of current eating disorder using the Structured Clinical Interview for the DSM-IV-TR (First, Gibbon, Spitzer, & Williams, 2001). Exclusion criteria were current pregnancy, brain injury or impairment affecting recall or ability to complete assessments, serious medical condition or medical risk that would require immediate hospitalization, or current treatment for an eating disorder. The resulting sample of individuals ($N = 50$) meeting study criteria and diagnostic criteria (American Psychiatric Association, 2000) for current BN, BED, or EDNOS/RBE (recurrent binge eating on average one time per week for the past 3 months) were invited to participate in the treatment intervention consisting of CBTgsh. Sample characteristics are presented in Table 1. Informed consent was obtained from all participants in writing, and American Psychological Association (2010) and University IRB requirements for the ethical treatment of human subjects in research were followed.

Procedures

All treatment sessions, study materials and measures were administered in English. Support sessions and interview assessments (demographic questions, SCID, Eating Disorder Exam) were conducted on the phone. The remaining measures were completed in paper-and-pencil format, delivered to and received from participants via mail.

The following assessments were conducted at baseline only to determine study eligibility:

Demographic Information—Participants self-reported ethnicity, age, history of treatment for eating disorder or weight problem, income level, education and occupation.

Structured Clinical Interview for the *DSM-IV-TR*—(SCID; First et al., 2001). The SCID was used to establish the presence or absence of Axis I disorders, including eating disorder. It is a widely used interview for detecting current and lifetime psychiatric disorders and has strong reliability and validity with Kappa values for the disorders ranging from .70 to 1.00 (First, Gibbon, Spitzer, Williams, & Benjamin, 1997). Kappa values for the disorders range from .54 to .97 for Hispanic samples (Torrens, Serrano, Astals, Perez-Dominguez, & Martin-Santos, 2004). Studies have found that SCID telephone interviews and face-to-face interviews generate comparable diagnostic information (Study Group on Anorexia Nervosa, 1995).

Acculturation Rating Scale for Mexican Americans-II—(ARSMA-II; Cuellar, Arnold, & Maldonado, 1995). The ARSMA-II is a well-established instrument for measuring acculturation in Mexican Americans that includes different cultural domains inherent in the acculturation experience including language use and preference, ethnic identity and classification, cultural heritage and ethnic behaviors, and ethnic interaction. Sample items include “I enjoy speaking Spanish” and “I associate with Anglos.” Higher scores indicate stronger orientation toward Anglo culture. Information about generational status is collected as part of the measure. The ARSMA-II has been shown to have high reliability and strong construct validity with Cronbach’s alpha above .86 in Mexican American samples (Cuellar et al., 1995).

The following measures were completed at baseline and at post-treatment (12 weeks) to assess outcome variables:

Eating Disorder Examination, 12th edition—(EDE; Fairburn & Cooper, 1993). Participants who met study eating disorder criteria at initial SCID screening were further assessed at baseline and post-treatment using the EDE in order to measure the primary outcome variable (abstinence from/reduction in binge eating). The EDE is a well-established, standardized, investigator-based interview that measures the frequency and severity of binge eating during the past 3 and 6 months, as well as frequency of any compensatory behaviors, degree of dietary restriction, degree of distress regarding (binge) eating, and importance of weight and shape. The EDE has been shown to have high discriminant and concurrent validity and reliability, and is considered to be the most reliable and comprehensive interview for assessing eating problems (Rizvi, Peterson, Crow, & Agras, 2000). Internal consistency of the EDE has been shown to be good, with Cronbach’s alpha of the five subscales ranging from .67 to .90. Inter-rater reliability has been reported to be very good in several studies, both for individual items ($r = .69$ to 1.00) and for the subscales ($r = .83$ to $.99$). All subscales are highly correlated ($r = .78$ to $.82$) with other measures of weight and shape control (Williamson, Anderson, Jackman, & Jackson, 1995). Reliability coefficients in Spanish samples have ranged from medium to high (Muro-Sans & Amador-Campos, 2007), with Cronbach’s alpha of the subscales ranging from .80 to .85 (Escursell, Giral, & Clarasó, 2000).

Beck Depression Inventory, 2nd ed—(BDI-II; Beck, Steer, & Brown, 1986). This 21-item instrument is a self-report measure of symptoms of depression (sad affect, self-blame, vegetative symptoms, and changes in activity level). Sample items include “I feel guilty all

of the time” and “I am too tired to do anything.” Total scores range from 0 to 63, with higher scores indicating more depressive symptomatology. The BDI has strong test-retest reliability ($r = .93$) and discriminant and convergent validity in English and Spanish-speaking samples (Wiebe & Penley, 2005) and has been widely used in studies with Hispanic populations.

Brief Symptom Inventory—(BSI; Derogatis & Melisaratos, 1983). The BSI self-report instrument measures general psychological functioning providing a General Severity Index. The instrument includes 18 items such as degree of “Feeling tense or keyed up” and “Feeling fearful” over the past seven days. Total scores range from 0 to 72, with higher scores indicating poorer psychological functioning. The BSI has strong reliability and validity and has been used widely in treatment outcome studies with Hispanic populations. It has demonstrated construct validity and reliability amongst community samples of Latinas (Prelaw, Weaver, Swenson, & Bowman, 2005).

Rosenberg Self-Esteem Scale—(RSE; Rosenberg, 1965). This 10-item self-report instrument measures level of general self-esteem with items such as “On the whole, I am satisfied with myself” and “At times, I think I am no good at all.” Total scores range from 10 to 40, with higher scores indicating higher self-esteem. The RSE has been shown to have good reliability and validity, and has been used widely in treatment outcome studies of eating disorders. It has demonstrated reliability and validity for use in Spanish clinical samples (Vazquez-Morejon, Jimenez Garcia-Boveda, & Vazquez-Morejon Jimenez, 2004).

Body Mass Index—(BMI) was calculated as weight in kilograms/height² in meters. All participants were given electronic scales for the program’s weekly weighing. Current height and weight were assessed by self-report at baseline and post-treatment.

The following measures were administered at post-treatment only to evaluate the intervention:

Client Satisfaction Questionnaire—(CSQ; Attkisson & Zwick, 1982). This 8-item instrument has been used widely in studies examining patient satisfaction with medical and psychological health services and operates equally well whether administered to Anglos, persons of Mexican descent, or persons of other Hispanic origin (Roberts, Attkisson, & Stegner, 1983). Sample items include “To what extent has our program met your needs?” and “If you were to seek help again, would you come back to our program?” Total scores range from 8 to 32, with higher scores indicating greater satisfaction. The CSQ was administered at 12-weeks post-treatment only.

Program Evaluation Questionnaire—We developed a program evaluation questionnaire to assess perception of each component of the CBTgsh. As they completed each step, participants rated the helpfulness of each component (e.g., self-monitoring, weekly weighing) on a 5-point Likert scale with 1 = “not at all helpful” to 5 = “very helpful.”

Treatment

The intervention consisted of following a self-help manual used in prior studies, *Overcoming Binge Eating* (Fairburn, 1995) and eight guidance/support sessions (25 minutes in duration each), with more sessions clustered early in the treatment period: four weekly sessions followed by four biweekly sessions over a 12-week period. The program is derived from CBT and is designed to be delivered by personnel with no background in the use of CBT or medical expertise. Prior research has demonstrated the effectiveness of non-specialists as supporters for such CBTgsh programs (Lynch et al., 2010). The first section of the book is educational and summarizes current knowledge about eating problems, and provides the rationale for the self-help program. The second section of the book presents the program itself, which consists of six steps on how to change eating habits and other associated problems. The principal role of the supporter is to explain the rationale for using the self-help book and to keep the participant focused on using the book as a guide for proceeding through the program steps. The support sessions are program-led and follow the manual developed by Fairburn (1998). The manual specifies the length and tone of the sessions, how the supporters should prepare for the sessions, and the elements that should be followed in each session.

Based on our prior research (Shea et al., 2012), a number of program modifications were implemented: 1) coping strategies and mechanisms for dealing with family's lack of support and negative feedback were provided through vignettes and role playing; 2) a Mexican American food guide was added to provide objective information on normal food portions and on healthy distribution of macronutrients using both American and Latino foods; 3) encouragement and hope were instilled throughout the support sessions; and 4) supporters' sensitivity toward clients' worldviews, life experience, and social context was emphasized. Support sessions were conducted over the phone by Masters level psychology students who received ongoing weekly supervision and training. Participants were asked to enter their daily and weekly food monitoring records onto a secure website so that supporters could view the records during the phone sessions.

Drop-out Focus Groups

Eight out of 11 individuals who had dropped out of the program participated in two focus groups at post-treatment and discussed reasons for dropping out. Data were analyzed using a descriptive content analysis method. Two trained raters read and conducted thematic content analysis of each focus group transcript without applying a preconceived theoretical framework (Hsieh, & Shannon, 2005).

Statistical Analyses

Data were analyzed using baseline-carried-forward intention-to-treat (ITT) analyses. Primary outcome variables were frequency of binge eating, rates of abstinence from binge eating (i.e., no binge episodes over the preceding 28 days), and rates of diagnostic remission (i.e., fewer than one binge or purge episode per week over the preceding 3 months). Secondary outcomes were additional eating disorder features (i.e., dietary restraint, distress regarding binge eating, eating concern, shape and weight concerns), depression, psychological functioning, and self-esteem. Paired sample *t*-tests were performed to

compare pre-intervention to post-intervention outcomes. One-way ANOVAs and chi-square tests were used to examine whether program completers versus those who dropped out or refused differed significantly on baseline and demographic variables. All tests were two-tailed and p -value of .05 was used to indicate statistical significance. The t -tests were planned and hypothesis-driven, therefore no adjustment for multiple testing was employed (Hays, 1988). Cohen's d effects sizes (Cohen, 1988) were calculated for outcome variables. Effect sizes were defined as .20 = small effect, .50 = medium effect, and .80 = large effect. Data analyses were conducted with SPSS for Windows, version 19.

Results

Feasibility, Attrition, and Adherence

Out of 50 eligible participants, 31 (62%) agreed to enroll in the CBTgsh intervention. Subsequently, 11 out of the 31 participants (35%) dropped out at some point after the first program session. The remaining subsample of 20 participants completed the program and post-treatment assessments.

To examine differences between individuals who refused the program (Refusers) vs. those who dropped out (Dropouts) or completed the program (Completers), we conducted exploratory one-way ANOVAs and chi-square tests on demographic and baseline variables. The three groups differed only on level of education, $F(2, 49) = 6.39, p = .003$; Completers had significantly higher levels of educational attainment than Refusers and Dropouts. Additionally, post-hoc tests indicated that Dropouts reported more episodes of binge eating than did Completers, $p = .018$ (see Table 1).

Treatment adherence was high for program completers. Completers ($n = 20$) participated in 97% of scheduled support sessions and completed 92% of weekly monitoring assignments.

Treatment Outcomes

At post-treatment, 35.5% (11/31) of the ITT sample reported abstinence from binge eating over the preceding 28 days, and an additional 12.9% ($n = 4$) reported no more than 3 binge eating episodes in that time frame. At post-treatment, 38.7% (12/31) of the ITT sample were in diagnostic remission. The breakdown by diagnostic subtype was: 11.1% (1/9) of BN, 45.5% (5/11) of BED, and 45.5% (5/11) of those with RBE were abstinent at post-treatment; 11.1% (1/9) of BN, 54.5% (6/11) of BED, and 45.5% (5/11) of those with RBE were in remission at post-treatment.

Paired sample t -tests (ITT) revealed statistically significant reductions in frequency of binge eating episodes, distress level, BMI, eating concern, and shape and weight concerns, as well as statistically significant increase in self-esteem. Significant outcomes corresponded to medium to large effect sizes. Pretreatment to post-treatment changes in dietary restriction, purging frequency, depression (BDI), and psychological functioning (BSI) were nonsignificant. (See Table 2)

Program Evaluation

Participants rated each step and component of the program to be on average “somewhat helpful” to “very helpful” (see Table 3 for means and standard deviations). The mean rating on the CSQ was 27.5, $SD = 3.3$.

Three primary reasons or themes for dropping out were provided by the focus groups: 1) too much time commitment, 2) the program is too burdensome (requires too much work), and 3) interference from (unsupportive) family members.

Discussion

Our findings indicate that the modified CBTgsh program for Mexican American women is both feasible and efficacious. Sixty-two percent of eligible participants agreed to enroll in the program, which indicates a good rate of acceptability of the intervention by this population. Our hypotheses were supported by the outcome data. In intent-to-treat analyses (ITT), there was a significant reduction in episodes of binge eating between baseline and post-treatment, a 35.5% abstinence rate from binge eating, and a 38.7% rate of diagnostic remission. These results are comparable to RCT studies of CBTgsh where reported abstinence rates have ranged from 5% to 63.5%, with most studies reporting an abstinence rate of around 35% (Wilson & Zandberg, 2012). Furthermore, the rate of abstinence in our (ITT) sample is more than twice the rates reported for wait-list control conditions (0% to 16.6%; Sysko & Walsh, 2008). As predicted, there was also significant improvement in secondary associated variables of eating pathology (distress regarding binge eating, and eating, weight and shape concerns), BMI, and self-esteem. Degree of dietary restraint did not decrease post-treatment, which may be explained by the fact that our sample was composed primarily of individuals with BED and RBE who tend to have lower levels of dietary restraint than individuals with BN. Additionally, there was no significant improvement in frequency of purging, depression scores, or general psychological functioning (as measured by the BSI). A disproportionate number of BN individuals dropped out of the study (only 4 out of 9 completed the program). Therefore, it is not surprising that in baseline-carried-over ITT analyses we did not find improvement in the measures of more severe pathology; in completer analyses (available upon request), we did find significant improvement on these variables. The current literature does suggest that CBTgsh is less effective in treating individuals with BN (Wilson & Zandberg, 2012). Follow-up assessment is needed to determine whether the behavioral and psychological improvements we found at post-treatment are maintained. At completion, participants were highly satisfied with the program overall and felt the various components were helpful.

Of our initial sample of eligible participants, 35% dropped out at some point after enrolling in the program. In past studies, attrition between baseline and post-treatment has ranged from 0% to 71.4%, with attrition in most studies around 30-35% (Wilson & Zandberg, 2012). Our attrition rate was therefore comparable to the rate typically reported in the literature. Our exploratory analyses did indicate that the only difference between those who completed the intervention versus those who dropped out or who refused participation was level of education. This finding indicates that the program or manual itself may need to be simplified if it is to be used with more representative community samples. Additionally,

those who dropped out reported higher frequencies of binge eating than did program completers. The treatment, as a minimal intervention, may not be as appropriate for individuals with more severe eating pathology. At the same time, the lack of differences between the groups on the remaining characteristics, comorbidity, psychopathology, and levels of distress suggests that the intervention has the potential to be effective with a range of individuals who suffer from binge eating problems. These results are similar to a recent open trial by Zandberg and Wilson (in press) and support prior research suggesting that the intervention is effective regardless of comorbidity (Wilson & Zandberg, 2012).

Other interesting findings were the reasons given for dropping out of the study. The themes emerging from the focus groups concerned the program requiring too much effort and time, and the interference or discouragement of unsupportive family members. The fact that the individuals who dropped out experienced the program as too difficult could be attributed to our finding that this group had lower levels of education and higher binge frequencies than those who completed the program. Reading the manual may have been too difficult for these individuals and, at the same time, suffering from a higher binge-eating frequency may have resulted in daily food monitoring and record keeping that became too cumbersome and time-consuming. Therefore, future work is needed to determine how the CBTgsh program can be shortened and simplified to increase its utility, while at the same time maintaining its efficacy. Furthermore, such research needs to be conducted in Spanish and the program administered to Spanish-speaking participants with low (-er) levels of acculturation to U.S. society. We are currently in the process of testing the modified CBTgsh program in a Randomized Control Trial with Spanish and English-speaking Latina individuals from a wide range of acculturation and education levels, and our preliminary results have been quite promising in terms of the program's efficacy.

The issue of critical family members as a barrier to treatment success was raised also by focus groups we initially conducted to culturally adapt the program (Shea et al., 2012). We modified the program by including opportunities where participants could role-play with supporters (using vignettes and scenarios) how to confront or cope with unsupportive family members. However, the role-playing practice may not have been sufficient. Further modifications may be warranted to directly help the participant educate or garner support from their family members. New research engaging Latino families in traditional CBT treatment for BN (Reyes-Rodríguez, Bulik, Hamer, & Baucom, 2013) holds promise for providing guidelines for family psycho-education and skills training, ultimately improving pathways of care for Latinas with ED.

For this feasibility study, we limited the sample to English speaking individuals. One limitation therefore was that range of acculturation of our sample was restricted, with most of our participants being second-generation Mexican Americans. Nevertheless, although our sample was somewhat acculturated, they still came from socio-economically disadvantaged backgrounds (in terms of education level, knowledge of healthcare and financial resources), and represent a group largely marginalized from health care services and under-represented in treatment trials. Therefore, this feasibility study represents an integral first step in developing accessible treatment for this population.

Other study limitations were the lack of a control group, and the use of self-reported weight (BMI). In order to reduce barriers (e.g., transportation, child care), we conducted all assessments and support sessions by phone and therefore did not have the opportunity to collect physiological measures. Lack of a control group is typical for feasibility studies (Arain, Campbell, Cooper, & Lancaster, 2010), and although we cannot conclude cause and effect, our outcome results (e.g., abstinence rate of 35.5%) are comparable to similar data from existing randomized control trial studies (Wilson & Zandberg, 2012).

While we were able to interview some individuals who dropped out, those who refused participation often simply did not engage (e.g., would not answer phone calls), so we were not able to systematically examine reasons for refusal. Finally, as is commonly the case with such research, the sample was self-selected, and Mexican American women in Los Angeles may not be representative of Latinas in other regions of the United States. Future studies with randomized control designs and larger, more representative samples are needed.

Our findings provide “proof of concept” for the implementation of culturally adapted evidence-based treatments. With culturally appropriate modifications and accommodations, the CBTgsh program can be tailored to address the needs of clients from other ethnic cultural groups and can lead to significant improvements in binge eating and related symptoms. Furthermore, culturally appropriate modifications of an intervention may provide groundwork for future community-based participatory research (CBPR) to address the treatment of binge eating and obesity as well as change negative health behaviors (Horowitz, Robinson, & Seifer, 2009). In a CBPR approach, minority populations partner with researchers through all phases of the intervention process in order to determine appropriate health needs, empower those in the community, and highlight culturally specific health issues (Horowitz et al., 2009; Wallerstein, & Duran, 2006). The CBTgsh program presented here is an intervention that has the potential to work well within a CBPR framework to help address binge eating and related health issues in Mexican American and other Latino communities.

In sum, this study is one of the first to examine a culturally specific minimal intervention program with an under-served population, and the findings from this study can contribute to advances in the treatment of binge eating, obesity, and associated problems in minority populations. This research presents an important first step in developing effective and accessible treatments for ethnic minority women with eating and weight problems.

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Table 1
Comparisons Between Program Completers, Dropouts, and Refusers on Characteristics and Baseline Measures

	Completers (n = 20)		Dropouts (n = 11)		Refusers (n = 19)	
	M/%	(SD/N)	M/%	(SD/N)	M/%	(SD/N)
Age	30.2	(5.8)	28.6	(7.9)	26.4	(7.5)
No. of children	0.5	(0.8)	0.8	(1.4)	0.6	(1.4)
Marital status						
Single	70%	(14)	72.7%	(8)	73.7%	(14)
Married	20%	(4)	18.2%	(2)	21.1%	(4)
Divorced	10%	(2)	9.1%	(1)	5.3%	(1)
Education level [*]	4.8 ^a	(0.7)	3.8 ^b	(1.2)	4.1 ^b	(0.7)
Acculturation score	0.5	(0.8)	0.4	(0.9)	0.6	(1.0)
BMI	34.2	(7.2)	31.0	(6.0)	30.2	(6.8)
Eating disorder						
BED	40%	(8)	27.3%	(3)	26.3%	(5)
BN	20%	(4)	45.5%	(5)	36.8%	(7)
RBE	40%	(8)	27.3%	(3)	36.8%	(7)
Binge frequency past month	12.6 ^a	(7.8)	28.7 ^b	(32.6)	15.7	(12.4)
Purge frequency past month	2.9	(7.1)	7.1	(9.0)	8.7	(15.8)
Distress level	3.8	(0.8)	3.7	(0.8)	4.0	(0.9)
Eating concern	11.6	(7.0)	15.3	(10.1)	10.2	(6.6)
Shape concern	32.6	(12.8)	35.5	(13.5)	29.1	(11.4)
Weight concern	18.1	(8.3)	19.8	(8.3)	17.4	(8.4)
Beck Depression Inventory	14.5	(11.8)	21.3	(17.5)	16.2	(12.4)
Brief Symptom Inventory	15.5	(13.7)	28.0	(24.1)	16.2	(13.5)
Rosenberg Self Esteem	28.6	(5.9)	27.5	(6.8)	27.7	(5.8)
No. of co-morbid disorders	1.8	(1.7)	1.9	(1.5)	2.2	(1.2)
Current co-morbid disorder (yes)	50%	(10)	54.5%	(6)	52.6%	(10)
History of eating disorder treatment	10%	(2)	18.2%	(2)	5.3%	(1)
Would like help (yes)	80%	(16)	72.7%	(8)	73.7%	(14)

Note. Education level: 1 = 8th grade or less; 2 = some high school; 3 = high school graduate; 4 = some college or 2-year degree; 5 = 4-year college graduate; 6 = more than 4-year college degree. Distress level: 1 = not at all; 2 = slightly; 3 = moderately; 4 = greatly; 5 = extremely. BED = Binge Eating Disorder; BN = Bulimia Nervosa; RBE = Recurrent Binge Eating.

* significant between-group difference at $p < .05$

^{a,b} Means with different letters are significantly different at $p < .05$

Table 2

Pre- to Post-Intervention Scores (intent-to-treat analyses) on Outcome Variables

	<u>Baseline</u>		<u>Post-Treatment</u>		<u>t</u>	<u>p</u>	<u>d</u>
	<u>M</u>	<u>(SD)</u>	<u>M</u>	<u>(SD)</u>			
Binge eating frequency (3 months)	51.1	(59.3)	29.0	(59.8)	3.84	.001	.70
Purging frequency (3 months)	12.6	(27.9)	10.6	(21.2)	0.51	.62	.09
Distress level	3.8	(0.8)	3.3	(1.0)	2.39	.024	.45
BMI	33.1	(7.0)	32.4	(7.2)	2.07	.047	.38
Dietary restraint	10.8	(6.8)	10.2	(6.9)	0.74	.466	.15
Eating concern	13.1	(8.6)	10.2	(9.0)	2.41	.024	.49
Shape concern	33.3	(13.5)	27.2	(15.4)	2.68	.013	.54
Weight concern	18.7	(8.5)	14.9	(9.2)	2.61	.015	.52
BDI	17.3	(15.0)	14.3	(14.3)	1.40	.174	.29
BSI	21.0	(21.7)	17.2	(20.8)	1.74	.094	.31
RSE	27.9	(6.1)	30.1	(5.6)	-2.59	.016	.54

Note. Distress level: 1 = not at all; 2 = slightly; 3 = moderately; 4 = greatly; 5 = extremely. BDI = Beck Depression Inventory; BSI = Brief Symptom Inventory; RSE = Rosenberg Self-esteem Scale.

Table 3

Perceived Helpfulness of the CBTgsh Program Components

		M	SD
Step 1:	Getting Started (n = 24)	4.2	0.8
	Self-monitoring	4.3	0.9
	Weekly weighing	4.2	1.0
Step 2:	Regular Eating (n = 23)	4.3	0.8
	Guidelines on regular eating	4.3	0.6
	Advice on meals	4.4	0.6
	Advice on shopping & cooking	3.9	0.8
	Guidelines on stopping purging	3.7	1.3
Step 3:	Alternatives to Binge Eating (n = 22)	4.3	0.9
	Listing alternative activities	4.4	0.7
Step 4:	Problem Solving (n = 22)	4.2	0.9
	6 steps of problem solving	4.4	0.7
	Reviewing progress	4.3	0.8
Step 5:	Dieting and Avoidance (n = 20)	4.2	0.7
	Guidelines for tackling dieting	4.3	0.8
	Dealing with avoidance of eating	4.2	0.8
Step 6:	What next? (n = 19)	4.5	0.8
	Preventing relapse	4.5	0.8
	Dealing with other problems	4.4	1.0

Note. Mean values are based on a 5-point Likert scale with 1 = “not helpful at all” to 5 = “very helpful”.