Cigarette Smoking and Cessation-Related Interactions With Health Care Providers in the Context of Living With HIV: Focus Group Study Findings

Lauren R. Pacek, PhD* • Alicia D. Holloway, BA • Karen L. Cropsey, PsyD • Christina S. Meade, PhD • Maggie M. Sweitzer, PhD • James M. Davis, MD • F. Joseph McClernon, PhD

Abstract
Smoking is disproportionately prevalent among people living with HIV (PLWH) compared with the general population. We conducted five focus groups (n = 24) using semi-structured interview guides to explore perceptions and experiences of smoking and cessation-related interactions with health care providers among smokers with HIV. Major themes included a limited understanding of how smoking affects illness among PLWH and minimal discussion about cessation with providers. Findings highlight the need to educate smokers with HIV about the known impacts of smoking on illness among PLWH and to facilitate greater discussion of cessation between providers and smokers with HIV. Prior experiences with smoking cessation medications and desire for additional information regarding these medications should be considered when implementing medication regimens in research and clinical settings.

Key words: cigarette smoking, HIV, risk perceptions, qualitative research

Cigarette smoking is disproportionately prevalent among people living with HIV (PLWH) as compared with the US general population (i.e., 34–43% vs. 14%; Centers for Disease Control and Prevention, 2019; Frazier et al., 2018; Mdodo et al., 2015; Pacek et al., 2014). In PLWH, smoking-related illness has become a major cause of morbidity and mortality (Altekruse et al., 2018; Ehren et al., 2014; Rasmussen et al., 2015). It is now estimated that 24% of all deaths among PLWH receiving antiretroviral therapy are attributable to tobacco use (Lifson et al., 2010), and population-based cohort studies (Helleberg et al., 2013) and modeling studies (Reddy et al., 2016) indicate that smokers with HIV potentially lose more life years to smoking than they do to HIV. Despite this, relatively little research has been conducted to explore factors that motivate smoking cessation among PLWH.

Some research has explored smoking-related risk perceptions among smokers with HIV. One study found that among PLWH, current cigarette smokers tend to perceive lower risks associated with smoking than do former smokers (Burkhalter et al., 2005). Another study (Pacek et al., 2018) examined risk perceptions of developing smoking-related disease under various instruction sets (e.g., their own risk as a smoker and risk while imagining that they were nonsmokers, as well as risk for an imagined generic smoker and nonsmoker) among PLWH who are current smokers. Findings indicated that participants perceived significantly greater risks associated with their current smoking compared with hypothetical personal nonsmoking, but lower risks of their own current smoking compared with generic smoking status (Pacek et al., 2018). Qualitative research has demonstrated that PLWH who are current smokers tend to justify their smoking, and discount the associated health risks of smoking, by rationalizing that they would not live long enough to be harmed by cigarette smoking (Reynolds et al., 2004). However, significant advancements in HIV treatment and smoking cessation have occurred since the Reynolds et al. (2004) study, which

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Lauren R. Pacek, PhD, is an Assistant Professor, Department of Psychiatry and Behavioral Sciences, Duke University School of Medicine, Durham, North Carolina, USA. Alicia D. Holloway, BA, is a Clinical Research Coordinator, Department of Psychiatry and Behavioral Sciences, Duke University School of Medicine, Durham, North Carolina, USA. Karen L. Cropsey, PsyD, is a Professor, Department of Psychiatry and Behavioral Neurobiology, University of Alabama at Birmingham, Birmingham, Alabama, USA. Christina S. Meade, PhD, is an Associate Professor, Department of Psychiatry and Behavioral Sciences, Duke University School of Medicine, Durham, North Carolina, USA. Maggie M. Sweitzer, PhD, is an Assistant Professor, Department of Psychiatry and Behavioral Sciences, Duke University School of Medicine, Durham, North Carolina, USA. James M. Davis, MD, is an Assistant Professor, General Internal Medicine, Duke University School of Medicine; and Duke Cancer Institute, Durham, North Carolina, USA. F. Joseph McClernon, PhD, is a Professor, Department of Psychiatry and Behavioral Sciences, Duke University School of Medicine, Durham, North Carolina, USA.

**Corresponding author: Lauren R. Pacek, e-mail: lauren.pacek@duke.edu*

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may impact perceptions and beliefs among smokers with HIV.

Prior research has also indicated the importance of HIV care providers in efforts to promote smoking cessation among PLWH. Specifically, receiving encouragement from an HIV care provider and greater frequency of discussions regarding smoking cessation with HIV care providers is associated with an increased interest in cessation (Pacek et al., 2017). Additionally, experiencing a physician-delivered smoking assessment increases patient readiness to quit (Amiya et al., 2011). Furthermore, one study demonstrated that cigarette smokers who have HIV are more likely to make a smoking cessation attempt after a diagnosis of HIV if a health care provider implements a smoking cessation intervention (Berg et al., 2014). Limited qualitative research also shows that, among men with HIV, health care provider advice regarding smoking is regarded as "very important," and several interviewed participants reported that their health care provider was key to their successful smoking cessation (Reynolds et al., 2004).

Prior qualitative research has been conducted among people with HIV to explore smoking cessation aid use (Schultz et al., 2014; Shirley et al., 2018) and barriers to smoking cessation (Fletcher et al., 2018; Matthews et al., 2011; Reynolds et al., 2004; Schultz et al., 2014; Shirley et al., 2018). However, with the exception of a single, previously discussed, study (Reynolds et al., 2004), we are not aware of any research that has taken a qualitative approach to understanding how smokers with HIV perceive the risks of smoking within the context of their diagnosis or their cessation-related experiences with their HIV health care providers. Understanding these perceptions and experiences can aid in the development of targeted smoking cessation interventions for this vulnerable population. Additionally, given the length of time that has passed—coupled with advancements in HIV treatment and smoking cessation—since the Reynolds et al. (2004) study, it is particularly important to gather these data in a current context. To address this gap in the literature, we conducted focus group interviews to understand the perceptions and experiences of cigarette smoking and cessation-related interactions with health care providers among current smokers who have HIV.

Methods

Five focus group interviews were conducted between January and March 2018, with each group consisting of two to eight participants. Participants were required to be between the ages of 18 and 65 years, have a diagnosis of HIV and currently be engaged in HIV care, and self-report smoking at least five cigarettes per day for the past year (current smoking verified via expired breath carbon monoxide reading >8 ppm). Interviews took place at an academic medical center in the southeastern United States. Recruitment consisted of advertising in local HIV clinics, word of mouth, and referral via prior study participation in our laboratory.

After informed consent, participants completed self-report questionnaires to obtain information regarding sociodemographic characteristics, tobacco use history, and HIV health history. Using a semi-structured focus group agenda, two facilitators led the focus group interviews. Interviews explored participants' perceptions about cigarette smoking within the context of HIV and smoking cessation–related interactions with HIV care providers.

Data Analysis

Interviews were audio recorded and transcribed verbatim. Data were analyzed using NVivo 12 (QSR International Pty Ltd, 2018). Interview transcripts were analyzed using a two-stage deductive and inductive analysis approach; initial deductive coding was conducted independently by two analysts using an a priori codebook—developed based on content areas that interviewers had intended to cover during the focus groups. Intercoder agreement was assessed on three of five of the interview transcripts. Two analysts generated and reviewed coding reports to identify and code emergent data related to each a priori topic (i.e., inductive coding process). Emergent codes were grouped and categorized thematically based on how the data were directly described or implied in the interviews. Themes were organized according to salience across all focus group discussions, and frequency tables were exported from NVivo and formatted in Microsoft Excel to illustrate the most salient themes in each a priori topic. The Institutional Review Board at Duke University School of Medicine approved all study procedures (Pro 00088174).

Results

Participants

Characteristics of the 24 participants are reported in Table 1.

Beliefs About Smoking in the Context of HIV

Unsure of association between smoking and HIV. When asked to discuss perceptions regarding the relative harmfulness of cigarette smoking for PLWH as

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Table 1. Characteristics of Current Smokers With HIV Who Participated in Focus Group Interviews (n = 24)

Characteristic	n (%) or M (SD)
Female	9 (37.5%)
African American race	23 (95.8%)
Non-Hispanic ethnicity	24 (100%)
Age	50.2 (10.4)
Years since HIV diagnosis	17.3 (11.2)
Lifetime AIDS diagnosis	4 (16.7%)
Cigarettes smoked per day	12.2 (4.6)
Fagerström test for nicotine dependence	5.3 (1.8)
Years smoking	35.0 (10.3)

compared with people without HIV, some participants expressed uncertainty regarding the association between the two. One participant stated that their provider had not explained how cigarette smoking may potentially interact with HIV and related conditions.

> 'Cause they really haven't told us… well at least they haven't told me exactly what cigarette smoking is doing with the HIV. I don't know what is hindering me, and as long as it's not hurting me, I don't see no reason to [quit]…

No association between smoking and HIV. A substantial proportion of participants indicated that they did not perceive cigarette smoking to be potentially more harmful among PLWH compared with people without HIV.

> Man, it just—it—it has nothing to do with the HIV. She [physician] just feels that I'll be more healthier cause I have other complications in my body besides HIV. I don't think it's a difference. I mean, just like I was saying earlier about HIV and then smoking has nothing to do with my body. I mean that's two totally different things. I mean if I didn't have HIV and I'm still smoking, I'm still taking a risk of getting cancer. You see what I'm saying? So, what's the difference?
>
> I think it's even. You run the same risk. Yeah, I would say even.

Ambivalence about quitting smoking after receipt of HIV diagnosis. All participants reported that they began smoking before their diagnosis with HIV. In addition to discussing beliefs regarding smoking within the context of HIV, participants were asked to describe whether their beliefs about smoking, or actual cigarette smoking behavior, changed after receipt of their HIV diagnosis. As evidenced in the selected quotes below, participants responded that their feelings about smoking did change after being diagnosed with HIV but, ultimately, they continued to smoke cigarettes.

> I think it has changed for me, because, like, after, being diagnosed, it's like you're on this health kick about everything, you know, trying to just keep yourself healthy, and, so my views, even though they weren't completely positive before the diagnosis, they really, like, been more diminished now, because it's just like, I—I think it's disgusting, and I just think it's a bad habit. But, yeah, it's something, I mean, obviously I'm addicted to, so yeah, my—my thoughts about it definitely changed. After the diagnosis.
>
> I mean, when you find out you have a terminal disease, it's like, you wanna do everything you can—to make it. Help it. But, I'm not giving up cigarettes. I gave up everything else.

Smoking Cessation–Related Interactions with HIV Care Providers

Smoking cessation infrequently promoted. Participants were asked whether discussions concerning smoking cessation typically took place—and, if so, about the frequency with which these discussions occurred—during routine visits with their HIV health care provider(s). Some participants reported that such conversations happened irregularly, often because of the need to address issues that are perceived as being more important than cigarette smoking.

> And I love my doctor … but I guess he's like—he's more interested in, like, more, I guess more important stuff. And I always talk his head off with like, other stuff. He probably can't get around to, like, are you still smoking? … That's why, but yeah, so—not every time, but he does make it a point, you know, to like, get that in there, like, on some visits.

Smoking cessation not promoted. However, many participants stated that even though their smoking status was often assessed—either by a nurse before the encounter with their physician or by the physician themselves—smoking cessation was not typically promoted during their HIV health care visits.

> The only thing my doctor say, "You still smoke?" I say, "Yeah." Umm, "Are you planning on—planning on stopping?" I say, "Not no time soon." That was it.

In fact, when discussing their smoking cessation–related experiences with HIV health care providers, most participants indicated that they had not been told to stop smoking.

> I'd say it impact my health at least 80%. But I ain't got no effect, uh—I ain't not—I ain't feeling nothing wrong yet. The doctor ain't seen nothing wrong yet. Once the doctor tells me to quit smoking, I'm gonna quit. But he ain't told me yet.

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> The doctor ain't told me to quit. No. he said I was breathing good, normal. They know I smoke. They know I smoke… I go every 3 months for a checkup and they ain't told me to quit smoking.
>
> "Well when you planning to quit? How many you smoke a—a day?" I tell her [a nurse], "About two or three or four." "Okay." And putting it there, putting it in the note—if she was doing that. And nothing be said when I go in there with the doctor.

Willingness to try smoking cessation pharmacotherapies, if recommended by provider. Participants were questioned as to whether their HIV health care providers had ever suggested use of pill-based medications (e.g., varenicline/Chantix, bupropion/Zyban) to assist with a smoking cessation attempt. Relatively few participants in the focus groups reported receiving such a suggestion from their provider, and even fewer had ever used such medications for smoking cessation. One participant—portrayed in the first quote, who did not have firsthand experience with cessation medications—indicated that they would be willing to try taking smoking cessation medications, provided that they were adequately informed about it at the time of prescription. Another participant—depicted in the second quote below—indicated that their prior experiences with Zyban (i.e., bupropion) would make them unlikely to try new medications for smoking cessation.

> I'm willing to try the medications, but I just have to know the ins and outs of that medication before I take it.
>
> And me, I don't—wouldn't— try nothing new cause I'm scared of those side effects. I done had a couple bad experiences trying new stuff.

Discussion

To our knowledge, this is one of the first studies to take a qualitative approach to understanding the beliefs about smoking and its relationship with HIV and smoking cessation experiences with HIV health care providers. Study findings highlight that study participants predominantly did not believe that there was an association between cigarette smoking and HIV-related health outcomes. They also reported that conversations about smoking cessation did not occur frequently during visits with their HIV health care provider.

Evidence suggests that cigarette smoking among PLWH can confer greater health risks when compared with cigarette smokers who do not have HIV. For instance, Helleberg et al. (2013) found that the population-attributable risk of death associated with smoking was approximately double among PLWH as compared with those without HIV (61.5% vs. 34.2%). However, most focus group participants indicated that they were either unsure of the association or did not believe there to be an association between cigarette smoking and HIV-associated health outcomes. Based on our interviews, it seems likely that information on smoking and HIV-associated health outcomes is not sufficiently conveyed to patients, although it should be acknowledged that it is possible that this information is not being readily recalled by patients. This finding suggests the need for messaging campaigns and/or educational efforts to disseminate this information. Given that PLWH are frequently in regular contact with the health care system via routine HIV care visits, one potential route of dissemination could be HIV care providers.

A majority of participants also reported that while smoking status was commonly assessed by providers, discussions regarding smoking cessation did not occur regularly, if ever. This finding may be symptomatic of differing treatment priorities, lack of awareness, and/or lack of confidence on the part of HIV health care providers, as documented previously in the literature (Gritz et al., 2007; Horvath et al., 2012; Shuter et al., 2012). For instance, one study hypothesized that a lack of emphasis on smoking cessation by HIV care providers may be attributable to a greater focus on the acute treatment of HIV and perception of a lack of relevance of smoking to HIV treatment outcomes and survival (Gritz et al., 2007). In fact, one participant specifically indicated that they believed that their HIV care provider did not address smoking cessation because they were interested in "more important stuff." Other work suggests that HIV care providers may lack the confidence and/or training necessary to successfully address smoking cessation (Horvath et al., 2012; Shuter et al., 2012). This is particularly troubling when considering the critical role that HIV health care providers play in linking smokers with HIV to cessation treatment (Amiya et al., 2011; Berg et al., 2014; Pacek et al., 2017; Reynolds et al., 2004). To facilitate discussions concerning/implementation of smoking cessation interventions within the context of HIV health care visits, employment of smoking cessation specialists and/or other mid-level health care providers who have the time to devote to cessation efforts within HIV and infectious diseases clinics may be warranted. Concerning smoking cessation pharmacotherapies, specifically, participants' responses were mixed: those who had experience taking them were less likely to be interested in trying them again, based on negative past

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experiences. Others indicated that they would be open to the idea of taking pill-based medications for smoking cessation, provided that they were adequately informed about them. As a result, past experiences with and a desire for information regarding prescribed medication should be considered in both research and clinical settings.

This study had several limitations. First, participants were limited to PLWH who were accessing HIV-related care in the Durham, NC, area. As a result, the findings may not generalize to PLWH in other regions of the United States, to those living in other countries, or to those who are not currently receiving HIV-related medical care. The sample was predominantly African American and non-Hispanic, and it was comprised largely of "older" individuals; as a result, the findings may not generalize to other racial/ethnic groups or younger people. Additionally, given that all participants were receiving HIV-related health care at the time of the interviews, we were unable to assess beliefs related to smoking among individuals who were not currently engaged in care.

Despite these limitations, the present study represents a significant contribution to the literature concerning how smokers with HIV perceive the risks of smoking within the context of HIV and their cessation-related experiences with their HIV health care providers. Findings highlight the need to educate smokers with HIV on the potentially deleterious effects of cigarette smoking among PLWH, as well as to facilitate regular smoking cessation–related discussions between patients with HIV and their health care providers. Experiences with and desire for adequate information regarding smoking cessation pharmacotherapies should also be considered when implementing medication regimens in research and clinical care settings among this population.

Disclosures

The authors have no conflicts of interest to declare.

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Key Considerations

- Smokers with HIV may be unaware or unsure of the negative health effects of cigarette smoking in the context of HIV.
- Frequent smoking cessation–related discussions between patients with HIV and their health care providers should be undertaken, particularly given prior research indicating the importance of the role that health care providers play in promoting smoking cessation.
- Among smokers with HIV, interest in and willingness to use medications for smoking cessation are at least partially driven by prior experiences with and a desire for adequate information regarding these treatments.

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