

Attitudes toward a mindfulness-based intervention from African American women living with HIV: A qualitative study

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Abstract

Introduction: Mindfulness-based interventions train participants to pay attention to their own emotions in the current moment without judging themselves. This study aims to assess the attitudes toward a mindfulness-based stress reduction intervention among African American women living with HIV.

Methods: We collected qualitative data from three focus group discussions with 18 African American women living with HIV who were purposely recruited from the Palmetto Health-USC Immunology Center in South Carolina, United States. The participants discussed how they coped with stress, and then were given a presentation on mindfulness-based stress reduction and a sample mindfulness-based stress reduction mini workshop with follow-up discussion about their thoughts and opinions on the information presented to them.

Results: Participants said that mindfulness could be a useful technique and they were interested in participating in a mindfulness-based stress reduction program. Their main concerns included physical ability to perform some of the mindfulness techniques (e.g. yoga) and logistic barriers, such as schedule constraints. They also provided some suggestions to further tailor the mindfulness-based stress reduction, such as modifying yoga, using familiar terms, and combining both in-person and online components. These results suggest that African American women living with HIV showed strong interest in mindfulness-based stress reduction and a high level of willingness to participate in mindfulness-based stress reduction, but the existing mindfulness-based stress reduction program needs to be tailored to address challenges and barriers these women may face for attendance and completion.

Conclusion: The next step is to further test the feasibility, acceptability, and efficacy through a pilot study for African American women living with HIV to practice a tailored mindfulness-based stress reduction for this group.

Keywords

African American, qualitative study, mindfulness-based intervention, Southern United States, women living with HIV

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Introduction

African American women in the Deep South, including South Carolina (SC), have been disproportionately affected by the HIV epidemic. The Centers for Disease Control and Prevention (2018) reported that in 2018, the Deep South accounted for 51% of new HIV diagnoses in the nation.¹ SC reported a total of 20,166 living HIV/AIDS cases as of December 2018.² African American women comprise 15% of SC's population; however, they make up 22% of people living with HIV (PLWH) in 2018.² African American women living with HIV (WLH) face a variety of societal and cultural stressors through racism, sexism, and HIV-related stigma and discrimination.^{3,4} They also face unique stressors caused

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by challenges related to their womanhood and their life experiences in the Deep South, including traumatic life events, social isolation, domestic violence, poverty, and the burden of caring for families.⁵⁻⁷ The combination of these stressors can have a negative impact on African American WLH's physical and mental health.⁴ For PLWH, stress can increase viral replication, suppress their immune response, and interfere with their adherence to antiretroviral therapy (ART).^{5,8}

Mindfulness and mindfulness-based interventions (MBIs) are increasingly being studied to understand the role they can play in helping to reduce stress and other psychological distress in populations with chronic disease, such as HIV. Mindfulness is an attention control technique that was originated in Eastern meditation practices.⁹ As a self-regulation of attention from moment to moment, mindfulness highlights "paying attention in a particular way: on purpose, in the present moment, and nonjudgmentally."¹⁰ MBIs consist of practice in interactive processes of attention regulation, body awareness, emotion regulation, and changes in views of the self and others using various mindfulness meditation practices, which may include yoga, stretching, mindful breathing, body scans, and mindful discussions.⁹ Through these practices, participants aim to become accepting and non-reactive toward their experiences, ultimately reducing negative thinking and leading to positive psychological outcomes.^{11,12}

There have been many studies evaluating the use of MBIs to help treat symptoms of chronic medical conditions, such as cancer, chronic pain, fibromyalgia, and cardiovascular disease.^{13,14} Existing literature suggests that MBIs, especially mindfulness-based stress reduction (MBSR) interventions, are effective in reducing anxiety, depression, and stress.¹⁵⁻¹⁹ Previous studies suggest preliminary efficacy of MBSR among PLWH in terms of behavioral, psychosocial, and clinical outcomes, including psychological well-being, ART side effects, HIV-related chronic pain, and T-cell activity.²⁰⁻²⁴ MBSR could be an appropriate approach for stress reduction among PLWH given that they are cost-effective treatments with little or no adverse effects.¹⁸

Given the unique psychological and physical needs among African American women, developing an appropriate stress reduction intervention (e.g. MBSR) is warranted to address their chronic stress and enhance their wellness. Injustices, systemic discrimination, and microaggressions contribute to the race-based stress. Extant literature shows that African American people are overwhelmingly affected by stress-related health outcomes.²⁵ Compared to Caucasian Americans, African Americans face much higher risk of heart disease²⁶ and diabetes²⁷ and have shorter life expectancies.²⁸ They also present more severe and disabling depressive symptoms than other racial groups.²⁹ MBI is a well-established and studied strategy to reduce stress across different populations. Studies suggest that mindfulness can significantly moderate the effect of racial discrimination on

mood symptoms among African American young adults (aged between 18 and 24 years). There is also negative correlation between mindfulness and psychosocial well-being outcomes, including depression, anxiety, and substance abuse.³⁰

Increasing research suggests that MBSR can improve African American physical and/or mental health.^{31,32} Results from one study with African American women suggest that participation in MBSR was associated with reduced stress and depression.^{33,34} Another study interviewed African Americans ($n=15$) who had previous experience in mindfulness meditation, and the primarily female ($n=12$) participants noted that the benefits of mindfulness meditation included enhanced stress management, direct health improvement, and enhanced self-awareness and purposefulness.³⁵ Because of these benefits, the participants felt strongly about recommending mindfulness meditation to their friends and family, especially African Americans. Similar benefits were reported by a randomized clinical trial (RCT) of an MBSR intervention with predominately African American women who reported increased awareness, self-acceptance, and self-empowerment, and it promoted healing from trauma and reduced everyday stress. There is also a growth of studies that focus on adapting existing MBSR programs to fit African American culture,^{35,36} which views religion/spiritualism, commitment to family and community, and intuition and experience versus empiricism as core cultural values.³⁷

However, current literature on MBSRs for African American women has also identified some challenges that raised questions on the feasibility of MBSR for these women. For example, the time commitment for MBSR may prove challenging for African American women because conflicting and rigid work schedules, transportation issues, and lack of childcare could hinder their attendance and completion of the intervention.^{20,22,33} More research on MBSR is needed for African American WLH to identify factors that might affect their interest and participation in an MBSR. This qualitative study aims to assess the attitudes of African American WLH toward an MBSR. The results of this study will help understand if MBSR could be an acceptable intervention for African American WLH in the United States, and what adaptations should be made to improve acceptability and efficacy of an MBSR for these women.

Methods

Participants and study design

Participants were recruited from the Palmetto Health-USC Immunology Center in Columbia, SC through convenience sampling. Medical case managers at the Immunology Center introduced the study to potential eligible patients and asked these patients to contact the study team. Eligibility criteria included living in SC, being African American, being women

Table 1. Demographic characteristics of African American women living with HIV.

Variable	n (total = 18)	%
Age (years)		
Average = 50		
30–39	4	22
40–49	6	33
50–59	3	17
60–69	5	28
Marital status		
Single	9	50
Married	2	11
Partnered	1	5
Divorced/separated	4	22
Widowed	1	5
No response	1	5
Education		
Some high school	3	17
High school diploma/GED	0	0
Some college	8	44
College degree	5	28
Other	2	11
Time since diagnosis (years)		
Average = 15		
0–5	4	22
6–10	3	17
11–15	3	17
16–20	2	11
≥21	6	33

aged 18 years and older, and living with HIV. This study aimed to achieve a sample size of 20 participants due to the resources of the study. A total of 18 women (average age = 50 years) contacted the research staff, completed written informed consent, and participated in this study (Table 1). The duration of the data collection was 5 months.

We chose the focus group discussion (FGD) rather than the in-depth individual interviews for our qualitative data collection. An in-depth interview involves a one-to-one dialogue in which the researcher asks questions, controls the dynamics of the discussion, and adopts the role of an “investigator.”³⁸ In an FGD, the researcher is more like a “moderator” who facilitates a group discussion.³⁹ Since the researcher takes a peripheral role, there may be more space and freedom for the participants to express their opinions. Using FGDs, we tried to take advantage of group interactions and responses among participants with a similar background in terms of race, gender, and medical condition. We conducted FGDs on three separate occasions at the Immunology Center to accommodate the participants’ schedule. The first FGD took place in November 2018 ($n=9$), the second in December 2018 ($n=4$), and the third in January 2019 ($n=5$). Each FGD was about 3 h long moderated by researchers using a semi-structured discussion guide (Table 2).

The primary purpose of these FGDs was to understand how the WLH currently coped with stress and to get their thoughts and opinions on MBSR. On completion of the FGD, each participant received a US\$25 gift card as a compensation for their time. As a follow-up, all 18 participants in the FGDs were invited to participate in a mini MBSR workshop, which was held in April 2019 at the Immunology Center. The purpose of the mini MBSR workshop was to provide the participants an opportunity to practice MBSR activities and to share their feelings and attitudes toward MBSR based on the real experience. No financial incentive was provided for attending the MBSR workshop. The participants of the FGDs all consented that they would join in a group discussion with other group members who had the same HIV status. They were aware that the discussion would include HIV-related topics, such as coping strategies, toward stress caused by HIV infection. We also highlighted the confidential issues prior to each discussion. Since the discussion after the workshop focused on the MBSR training and was limited to the same participants from the FGDs, the participants in this mini MBSR workshop were not asked to talk about stress coping again. This study protocol was reviewed and approved by the University of SC Institutional Review Board (Pro00079391).

FGD procedure

Each FGD contained two parts. In Part I of the discussion, participants were encouraged to talk about their strategies for coping with their stress. Sample questions included “how do you currently cope with stress?” and “is there something you are not currently doing but you would like to do to cope with stress?” The participants went one by one answering these questions to the group. Following these discussions, we held a 5- to 10-min break, during which the participants filled out a short demographic checklist.

In Part II of the discussion, the participants first watched a PowerPoint presentation on mindfulness and a specific MBSR. The MBSR intervention developed by Jon Kabat-Zinn is an 8-week course that consists of one 2.5-h session per week for 8 weeks, and one full-day session, ending up with a total of nine sessions.¹⁰ The presentation introduced the concept of mindfulness and explained how the MBSR intervention teaches mindfulness techniques (e.g. gentle yoga, meditation, breathing exercises, journaling, mindful eating, and a mental body scan of feelings and sensations from head to toes) to improve awareness and stop negative thoughts, thus reducing stress and improving their overall mental well-being. The presentation was led by two female experts/facilitators in MBSR. After the presentation, the participants engaged in group discussions following a series of questions regarding mindfulness and the MBSR (Table 2).

Mini MBSR workshop

As a follow-up to the FGDs, a half-day mini mindfulness workshop was offered to the participants. All 18 participants

Table 2. Focus group discussion guide.

Topics	Questions
Coping with stress	How do you currently cope with stress? Is there something you are not currently doing that you would like to do to cope with stress?
Attitudes	Have you ever heard of MBIs? What is your first impression of the MBI curriculum we have presented to you? What is your opinion of the mindfulness practices (yoga, meditation, and body scan)? What is your opinion of the time commitment? How do you feel about using an app on a smartphone or doing this online? Would you consider incorporating the contents of this curriculum into your life? Do you feel that mindfulness could be helpful in your life? Would you recommend mindfulness to your peers?
Challenges and suggestions	Do you think there would be any challenges or problems with implementing this curriculum? Do you have any suggestions to improve the curriculum?

MBI: mindfulness-based interventions.

expressed that they would like to attend the mindfulness workshop. However, due to the resource constraints, only one such workshop was scheduled and eight (44%) of the participants attended the mindfulness workshop. The workshop was held in a big conference room equipped with multimedia system at the Immunology Center where the participants were used to having support group activities. Thus, the participants felt familiar and comfortable with the training environment. However, we moved all the tables out of the room so the participants could sit in a circle and have enough space for their mindfulness practice. One facilitator (S.Q.) led the 2-h interactive training. Instructional mindfulness videos were used to teach the participants how to do the body scan, mindful yoga, breathing, and mindful eating. The participants were also invited to practice sample mindfulness exercise under the facilitator's guidance, such as breath and meditation exercise and mindful eating. The mini MBSR workshop ended with a 1-h group discussion for participants to share their perspectives about the mindfulness exercises.

Data analysis

The FGDs and the group discussion following the mini mindfulness training workshop were audio-recorded and transcribed verbatim. Field notes were taken during the discussions by one of the research team members (S.Q.). The participants were assigned arbitrary identification numbers in the audio-recording and transcripts. The FGDs were transcribed using the transcription service Rev,⁴⁰ and the group discussion following mini MBSR workshop was transcribed by one of the researchers (S.T.). The transcripts were reviewed and edited to ensure accuracy. The software NVivo 12.2.0⁴¹ was used to code and analyze the transcripts. We used a thematic analysis approach in data analysis following the six steps recommended by Braun and Clarke (2006): getting familiar with the data, creating initial codes, looking for themes, reviewing and refining themes, defining and naming themes, and producing the report.⁴² A codebook was developed by the principal investigator (S.Q.) and a researcher

(S.T.) based on the discussion group guide. During the pilot coding process of the first five transcripts, new codes that emerged from the transcripts were added to the codebook. The final codebook containing both the preliminary codes and the new codes was used to code each transcript. Using the codebook, the two coders (S.Q. and S.T.) independently coded each transcript. All disagreements in coding were resolved through discussions. Potential themes were identified by reviewing and synthesizing the materials labeled by relevant codes. All the potential themes were further categorized, refined, and finalized. Verbatim quotes that represented the themes were selected to illustrate key findings.

Results

The thematic analysis of the FGD transcripts revealed three main themes: coping strategies for stress, attitudes toward MBSR, and challenges and adaptation needed for implementing MBSR. The main findings within each topic are presented in the following sections.

Coping strategies for stress

The current strategies for dealing with stress varied among the participant women, but they can be categorized into physical, mental, emotional, and spiritual domains. Some women chose a physical approach to cope with stress. For example, one woman said she would sleep when she was stressed. Another one said she liked to jog to reduce stress. Other responses included "stay busy," "do yoga," and "self-medicate (with alcohol and marijuana)." One woman reported that she had practiced some meditation to deal with stress and knew a little bit of mindfulness exercise although she had never received systematic training. She stated, "I'll either try to meditate, breathe, sometimes just go for a good jog . . ." Some women adapted the cognitive and mental approach to take their mind off the stressors. For example, one participant mentioned that she wrote poems to distract herself from stress, stating "anything that's stressing me, I'll

make a poem about it.” Two women tended to use appraisal-focused strategies, that is, they might modify the way they perceive “stressors.” They said that they did not need to cope with stress because they did not let themselves get stressed at all. Emotional support was also a critical coping strategy. Three women said that they talked out their stress with someone close to them in their life. Participating in support group organized by HIV-related programs or organizations was also a way to seek and obtain emotional support. A few women highlighted the power of faith. They prayed and used their spirituality and faith in God to reduce stress. When asked “is there something you are not currently doing but you would like to do to cope with stress?” many of the women did not have a firm response, but two women said they wished they had more money.

Attitudes toward MBSR

The participants’ attitudes toward MBSR are presented by three subthemes: positive first impressions, perceived utility of the MBSR, and satisfaction with format, length, and content.

Positive first impressions. All the women had positive first impressions regarding the MBSR presentation and said things like “I enjoyed it,” “my first impression is good,” “this is a good technique,” and “I liked what I saw.” In reference to the mini MBSR workshop, one of the participants said, “It was good . . . I’ve always said I wish I had a light switch just to turn my stress off . . . I came in here today with so much stress on my plate, and [now] I’m good. So now I have a way to just de-stress myself when I just get over stressed.”

Perceived utility of MBSR. All the women felt that mindfulness could be helpful in their lives in terms of coping with stress and relaxing themselves when they had to face challenges and stress caused by HIV. One woman stated that she had already known and practiced mindfulness in her life. One woman said she thought it was a good technique to focus on healing yourself and healing your mind. Three women thought it would help them relax. When referring to the mindfulness techniques, one woman said, “I think those are good and they teach you to . . . relax . . . and to calm down because that’s really something that I have difficulty with.” Another said, “this is a good technique because . . . on a bad day my mind [will] be [in] every which way but where it should be. It would help me relax because I’m always going and I’m always doing for other people.” One woman said, “This is good for everybody, especially when you live with HIV and AIDS because it takes a lot to just walk up to this clinic.”

All the participants showed enthusiasm in learning and practicing MBSR in their lives or recommending it to their peers, including those with HIV. After being able to practice mindfulness techniques in the mini MBSR workshop, one woman stated that she would start incorporating

mindful eating during some of her meals, and many of the participants of the workshop stated that they liked the body scan and would do it at home. However, two women said they could not be sure of its helpfulness until they finished practicing all the MBSR sections in future.

Satisfaction with format, length, and content. All women responded positively to the format and length of the 8-week course module of the sample MBSR intervention.¹⁰ They liked the fact that the sessions were in-person and in a group setting. The majority of the women felt that they were able to attend one 2.5 h session per week for 8 weeks, and one all-day session at the end of the 8 weeks. One woman said, “8 weeks is two months, so you got to think about that one day out of a month you’re really dedicating yourself to heal.” Their main concern was schedule constraints. They suggested notification of the dates and times of the sessions in advance, so that they could make it during those times.

When they were asked how they would feel about an online or smartphone app-based intervention, all but two said they would not want to participate if it was only available online or on an app. The two women who were willing to participate in an online or app-based program were young adults (both aged 34 years). One of the women agreed because an online or app-based program would provide her with more flexibility, and stated, “I like this option.” Of the women who preferred not to participate in the intervention online, most said it was because they preferred face-to-face interaction and would enjoy being in a group. One woman said, “I agree with doing it together because I wouldn’t do it at home.” Some women said they would not mind having supplemental material offered online or on an app in addition to the in-person intervention.

Most of the women accepted the MBSR practices, but some had reservations about their physical ability. The most common concern involved is the yoga positions. During the mindfulness training workshop, they were accepting of the yoga positions that they felt physically comfortable with, such as movements sitting in a chair or standing up. However, they were very resistant to poses that required sitting or lying on the yoga mats. There was a similar reaction to the body scan. Some women wanted to try the body scan technique but preferred to do it by sitting down or lying down on a bed because they felt they would have difficulties directly getting up from the floor. When asked their opinions during the FGD, one woman said “They [are] nice if I can do them. The ones I can, I do. The ones I can’t, I’ll have to leave it to somebody else. That’s all.” This quote represents a typical mindset among the women because many had the attitude that they would only do what they felt they were capable of.

Challenges and adaptation needed for MBSR

During the FGDs and the group discussion after the mini MBSR workshop, the participant women shared their

perceived challenges for attendance/completion of MBSR and also suggested adaptations to the sample MBSR. These responses are presented by two subthemes: barriers for attendance/completion and suggestions for adaptation.

Barriers for attendance/completion. All women felt that they would be able to attend each session. However, many women noted that they could only attend if it did not interfere with their work or medical appointments. One woman said she felt like she would have a hard time letting everything go for the 1-day session at the end of the 8 weeks. She stated,

the hard part is letting everything go for that one day . . . I'd beat myself up if I had a day lost if I don't achieve a goal within one day. I'd beat myself up, but I don't know if that one day will probably be beneficial.

Factors that may potentially influence the full completion of the intervention included transportation to and from the intervention location, other personal commitments that might interfere with the time of the sessions, and feelings about if they enjoyed the sessions and/or if the intervention could benefit their health. Some women stated they felt they would only practice mindfulness if it proved to be helpful in their lives. When asked if thought there would be any challenges with implementing the intervention, one woman stated "I see the challenge may be transportation but they worked that out with me and also physical, but I'm willing to try this to see if it helps me." Some of the potential barriers (e.g. transportation, schedule conflict) were also observed during the process of the current study. During the three FGDs and the half-day mindfulness training, a combined total of four women had to leave early because either their transportation had arrived to pick them up or they had to leave for work.

Suggestions for adaptation. The women were asked to provide their input in terms of any possible adaptations they would like to make to the sample MBSR to better meet their needs. One of the common suggestions was to remove the yoga positions that were hard to follow. They suggested adopting light physical activities, such as some easy stretching instead. Accordingly, they preferred to use chairs or exercise balls rather than yoga mats, so they would not have to repeatedly lay down and get up during the training. Because of the potential concerns of serostatus disclosure for WLH, we asked the women if they preferred being in a group with other people who they knew or if they were comfortable being in a group with strangers. Most of the women had no preference for one or the other. Some women leaned more toward a group of people they knew because it would allow them to have a buddy. This led to another suggestion from the women, which was to have a buddy system in the intervention to keep participants accountable and practicing mindfulness outside of the group sessions.

One woman liked the idea of having text reminders sent out to the participants to remind them of an upcoming session or to remind them to practice their mindfulness at home. Two women were concerned about how they would make up a session if they had to miss it and suggested to have the materials uploaded online so they could access them if they missed a session. The participants also offered other suggestions to improve the MBSR curriculum, including adequate space for women to spread out during group sessions, music, and low lighting. One woman suggested offering a certification after completion of the intervention. The participants did not talk about any need to adapt African American culture. However, we observed that some mindfulness terms, such as "body scan," might confuse them because some of the participants thought it was like a medical CT-scan. In addition, they suggested to not use raisins in the mindfulness eating because it might trigger awkward feelings and imagination (e.g. nipples).

Discussion

With limited research on the utilities of MBSR for African American WLH, these results provide preliminary data regarding their attitudes toward an MBSR intervention. African American WLH who participated in this study reported a strong need of effective strategies to cope with stress that negatively affect their mental health and quality of life. Although the participants mentioned various strategies for coping with stress, they showed high willingness to learn new positive coping skills that can be effective. The responses from the participants during the FGDs and the mini MBSR workshop suggest that African American WLH have positive attitudes toward MBSR. Most participant women were eager to be involved in the intervention and showed high willingness to learn and practice MBSR in their daily life.

In our study, quite a few women suggested carrying out the MBSR intervention in person to allow face-to-face interactions. Both Dutton et al.⁴³ and George et al.²² found that the participants benefited from the group discussions because it created a sense of community. One recent study on the feasibility and acceptability of MBSR among Lesbian, Gay, and Bisexual Women and Men in rural Appalachian region suggested a high acceptability of online MBSR intervention.⁴⁴ No studies have examined the use of an online-only or app-based MBSR among African American WLH, so this study provides some preliminary insight regarding their attitudes toward the delivery approach of MBSR. Based on the women's responses, it would be helpful to provide online materials and/or a mindfulness app in conjunction with the in-person sessions to encourage mindfulness practice at home. Also, the specific dates and times of the MBSR intervention would need to be given to the participants well in advance so they could plan and make any arrangements necessary to accommodate their schedule.

Since our data were collected before the outbreak of COVID-19, in-person interventions were feasible in terms of logistics although they might be more intensive in human resources. The COVID-19 pandemic has imposed unprecedented challenges on in-person interventions because of the prevention measures, such as social distancing, transportation restrictions, and quarantines. It is necessary to review and reexamine this finding in the context of COVID-19 and we need more creativeness to take advantage of an online intervention while maximizing the opportunities of interactions between the facilitator(s) and the participants and within the participant's peer group. Updated data and studies are warranted to address the delivery approach strategies of MBSR among this population.

Adjustments to some of the mindfulness techniques, such as yoga and body scan, may be necessary based on the age and physical conditions of the participants. Many of the participants who were 50 years of age and older were not able or did not want to do positions that required some physical strength (e.g. sitting or lying on the floor), so alternate yoga positions should be included to accommodate those who are not physically able to do these positions. The option of completing the body scan while sitting in a chair should also be available. The concern of completing yoga and the body scan was not reported in other feasibility studies of MBSR among elder African American women.^{45,46} This concern might be attributed to the relatively poor physical health of WLH due to comorbidity of HIV and other chronic diseases (e.g. obesity, diabetes).

While the participants expressed strong interest and positive attitudes toward the sample MBSR, less than half of the participants (44%) could attend the mini MBSR workshop, and a total of four participants left the workshop before completion. While the low rate of mini MBSR workshop participation does not represent a lack of interest, it does indicate a critical need for an MBSR program to accommodate the needs of WLH, including their varying schedules and transportation challenges. To achieve a high completion and a high attendance rate, multiple measures need to be taken to ensure a flexible schedule with repeated sessions at different times/locations, reliable transportation, an adequate incentive, and supplemental online or app-based components/materials. It would also be beneficial to provide weekly text and/or call reminders or establish a buddy system to encourage attendance and home practice.

Existing literature suggests that potential cultural adaptation for implementing an MBSR program in African American groups may include using African American facilitators to deliver the intervention, using their familiar terms (e.g. use "awareness" instead of "meditation"), incorporating cultural components (e.g. use "story-telling" approach which has a rich history in their culture), offering in community-sanctioned locations (locations accessible through public transportation or churches), addressing religious concerns (e.g. some people associate "meditation" with Buddhism,

thus practicing mindfulness conflicts with their religious affiliation), improving perceived benefits, and setting up "buddy group" to support each other in mindfulness practice.^{25,47} Our study also suggests that we need to use familiar terms from African American women and allow sufficient interaction within the group so the participants can obtain emotional support from their peers/buddies. However, the participants did not express their religious concerns, and most of them perceived high benefits of practicing MBSR and showed a high-level acceptance of the concept of "mindfulness." Most of the challenges focus on logistic issues.

There are two potential explanations for such a finding. First, we did not purposely and explicitly ask the participants about African American cultural issues or highlighted their racial background. We considered it might trigger negative feelings of being "labeled," and we would have liked the participants to tackle these issues themselves if the cultural issues were a big concern for them. Second, we believe that many of the logistical issues (e.g. structural barriers for their MBSR participation) mentioned by the participants might largely reflect their minority status in the sociocultural context and that these logistical barriers partly resulted from the triple vulnerabilities of African American WLH rooted in racism, African American culture (e.g. women should be the main care provider who take care of the whole family), and persistent HIV-related stigma (e.g. clinic visits may be hard to schedule if the WLH have not yet disclosed their HIV status to families).

The current study is limited by its generalizability issues. The sample size for the FGDs was small ($n=18$), which did not allow a stratification by key demographic variables (e.g. age, religion) to assess the potential influence of age and religion on their attitudes toward MBSR. Similarly, the small sample size did not allow to assess the saturation of qualitative data collection. Moreover, all the participants were currently under care with access to an array of mental health services, including support groups through the Palmetto Health-Immunology Clinic. Our sample did not include WLH who were not in care and might have a greater need for the MBSR program. In addition, there may be potential bias brought by the race of the researchers to the qualitative study among ethnic minorities (African American). For example, difference in race between the researchers and the participants may influence the mutual trust relationship during the discussions. Our research team has a diverse racial background. The presenters of the MBSR are Caucasian and African American; the moderators of the FGDs and mini MBSR workshop are Caucasian and Asian. Although it is hard to assess the impacts of such racial background on the research process, we need to pay attention to the potential influence of the team's racial composition. Like all other qualitative investigations, the current study may be also subject to researchers' subjective bias during the process of discussion guide development, transcription coding, and results interpretation. Finally, although two researchers conducted

the coding independently, we did not calculate the inter-coder agreement because they resolved all disagreements in the final coding through discussions.

Conclusion

Despite these limitations, the overwhelmingly positive responses among the participants in the current study support MBSR as a potential promising option for stress reduction among African American WLH. The findings regarding the attitudes toward MBSR, challenges for participating in this intervention, and suggestions on adaptation of MBSR will inform the development and implementation of a tailored MBSR program for African American WLH in SC and other southern states. Future research needs to further assess the role of age, race, and religion on the attitudes toward MBSR among WLH, especially those WLH who have either less healthcare access, experience interrupted HIV care, or experience more stressful life events due to poverty, stigma, or other socioeconomic disadvantages. Quantitative research, such as a pilot clinical trial, is also needed to assess the feasibility, acceptability, and efficacy of a tailored MBSR program in reducing stress and improving quality of life among WLH.

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Declaration of conflicting interests

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Informed consent

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