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ORIGINAL ARTICLE

Perceptions and experiences of appetite awareness training among African-American women who binge eat

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Abstract

Introduction Binge eating may contribute to the prevalence of obesity in African-American women. Yet, there has been scant intervention research on the treatment of binge eating in this population. We tested the feasibility of an appetite awareness training (AAT) intervention in a sample of African-American women with binge and overeating behaviors. Participants who completed AAT were recruited to participate in focus groups to elicit information about their perceptions and experiences with this intervention to inform the design of future interventions to treat binge eating and obesity in African-American women.

Methods African-American women, aged 18–70 years, who had completed an 8-week randomized AAT intervention, were invited to attend a focus group discussion. Session content was recorded and transcribed. Data were analyzed by use of open coding. Themes were identified that described their perceptions and experiences of participating in the intervention.

Results Seventeen women participated in three focus group discussions. Pertinent themes identified included: paying attention to internal cues of hunger and satiety, influence of culture on eating patterns, breaking patterns of disordered eating, and perceptions about weight. Overall, participants were satisfied with their experience of AAT, and reported they found it valuable to learn about listening to biological signals of hunger and satiety and to learn specific strategies to reduce maladaptive eating patterns.

Conclusion AAT was acceptable and provided helpful eating behavior instruction to African-American women with reported binge and overeating behaviors. Future research should examine the potential of AAT to improve weight management in this underserved population.

Level of evidence Level V, qualitative descriptive study.

Keywords Binge eating · African-American · Obesity · Weight loss

Introduction

Current estimates indicate 55% of African-American women have obesity, compared to only 38% of White women [1, 2]. Obesity is of significant public health concern, and is associated with the presence of numerous comorbid health conditions [3, 4]. Behavioral weight loss is currently the most efficacious, non-surgical intervention for obesity in the United States [5–7]. However, among African-American women, these interventions have not been as effective

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[8–10]. Investigators are realizing the need to adapt treatment to the unique needs of African-American women.

One eating behavior that may need to be addressed among African-American women is binge eating [11–13]. Binge eating is defined as objectively large or subjectively distressing eating that occurs while concurrently experiencing loss of control [14]. Studies have found similar or higher rates of binge eating in African-American compared to White women [15, 16]. Any binge eating (regardless of eating disorder diagnosis) among African-American women has been reported at 4.5–4.8%, compared to only 2.5–2.6% in White women [15, 17]. Moreover, binge eating has been observed at rates of over 30% among African-American women with obesity [18–20].

African-American women who binge and/or overeat may be at an increased risk for obesity. Eating beyond satiation on a daily basis increases the odds of becoming obese 15-fold for African-American women, compared to only sixfold for White women [21]. Indeed, overeating most likely contributes to the disparities observed in obesity rates [21–23]; for example, in an examination of the difference between African-Americans and Whites in rates of obesity, researchers reported that overconsumption of food accounted for 48% of the difference in BMI between African-American and White women [22]. Therefore, addressing awareness of appetite and binge eating behaviors are highly relevant when designing or assessing behavioral weight loss interventions for African-American women.

Currently, there is limited intervention research addressing eating behaviors in African-American women [19, 24]. With an emergent literature that documents the disparate challenges African-American women face with binge eating [16, 25], overeating [22, 26], understanding and responding to biological signals of hunger and satiety [23, 27], and engaging in eating disorder treatment [15], it is important to test the feasibility and acceptability of potential interventions that address these behaviors directly.

Towards that end, we conducted the APPETITE study, designed to test the feasibility of an 8-week Appetite Awareness Training (AAT) program in a community-based sample of African-American women, randomized to the AAT intervention or wait-list control, with reported binge eating behaviors [28]. After the last intervention session, we offered focus groups to gather additional information on participant experience in the study. The purpose of this report is to explore perceptions and experiences of African-American women participating in AAT. Combined with the outcomes from the feasibility study [28], the present report will inform the design of interventions to treat binge eating and obesity in this population.

Methods

Appetite awareness training

The goal of AAT is to teach participants to relearn their stomach's hunger signals and begin to use internal satiety signals as cues to stop eating before getting overly full [29]. AAT has been effective in helping participants with moderate to severe binge eating behaviors reduce binge eating, overeating, urges to eat in response to non-appetite stimuli and prevent weight gain [30–32]. Indeed, compared to other cognitive behavioral treatments for binge eating, AAT has demonstrated similar results in reducing binge eating behaviors and preventing weight gain. The samples, however, have been primarily White, adult women [29–31].

The AAT delivered to African-American women in this study included eight 60-min group sessions providing education designed to inform participants about appetite monitoring, establishing a regular pattern of eating, avoiding loss of control, binges, and grazing/nibbling behavior. Data on feasibility and preliminary efficacy have been reported previously [28].

Participants and procedure

The recruitment strategy and procedures followed for APPETITE are reviewed in detail elsewhere [28]. Briefly, individuals were eligible to participate if they were a non-Hispanic, African-American woman, over 18 years of age, with a BMI between 25 and 40 kg/m^2 and reported experiencing at least one binge eating episode monthly (within the last 3 months), as measured by the Eating Disorder Examination [33]. Individuals were excluded if they were currently pregnant, in substance abuse treatment, currently involved in a weight reduction program, had a history of anorexia, were purging, or self-reported intravenous drug use or the consumption of >4 alcoholic beverages/day.

We invited all women ($n=31$) who had completed the APPETITE study[1] (conducted between August 2015–Feburary 2016) to participate in a focus group discussion [28]. Focus group methodology is often used to assess treatment satisfaction and for program evaluation [34, 35]. All potential participants were contacted by email and/or announcements were made in weeks 6–8 as they were completing the AAT program. Participants were compensated $30 for participating in the APPETITE study and focus group.

[1] Note: In the fourth 8-week AAT program, participants, who were offered treatment after having served as controls in the APPETITE study, were offered dinner at each session.

Table 1 Focus group questions

1. Please tell me about your experience of participating in the AAT Intervention.
(a) PROBE: What were you thinking? Feeling?
2. When you came to the program, what did you expect? What were your goals? Were you able to meet those?
(b) Did you feel valued? Did you feel that the program was culturally appropriate? Did it address all of your issues and concerns?
3. What made it easier for you to participate in the intervention activities?
4. What made it difficult to participate? How did you overcome your difficulties?
5. What suggestions do you have for things that could be changed in the intervention?
6. Would you recommend participating in this intervention to a family member or friend? If so, why? If you would not recommend the AAT intervention, please explain your reasoning.

Data collection and analysis

The study was approved by the Institutional Review Board of the University of Pittsburgh. The principal investigator (PI; an African-American female, RWG) was the moderator for the focus group discussion. At the beginning of each focus group, the moderator provided an overview and then explained that each session would be audio-recorded and stored on a password-protected computer.

Following the introduction, the moderator gave participants an opportunity to share their thoughts on their experience in the AAT program. After the initial period of sharing, the women were then guided to answer a series of semi-structured questions (Table 1) about their perceptions and experiences of participating in the AAT program. Two members of the research team took notes in each session. Following the completion of each focus group, the PI and members of the research team met to evaluate the experience of the focus groups, and to review main points of the discussion.

Session recordings were transcribed. To guide the analysis of transcripts, the investigators used the grounded theory mode of research [36]. The PI read all transcripts and used the principles of open coding to develop an initial codebook. Members of the research team then independently examined the events, actions, and interactions of each focus group, and compared the groups for similarities and differences, working to provide conceptual labels [36]. Coders then met to review discrepancies and used in-depth discussion to develop consensus on the phenomenon of participating in AAT as expressed in the focus groups [37]. Axial coding was used to examine the relationships among the themes and to create sub-categories for further analysis [36]. Finally, constant comparison helped to organize sub-categories and decipher the core themes/categories that explained the variation within the data [38].

Data availability

The datasets generated during the current study are available from the corresponding author on reasonable request.

Results

Seventeen participants agreed to participate in the focus groups. We conducted three focus groups, lasting between 60 and 90 min each, with 4–8 participants in each group. On average, participants were 49.41 ± 12.12 years of age, and had completed 15.12 ± 2.60 years of education. Approximately, 53% of participants had an income $\leq$ \$60,000 per year, and 47% reported an income that was $\geq$ \$60,000 per year.

Overall, participants in all three focus groups expressed being very satisfied with the program, and were pleased to receive support from the facilitator and other group members, and were surprised that the eight-week intervention passed so quickly. Four themes emerged from the groups, as described below and illustrated with representative quotations.

Paying attention to internal cues of hunger and satiety

In all three focus groups, participants offered their reflections on the experience of learning to adhere to biological cues of hunger and satiety. To begin, participants discussed becoming increasingly aware of the amount of food they were putting on their plates, and how to make decisions on how to eat meaningfully, and not just because of external pressures or temptations to eat. Participants also commented on how becoming more aware of internal cues of hunger and satiety felt very different from their experience of engaging in a diet. One participant expressed her thoughts this way:

> So all the diets I've done and nothing ever addressed appetite ever. So you can do all that stuff and still have this huge appetite, and not associate it with your feelings. So they have a thousand diets online… You know, for \$300, they'll send you the food. Even if they send you the food… that is useless if you don't – if you can't – if you're not in touch with your appetite. Useless. And that's what I learned from this.

> This is the first angle that I've approached it differently than any other diet I've ever done.

Participants also reflected on AAT instruction to begin a pattern of regular eating, and the process of learning to value the biological messages to consume food, and the importance of not allowing a long period of time to pass before eating. Some participants reported that it was challenging to remember to eat 4–5 times per day; others, however, found the strategy helpful in reducing binge and overeating.

Influence of culture on patterns of eating

Focus group participants made several connections between their eating choices and the socialization received about eating within African-American culture. Several participants offered their thoughts about how their eating patterns were rooted in the historical legacy of slavery, and the way that eating behaviors were focused on survival, not just the nutritional content of food. Additionally, many participants agreed about the importance of eating, and how it is a central part of socializing and events of celebration, perhaps particularly within African-American cultural traditions. One participant noted:

> So I think when she said that in one of our sessions, it really hit home to me because, I mean, like we talk about [eating] even in church. Honey, after every church service, after every rehearsal, "Where y'all going? What y'all going to go eat?" Literally, any time we walk in and out the door. It's just culturally who we are, and even if you get together with somebody for a cup of coffee… we didn't get together and just have coffee. We had donuts.

Participants also reflected on the messages received about eating in childhood, and how they were socialized to consume all the food on their plate and to not waste anything. Some participants noted how these patterns were also being transmitted to their children, and felt AAT provided tools to have them evaluate the benefit of this message.

Breaking patterns of disordered eating behaviors

For many participants, one of the most helpful tools provided by participating in AAT was the ability to recognize and reduce eating patterns (e.g., eating mindlessly) that were largely out of conscious awareness. Moreover, participants also expressed they learned helpful information about the problems associated with grazing and mindless snacking behavior.

Other participants described the importance of control, and the ability to have it (control) back from participating in the AAT program. Time was spent reflecting on the instructions received on how to respond to external environmental temptations, how to consciously make decisions on what to eat, and how to be mindful of their eating behaviors, with particular attention to making conscious decisions about when and how much to eat.

> My biggest takeaway is it's OK to say no and it's OK to say yes. Just having that control is what I've gained over the last eight weeks. I can come to a social setting and know I don't have to keep on eating because there's something that's fabulous sitting on the table that I'd like to keep eating, but I know I could just say no. So I just feel like I got my control back, and it lets me pass that down to my children and to my husband.

Perceptions about weight

Participants in all focus groups discussed their experiences with weight, despite the fact that the intervention did not focus specifically on the goal of weight loss. They reflected on the importance of improving one's relationship with food, and to not focus on the number on the scale. Participants were motivated by the desire to improve health outcomes and recognized the benefit of listening to the body. Several participants, however, reported unexpected weight loss. One participant noted her feelings in this way:

> And I didn't think I was losing any weight at all, but my scale said differently, and I was shocked 'cause I was like – first I was wondering why my pants was getting lose. I thought the elastic or something was just getting [laughs] old or something, and then it was like it was more than just one pair of pants, and then finally I did – I usually weigh myself every day, but there were times that I hadn't, so that pushes me more, too, because once I see what it's doing, then it makes me want to kind of stick to it more.

Alternatively, other participants reported feeling frustrated because they did not achieve the weight loss that they hoped during the program. Despite their desire and working to implement the information received from the AAT curriculum, for some participants, it did not result in the desired changes on the scale during the 8 weeks.

Discussion

The purpose of this report was to examine the perceptions and experiences of African-American women participating in AAT. In their reflections, participants reported that learning to adhere to biological signals of hunger and satiety was useful, and it was helpful to have more tools to increase one's confidence to make eating choices. Moreover, participants

also found it helpful to become aware of disordered eating behaviors that were previously unrecognized and might be contributing to weight gain and/or their inability to lose weight. Although significant weight loss was not achieved during the 8-week program, participants stated they experienced an increased ability to pay attention to monitor their appetite, understand the influence of culture on eating, break binge and overeating patterns, and improve their relationship with food.

Participants in this study were satisfied with their experience in AAT, and reported finding the focus on becoming aware of internal signals of hunger and satiety (appetite monitoring) more acceptable than previous attempts at dieting. This is similar to findings from previous studies examining appetite monitoring. For example, Craighead et al. [39] examined appetite monitoring in a sample ($n=48$) of White women with obesity, and diagnosed with binge eating disorder; a majority of participants with previous experience with traditional food monitoring rated appetite monitoring as more helpful than food monitoring, and as more positive than focusing on food intake [39, 40]. Combined with the results of our feasibility study [28], there is some evidence to suggest that appetite monitoring in AAT may have benefit in addressing binge and overeating among African-American women.

Additionally, participants also discussed the role of culture in the development of their eating patterns. Scholars have observed that African-American cultural norms may teach (or at least permit) overeating as a tool to manage emotions, and overeating may serve as a "survival strategy" to manage histories of oppression, victimization, and exclusion [13, 41]. In particular, African-American women may feel pressure to live up to the ideal of the "strong black woman/superwoman" and may feel an obligation to suppress emotions, an obligation to show strength, and may have an aversion to asking for help [13, 42]. Binge and overeating have been theorized to function as tools that may help African-American women maintain this ideal [13, 43]. In fact, in a sample of 179 African-American women who were survivors of trauma, investigators discovered that internalization of the ideal of "being strong" was associated with binge eating, emotional inhibition/regulation difficulties, and eating for psychological reasons [12].

Several participants used the focus group to discuss the importance of achieving weight loss as part of their experience in the AAT program. A growing literature has discussed the way African-American women have generated alternative ways of viewing food, weight, and cultural norms of "thinness" [26, 44]. On average, African-American women report a greater acceptance of a range of various body weights, perceive themselves as thinner than they really are, and report that their weight is acceptable to significant others [26, 45–48]. This alternative perspective on weight and food may serve to partially explain why African-American women have not achieved as much weight loss success in previous behavioral weight loss trials [8, 9]. AAT may be uniquely positioned to be successful as an intervention among this population, while also offering alternative skills that may improve eating behaviors, and prevent weight gain. However, considering that participants did not achieve significant weight loss within AAT (this is typical among CBT interventions for binge eating [28, 49]), there may be some additional support (e.g., recommendations for daily weighing and physical activity) needed if weight loss is to be achieved [50–52].

Limitations of this study include the small sample size and the self-selection of participants. Self-selection may introduce bias as it may include more participants who were pleased with AAT and their experiences in the program. Although numerous attempts were made to recruit all the women who had participated in AAT, several women chose not to attend the focus group discussion and their reasons for not participating are not known. The PI led all focus groups, which may have introduced bias focusing on more positive aspects of the intervention. Finally, the exploratory nature of this work may limit the generalizability beyond participants in our study. Despite these limitations, this is the first study of which we are aware that specifically examines the perceptions and experiences of African-American women participating in an intervention to improve binge and overeating behaviors.

Conclusion

AAT was satisfactory to African-American women with binge and overeating behaviors, and participants found it valuable to learn about identifying biological signals of hunger and satiety, and to increase their awareness of eating behaviors that may be contributing to weight gain. Participants also reflected on the influence of culture on patterns of eating, and found it beneficial to learn skills to improve their relationship with food. Future research will make an important contribution by determining the efficacy of AAT to improve binge eating behaviors as well as necessary modifications that will improve this intervention's potential to prevent and treat obesity among African-American women.

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Data availability The datasets generated during the current study are available from the corresponding author onreasonable request.

Compliance with ethical standards

Conflict of interest Authors Goode, Kalarchian, Conroy, Gary-Webb, Craighead, Bennett, Cowell, and Burke have no conflicts of interest to report.

Ethical approval All procedures performed in this study, which involved human participants, were in accordance with the ethical standards and approved by the Institutional Review Board of the University of Pittsburgh, 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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