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Original Research

'I don't need you to criticise me, I need you to support me'. A qualitative study of women's experiences of and attitudes to smoking cessation during pregnancy

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ABSTRACT

Background: Smoking is associated with health inequalities and is the most important modifiable risk factor for poor outcome in pregnancy.
Aim: To explore women's experiences of smoking during pregnancy, examine their attitudes and barriers to smoking cessation, and to discover what support they feel might enable them to have a smoke-free pregnancy in future.
Methods: A qualitative study was conducted with nineteen women in the United Kingdom who had smoked at some stage in pregnancy during the last five years. Data were collected through in-depth telephone interviews between June and August 2021. The interviews were audio-recorded, transcribed verbatim, and thematically analysed.
Findings: Four key themes were identified: the complex relationship with smoking, being ready to quit, the need for support and understanding, and ideas to support a smoke free pregnancy. The findings revealed that there were two distinct avenues for enabling the support process: *encouraging a readiness to quit* through identifying individual context, personalised support, and educational risk perception, and, *supporting the process of quitting*, and offering a range of options, underpinned by a personalised, non-judgemental approach.
Conclusion: Smoking in pregnancy is a complex issue resulting from a combination of social, emotional, and physical factors. The findings from this study suggest that a combination of approaches should be made available to enable pregnant women who smoke to select the best options for their individual needs. Irrespective of the practical support offered, there is a need for informed, sensitive, individualised support system that women can identify with.

Statement of significance

Problem or issue

Smoking is a significant modifiable risk factor for poor pregnancy outcome. There is considerable variation in rates of smoking in pregnancy, with the highest being in areas of socio-economic deprivation.

What is already known

Several behavioural interventions have been shown to successfully support women to stop smoking in pregnancy however many women in high prevalence communities do not access available services.

What this paper adds

The results of this study suggest that there are two parts to smoking cessation: *encouraging a readiness to quit* and, *supporting the process of quitting itself*. Our findings highlight the importance of acknowledging both aspects and the need for health care professionals to have a greater understanding of why women continue to smoke in pregnancy in order to enable provision of a non-judgemental personalised approach to smoking cessation support.

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1. Introduction

Smoking is the single most important modifiable risk factor for poor pregnancy outcome. It is associated with preterm birth, fetal growth restriction, stillbirth, neonatal mortality and sudden infant death syndrome as well as a number of other longer term poor outcomes for the child [1,2]. Evidence has shown that although it is ideal to start pregnancy smoke free, if a woman is able to stop smoking by 16 weeks gestation, most of the adverse outcomes to the baby can be avoided, therefore there is an opportunity to make a positive difference to perinatal outcomes during pregnancy [3,4].

In high income countries smoking in pregnancy, and amongst childbearing age women as a whole, is strongly associated with poverty [5]. The reasons for this are likely to be multifactorial and include cultural norms and expectations, but also the effect of environmental, social and psychological factors that are associated with social and economic deprivation. Women who experience socioeconomic disadvantages, problems in their interpersonal relationships, stress, depression, and those with less social support have been found to be more likely to smoke during pregnancy [6,7].

Smoking during pregnancy has declined in most high-income countries over the past few decades, possibly due to the greater awareness of the detrimental impact of tobacco smoke on the growing fetus [8].This has been particularly evident in affluent communities, whereas there continues to be high rates of smoking in areas of socio-economic disadvantage [9,10]. In clinical trials, psychological support and financial incentives have been found to be the most effective interventions to reduce smoking during pregnancy [8,11,12]. However, there is limited research on why these interventions do not appear to be equally effective in different settings.

A proportion of women will choose to stop smoking on their own when they find out that they are pregnant, but for others there are complex psychological and physical barriers affecting their motivation, capability and opportunity to stop [13]. This appears, in particular, to be associated with levels of self-efficacy and belief in their ability to stop smoking [13]. Research suggests that daily stressors and poor mental health is associated with smoking in pregnancy [14,15]. For many women, smoking is seen as a way to cope with stress, for many they have smoked for so long they couldn't imagine not smoking [16].

Some insights exist into how to maximise the effectiveness of smoking cessation interventions. Fergie et al., for instance, found that amongst the behavioural change techniques for cessation suggested by pregnant women, "tailor interactions appropriately" was the most frequently coded suggestion, alongside "problem solving" [17]. Further research is required, however, to gain greater insight into why women in areas with high rates of smoking in pregnancy may or may not engage in the available support programmes. This paper explores the reasons that women, in a socially deprived area in the North of England with higher-than-average rates of smoking, smoked during their pregnancy and it examines their attitudes and barriers to smoking cessation initiatives. It also offers some suggestions as to what support these women felt would have enabled them to have a smoke free pregnancy.

2. Methods

This exploratory qualitative study was in an area of West Yorkshire (UK) which has had a persistently higher rate of smoking in pregnancy than the national average. In 2019 the overall rate of smoking at time of birth was 13%. In some parts of the local non-South Asian community, the rates were as high as 27% (Local Public Health Intelligence data 2020). Participants were initially recruited through posts on local social media platforms (such as Maternity Voices Partnership and local maternity services peer support group); further snowballing techniques were also used to recruit women who had smoked whilst pregnant in the last five years and who lived in the local area. Women's interest in participating in the study was shared with the research team, who then contacted the women by email or text message to provide further information and where relevant, subsequently gain consent and arrange an interview. Data were collected through semi-structured interviews conducted with women over the telephone (due to COVID restrictions) during May to August 2021; each lasted between 15 and 60 min, *see supplementary file 1 for interview guide*. Interviews continued until a rich data set was established and saturation appeared to have been achieved [18].

The interviews were transcribed verbatim and all identifying details were anonymised. The data were then analysed using the 6 stages of thematic analysis as identified by Braun and Clarke [19] separately by two of the authors (xx), these were then discussed until full agreement was reached, the final themes were then checked with the wider research team.

Ethical approval was gained from the University of Huddersfield ethics committee (SREIC/2021/048) on 11/03/2021. Consent was gained either in hard copy prior to the interview or verbally prior to the beginning of the interview. Consent was revisited at the start of the interview and women were reminded that they could withdraw from the study at any time as per the information sheet. They were informed that their confidentiality and anonymity would be maintained through strict data protection and use of pseudonyms.

Researchers influence and are influenced by research processes and outcomes [20], and reflexivity aids their consciousness in monitoring and sensitively acknowledging their personal and professional contexts. The researchers, as midwives, remained mindful that their prior knowledge, understanding and views about smoking in pregnancy and responses to the women's stories might influence the information women shared. The authors acknowledge that different researchers might have prompted different responses or interpreted data differently. To facilitate an authentic understanding of the key issues raised by the women, the researchers employed critical internal dialogue, shared decision-making and analysis.

Overall, 19 women took part in the study. The age of participants ranged from 21 to 40 years of age, it is notable that all participants started smoking in their teens, most while still at school, with one starting at the age of 9 years. All women in the study were from a White British background. Almost all were still smokers, and all had smoked at some stage in at least one of their pregnancies, most participants said that they had tried to reduce their smoking while they were pregnant although the majority had been unsuccessful, one mentioned that she increased the amount that she had smoked during her pregnancy. Please see *supplementary* Table 1 for further details.

Table 1
Themes and subthemes of the findings.

Themes	Subthemes
A complex relationship with smoking	• being addicted from a young age • the influence of others • habit and boredom • stress and life events
Being ready to quit	• willpower and determination • risk perception
Support and understanding needs	• shame and judgement • the attitude of health professionals
Suggestions to support a smoke free pregnancy	• peer support • online groups • apps and text messages • financial benefits of not smoking • nicotine replacement therapy and e-cigarettes • cutting down

3. Findings

Four overarching themes emerged from the data, each with their own sub-themes (Table 1):

4. A complex relationship with smoking

For all the women in the study, their reasons for smoking were multifactorial, often complicated, and synergistic. Four sub themes made up this overall concept of the complex reasons for and context within which women smoked.

4.1. Being addicted from a young age

As noted above, all the participants had been smoking since they were teenagers or before, many participants referred to the fact that they had started so young that smoking had become an integral part of their lives.

'If I could turn back time I'd have never started to be honest with you.' (Participant 15) (started at age 11)

4.2. The influence of others

Many of the participants identified the influence of others in introducing them to smoking in the first place and that being around family and friends who smoked encouraged them to continue. It often formed a part of the pattern or structure that defined the relationship.

'*It's not something that I wanted to do because my mum… my dad isn't a smoker, but my mum is, and obviously it's something that's been around me pretty much all my life, and I didn't want to carry it on but then obviously high school and people are like "oh yes try some of this" and you just kind of get sucked into it' (Participant 16)*

'Peer pressure mainly, all my friends were doing it and I wanted to be part of the crowd […] you do it because you just want to be part of a family, like all my friends did it and I didn't want to be a loner and at school so I thought right, if I don't do it I'm going to be the odd one out' (Participant 15)

A few participants mentioned the positive effect of others encouraging them not to smoke or not smoking themselves.

4.3. Habit and boredom

For many of the women smoking had become a habit, a part of the everyday routine of life, even an integral part of their identity. Smoking was therefore fundamental to their daily rhythm of life; it was something they didn't think about. It was also, for some, a way of filling the time and mitigating a sense of boredom.

'I'd explained it all to the doctors and the midwives and stuff, and I said to them, you know, "I've been smoking for so long", I goes, "It's just second nature to me now",' (*Participant 12)*

'I think it's more the habit than anything, like once the urge comes up, if I go and do summat else, like do some sewing or whatever, then I sort of forget that and it passes, but as soon as I'm not distracted it comes back up' (Participant 19)

4.4. Stress and life events

As well as habit and boredom, a strong theme throughout the interviews was the association between stress, life events and smoking. Stress was experienced as a key trigger for smoking for almost all the participants and most felt that smoking was a way of managing stress, both the physical effects of smoking and the fact that it provided a brief time 'away' from the daily stressors of life

'so if you're having a stressful day, and you know the only thing that's going to calm you down is a cigarette than you are going to reach for that cigarette, because there's nothing else that's going to chill you out apart from that' (*Participant* 3)

One of the participants articulated a sense that smoking not only provided a brief respite from life daily stressors, but was almost their only source of comfort and 'support':

'I've experienced a lot, a lot of bad things in my life and smoking has been the only, like it's going to sound a little bit silly, but cigarettes are the only thing that's never let me down in my life.' (*Participant 12)*

Stress was also identified as one of the main barriers to stopping smoking:

'I didn't want my anxiety to come back and the stress and stuff, I was like I don't want to risk it, so I carried on smoking'. (Participant 9)

5. Being ready to quit

The participants emphasised the importance of being 'ready to quit' and that if someone was not ready, then they would not be able to stop smoking. Being ready to quit appeared to be predominately influenced by personal factors (an internal readiness). However, some women suggested that health professionals might foster readiness to quit through an empathetic approach and clear information about the specific risks associated with smoking in pregnancy.

5.1. Willpower and determination

Individual will-power and personal determination were identified as key to being ready to quit and being responsive to the influence of others. There seemed to be different reasons that impacted on this sense of determination including personal experience and the role that smoking played in their lives, however it was clear that just telling someone to stop smoking was not effective.

'you've got to be willing to actually listen to someone tell you what's what and what you can do rather than thinking you know it all' (Participant 2)

'I think you've got to have the will power to do it, otherwise you've got no chance… I don't think there's owt that can help anyone, to be honest, I think they've just got to want to do it.' (Participant 5)

5.2. Risk perception

As noted above, most of the participants felt that their risk perception had some influence on the readiness to quit, but there appeared to be a mixed level of understanding and awareness of the impact of smoking on the health of the baby. When asked if they, or other women they knew, were aware of the specific risks of smoking in pregnancy, the response was often that they knew it was bad for their and their baby's health, but that they were not quite sure exactly what the effect was and did not remember being told much detail. Some women associated their limited understanding about smoking-related health problems with the young age at which they started smoking.

'But there's never really much information saying you can have a small baby or baby can have breathing problems afterwards or, you know, whatever it does cause.' (Participant 4)

'I don't think you realise when you're younger that it can damage your baby or anything.' (Participant 5)

One of the main reasons that was suggested for why women might not engage with the information about the effect of smoking during pregnancy was that they could not directly see the baby or the effects

that smoking might be having.

'I suppose I think because you can't see it doing damage, you kind of put it to the back of your mind… It's a constant battle with yourself, with thinking that it could cause damage but not being able to see it.' (Participant 3)
'Because it's like, it's out of sight, out of mind, isn't it, sort of thing? And you can't actually see anything and it's not until baby comes that you think, "oh, God, yeah." (Participant 4)

Several participants mentioned the power of personal stories and how they might engage women and raise awareness of potential risks of smoking in pregnancy:

'Yes, that's the best bet, listening to it from someone else rather than from a health professional, because sometimes you feel like, 'well they've been told to tell me that'. Whereas if I hear it from someone who's actually been through it, you're more inclined to listen'. (Participant 10)
'If [other women] saw more about what personal experiences that we've gone through and what complications it can actually cause, I think that would make them more determined to stop.' (Participant 17)

6. The need for support and understanding

The importance of the approach of health professional and other services who might want to support smoking cessation was evident throughout the interviews, both in relation to the initial engagement in being ready to quit and in successfully being supported to quit. The participants clearly wanted to feel supported in their pregnancy and for health care professionals to understand their personal situation, listen to them and think about what else might matter in their lives.

'I don't need you to criticise me, I need you to support me' (Participant 15)

6.1. Shame and judgement

There was frequently a personal sense of shame expressed in relation to smoking while pregnant and most appeared alert to any sense of judgement from others. This led some women to not be open with their midwife for fear of how they might be viewed and therefore disengaging from potential support:

'Yeah, I mean, like we already, we already feel bad for smoking through the pregnancy, we don't need other people to make us feel bad' (Participant 12)
'Yes, so I actually told my midwife that I wasn't smoking because I felt like I was being lectured every time I went for an appointment, so I just told her I wasn't smoking at all.' (Participant 10)

Linked to this was the sense of pride when women were successful in stopping or reducing their smoking.

6.2. The attitude of health professionals

The approach of the midwife or health professional appeared to influence whether women felt supported and wanted to engage with trying to stop smoking, in some cases the fear of judgement meant that they did not wish to discuss their smoking status at all as indicated above.

'You get a lot of midwives coming at you from that perspective and straightway getting you on the defensive and thinking well right, I'm not really going to listen to what you've got to say.' (Participant 3)

A suggested approach to counter this reaction was for the midwife or doctor to be inclusive, to ask women about their personal experiences and to listen to why they might smoke and what was important to them; when this happened, the women felt well supported.

'So I think it's that, instead of like the midwives and stuff being like, "Look, you have to stop smoking, you have to stop smoking", maybe they should spend a little bit of time trying to figure out like why that person's smoking.' (*Participant 12*)
*'But she [*midwife*] were, she was so amazing, she didn't judge at all, she wasn't looking down her nose at me or anything like that which were lovely'* (*Participant 18*) (who successfully stopped smoking in pregnancy)

7. How to support a smoke free pregnancy

Participants were specifically asked if they could think of things that might have helped them stop smoking in pregnancy or what they would suggest to other women in similar circumstances. A key element to this was that there needed to be a range of options and perhaps a combination of options. The women described factors that helped for them or that they thought would have helped them if they had been available.

7.1. Peer support

Although it was acknowledged that health professionals and in particular, midwives, had an important role in providing support, connecting with or receiving support from peers who have had lived experience of smoking in pregnancy was suggested as potentially offering a complementary perspective. The role of the family in providing support was also noted.

'Yeah. I mean, like even if there was like, I don't know, like maybe like a support group for pregnant women, maybe run by previously pregnant women that have, you know, smoked through their pregnancy.' (Participant 12)
'Maybe like a social sort of group, you know like they have like mothers' meetings and stuff, maybe someone who isn't your midwife, isn't your doctor, but just sort of comes with the facts' (Participant 18)

7.2. Online groups

For some an online group (such as via Facebook or WhatsApp) had additional appeal due to a degree of anonymity to it and people can engage as much or as little as they would like. The possibility of whether they would like a 'moderator' for such a group, or whether they wanted it to be peers only, was not discussed.

'Maybe, I think, you know, like if it was like an online group, because not everyone feels comfortable going into a room and sitting around and speaking, do they… I mean, if there was an online group available now, I probably would join it, you know, and I would like to hear what other mums are doing, not even just about smoking, but, you know, how they're dealing with their child'. (*Participant 13)*

However, it was not felt that this would suit everyone, and some expressed that they would like one to one support and to not be part of a group.

'Because, like me, I wouldn't really want to go to the group sort of thing, but maybe able to text someone and get a bit of advice,' (*Participant 4)*

7.3. Apps and automated texts

It seemed that text messages and apps might work for some, but others found this impersonal and wanted to connect with a 'real person', preferably someone who had gone through the same situation themselves (see section on peer support). It was suggested that the apps might include information about the effects of smoking in pregnancy, be able to provide tips for distraction and supporting the process of quitting and

provide feedback on the process, including the financial benefits of stopping smoking:

'So there needs to be something to sort of, like I said, with maybe having like a texting service that's available 24/7 or whatever, just so you can talk to someone, (Participant 1)
*'it's good [*smoking cessation app*], but not a lot of people know about it and some of them, you've got to pay for them, whereas I won't want to pay for it… So, if they made an app like that, free, I think it would be beneficial for people.' (Participant 5)*
'It does help when it tells you how many hours and days and stuff you haven't smoked and how much money you've saved. '(Participant 7)

7.4. Financial benefits of not smoking

Although financial incentives provided through smoking cessation initiatives were not discussed, asthey were not currently available in the area, the financial benefits of not smoking were raised by a number of participants as a clear incentive to stop smoking:

'if I'm not smoking and I'm not going to that shop, that's £300 that I've got in my bank that I could spend elsewhere like I could, that's a day out for my kid or some new clothes for us all. Or it's a caravan for a week in Filey.' (Participant 3)
*'I think I worked it out it were £*2,900 *a year I was saving.' (Participant 8)*

7.5. Nicotine replacement and e-cigarettes

Nicotine replacement was discussed as an adjunct to other support, but women did not find it to be successful if it was the only means of support.

'They sent me patches and things in the post. But I just don't think they worked.' (Participant 14)
'But sometimes patches don't just work on their own, you've got to use like an e-cigarette or something with it,' (Participant 5)

On the other hand, women appeared to feel that e-cigarettes provided a greater level of support, although there seemed to be some lack of awareness of what products were available and what could safely be used in pregnancy. Some saw e-cigarettes as bad as smoking in relation to the potential risks to their and their baby's health):

'pregnant women don't know what they can use or what products are out there that are safe in pregnancy… So I think they just think that the safe option is just to smoke.' (Participant 1)
'I've been to the doctor's and they said e-cigs are a lot worse for you than proper smoking.' (Participant 15)

7.6. Cutting down

In addition to these themes, other issues were also raised, including the benefits of supporting women to reduce the amount that they smoked. Several participants commented on how they had managed to reduce the amount they had smoked during pregnancy and how this helped increase their sense of self efficacy and helped them feel more in control.

'If I was speaking to another woman about being smoking and pregnant I'd say try and reduce the amount you smoke before you try and stop completely because it's easier to reduce it than completely stop straight at once.' (Participant 15)
'Yes, because I still felt in control of the situation and not bullied into it, and obviously I knew I had to cut down anyway, but it just felt nice that I could take control of that situation, rather than being, 'right you can't do this anymore' (Participant 16)

Overall, the findings revealed that there were two distinct avenues for enabling the smoking cessation support process: *encouraging a readiness to quit* through identifying individual context, personalised support, and educational risk perception, and, *supporting the process of quitting*, recognising the importance of a personalised approach and the availability of a range of options.

8. Discussion

This study explored women's experiences of smoking during pregnancy and their perceptions of what might be useful to help support others to stop smoking whilst pregnant, particularly in areas with persistently high prevalence of smoking during pregnancy. The findings highlight the complex role that smoking plays in many women's lives, providing further insights into factors that influence women to continue to smoke during pregnancy. The participants identified two distinct phases in the journey to successful smoking cessation: being ready to quit and the process of quitting itself. The attitude and approach of health professionals and personal motivation to quit were identified as key factors that influence a readiness to quit combined with clear, well targeted, health information to inform risk perception. It was suggested that peer support and a range of personalised options could help support the process of quitting itself.

Our findings support previous work that suggests that the relationship with their midwife and the manner in which information is shared can impact on a women's sense of self-efficacy and motivation to quit [21]. The women wanted acknowledgement of their personal context and recognition of individual barriers and facilitators to smoking cessation. The findings also suggest that there is a lack of consistent understanding of the specific effects of cigarette smoking in pregnancy. It was unclear whether this reflects the information itself, the way that it is shared or how it is internalised. Some elements may not be 'heard' as a form of self-protection.

We did not capture the experience of midwives in this study but previous research has suggested that midwives can feel ill-prepared to discuss the risks of smoking in pregnancy and may be anxious that providing this information would act as a barrier to their relationship with women, and thus they moderate the information they share [13, 22]. Women in this study felt that having clear information about the specific risks associated with smoking in pregnancy, in particular if communicated through the use of personal stories, could increase the motivation to stop smoking. Current evidence suggests that a combination of approaches such as visual tools (carbon monoxide monitoring) alongside clear, effective explanations of what this means, can support women to understand the harms that cigarette smoking poses to their baby and could act as a motivator for smoking cessation [23]. However this study suggests that although pregnancy may be a 'teachable moment', we need to consider additional support and interventions to trigger the motivation or capability for change [24].

Our study aligns with previous research findings which suggest that some women remain unclear about the actual and relative risks associated with nicotine replacement therapies and are suspicious about the potential risks associated with e-cigarettes [25,26]. Beliefs about risks associated with smoking e-cigarettes during pregnancy vary, with nicotine-free e-cigarettes being perceived as offering greater potential to positively support smoking cessation [27].

Findings from our study suggest that women value the importance of, and feel a sense of pride in, reducing smoking. This was also found in a recent, smaller study that explored five young women's experiences of smoking during pregnancy [21]. For some women, being able to reduce the number of cigarettes they smoke improved their perception of self-efficacy and potentially supported their journey towards total cessation [21,26]. These findings are important in the context of current guidance which emphasises stopping completely rather than cutting down [28].

Having access to peer support was identified as a potentially effective

way of supporting women through the process of quitting. The benefits of peer support has been demonstrated in other pregnancy related contexts, including perinatal mental health and breastfeeding [29], however the evidence for the efficacy of peer-provided social support is currently unclear in the context of smoking cessation in pregnancy [8]. Some participants suggested that support from peers who have experienced similar difficulties of stopping smoking during pregnancy might help with their sense of self efficacy: high self-efficacy has previously been identified as a key predictor of smoking cessation [30], whilst lower self-efficacy has been associated with lowered effectiveness of cessation messages and post-partum smoking relapse [35]. When women did not believe in their ability to maintain abstinence, quitting was more challenging compared to those who had higher levels of confidence. The earlier point regarding reducing the quantity of cigarettes smoked may also be relevant here.

The findings confirm the importance of having a flexible and responsive approach to supporting women to stop smoking in pregnancy and tailoring interventions or interactions to the individual [31,32].

9. Strengths and limitations

This study adds to the limited body of literature on what women who have smoked in pregnancy *themselves* feel might be helpful when planning support services. The interview guide was developed from an initial survey completed by pregnant women when accessing a new smoking cessation initiative during COVID-19, the direction of the questions were informed by service users. Smoking in pregnancy can be a sensitive subject, the use of telephone interviewing may have allowed the participants to feel able to be more open due to the more anonymous method of data collection (as opposed to face to face interviews) [32] Although this is a relatively small study, it included women from a wide range of ages and parity. Data saturation appeared to be reached, that is no new themes emerged from the final few interviews and there was considerable consistency in relation to the key themes amongst the participants.

The lack of ethnic diversity amongst the participants was a limitation, however this was a convenience sample of women who responded to the invitation to take part, and the ethnicity is reflective of the smoking prevalence in the community studied.

10. Implications for practice and research

This study highlighted the two phases required to achieve successful cessation of smoking in pregnancy. Previous research has suggested that it is important that pregnant smokers engage with smoking cessation initiatives as early on in their pregnancy as possible, due to the beneficial impact on the baby but also because the longer they smoke in the pregnancy, the less likely they are to stop [33]. The midwife therefore potentially plays an important role in engaging women who are smoking at time of booking and encouraging a readiness to quit. A flexible approach to antenatal care provision, with a more personalised approach and greater continuity of care would be beneficial [34].

Further understanding on the role of peer support as a way to enhance the likelihood of smoking cessation during pregnancy needs further exploration. Although it has been well evaluated in other contexts, there is limited understanding of the optimal nature of the support to besthelp pregnant smokers to reduce or quit smoking. Ideally such an intervention would be developed in association with service users.

11. Conclusion

Smoking in pregnancy is a complex issue resulting from a variable combination of social, emotional and physical factors. Based on the findings of this study, current provision in the local area does not appear to meet the needs of local women. The voices of the women in this study suggest that a combination of approaches should be made available to enable women who smoke in pregnancy to select the best options to meet their individual needs. Irrespective of the practical support offered, there is a clear need for informed, sensitive, individualised communication and involvement of a support system that women can identify with.

Conflict of interest

All authors confirm that they have no conflict of interests.

Ethical statement

Ethical approval was gained from the University of Huddersfield Health and Human Science ethics committee (SREIC/2021/048) on 11/03/2021. Consent was gained prior to the commencement of the interview, either in hard copy prior to the interview or verbally at the beginning of the interview.

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Author contributions

Tomasina Stacey: Conceptualization, Methodology, Funding acquisition, Formal analysis, Writing-Original draft preparation.

Jayne Samples: Conceptualization, Formal analysis, Investigation, Writing-Reviewing and Editing.

Chelsea Leadley: Investigation, Writing-Reviewing and Editing.

Lisa Akester: Conceptualization, Writing-Reviewing and Editing.

Azariah Jenney: Conceptualization, Writing-Reviewing and Editing.

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Appendix A. Supplementary data

Supplementary material related to this article can be found, in the online version, at doi:https://doi.org/10.1016/j.wombi.2022.01.010.

References

[1] S. Cnattingius, The epidemiology of smoking during pregnancy: smoking prevalence, maternal characteristics, and pregnancy outcomes, Nicotine Tob. Res. 6 (Suppl_2) (2004) S125–S140, https://doi.org/10.1080/14622200410001669187.

[2] A. Diamanti, S. Papadakis, S. Schoretsaniti, N. Rovina, V. Vivilaki, C. Gratziou, P. A. Katsaounou, Smoking cessation in pregnancy: an update for maternity care practitioners, Tob. Induc. Dis. 17 (August) (2019), https://doi.org/10.18332/tid/109906.

[3] L.M.E. McCowan, G.A. Dekker, E. Chan, A. Stewart, L.C. Chappell, M. Hunter, R. Moss-Morris, R.A. North, Spontaneous preterm birth and small for gestational age infants in women who stop smoking early in pregnancy: prospective cohort study, BMJ 338 (2009) b1081, https://doi.org/10.1136/bmj.b1081.

[4] P.K. Xaverius, Z. O'Reilly, A. Li, L.H. Flick, L.D. Arnold, Smoking cessation and pregnancy: timing of cessation reduces or eliminates the effect on low birth weight, Matern. Child Health J. 23 (10) (2019) 1434–1441, https://doi.org/10.1007/s10995-019-02751-2.

[5] J. Madureira, A. Camelo, A.I. Silva, A.T. Reis, F. Esteves, A.I. Ribeiro, J.P. Teixeira, C. Costa, The importance of socioeconomic position in smoking, cessation and environmental tobacco smoke exposure during pregnancy, Sci. Rep. 10 (1) (2020) 15584, https://doi.org/10.1038/s41598-020-72298-8.

[6] Y. Miyazaki, K. Hayashi, S. Imazeki, Smoking cessation in pregnancy: psychosocial interventions and patient-focused perspectives, Int. J. Womens Health 7 (2015) 415–427, https://doi.org/10.2147/IJWH.S54599.
[7] A. Rodriguez, G. Bohlin, G. Lindmark, Psychosocial predictors of smoking and exercise during pregnancy, J. Reprod. Infant Psychol. 18 (3) (2000) 203–223, https://doi.org/10.1080/713683039.
[8] C. Chamberlain, A. O'Mara-Eves, J. Porter, T. Coleman, S.M. Perlen, J. Thomas, J. E. McKenzie, Psychosocial interventions for supporting women to stop smoking in pregnancy, Cochrane Database Syst. Rev. (2) (2017), https://doi.org/10.1002/14651858.CD001055.pub5.
[9] M.G. de Wolff, M.G. Backhausen, M.L. Iversen, J.M. Bendix, A.L. Rom, H. K. Hegaard, Prevalence and predictors of maternal smoking prior to and during pregnancy in a regional Danish population: a cross-sectional study, Reprod. Health 16 (1) (2019) 82, https://doi.org/10.1186/s12978-019-0740-7.
[10] S. Lange, C. Probst, J. Rehm, S. Popova, National, regional, and global prevalence of smoking during pregnancy in the general population: a systematic review and meta-analysis, Lancet Glob. Health 6 (7) (2018) e769–e776, https://doi.org/10.1016/S2214-109X(18)30223-7.
[11] R. Claire, C. Chamberlain, M.A. Davey, S.E. Cooper, I. Berlin, J. Leonardi-Bee, T. Coleman, Pharmacological interventions for promoting smoking cessation during pregnancy, Cochrane Database Syst. Rev. (3) (2020), https://doi.org/10.1002/14651858.CD010078.pub3.
[12] D. Tappin, L. Bauld, D. Purves, K. Boyd, L. Sinclair, S. MacAskill, J. McKell, B. Friel, A. McConnachie, L. de Caestecker, C. Tannahill, A. Radley, T. Coleman, Financial incentives for smoking cessation in pregnancy: randomised controlled trial, BMJ 350 (2015) h134, https://doi.org/10.1136/bmj.h134.
[13] L. Bauld, H. Graham, L. Sinclair, K. Flemming, F. Naughton, A. Ford, J. McKell, D. McCaughan, S. Hopewell, K. Angus, D. Eadie, D. Tappin, Barriers to and facilitators of smoking cessation in pregnancy and following childbirth: literature review and qualitative study, Health Technol. Assess. 21 (36) (2017). https://www.journalslibrary.nihr.ac.uk/hta/hta21360#/full-report.
[14] K.M. Paarlberg, A.J.J.M. Vingerhoets, J. Passchier, A.G.J.J. Heinen, G.A. Dekker, H.P. van Geijn, Smoking status in pregnancy is associated with daily stressors and low well-being, Psychol. Health 14 (1) (1999) 87–96, https://doi.org/10.1080/08870449908407316.
[15] S.-H. Zhu, A. Valbø, Depression and smoking during pregnancy, Addict. Behav. 27 (4) (2002) 649–658, https://doi.org/10.1016/S0306-4603(01)00199-X.
[16] S.P. Acquavita, A. Talks, K. Fiser, Facilitators and barriers to cigarette smoking while pregnant for women with substance use disorders, Nicotine Tob. Res. 19 (5) (2017) 555–561, https://doi.org/10.1093/ntr/ntw268.
[17] L. Fergie, K.A. Campbell, T. Coleman-Haynes, M. Ussher, S. Cooper, T. Coleman, Stop smoking practitioner consensus on barriers and facilitators to smoking cessation in pregnancy and how to address these: a modified Delphi survey, Addict. Behav. Rep. 9 (2019), 100164, https://doi.org/10.1016/j.abrep.2019.100164.
[18] J.M. Morse, "Data were saturated…", Qual. Health Res. 25 (5) (2015) 587–588, https://doi.org/10.1177/1049732315576699.
[19] V. Braun, V. Clarke, Using thematic analysis in psychology, Qual. Res. Psychol. 3 (2) (2006) 77–101, https://doi.org/10.1191/1478088706qp063oa.
[20] H.J. Rubin, I.S. Rubin, Qualitative Interviewing: The Art of Hearing Data, 3 ed., Sage Publications, Inc, 2011.
[21] F. Johnson, J. Hewitt-Taylor, E. Norton, Lived experiences of young pregnant women who smoke, Br. J. Midwifery 27 (7) (2019) 427–433, https://doi.org/10.12968/bjom.2019.27.7.427.
[22] K. Flemming, H. Graham, D. McCaughan, K. Angus, L. Sinclair, L. Bauld, Health professionals' perceptions of the barriers and facilitators to providing smoking cessation advice to women in pregnancy and during the post-partum period: a systematic review of qualitative research, BMC Public Health 16 (1) (2016) 290, https://doi.org/10.1186/s12889-016-2961-9.
[23] NICE, NICE Guideline [NG209] Tobacco: Preventing Uptake, Promoting Quitting and Treating Dependance, Retrieved from, National Institute for Health and Care Excellence, 2021, https://www.nice.org.uk/guidance/ng209.
[24] E.K. Olander, D.M. Smith, Z. Darwin, Health behaviour and pregnancy: a time for change, J. Reprod. Infant Psychol. 36 (1) (2018) 1–3, https://doi.org/10.1080/02646838.2018.1408965.
[25] K. Bowker, S. Lewis, L. Phillips, S. Orton, M. Ussher, F. Naughton, L. Bauld, T. Coleman, L. Sinclair, H. McRobbie, A. Khan, S. Cooper, Pregnant women's use of e-cigarettes in the UK: a cross-sectional survey, BJOG 128 (6) (2021) 984–993, https://doi.org/10.1111/1471-0528.16553.
[26] S. Froggatt, N. Reissland, J. Covey, Risk perception of cigarette and e-cigarette use during pregnancy: a qualitative postpartum perspective, Midwifery 94 (2021), 102917, https://doi.org/10.1016/j.midw.2020.102917.
[27] L. Schilling, S. Schneider, C. Karlheim, H. Maul, M. Tallarek, J. Spallek, Perceived threats, benefits and barriers of e-cigarette use during pregnancy. A qualitative analysis of risk perception within existing threads in online discussion forums, Midwifery 79 (2019), 102533, https://doi.org/10.1016/j.midw.2019.102533.
[28] RCOG, Smoking and Pregnancy, 07/12/2015. Retrieved 20/01/2022 from, 2015, https://www.rcog.org.uk/en/patients/patient-leaflets/smoking-and-pregnancy/.
[29] J. McLeish, M. Redshaw, Peer support during pregnancy and early parenthood: a qualitative study of models and perceptions, BMC Pregnancy Childbirth 15 (2015) 257, https://doi.org/10.1186/s12884-015-0685-y.
[30] J.L. Emery, S. Sutton, F. Naughton, Cognitive and behavioral predictors of quit attempts and biochemically-validated abstinence during pregnancy, Nicotine Tob. Res. 19 (5) (2017) 547–554, https://doi.org/10.1093/ntr/ntw242.
[31] C. Ashwin, K. Watts, Exploring the views of women on using nicotine replacement therapy in pregnancy, Midwifery 26 (4) (2010) 401–406, https://doi.org/10.1016/j.midw.2008.11.001.
[32] L. Fergie, T. Coleman, M. Ussher, S. Cooper, K.A. Campbell, Pregnant smokers' experiences and opinions of techniques aimed to address barriers and facilitators to smoking cessation: a qualitative study, Int. J. Environ. Res. Public Health 16 (15) (2019) 2772. https://www.mdpi.com/1660-4601/16/15/2772.
[33] S. Cooper, S. Orton, J. Leonardi-Bee, E. Brotherton, L. Vanderbloemen, K. Bowker, F. Naughton, M. Ussher, K.E. Pickett, S. Sutton, T. Coleman, Smoking and quit attempts during pregnancy and postpartum: a longitudinal UK cohort, BMJ Open 7 (11) (2017), e018746, https://doi.org/10.1136/bmjopen-2017-018746.
[34] R. Hadebe, P.T. Seed, D. Essien, K. Headen, S. Mahmud, S. Owasil, C. Fernandez Turienzo, C. Stanke, J. Sandall, M. Bruno, N. Khazaezadeh, E. Oteng-Ntim, Can birth outcome inequality be reduced using targeted caseload midwifery in a deprived diverse inner city population? A retrospective cohort study, London, UK, BMJ Open 11 (11) (2021), e049991, https://doi.org/10.1136/bmjopen-2021-049991.
[35] V.N. Simmons, S.K. Sutton, G.P. Quinn, C.D. Meade, T.H. Brandon, Prepartum and postpartum predictors of smoking, Nicotine Tob. Res. 16 (4) (2014) 461–468, https://doi.org/10.1093/ntr/ntt177.