

Exploring pregnant women's experiences of stopping smoking with an incentive scheme with 'enhanced' support: a qualitative study

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Abstract

Aim

This study aims to understand pregnant women's experiences of smoking cessation with an incentive scheme in a deprived UK city. This is important because smoking cessation with pregnant women is one of the most important public health initiatives to promote, and is particularly challenging in deprived areas. Whilst financial incentive schemes are controversial, there is a need to better understand pregnant women's experiences. The scheme combined quasi-financial incentives (shopping vouchers) for validated quits (carbon monoxide validated at <10ppm), enhanced support from smoking cessation advisors, the opportunity to identify a 'Significant Other Supporter' and Nicotine Replacement Therapy.

Methods

With the focus on understanding pregnant women's experiences, a qualitative design was adopted. Semi-structured interviews were completed with 12 pregnant women from the scheme, and the three advisors. All interviews were transcribed, and thematic analysis conducted.

Results

Pregnant women reported various challenges to quitting, including long-established routines, and stress. Participants were aware of stigma around incentives but were all very positive about the scheme. The relationship with advisors was described as fundamental. The women valued their advice and support, whilst uptake of the ‘Significant Other Supporter’ appeared low. Participants viewed the carbon monoxide monitoring as ‘an incentive’, whilst the vouchers were framed as a ‘bonus’. Advisors perceived the vouchers as helping engage pregnant women and maintain quit status, and women appreciated the vouchers both as financial assistance and recognition of their accomplishments.

Conclusion

This study highlights the great value women placed on the support, advice and monitoring from specialist advisors. The distinction between vouchers as a welcomed bonus, rather than ‘the incentive’ to engage, is important. How smoking cessation and schemes to promote this are communicated to pregnant women and health professionals is important, particularly given the stigma and controversy involved.

Key words – smoking cessation; pregnant women; health inequalities; health promotion; incentive scheme; qualitative research

Introduction

Smoking cessation in pregnancy is an important and beneficial public health initiative [1]. As well as the detrimental health effect on the woman [2], there is significant risk to the foetus, including placental abnormalities, low birth-weight and sudden unexpected death in infancy [3-4]. Smoking in pregnancy is complex and poses a challenge for health promotion initiatives designed to facilitate change [5-7]. Research suggests complexity is heightened for disadvantaged pregnant women [5, 8-9]. For example, stopping smoking affects relationships and social networks where smoking is the norm [8]. This is important to recognise, given that smoking is a major contributor to health inequalities in England, with those who live in the most deprived areas more likely to smoke and less likely to quit [10-11]. The Public Health England Profile (2019) for the region in which this study was conducted (in the West Midlands) is characterised by high levels of deprivation, smoking in pregnancy, and infant mortality [12].

Financial incentive schemes have been subject to controversy but there is growing evidence from the United States (US), the United Kingdom (UK) and France, that they are effective in supporting pregnant women to stop smoking [e.g., 5, 13-18]. Challenges around the large variability of settings, differing intervention designs and lack of conclusive, seminal studies have been linked to the slow implementation of incentives in clinical practice with pregnant women who smoke [18].

Incentive interventions are often multifaceted, with additional components to support smoking cessation, such as counselling and social support [19]. For example, a ‘Significant Other Supporter’ (SOS) scheme found the combination of ‘bolstered’ social support and financial incentives increased quit rates [5]. With the multifaceted designs, few studies are directly comparable; context may have a moderating effect on such interventions [19].

Whilst psychosocial interventions are known to be effective, it is unclear precisely ‘how’ and

‘for whom’, with questions remaining around implementation and dissemination [13].

Caution is urged in attributing the apparent success of financial incentive schemes to the use of incentives per se, rather than more intricate details about how the schemes operate [20].

In the UK, more research is needed to examine whether financial incentives are a beneficial and cost-effective way to help pregnant women stop smoking [6]. Schemes have been piloted with promising results [21-24]. Changes in policy and practice are needed to reflect the ‘compelling evidence of benefit’ of financial incentives for pregnant women [25]. Incentive schemes appear to encourage pregnant women from socially deprived communities to stop smoking [15, 18, 24].

Nevertheless, pregnant women in the UK, their significant others and hospital professionals all had mixed views about the use of financial incentives, highlighting moral arguments and questioning the extent to which the quit would be maintained [7]. More research is required to enhance understanding of potential new initiatives, including financial incentives [7].

Qualitative research has an important role to play in understanding such views and experiences.

This qualitative study formed part of a service evaluation of the incentive scheme (detailed below), focussing on pregnant women’s experiences of stopping smoking with the scheme, and the perceived impact of ‘incentives’.

The scheme

The scheme combined quasi-financial incentives (vouchers) with ‘enhanced support’ ((i.e., regular (at least 4-weekly) support from stop smoking advisors, throughout pregnancy and for 12 weeks after)).

All pregnant women who smoked were invited to participate in the incentive scheme by their midwife. They could be referred into the scheme at any point during pregnancy. The maximum amount they could receive was £260 worth of gift vouchers – if recruited early in pregnancy and remained quit until 12 weeks postpartum (all quits had to be carbon monoxide (CO) validated (<10ppm)). They received: £20 voucher at two weeks quit, four weeks quit, and at every subsequent (continuous) four week quit point until delivery, and £60 at 12 weeks post-partum.

Women were also invited to identify a ‘Significant Other Supporter’ who was a non-smoker or would quit alongside her and provide support in the social setting. The SOS was entitled to receive £40 worth of gift vouchers if the pregnant woman remained quit at 12 weeks postpartum and they themselves were smoke free (CO validated as <10ppm). A range of Nicotine Replacement Therapy (NRT) products were also provided to the pregnant woman at no-cost.

The scheme commenced in May 2016 and had 57 clients at the time of evaluation (client characteristics at baseline were: mean (SD) age 27.3 (6.2) years; 17.6 (7.9) weeks gestation, 58% living with children and 72% living with a partner who smokes). The qualitative data collection took place between May 2017 and December 2017.

Method

This was a qualitative descriptive study [26-28], which reflected the study’s position within a wider service evaluation of the scheme. Qualitative data was generated from semi-structured interviews with a purposive sample of 12 pregnant women on the scheme, and all advisors involved in delivery (n=3).

Recruitment of pregnant women

To align with the scheme measuring quit rates at four weeks, 12 weeks and 12 weeks postpartum, we aimed to recruit pregnant women at each of these time points for interview. Thus, purposive sampling was used to select information rich cases [29]. Advisors facilitated recruitment and invited all women they met at one of the timepoints to participate in an interview (regardless of quit status). Advisors talked about the evaluation during routine appointments and went through the participant information sheet. If the client consented to their information being passed to the researchers, the advisor called the researcher to discuss further and arrange an interview if the client was happy to proceed. Participants were assured that this was voluntary. They were reminded that they could change their mind and cancel the interview at any time. This process continued until the quota of women had been reached for each time point; we intended to interview five at each timepoint but at the time of data collection, only two at the postpartum stage were willing to take part.

Data collection with pregnant women

Interviews were conducted at participants' homes or community venues and explored perceptions of the scheme and impact, including specific elements (i.e. the support from the advisors, the incentives, and the SOS element). Interviews were conducted by the second author and two research assistants, all non-smokers, and experienced in qualitative research. Participants were made aware that the researchers were separate to the scheme and were interested in their experiences.

Recruitment and data collection with advisors

All advisors involved in the scheme's delivery participated in a one-to-one interview ($n = 3$) at their workplace. Interviews focused on perceived challenges, benefits and impact of the scheme, and recommendations for future delivery.

Participants

Table 1 shows the sample and pseudonyms used.

Table 1: Participant sample and pseudonyms (n=15)

4-week quit mark	12-week quit mark	12-week post-partum quit mark	Advisors
Debbie	Olivia	Jane	Alex
Lucy	Sophie	Nicky	Lisa
Beverley	Donna		Mary
Megan	Maggie		
Catherine	Felicity		
n=5	n=5	n=2	n=3

No further demographic data were collected from participants.

Ethics

Ethical approval was gained from the University's Ethics Committee. The interviewer gained informed signed consent from all participants. All participant documents were shared with a project advisory group (consisting of the service provider and local authority) and representatives of the target audience to ensure they were appropriate. Participants were also given a list of relevant support services, including, bereavement, miscarriage, and relationships.

The researchers did not disclose the names of any women who completed an interview to advisors. It was made clear that advisors would not be told what they personally had said and that their names would not be shared. All identifying information has been removed.

Data analysis

Interviews were audio-recorded and transcribed verbatim. Thematic analysis focused on identifying, analysing and reporting patterns within the data [30-31], guided by the aims and objectives of the study. The emphasis was on generating a descriptive summary of the information, organised in a manner that best fits the data [26]. Generating the themes was a creative and active process [31] undertaken by two researchers (not involved in data collection). Thematic maps were created to assist this process [27]. The two researchers discussed the thematic maps and any differences in how the data had been interpreted and organised, to cross-check interpretation and reduce/acknowledge potential bias. However, as the interpretation required was ‘low inference’ [26-28] there was much consensus between the researchers’ interpretations. All researchers refined and agreed the final themes.

Results

Three main themes were identified: (1) Challenges to quitting: “Not smoking has been really hard”, (2) Importance of the support from advisors: “I just couldn’t stop on my own”, and (3) Vouchers as ‘a bonus’, not the incentive.

1) Challenges to quitting: “Not smoking has been really hard”

For most participants, smoking had been an entrenched part of their daily routines. They regularly talked about smoking 10-20 a day, often since school and/or for more than 10 years. A need to ‘*break the cycle*’ (Jane) was frequently reported and that giving up, despite them wanting to do so, was not easy:

“Literally since I have left school I have smoked every single day. My morning was get up, have a cup of tea and have a fag [cigarette]. That was my life, so not smoking has been really hard” Sophie

Participants identified stress as having played a large part in their smoking, linked to relationships breaking down, tensions with wider family, parenting, and work. For some, stress was talked about as the reason why they originally started or as a routine response to stress and/or to help them cope with anxiety.

There were concerns among participants about stress impacting negatively on the baby:

“It got to a point (with work) where it was like, I am that stressed, would it be better for the baby for me to smoke so I am not stressed or should I just risk the stress...what do I do?” Sophie

The women often described smoking as the norm within their social circles, including partners, friends and other family members. After being asked what the hardest part about quitting was, Maggie responded:

“Obviously, my partner smoking and everything, and it’s like a lot of my family will smoke, so it’s like ... yeah, so everyone smokes ...” Maggie

This theme was consistent across advisor and pregnant women interviews. Advisors, whilst acknowledging the support of someone in the women’s social setting was helpful, felt that most potential SOSs did not want to engage officially in the scheme as it required them to quit alongside her. However, it is worth acknowledging that the SOS did not have to be their ‘partner’. Indeed, one of the advisors highlighted that one woman (not interviewed) had selected a female friend as her SOS and they supported each other to quit smoking.

A broader challenge related to the controversy surrounding incentives for smokers, alluded to by advisors and clients. They seemed acutely aware of stigma and negative public opinion, including social media and local press coverage of the scheme:

“I know there has been a lot of stigma over these vouchers. Why should women get paid for giving up smoking when they are pregnant when there are women who can’t have babies and they don’t smoke and all that. So I know... I have read all that on Facebook” Beverley

Advisors also referred to negative attitudes of health professionals, including some midwives:

“A few of the pregnant ladies say that the midwives can be quite sharp with them, because they are smoking during pregnancy and it puts them off coming” Mary

With such controversy, there had been limited communications about the scheme. This is important because client engagement can be hindered by a lack of (accurate) information about the scheme. Both staff and clients highlighted that there seemed to have been some misunderstanding/miscommunication (often at the time of referral) about aspects of the scheme, such as eligibility, the requirements for vouchers, weighting of vouchers and the SOS.

2) Importance of the support from advisors - “I just couldn’t stop on my own”

Most of the women interviewed had tried to cut down when trying to conceive or upon learning they were pregnant. Three women explained experiences of health problems for themselves or their children as strengthening their motivation. Participants talked about their mindset as being fundamental to quit smoking; if they personally felt they wanted to or needed to quit, they were determined to achieve and maintain this. However, they perceived the scheme as integral to their success because they felt they needed that extra support to stop completely. This was captured by Megan’s explanation that *“I just couldn’t stop on my own”*.

Overall, participants placed great value on the regular, one-to-one support and specialist advice from the stop smoking advisors, and the CO monitoring.

Consistent across the client and staff interviews was the importance of the relationship with advisors and the regular support they provided. All clients expressed strong gratitude to the advisors, and described feeling that the advisors were rooting for them and that it was “*more personal*” (Nicky) than other smoking cessation services:

“It was nice to have the support. It was nice, like I say, to have someone. It felt like someone was doing it with me ... I just didn’t feel like I was doing it on my own”

Felicity

Some clients did not want to let the advisors down. Personal qualities of the advisors were often mentioned as important, including their friendliness, accessibility, motivational skills and non-judgemental attitudes:

“She will even ask about your home life and that can affect you smoking/not smoking, the day to day stresses of life. So I think the support is absolutely brilliant. I have been lucky with my support worker. She genuinely cares” Olivia

Linked to the perceived challenge of stress, stress-management advice and support to replace long-established smoking routines appeared to be a key part of discussions with advisors:

“It helps being able to talk to someone about it, she helps me with advice like how I can divert from wanting a cigarette, go and do something” Lucy

Advisors also regarded building rapport with clients as an important part of their role, and to help the clients better understand their habits to provide the best opportunity possible to quit:

“I think a lot of people get in a bit of a mess and they have tried different things, but it is not what you use, it is how you use it and it is how you would put the behavioural

changes as well... I am helping them to understand their smoking a bit more and piece everything together” Lisa

The range of NRT products available (such as the patches, gum, mints, inhaler) were framed as positive, particularly within the early stages. Whilst several of the participants had tried NRT in the past, the wide choice at no cost was valued – as was the option to keep trying until finding the ‘*right one for you*’:

“Nicotine replacements are very expensive and for people that can’t afford... it is good that they do provide that for you and you haven’t got to pay anything too... even though smoking is expensive, also quitting smoking is expensive” Olivia

3) Vouchers as ‘a bonus’, not the incentive

The women interviewed framed the vouchers as more of an added ‘*bonus*’ or reward rather than an ‘*incentive*’ per se. They often stressed that they would have quit with or without the vouchers, because of the health of their baby and the support of the advisor:

“... even if they didn’t have like the incentive of the actual vouchers, it is still the support, having that person to talk to and that person that will give you advice and everything...” Lucy

Nevertheless, participants appreciated receiving the vouchers both in terms of the financial value and in recognition of the hard work involved in maintaining a quit:

“... even if the vouchers didn’t exist, I would have still done how I have done now... it is nice to get a little reward for doing your hard work” Debbie

Throughout the advisor interviews, the vouchers were regarded as a key motivator for sustained engagement and quit status. Advisors talked about the voucher incentive as helping

to attract pregnant women and ‘*get them in the door*’, particularly in the context of a deprived city:

“...people are living off the breadline and these vouchers do help... it is quite a carrot for a lot of people, especially as a lot of people (here) haven’t got much money” Alex

They also believed that once engaged, the vouchers encouraged clients to maintain their quits:

“It (receiving vouchers) actually motivated people, definitely I have had a few clients come on and said that they don’t actually have a lot of money and they struggle and the vouchers have definitely given them a push and the motivation to quit smoking” Mary

Indeed, clients talked about saving vouchers up so they could look forward to a ‘*big shop*,’ most frequently for items for the baby or towards the expense of Christmas:

“I’ve saved them up (the vouchers). I bought the baby one or two things and the rest are going towards Christmas” Nicky

During the appointments, clients were required to provide a CO reading to confirm quit status before vouchers could be given. This monitoring and feedback element appeared an important and valuable part of the scheme. It was often talked about as ‘*an incentive*’ (e.g., Jane, Olivia and Debbie) that ‘*makes you think an awful lot*’ (Olivia). The objective measure confirming their quit status reinforced their sense of achievement and pride in their accomplishments:

“Even with the CO reading you feel like you have achieved something... It was less than half... it was there to see. I had done so well” Olivia

Moreover, there was often a sense that the women felt healthier after they had quit:

“I am a lot healthier. I can feel the difference in my health. I am not as out of breath as quick, I am a lot more energetic...considering I am pregnant as well” Donna

Discussion

The study identified various challenges for pregnant women living in a deprived area, to quit smoking. Clients were generally heavy smokers for whom smoking was an entrenched part of their daily routine. Previous research has shown that women emphasise the benefit of supportive relationships when making lifestyle changes [32], yet partners, family members and the women’s wider social circle often continued to smoke, which is a known barrier to smoking cessation [33]. This may explain the low uptake of the SOS element of the scheme and further consideration is warranted.

Smoking was common (and socially acceptable) among clients’ family and friends. Previous research has found that stopping smoking can affect relationships and social networks where smoking is the norm [8]. A family approach to support and education around these potential risks may increase uptake of the SOS scheme to facilitate maternal smoking cessation.

Additionally, SOSs within this scheme would have been entitled to a relatively small amount (£40) if they and the pregnant woman were verified as quit at 12 weeks postpartum. This contrasts a previous SOS programme in the US where the SOS received monthly vouchers if the pregnant woman remained quit [5].

Echoing previous qualitative research, current and future stress appeared to play a large part in their smoking and was identified as a key challenge [8]. Managing stress and techniques to help with this postpartum would be worth exploring further with pregnant women [34].

Exploring with clients any other benefits since quitting may also help to support a quit longer term. A longer-term follow up to understand the impact on their smoking status in the first year postpartum and beyond is needed.

Clients expressed their gratitude to the stop smoking advisors. The multi-faceted nature of this scheme appears to facilitate the capability, opportunity and motivation of the women to quit smoking [35]. Clients valued the support of the advisor first and foremost, and the NRT products available to them free-of-charge. In deprived communities, for whom purchasing such products may not seem an affordable option, this may be beneficial, particularly when trying to ascertain which product works best for them.

This study identified motivating factors other than monetary. The CO monitoring was often framed as '*an incentive*' – to see an objective measurement confirming their quit status appeared to provide extrinsic motivation and reinforce their sense of pride and achievement. This echoes a larger, mixed methods evaluation of a smoking cessation scheme that combined financial incentives (and CO testing), behavioural support and pharmacotherapy [16]. In wider research there seems to be no difference in success rates based on the monetary value of the incentive [17], which further echoes the vouchers viewed as a bonus alongside existing cessation strategies.

The women interviewed described '*wanting to quit*' because of pregnancy or having '*tried to cut down*', supporting the need for women to be at the contemplation or preparation stages identified within the Transtheoretical model (TTM) of health behaviour change to successfully quit smoking and maintain this status [36]. This may be why clients who were already preparing to quit, saw monetary vouchers as more of a '*bonus*' or '*reward*' rather than an '*incentive*' to stop smoking. Social influence and perceived social judgement could have affected this; participants were acutely aware of the controversy around pregnant women receiving vouchers for quitting. This may have shaped their responses in interviews, and indeed to advisors, to avoid potential negative judgement. Findings support previous research around the mixed views of pregnant women about the use of financial incentives to support smoking cessation [7].

The cautionary note remains, about attributing the apparent success of incentive schemes to the incentives alone, rather than more intricate details about how the scheme is delivered (e.g., around CO monitoring and receiving feedback) [20]. Clients valued the advice, support (including NRTs), and monitoring (of CO readings) that came with the advisor as part of the enhanced support package. Therefore, it is hard to disentangle what is driving the reported success of the scheme. It may not be appropriate to isolate the different aspects of the scheme however, as they appear inextricably linked [16].

Arguably, there is a need for more openness and transparency around such incentive schemes and evaluations, to recognise the role they play in building the evidence-base. The language of ‘incentive scheme’ may do little to limit the controversy and stigma that surrounds such schemes.

Our study resonates with previous research that (pregnant) smokers from deprived areas benefit from more intensive, flexible and personalised support [9]. A ‘less prescriptive approach’ to providing smoking cessation services may improve cessation rates in such areas [9]. However, we would highlight that such flexibility can present a challenge for evaluating, building the wider evidence base and demonstrating the impact of such schemes. Further qualitative data collection with all groups could help better understand the more intricate details about how schemes operate [20].

Strengths and Limitations

Drawing on qualitative research can help better understand how to support women when developing public health promotions and cessation schemes [37]. In this study, the combination of interviews with both advisors and clients helped to triangulate results and provide more contextual information about elements of the scheme.

Further research is needed to explore the transferability of these findings and their application to other incentive schemes and other geographical areas. As noted, no demographic data were

collected from clients, which would have allowed more detailed exploration of their responses and any differences within the sample. Ultimately, the purpose of this study was to provide a descriptive summary of the patterns across the dataset [26]. The potential of selection bias in the client interviews is acknowledged; we did not manage to include pregnant women who had been unsuccessful in quitting or had disengaged, and clients were recruited through the scheme's advisors.

Conclusion

Pregnant women in deprived areas face various challenges to quitting smoking. This study found that a multi-faceted approach was valued by pregnant women, attaching great importance to the support, advice and monitoring from specialist advisors. The women's distinction between vouchers as a (welcomed) bonus rather than 'the incentive' should be recognised. This study underlines the importance of how information about smoking cessation and associated schemes are communicated to pregnant women, and health professionals, particularly given the stigma and controversy involved.

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Conflict of interest

The authors declare no conflict of interest.

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