A content analysis of self-reported barriers and facilitators to preventing postpartum smoking relapse among a sample of current and former smokers in an underserved population

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Abstract

To characterize the barriers and facilitators that prevent postpartum relapse and maintain smoking abstinence among a socioeconomically underserved population, recruited through Philadelphia-area women, infants, and children clinics, in-person interviews were conducted with 30 women who had quit smoking for one or more pregnancies in the past 3 years to retrospectively describe their attempts to remain abstinent during the postpartum period. Responses were analysed using the constructs from the Cognitive-Social Health Information Processing model, which identifies the cognitive, affective and behavioral factors involved in goal-oriented self-regulatory actions, in the context of a vulnerable population of women. Motherhood demands were a significant source of relapse stress. Stresses associated with partner and family relationships also contributed to relapse. The presence of other smokers in the environment was mentioned by many women in our sample as affecting their ability to remain smoke-free postpartum. Participants reported four main strategies that helped them to successfully cope with postpartum cravings and relapses, including being informed of smoking risks, maintaining goal-oriented thoughts, focusing on their concerns about the baby’s health and receiving positive social support from families and friends. Results provide guidance for the design of smoking relapse interventions that may address the unique stressors reported by underserved postpartum women.

Introduction

Tobacco use has remained the single most important modifiable cause of poor pregnancy outcomes in the United States. Smoking accounts for 30% of deliveries of infants with low birth weights, 8% of pre-term births and 5% of all perinatal deaths [1–3]. Smoking during pregnancy and postpartum contributes to sudden infant death syndrome, changes in brain and nervous system development and increased risk for infant ear and respiratory infections, in addition to cognitive and behavioral deficits [4, 5]. Smoking cessation during pregnancy has been recognized as a ‘suspended’ behavior because of the high postpartum relapse rates [6, 7]. Indeed, a large proportion of women relapse after giving birth; up to 45% resume smoking after 3 months, and up to 80% relapse within 1 year [8]. Motivational factors during pregnancy, including protection of the health of the unborn baby, social pressure, nausea and loss of taste for tobacco, are no longer relevant after
Smoking has increasingly become a behavior of lower Socioeconomic status (SES) groups, with the highest prevalence found among those with lower income and education. For example, women with annual incomes of $<15K were less likely to quit smoking during their pregnancy. Among all women who did quit, women with incomes $<15K were almost twice as likely to relapse within 4 months of delivery, compared with those with incomes of $>15K [12]. Postpartum relapse is harmful not only to the mother, but to the infant who is exposed to second-hand smoke. Second-hand smoke has been estimated to be responsible for nearly 6000 deaths annually among children younger than 5 years [13].

Although there are a growing number of interventions that were designed to reduce postpartum smoking relapse with promising potential, ranging from brief interventions during maternity hospitalization to intensive face-to-face counseling [14, 15], the number of interventions specifically designed to prevent postpartum smoking relapse among socioeconomically disadvantaged group is limited. Studies examining relapse factors show that concerns about weights and the use of snacking as a strategy to cope with smoking are barriers to cessation [16, 17]. In contrast, breastfeeding has been found to facilitate long-term postpartum smoking abstinence [18]. Qualitatively, low SES women report that relationship problems, medical problems, maternal role stress and partner smoking precipitated a return to smoking during postpartum [19, 20]. For example, Ripley-Moffitt et al. [21] found the facilitators having the greatest influence on overcoming temptations included continuous acknowledgement about the health benefits of not smoking, having a strong internal belief system, significant social support and concrete strategies for dealing with temptations. On the other hand, barriers to postpartum cessation include easy access to cigarettes, lack of social and financial support, insufficient resources for coping with the challenges of childrearing, physical addiction and reliance on cigarettes as a primary form of stress management were common reasons to resume smoking [21]. However, not only have few studies examined the stressors postpartum women experience in relation to their smoking behavior, but this research area is also limited by the absence of interventions that address these barriers (e.g., psychological distress) among racially/ethnically diverse, predominately low-income inner-city women [22, 23]. Given the higher postpartum smoking relapse rate and the limitations of previous interventions in the underserved low-income population [17, 24, 25], it is important to link theoretically based cognitive and emotional variables to the ability of postpartum women to stay smoking abstinent, guiding future intervention development.

To fill this void, we conducted a theory-guided qualitative assessment of the postpartum smoking relapse-related stressors and coping experiences among an underserved, ethnically diverse inner-city population. Constructs from the Cognitive-Social Health Information Processing (C-SHIP) model, which offers a unifying theoretical framework for assessing and addressing psychosocial relapse factors experienced by postpartum women [26–28], were used to guide the content analysis and to direct future intervention development strategies. The C-SHIP model is built on cumulative findings and theorizing from diverse relevant sub-areas of cognitive-behavioral science and evidence-based psychosocial interventions, and integrates key cognitive and affective processes. Guided by this model, we identified five key areas of psychosocial cessation barriers relevant to low-income women: (i) low knowledge and perceived risk for smoking, (ii) inadequate decisional balance (high pros and low cons of smoking), (iii) high affect (distress), (iv) negative beliefs (low self-efficacy and fatalistic beliefs) and (v) lack of self-regulatory and social support strategies. A key strength of this model is that it delineates the specific psychosocial variables that promote or undermine health-protective behaviors within a given social-demographic context. Over the past decade, a sizable literature has accumulated to support the role of these factors in undermining smoking behavior, acting as barriers to self-initiated cessation and enrollment in smoking programs, and decreasing quit rates and maintenance of smoking abstinence [29–34].
Methods

Participant recruitment
Participants were recruited via flyers and staff referrals at three Women, Infants and Children (WIC) clinics located in the Philadelphia region. Research assistants also approached women in the waiting room of the clinic, asking them if they would be interested in participation. Interested women were invited to participate if they (i) were 18 years of age or older and (ii) had quit smoking for at least one pregnancy and had given birth to at least one child in the past 3 years. The exclusion criteria were: an inability to communicate readily in English and provide informed consent. This study was approved by the Institutional Review Board at Fox Chase Cancer Center/Temple Health.

Procedures
Female-trained research staff conducted the interviews in a private space at the WIC clinics. Interviewers provided assurances of anonymity, answered questions regarding participation, and obtained written informed consent prior to each interview. Interviews lasted ~20 min and included specific questions addressing personal, social and environmental factors that triggered a postpartum relapse as well as experiences, motivators and techniques that helped women maintain smoking abstinence after delivery (Table I). Upon completion of the interview, participants received a $20 gift card as compensation for their time and effort.

Content analysis
Interviews were audio-recorded, transcribed verbatim and coded using ATLAS.ti 5.0 [35], which allowed for classifying and retrieving data on the basis of codes and facilitating comparisons across participants. Following an initial review of the interview transcripts, the research team developed a coding scheme based on the C-SHIP model, interview questions and sociodemographic considerations. Responses were coded into one of the following constructs: (i) knowledge and perceived risk; (ii) beliefs (e.g., self-efficacy and fatalism); (iii) affective; (iv) decisional balance; and 5) self-regulation and social support, focusing on barriers and facilitators to cessation in each C-SHIP domain.

Transcript segments were coded by three coders, with two coders assigned to each interview transcript. After each coder had independently completed their coding, the results were compared to reconcile discrepancies. Routine meetings were held to discuss emergent themes and issues with codes and to consider the creation of new codes. Frequency of responses within each category was calculated, analysed and reviewed by the research team to generate summary descriptions of the patterns observed.

Results

Participant characteristics
In total, 97 women were screened for the study (via flyers n = 10, staff referrals n = 17, approached in

<table>
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<th>Table I. Sample questions from interviews</th>
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<tr>
<td>Smoking and quitting</td>
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the waiting room \( n = 70 \): 60 women were not eligible and 7 women were not interested in participating. The reasons for ineligibility were never smoked \(( n = 46)\), first pregnancy \(( n = 9)\), did not quit smoking for prior pregnancy \(( n = 3)\) and primary language was not English \(( n = 2)\).

The study sample \(( n = 30)\) was comprised of an ethnically diverse group of low-income women: 12 were African American, 11 were Caucasian and 6 were Hispanics. The mean age of participants was 28 years, with a range between 18 and 46 years; nearly all participants were single and the majority had one child. Twenty-four were unemployed and all participants reported a household income of $45 000 or less, with over half reporting $15 000 or less. Nearly all of the participants \(( n = 28)\) were enrolled in a government health insurance assistance program; the remaining two participants did not have any insurance coverage. All of the women self-identified as a present or past smoker, with varying levels of current cigarette use. Seventeen reported that they currently smoked every day with an average of 16 cigarettes per day, while eight said they were not smoking at all. Thirteen reported that they had at least one additional person using tobacco in their household (Table II).

**Table II. Description of participant demographics**

\[
\begin{array}{|l|c|}
\hline
\text{Race/ethnicity} & \text{\( n = 30 \)} \\
\hline
\text{Hispanic} & 6 \\
\text{Caucasian} & 11 \\
\text{African American} & 12 \\
\text{Asian} & 0 \\
\text{Other} & 1 \\
\hline
\text{Marital status} & \\
\text{Single} & 28 \\
\text{Married/cohabiting} & 2 \\
\hline
\text{Income} & \\
$0–15 000$ & 17 \\
$15 000–30 000$ & 10 \\
$30 000–45 000$ & 3 \\
\hline
\text{Education} & \\
8–11 years & 4 \\
High school/General educational development diploma & 14 \\
Vocational/Tech & 4 \\
Some college & 6 \\
Bachelor’s degree & 2 \\
\hline
\text{Health insurance} & \\
Medical assistance & 28 \\
None & 2 \\
\hline
\text{Employed} & \\
& 6 \\
\hline
\text{Smoking frequency} & \\
Everyday & 17 \\
Some days & 5 \\
None & 8 \\
\hline
\end{array}
\]

**Interview responses**

*Knowledge and perceived risk*

*Barriers to smoking abstinence.* Participants generally perceived that there were risks associated with smoking during pregnancy, which should have facilitated cessation. However, at the same time participants also had diverse views regarding the severity of the consequences of possible relapse behaviors. In particular, some women rationalized their relapse behaviors due to their lower perceived risk or misconceptions about their risks:

“But I felt like that at all my doctors’ appointments he was fine. So I felt like smoking is ok. I know there’s people out there doing way harsher drugs than just tobacco so I felt like it wasn’t really, it was bad but not it could have been worse.”—African American mother, 24 years old, current smoker.

In addition, few women had a full understanding about the risk of second-hand smoke for their children. Rather, most women underestimated the effects that tobacco might have on their children and some women reported that it would be possible to isolate their children from their smoking, justifying their return to smoking postpartum:

“I never wanted to smoke around my children. Because I know about second hand smoke and stuff like that. So, like. I would go out on the balcony, or go outside on my porch. I don’t smoke in my house, with the children.”—African American mother, 46 years old, current smoker.
Facilitators to smoking abstinence. Some participants were generally aware and concerned that smoking would negatively affect the health of the fetus and their children. Several women reported that being pregnant influenced their motivation to quit, and concerns about the baby’s health were frequently cited as the main reason for stopping smoking or cutting down. In addition, some women stressed the importance of staying smoking free, not only for their children, but also for their own health, contributing to their continuous smoking abstinence:

“When I found out I wanted to have a baby and I did research about how smoking could affect my baby I had to sit and think ‘Can I do it?’ Once I found out I got pregnant I just stopped. Because I already knew about the effects, the birth defects that you could have from smoking. After my daughter, I didn’t even have the urge to smoke, I don’t even like to be around the smell now. So it benefited me and my daughter basically.”—Hispanic mother, 23 years old, current non-smoker.

“I’m very informed about what could happen if you continue to smoke and the health risks involved. That’s what makes me want to quit for myself and my children until now.”—Caucasian mother, 19 years old, current non-smoker.

Beliefs: self-efficacy and fatalism

Facilitators to smoking abstinence. Many participants reported that having confidence in themselves was the key to permanently quit smoking postpartum. Many approached this task as a personal challenge and a sign of their own self-control:

“It’s only on you…If you’re going to stop smoking, then stop smoking. If not, then not. I mean, it is hard, I’m not gonna say it ain’t hard, but it’s one thing yourself…Motivate yourself…That’s how I look at it.”—African American mother, 29 years old, current non-smoker.

Affective

Barriers to smoking abstinence. Many women reported their reliance on cigarettes as a primary form of stress management. Participants identified several stressors and precursors to postpartum smoking relapse, including motherhood concerns, family-related stress and financial difficulties. Some common reported stressors associated with motherhood were a general feeling of being overwhelmed, coping with a child’s illness and difficulties finding childcare:

“Making his bottles, feeding him, changing him…Getting up in the middle of the night, changing his pampers, taking him to doctors’ appointments, going to the grocery store…It’s so hard. So I turned to a cigarette. It was my comfort.”—Caucasian mother, 20 years old, current smoker.

In addition to the demands of motherhood, participants cited elevated stress in their interpersonal relationships, particularly those with a partner or other family members:

“When I stopped smoking for a year, I was with this guy…And I was in domestic violence, ..And before they abuse me, and put their hands on me, I would swing at them with no hesitation. So I used to light up the cigarette and just ignore them…It makes me think positive.”—Hispanic mother, 42 years old, current smoker.
Work and financial concerns were also described by participants as contributing to their distress causing smoking relapse:

“I lost my job about 5 months after I had my daughter so that was a blowout. . . . That was a big thing for me and then I was moving out of my mom’s place and I didn’t really know where I was moving to. . . . It was just a lot of things going on. I felt like smoking was my outlet pretty much.”—African American mother, 24 years old, current smoker.

Facilitators to smoking abstinence. Some women reported that a positive effect, the experience of activated, alert and happy states, helped them to cope with the urge to resume smoking:

“There’s no need for me to pick up a cigarette, you know I got her, I’m happy and active, I’m just basically, constantly doing something to be happy, just active. Just as long as for weight you move around and walk a lot and stuff like that, so it wasn’t really hard for me.”—African American mother, 29 years old, current non-smoker.

Decisional balance: pros and cons
Decisional balance reflects the relative pros and cons that individuals assign to different behaviors (e.g., to smoke or not to smoke).

Barriers to smoking abstinence: pros of smoking. Concerns about shape, weight and self-image were also reported to contribute to participants’ postpartum smoking relapse by many women in our sample. In particular, they thought that smoking serve as a form of weight control and a substitute for eating, as losing some of their pregnancy weight was prioritized before quitting:

“When I stop smoking, I was 105–110 pounds. Then I went up to 140 pounds. And I couldn’t carry that weight. I had a real big butt. And the guys were always staring. And that would happen when I’d come out of my house, I started smoking again, so that I could lose a little weight on me and just being like 120–115 is a nice weight.”—Hispanic mother, 42 years old, current smoker.

“And when I tried to stop, I just found myself eating and eating. I didn’t want to put on all the weight so I smoked a cigarette. Usually when you smoke, it decreases your appetite.”—African American mother, 35 years old, current smoker.

Many participants identified the advantages of continued smoking, most notably the calming effects of smoking on its users. Given the financial, personal and emotional burden of early motherhood, women with newborns are particularly likely to find smoking a comfortable and easy escape from a demanding new reality:

“If something gets on my nerves I want to smoke a cigarette. So I did. Job, work-related, relationships, anything. Something get on your nerves, you want to smoke a cigarette.”—African American mother, 29 years old, current smoker.

Facilitators to smoking abstinence: cons of smoking. The majority of participants explicitly recognized that smoking cessation would have a positive impact on the current health of their children and may dissuade their children from picking up the habit in the future:

“I don’t want my kids to grow up and see me smoke, because I think that was a really big reason why I started smoking. Just because I see my parents do it.”—Caucasian mother, 26 years old, current non-smoker.

Self-regulation and social support
Barriers to smoking abstinence. The majority of participants who were current smokers indicated that they were exposed to smokers and had easy access to cigarettes in their social environment, which impacted their ability to refrain from smoking after childbirth; many of these other smokers were family, friends and coworkers and partners. Some participants expressed that it is even harder to stay
smoking abstinent after delivery due to the loss of the social protective status that came with being pregnant or breastfeeding:

“[The cravings] were really [bad] when my husband smoked his cigarettes as well. When I really craved smoking a cigarette because somebody around me was smoking. When somebody who was smoking was around me was when I really had the craving. But when I was off on my own, and nobody around me was smoking, I was okay.” —Caucasian mother, 38 years old, current smoker.

“Because his [the partner’s] mother and father smoke, my mother and father smoke, my friends smoke. I’m around it. It’s a lot harder than when I was pregnant with him to quit when they said I should quit.” —Caucasian mother, 20 years old, current smoker.

Facilitator to smoking abstinence. All participants reported engaging in some self-regulatory behavior to reduce stress and refrain from smoking. Distracting activities were mentioned by many participants and included practices like playing with their children, cleaning, or watching television. Other strategies mentioned were relaxing breathing techniques, listening to music and exercise:

“I play games, like I play games, I go for a walk, I watch TV, and eat is the number one...Like I try to eat instead of smoking a cigarette, or I’ll go out and probably drink, like I like Mountain Dew...Like doing something that you like, that you know that you can, something that you can sit and do longer than ten minutes to keep your mind off of smoking cigarettes. Don’t find something that you will do for one minute and then you gonna be right back to thinking about smoking cigarettes, find something long term that you can do that’s just going to keep your mind off of it.” —African American mother, 20 years old, current non-smoker.

Some participants reported using alternative oral fixations, such as eating or chewing gum, as a distraction to reduce cravings:

“Being pregnant helped me cut back, and if you chew gum or hard candy, that helps with the cravings.” —Caucasian mother, 23 years old, current smoker.

The presence of positive social support was also identified by many participants as influencing their smoking behaviors and related to stress reduction and quitting, with sources including participants’ families, friends and children:

“My mom helped me quit... she sat down and talked to me about it. I had my daughter and she was still in the hospital. I had to realize that the cigarettes were important to my daughter. It made me think. It’s better for my health and it’s better for my daughter’s health.” —Hispanic mother, 23 years old, current non-smoker.

“Me not smoking is a big plus for [my older daughter] so you know, she’s like ‘Mom, don’t smoke, they stink.’ She is my biggest support.” —Portuguese mother, 23 years old, current non-smoker.

Discussion

With the urgent need to develop and implement smoking relapse prevention interventions for underserved postpartum women, this study examined the smoking relapse-related barriers and facilitators among the target population, guided by the C-SHIP theoretical model.

With respect to barriers, we found that women in our study were generally aware of smoking-related problems and risk to the fetus as the central reason to stop smoking during pregnancy, however, they were not fully aware of the effects of second-hand smoke and child development risks associated with postpartum smoking, corresponding to previous findings [36, 37]. Further, some participants held the fatalistic belief that they could not fight urges to smoke.
This result is consistent with previous findings that there is an increased likelihood of relapse among women who are less confident in their ability to quit [38, 39]. With regard to decisional balance, participants in the current investigation identified personal values that impacted their decision to smoke, including the pros of smoking: i.e., reducing stress [40], smoking enjoyment [40] and body image and weight concerns [41]. Smoking was reported as a means of reducing stress [42, 43], with the most frequently cited stressors being motherhood demands, relationship troubles and medical concerns. Emotional distress may be particularly likely to promote smoking behavior among postpartum low-income inner city mothers, since this group of women typically faces a number of uncontrollable challenges on a long-term basis (e.g., work and/or financial difficulties) [38]. In addition, several participants in the present investigation described the presence of smokers and easy access to cigarettes in their environment as a factor that increased their urge to smoke [38, 44]. The high proportion of postpartum women reporting this source of social and peer pressure indicates that relapse prevention programs in this SES context should provide strategies for how to cope with other environmental smokers. Women also reported experiencing a loss or change in their relationships with important individuals who smoke, as well as the socially protective status that came with being pregnant [45, 46]. In response to such major transitions such as the birth of a baby, interventions to prevent postpartum smoking relapse may need to help women to redefine relationships to compensate for the loss of social opportunities formerly associated with smoking and to foster a supportive environment.

Past research shows that women who are concerned about the dangers of smoking are more likely to refrain from postpartum smoking [40], while those who smoke are often aware of the dangers, but do not believe they are personally at risk [47]. These findings, combined with our study results, indicate that postpartum relapse prevention interventions should include educational elements that raise awareness of the adverse health effects of smoking on the infant’s, children’s and the woman’s own health, to increase risk perceptions and thereby enhance motivation to quit and stay smoking abstinence [6]. For example, women who quit smoking temporarily during pregnancy mainly for their unborn baby may need intervention assistance to shift their focus from the health of the fetus to themselves, their newborn and, if applicable, other children living with them. Reinforcing women’s intention to quit may also be critical to strengthen their ability to face the social pressures that encourage them to resume smoking following pregnancy [41]. Future relapse prevention programs should aim to increase self-efficacy by enhancing smokers’ confidence that they possess the ability to stay quit, as participants in our sample described quitting as a ‘mind over matter’ process. Provision of self-help materials and descriptions of pregnant and postpartum women from similar demographic backgrounds who have successfully quit smoking might help to build this confidence. Participants in the current investigation reported various methods of active coping with cravings and stress, including exercise, alone time/meditation and watching movies/television. When experiencing cravings, participants said keeping busy and using an alternative oral fixation were the most helpful ways to avoid relapse. Therefore, providing reinforcing activities to distract from craving or engaging in substitutes for the perceived benefits of smoking, and the use of more active cognitive-affective strategies (such as practicing positive self-talk, understanding the causes of craving, and training in the use of relaxation techniques) may be important components of smoking relapse prevention [48–50]. Helping women develop skills to handle cravings and normalize and assist them with ‘slips’ (smoking one or two cigarettes) successfully is especially critical. The current investigation also demonstrated the importance of positive social support from family or friends, since support helps motivate attempts to refrain from smoking. Therefore, interventions need to include skills development to cultivate positive social support and offset peer pressure to smoke in changing social expectations regarding continued smoking cessation postpartum.
There are several strengths of the study, including the use of a well-established theoretical model, the qualitative nature of the study, and its application to underserved low-income postpartum women enrolled in a publicly funded nutrition program serving a diverse ethnic clientele. Limitations include the fact that although the study sample was diverse, particularly regarding race/ethnicity and current smoking status, it was comprised of self-selected individuals who may be more disposed to remain smoke-free. Second, we were not able to assess participants’ past abstinence in relation to their pregnancy such as duration of abstinence or time of abstinence (before, during or after pregnancy), thereby limiting our ability to draw any conclusion by these characteristics. We also did not assess current pregnancy status, nor were we able to explicitly conduct analyses separated by current smokers versus non-smokers because only a small portion of the participants reported they were not smoking at the time of interview. This is a population who experiences an ongoing cycling between quit attempts and relapse episodes. Finally, given the retrospective nature of the study, recall accuracy related to smoking and pregnancy and postpartum experiences might have been affected by time since delivery. In spite of these limitations, the findings could be aimed at quantifying the identified barriers and facilitators to smoking cessation with the goal of informing more successful, targeted interventions for this population.

In summary, guided by the C-SHIP model, future programs for low-income vulnerable populations should comprehensively include elements designed to: (i) increase awareness and perceived susceptibility of the health risks associated with smoking to the fetus, infant’s health, and the woman’s own health over time; (ii) enhance women’s perceived self-efficacy so that they feel empowered to remain smoke free; (iii) offer supportive information and coping strategies targeting sources of distress specific to low-income postpartum women; (iv) alter the decisional balance associated with smoking abstinence, by emphasizing the positive effects and reducing the influence of perceived negative effects; and (v) provide self-regulation strategies to prevent and combat smoking cravings, including social support from family and friends.

Interventions reflecting these key elements need to be developed and tested. As numerous interventions have attempted to reduce postpartum smoking relapse with demonstrated potential [14, 15, 51], we need to consider other intervention delivery modality that could overcome many of the barriers associated with provision of prevention health care that low-income women encounter, including cost, transportation and childcare support limitations [34]. Mobile and Internet technologies offer unprecedented opportunities to expand how health promotion information is conveyed to new mothers [52]. These modes of delivery have been successful in previous efforts for smoking cessation in the general non-pregnant population [53–58]. Interventions delivered via email, telephone, text messaging or the Internet should be even more practical for low SES women and have the potential to minimize participation burden and motherhood barriers associated with in person clinic counseling [34, 59]. For example, our team has developed a theory-guided text messaging intervention targeting on postpartum relapse risk factors and found high participant satisfaction during usability testing [60]. As new mothers have been previously referred to as a subgroup immersed in the new age media [61], social media such as Facebook and Twitter may be a promising approach for providing round-the-clock access to participants who can both receive and learn from expert and peer support [59]. Further, women from disadvantaged backgrounds who smoke are less likely to quit during pregnancy and less likely to remain smoking abstinent postpartum [62]. As we are not likely to change their environmental context, it is important for providers to understand the challenges these women face and to help them develop the motivation and skills to engage their support system in their cessation efforts. Initiatives that integrate smoking cessation programs in community settings such as the WIC providers, where underserved women frequent, as well as the inclusion of partner and family members who can support or undermine smoking cessation efforts, are warranted.
Conclusions

This study sheds light on the barriers and facilitators to preventing postpartum smoking relapse among an underserved population. Sustaining smoking cessation efforts in the context of assuming the responsibilities of caring for a newborn presents additional challenges for women. Our results can inform future research for the development and testing of new targeted innovative supportive interventions that take into account the context of these socially disadvantaged pregnant and postpartum women’s lives. Preventing the return to smoking in women would greatly improve their health and the health of their children.

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Conflict of interest statement

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