ABSTRACT

Although tobacco use among women living with HIV (WLWH) is decreasing, the prevalence is more than double that of women in the general population and remains an important health behavior to target among WLWH. Few smoking cessation interventions specifically focus on the unique social and medical needs of WLWH. Thus, the investigative team engaged WLWH (N=18) in qualitative focus groups to: 1) understand barriers and facilitators to smoking cessation; and 2) inform intervention structure and content priorities. Participants identified salient reasons for smoking and barriers to smoking cessation, which included coping with multiple life stressors, HIV-related stress, HIV-related stigma, and social isolation. Further, WLWH highlighted the importance of long-term smoking cessation support, peer support, mental health content, religion/spirituality, and targeted risk messaging in smoking cessation intervention development. Study findings provide concrete, operational strategies for future use in a theory-based smoking cessation intervention, and underscore the importance of formative research to inform smoking cessation interventions for WLWH.

Keywords: smoking cessation; HIV-positive women; health disparities; formative research
INTRODUCTION

Smoking is particularly problematic among HIV-positive individuals, for whom it has been linked to an increased risk of AIDS, non-AIDS related cancers, cardiovascular, lung and respiratory disease, reduced quality of life (QOL), poorer response to antiretroviral therapy (ART) and an increased all-cause mortality risk (Helleberg et al., 2013; Lifson et al., 2010). Women living with HIV (WLWH) are especially susceptible to adverse smoking-related health outcomes as compared to non-infected women who smoke, including cervical neoplasia (Collins, Rollason, Young, & Woodman, 2010), osteoporosis (Bregigeon et al., 2017), and fetal morbidity (Aliyu, Weldeselasse, August, Keith, & Salihu, 2013). Further, as compared to WLWH non-smokers, WLWH smokers experience poorer response to ART and higher mortality rates (Feldman et al., 2006). Tobacco use among WLWH is decreasing, but the prevalence is more than double that of women in the general population and remains among the most important health behaviors to target for WLWH (Hessol et al., 2014). Despite these disparities, few interventions focus on the specific needs of this population.

Targeted cessation programs for both male and female HIV-positive smokers demonstrate positive results in obtaining short-term abstinence (Vidrine, Marks, Arduino, & Gritz, 2012) and reducing the number of cigarettes smoked per day (Matthews, Conrad, Kuhns, Vargas, & King, 2013), but have been hindered by low-program completion rates, poor retention, and poor adherence to nicotine replacement therapy (NRT) (Chew, Steinberg, Thomas, Swaminathan, & Hodder, 2014). Long-term cessation rates have not been overly encouraging with intervention treatment effects diminishing by 12-months in prior interventions (Gritz et al., 2013; Stanton et al., 2015). Among WLWH, tobacco use and limited effectiveness of smoking programs may be influenced by limited treatment access, higher rates of stress, limited use of NRT, fatalistic attitudes related to HIV status, higher rates of alcohol use, and elevated rates of psychiatric co-morbidities as compared to men living with HIV (MLWH) (Carpenter, Ford, Cartmell, & Alberg, 2011; Galvan et al., 2002; Pence, Miller, Whetten, Eron, & Gaynes, 2006; Reynolds, Neidig, & Wewers, 2004).

Compared to MLWH, WLWH have lower engagement in HIV care, lower ART adherence, and higher morbidity and mortality (Levine et al., 2007). Additionally, WLWH may experience heightened levels of psychological distress resulting from intersecting stigmas related to HIV, gender, race, and class statuses (Fletcher et al., 2016; Rice et al., 2018; Watkins-Hayes, 2014). Despite compounded stressors and associated coping mechanisms, few interventions have adequately addressed the unique life experiences and demands of WLWH related to sustainable smoking cessation outcomes (Kim, Darwish, Lee, & DeMarco, 2017; Manuel, Lum, Hengl, & Sorensen, 2013). Further, the majority of mixed-gender interventions for HIV-infected smokers consist of more male participants (Moscou-Jackson, Commodore-Mensah, Farley, & DiGiacomo, 2014).

Past research in the general population suggests that cessation outcomes differ based on gender with males maintaining quit attempts longer, particularly, with the help of NRT (Cepeda-Benito, Reynoso, & Erath, 2004). Compared to males, evidence also suggests that females are more likely to smoke to control mood, stress, or weight and may require counseling that is more intensive (Cepeda-Benito et al., 2004; Smith et al., 2015; Weinberger, Mazure, Morlett, & McKee, 2004).
2012). Altogether, this literature highlights the importance of better understanding tobacco use among WLWH and developing targeted interventions for cessation.

To our knowledge, few theory-based interventions are tailored to WLWH and none directly address the role of HIV-related and non-HIV related stigmas and stressors that are unique to WLWH (Kim, Darwish, Lee, & DeMarco, 2017; Manuel, Lum, Hengl, & Sorensen, 2013). Thus, the goal of the present study was to: 1) examine barriers and facilitators to smoking cessation among WLWH; and 2) inform intervention structure and content priorities. Study findings also highlight women’s recommendations to address these barriers in a future theory-based smoking cessation intervention for WLWH. Strategically engaging WLWH in qualitative inquiry can ultimately enhance the feasibility and acceptability of interventions by understanding the unique psychosocial experiences of specific populations to improve smoking cessation outcomes (Fiore et al., 2008).

METHODS

Focus Group Sample and Setting

Participants in this research study consisted of low-income, WLWH residing in the Chicago area. Participants were recruited from a local HIV clinic and AIDS service organization (ASO) using a range of strategies including referrals from medical providers, posted flyers, and word of mouth. Persons who expressed interest in the study were asked a series of questions to assess eligibility. To be eligible for this study, women were HIV-positive; 18 years or older; self-reported current smokers; able to provide written informed consent; and able to speak English.

The Institutional Review Board of the University of Illinois at Chicago reviewed and approved the protocol. Two focus groups were held concurrently during the Fall of 2015 at the University of Illinois at Chicago School of Public Health with 9 participants in each group (N=18). Focus group discussions lasted up to 120 minutes and were facilitated by the first and sixth authors who are both formally trained in focus group facilitation techniques, and share self-identified racial and gender characteristics similar to the target population. Prior to the focus group, participants completed a questionnaire that included demographic information, previous smoking and drinking habits, health habits, drug usage, and HIV history. The focus group discussion guide addressed smoking habits, HIV and rates of smoking, barriers and facilitators to smoking cessation treatments, and recommendations for a successful smoking cessation program targeted towards WLWH (Table 1). To protect the identities of the informants, women selected pseudonyms and utilized them throughout the focus group discussion. All participants received $40.00 for completing the demographic questionnaire and participating in the focus group discussion.
Table 1. Focus Group Sample Questions

<table>
<thead>
<tr>
<th>Focus Group Questions</th>
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<tbody>
<tr>
<td>• What role do you think being HIV-positive plays in your smoking?</td>
</tr>
<tr>
<td>• What are your strongest and most consistent triggers for smoking?</td>
</tr>
<tr>
<td>• What would help motivate you to make a quit attempt?</td>
</tr>
<tr>
<td>• Which of your doctors, if any, have ever talked to you about stopping smoking?</td>
</tr>
<tr>
<td>• What type of things make you want to keep smoking?</td>
</tr>
<tr>
<td>• What type of support systems do you need for quitting?</td>
</tr>
<tr>
<td>• What type of things make you want to quit?</td>
</tr>
<tr>
<td>• What should be included in a smoking cessation program for women living with HIV (Main probes: HIV stigma, depression, stress, issues related to being a woman, taking HIV medications, community norms)?</td>
</tr>
</tbody>
</table>

Data Analysis

Focus group recordings were transcribed locally and de-identified. Two coders independently analyzed interview transcripts employing both inductive and deductive strategies with NVivo 11.1.1 software (Fereday, 2006; Thomas, 2006). During a preliminary analysis of the data, the coders determined that saturation was reached and no additional themes emerged (Glaser, Strauss, & Strutzel, 1968). The first draft of the codebook was developed based on a literature review; a priori understanding of the research topic; the focus group interview guide; and the focus group debriefing session. The codebook was modified and expanded following a careful review of audio-recordings, transcript text, and preliminary data analysis (Maxwell, 2005). The final codebook was used to comprehensively analyze data from interviews by identifying emerging themes, ideas, and perceptions from open-ended responses. All coding differences were resolved through a consensus process and coders agreed the final identified themes best represented the perceptions, ideas, experiences, and recommendations of women in the sample. Demographic data were analyzed using SPSS 16.0 for Windows.

RESULTS

Sample Characteristics

As shown in Table 2, all study participants (n=18) self-identified as African-American (100%) with a mean (SD) age of 52.3 (8.6) years. The majority of participants reported an annual income of $10,000 or less (55.6%) and over one-third were unemployed (38.9%) and did not have
a high school degree (38.9%). Twenty-one percent (21%) of participants reported being married or living with a partner. All participants were currently in care for HIV treatment (100%), with the majority receiving Medicare or Medicaid (77.8%). The mean (SD) age of smoking initiation was 18.4 (6.8) years. Participants smoked approximately 10.5 (7.2) cigarettes per day and had been smoking for 33.9 (10.3) years. Over half of participants reported a prior quit attempt (55.6%).

### Table 2. Demographic & Smoking Characteristics (n=18)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Race</td>
<td></td>
</tr>
<tr>
<td>African-American, n (%)</td>
<td>18 (100)</td>
</tr>
<tr>
<td>Age, mean (SD)</td>
<td>52.3 (8.6)</td>
</tr>
<tr>
<td>Annual income</td>
<td></td>
</tr>
<tr>
<td>&lt;$10,000</td>
<td>10 (55.6)</td>
</tr>
<tr>
<td>&gt;$10,000</td>
<td>8 (44.6)</td>
</tr>
<tr>
<td>Employment status</td>
<td></td>
</tr>
<tr>
<td>Employed</td>
<td>11 (61.1)</td>
</tr>
<tr>
<td>Unemployed</td>
<td>7 (38.9)</td>
</tr>
<tr>
<td>Receiving HIV treatment</td>
<td>18 (100)</td>
</tr>
<tr>
<td>Age of smoking initiation (years)</td>
<td>18.4 (6.8)</td>
</tr>
<tr>
<td>Years smoking</td>
<td>33.9 (10.3)</td>
</tr>
<tr>
<td>Cigarettes smoked per day</td>
<td>10.5 (7.2)</td>
</tr>
<tr>
<td>Previous quit attempt, n (%)</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>10 (55.6)</td>
</tr>
<tr>
<td>No</td>
<td>8 (44.4)</td>
</tr>
<tr>
<td>Number of adult smokers in household</td>
<td>2.0 (1.7)</td>
</tr>
<tr>
<td>Prior NRT use</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>5 (27.8)</td>
</tr>
<tr>
<td>No</td>
<td>10 (55.6)</td>
</tr>
<tr>
<td>Never made a quit attempt</td>
<td>3 (16.7)</td>
</tr>
<tr>
<td>First cigarette of the day, n (%)</td>
<td></td>
</tr>
<tr>
<td>Within 5 minutes of waking up</td>
<td>10 (55.6)</td>
</tr>
<tr>
<td>&gt;5 minutes after waking up</td>
<td>8 (44.5)</td>
</tr>
</tbody>
</table>

**Qualitative Results**

Participants identified salient reasons for smoking and barriers to smoking cessation, which included multiple life stressors, HIV-related stress, HIV-related stigma, and social isolation. Participants’ recommendations for smoking cessation intervention content and structure were translated into operational intervention strategies.

**Barrier: Coping with Multiple Life Stressors.** Many women described smoking as their primary, conditioned response to stressful circumstances and experiences. For example, some
study participants expressed that family difficulties and associated stressors prompted smoking as a coping mechanism. One participant stated:

“*My husband makes me smoke a half a pack…. because he just gets on my nerves.*”

Another participant similarly highlighted:

“*So that’s why we smoke because sometimes they [cigarettes] stop you from cussing somebody out.*”

Relatedly, one participant described competing life demands and/or life stressors as intensifying smoking behaviors.

“*And if you angry or if there’s a lot going on around you, you’ll smoke more. You’ll smoke a whole pack and a half.*”

**Barrier: HIV-related Stress.** In the context of HIV-specific stressors, participants believed that WLWH engaged in smoking as a way to maintain self-control, while contending with stressors and anxiety associated with living with HIV.

“*I just was saying they might be stressed out because like me, a new person that just recently found out I have HIV, my status made me pick up and wanted to smoke more. Like, I’m worried about—stressed out like how I’m going to take care of my child. He’s nine years old. Am I going to be alive to see him? Am I going to be able to pay for my medicine? So it’s a lot of things [increase smoking among WLWH].*”

Similarly, one participant commented:

“I can imagine that there is a higher [smoking prevalence] because we’re [WLWH] so nervous.”

In addition, many women identified taking HIV medications as a major stressor. One participant described it as:

“It [HIV medication] can be depressing, stressing, upsetting.”

Another participant noted that medication side effects served as an additional stressor, with other members in the group supporting this sentiment. Many women stated that the incurable nature of HIV and anticipated judgment imposed by others (i.e., family, friends, community members, healthcare providers) introduced both stress and anxiety.

**Barrier: HIV-related Stigma.** HIV-related stigma, particularly, in healthcare settings was described as a major barrier to smoking cessation. One participant recalled being treated unfairly by her healthcare provider once her HIV status was revealed:

“*...they [healthcare providers] come in and start asking you certain questions and stuff and soon as they [healthcare providers]-you know, you tell them [your HIV status], they [healthcare providers] shut down.*”

Another participant felt stigmatized by her healthcare provider for smoking, and also believed that her provider did not understand her reasons for smoking and challenges related to quitting.

“My doctor told me to quit. Screw you. You not positive. You don’t—you don’t deal with what I’m dealing with on a day to day basis.”

**Barrier: Social Isolation.** For many participants, HIV-related stigma led to deep-seated feelings of rejection and isolation; thus, smoking alternatively served as a refuge from commonly...
experienced judgment, stigmatization, and isolation. For some women, cigarettes were contextualized as a type of support system and communicated within a relational context where women heavily relied on cigarettes as a way of coping with feelings of rejection and isolation.

“The cigarette, I can count on her. She never talk back.”

“That cigarette is going to light and it’s going to puff out and smoke and it never going to leave you.”

Recommendations for Intervention Content and Structure. Several participants recounted experiences with previous smoking quit attempts and associated strategies. Participants also described recommendations for addressing perceived barriers and facilitators related to future smoking cessation programs.

Women reported utilizing a range of strategies to assist with smoking cessation including, “going cold turkey,” decreasing the number of cigarettes smoked per day, avoiding individuals who smoke, hypnosis, acupuncture, nicotine patches, and spirituality/religious practices. Given WLWH’s frequent contact with healthcare providers, many participants viewed healthcare provider advice to quit smoking as integral to successful smoking cessation among WLWH.

“They [healthcare providers] need to keep reminding people. You know, people not taking it serious. They don’t. COPD ain’t no joke.”

Need for Long-term, Sustainable Interventions. Participants highlighted the need for smoking cessation interventions that are longer in duration and sustainable. Some women described instances where they attended social support programs that ended prematurely due to funding discontinuation. As one participant expressed:

“They started up [the study], you go for a few months, then it’s no longer there when the funding went out.”

Participants also stressed the strong likelihood of smoking relapse when re-exposed to environmental stressors that generally trigger smoking. One respondent attributed a prior unsuccessful smoking quit attempt to life stressors.

“It [the nicotine patch] worked, like I say, for a period, maybe 24 hours. And then, something stressful will come up or I would get mad about something.”

Another participant described a hypothetical smoking cessation “retreat” for WLWH. She stated:

“Put us on an island, a far away island that nobody else could go there.”

She added that once the smoking cessation program [retreat] ended, participants would return to their daily stressful environments. According to the participant, this would serve as a major impediment to smoking cessation because:

“You come back to the same ole shit.”

In essence, women were uncertain how interventions could achieve long-term smoking cessation without addressing the individual and environmental stressors that trigger and perpetuate smoking behaviors.

Intervention Structure: Smoking Cessation Group Format and Delivery. Participants believed that smoking cessation support groups would lead to long-term cessation for WLWH and aid in intervention sustainability. For example, smoking cessation support groups led by an expert
facilitator such as a former smoker, peer counselor, or a medical specialist emerged as a recommendation. Compared to other methods of delivering smoking cessation support such as smoking quit lines and individual counseling, participants endorsed group-based models to address the complexities of smoking cessation in a supportive environment.

When asked about the most appropriate individuals to deliver a smoking cessation intervention to WLWH, participants replied:

“Somebody that went through what we’re going through”
“Someone in the medical field and someone who has the experience”
“A counselor—we can have partners, each other. I can call you on the phone to try to help me out. Yeah, the buddy system.”

Moreover, organizing smoking cessation support groups with WLWH in similar life and disease stages was another format recommendation. As stated by one participant:

“A person that smoked for 30 years come in and show us and tell us that they haven't smoked for five years. How did you do it?”

In addition to support groups, women desired smoking cessation resources such as pamphlets, booklets, or educational videos specific to WLWH.

**Intervention Content and Strategies.** Women highlighted the need for smoking cessation support groups to aid in smoking behavior change with a particular emphasis on integrating mental health content (i.e., depression, anxiety), smoking relapse influences (i.e., stressors), religion/spirituality, and depictions of the effects of cigarette smoking on the body. As it relates to depression, one participant expressed:

“I think women just dealing with—I was with this group—I was in a group of women dealing with depression and 98 percent of those women smoked.”

Respondents acknowledged the importance of addressing the influences that trigger relapse to facilitate long-term smoking cessation success. As stated:

“The main thing about the stop smoking is you touch all avenues. The main thing I want to know is are you going to also deal with triggers? Are you also going to deal with things that also make people want to go back to smoke? Is that going to be part of the program? Because I don’t—and if I stop, I want to stop. I don’t want to say, "Oh, I stopped five months ago" and then I went back.”

Participants also emphasized the need for smoking cessation programs to incorporate religion and spirituality as components that might motivate WLWH to quit smoking.

“Put some religion back and spirituality back in there. They’ll have [smoking] desire no more, because He almighty.”

Also expressed by participants was the importance of targeted messaging focused on the adverse health consequences of tobacco use. While women acknowledged smoking cessation as a major challenge, they believed that strategies to increase awareness of smoking-related diseases and associated risks would prompt WLWH to quit smoking.

“When you find out you’ve got this health issue from smoking cigarettes that will be when people stop, too.”
“Finding out you got lung cancer or something like that”

Based on the smoking experiences of WLWH, the research team used existing theory to guide recommendations for multi-theoretical intervention strategies (Table 3).
Table 3. Focus Group Themes & Intervention Strategies

<table>
<thead>
<tr>
<th>Focus Group Themes</th>
<th>Intervention Strategies</th>
<th>Suggested theories/constructs</th>
</tr>
</thead>
</table>
| • Social isolation and lack of long-term support        | • Provide access to support groups that promote optimism, resiliency, religion/spirituality and empower WLWH to resist stigma  | • Social support  
• Resilience-based approaches  
• Mindfulness  
• Motivational interviewing  
• Elaboration likelihood model  
• Social cognitive theory |
|                                                          | • Integrate elements of appraisal, emotional and informational support                  |                                                                  |
|                                                          | • Utilize mobile technology to provide long-term support and discourage relapse         |                                                                  |
|                                                          | • Provide positive reinforcement and incentives for health-promoting behaviors          |                                                                  |
| • Multiple life stressors                               | • Use peer educators as role models to demonstrate proper use of NRT and other cessation tools to help increase acceptance of these methods | • Social cognitive theory  
• Social ecological model  
• Minority stress model  
• Mindfulness |
|                                                          | • Use coping strategies (i.e., mindfulness, meditation) to deal with cravings, withdrawals and concomitant life stressors |                                                                  |
| HIV-related stigma | Encourage healthcare providers to regularly prompt patients to quit smoking in a patient-centered, non-judgmental format | Intersectionality theory  
Structural competency  
Motivational interviewing |
|---|---|---|
| Lack of targeted risk communication | Target information about increased risks for smoking-related illnesses due to HIV infection  
Counsel WLWH that despite long-term smoking history, quitting can benefit their health and health of those around them  
Target to women’s stage of readiness with consideration to potential life stressors that would inhibit advancement to the next stage, relapse to earlier stage or maintenance  
Provide education and statistics about specific adverse health outcomes for which WLWH that smoke are at an increased risk | Health belief model  
Transtheoretical model  
Attributes of effective health communication  
Motivational interviewing |
DISCUSSION

To date, few existing treatment programs target HIV-positive smokers and very few studies specifically address the complex social, economic, emotional, and medical needs of WLWH (Kim, Darwish, Lee & DeMarch, 2017; Manuel, Lum, Hengl, & Sorensen, 2013). This is one of few studies to use a qualitative formative approach to assess multi-level smoking cessation barriers faced by WLWH. Study findings highlight the need to address barriers to smoking cessation, which included multiple life stressors, HIV-related stress, HIV-related stigma, and social isolation. Further, WLWH emphasized the importance of long-term smoking cessation support, peer support, mental health content, religion/spirituality, and targeted risk messaging in intervention development.

Study findings suggest that individual-level factors such as stress and isolation due to both non-HIV-related and HIV-related factors are important psychosocial factors to target in a smoking cessation intervention for WLWH. As expressed by women in this sample, general and specific HIV-related stressors compounded feelings of rejection and isolation, and ultimately intensified smoking cravings. Although smoking was described as alleviating levels of stress and an important coping mechanism, many women recognized the health risks associated with smoking. Evidence suggests that WLWH are more likely to exhibit symptoms of depression and anxiety as compared to non-infected women (Morrison et al., 2002). Depressed individuals are also less likely to quit smoking than non-depressed individuals (Hitsman et al., 2013), supporting the notion that targeted interventions must address these psychosocial factors and the specific stressors experienced by WLWH to mediate positive behavior change.

Past research has shown that barrier reduction is more predictive of behavior change as compared to other theoretical constructs and may lead to increased self-efficacy (Carpenter, 2010; Mehta, Sharma, & Lee, 2014). As such, HIV stigma, intersectional stigma, and stress might be important to address as impediments to smoking cessation for WLWH. In our study, HIV-related stigma was described as a major barrier to smoking cessation. HIV-related stigma often serves as an obstacle to HIV prevention efforts, treatment, care, and the adoption of healthy behaviors (Mahajan et al., 2008). Such stigma can intersect with structural inequities such as racism, sexism, classism, and homophobia, ultimately compounding efforts to ameliorate its effects (Logie, James, Tharao, & Loutfy, 2011; Rice et al., 2018; Watkins-Hayes, 2014); thus smoking interventions designed for WLWH must give consideration to the multiple socially marginalized identities that influence women’s daily realities and health-related behaviors. Many WLWH struggle with the repercussions of HIV stigma related to status disclosure. While disclosure can provide social support, it can also make WLWH more vulnerable to stigmatization and discrimination (Black & Miles, 2002). As a result, social support mechanisms traditionally utilized by non-infected populations are not always socially acceptable or even safe for WLWH (Fletcher et al., 2016); in the absence of such supportive environments, women may turn to passive coping strategies such as avoidance, denial, and withdrawal, which are associated with negative physical and mental health outcomes (Moneyham et al., 2005). For WLWH, tobacco use might be a result of avoidant coping for HIV-related discrimination (Crockett, Rice, & Turan, 2018).

Although there is conflicting evidence regarding the influence of social support on smoking cessation (Westmaas 2010), such support may be particularly important for WLWH who face elevated psychosocial and economic stress (de Dios, Stanton, Cano, Lloyd-Richardson, & Niaura, 2016). Participants expressed that small group sessions facilitated by peers, counselors, and/or
medical providers would aid in social support and long-term smoking cessation. Many women recognized the value of smoking cessation interventions; however, in light of heightened stressors, many felt they would revert to prior smoking habits once the intervention ended. Findings highlight the need for long-term, sustainable interventions, particularly, for vulnerable populations who encounter multiple barriers when attempting to quit smoking. Participants themselves hypothesized that longer duration of intervention and support would likely foster successful cessation. Smoking interventions that are brief in nature and demonstrate low cessation rates long-term may require other sustainable measures such as ongoing peer support to meet the social and medical needs of this population.

The integration of smoking cessation interventions into HIV clinic-based settings offers great promise to reduce smoking-related disparities for WLWH (Shuter & Bernstein, 2008; Vidrine, Marks, Arduino, & Gritz, 2012). Outcomes from other health-related behaviors among WLWH, such as cervical cancer screening and ART adherence, suggest that addressing multiple stressors and competing life demands experienced by this population is key to successful behavior change (Fletcher et al., 2014a; Fletcher et al., 2014b; King et al., 2012). Healthcare providers must be sensitive to these factors, and messaging should highlight smoking severity and susceptibility specific to WLWH. Such cues to action may prompt WLWH to change smoking behaviors. Further, positive interactions between HIV-positive patients and healthcare providers can promote positive behavior change, adherence to ART, as well as engagement and retention in care (Beach, Keruly, & Moore, 2006; Bodenlos et al., 2007; Buchberg et al., 2015; Ingersoll & Heckman, 2005). Conversely, HIV-related stigma displayed by healthcare providers can decrease patients’ willingness to adhere to their provider’s advice, including that regarding smoking cessation. Delivering healthcare in a structurally competent manner requires attention to the systemic forces (i.e., institutional, political, and economic) that drive persistent health inequities (Metzl & Hansen, 2014), such as disproportionate smoking rates among WLWH.

Behavioral theories aid program planners in the development of targeted behavioral change strategies that give consideration to multi-level determinants influencing health outcomes (DiClemente, Salazar, & Crosby, 2018). Due to smoking behavior complexities (starting, quitting, maintaining, intermittent smoking, relapse), multi-theoretical interventions may be suitable to achieve desired outcomes (Froelicher & Kozuki, 2002). In particular, responses from WLWH indicate that stage-based approaches can effectively target an individual’s readiness to change smoking behavior by aligning theoretical constructs and corresponding intervention strategies (Noar, Benac, & Harris, 2007). Such approaches allow program planners to implement strategies that may be more appropriate during initiation of cessation versus maintenance of cessation, or vice versa (Sharma, Khubchandani, & Nahar, 2017).

This study has limitations, including the small sample size and recruitment of WLWH accessing HIV-related services and/or care in Chicago, IL. WLWH voluntarily participating in a focus group may be more likely to endorse interventions that offer support in a group setting. Results may not be generalizable to WLWH in other regions and those not seeking HIV-related care. Future research should explore the experiences of women not engaged in HIV care to understand additional barriers to cessation and intervention preferences. Despite limitations, this study represents an important step in informing future intervention development and assessment given a lack of targeted smoking cessation interventions for this population.
CONCLUSION

The development of effective targeted behavioral interventions aimed at health promotion among WLWH holds tremendous promise for reducing health disparities (Green, Guerrier-Adams, Okunji, Schiavone, & Smith, 2013). A specific focus on smoking cessation is warranted given high smoking rates among WLWH, and the devastating impact of smoking on the health of this population. Furthermore, to address smoking disparities among WLWH, community-engagement strategies are critical to informing intervention development, identifying the health priorities of communities, and fostering participant empowerment (Minkler, 2005). Soliciting early input from affected communities to guide targeted smoking cessation strategies and interventions is particularly important for WLWH who often experience additive, layered stigma and stressors due to their intersectional identities. Study findings will inform a targeted theory-based smoking cessation intervention for WLWH, a highly vulnerable clinical population with documented health disparities.

ACKNOWLEDGEMENTS

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