

Title: Women's perspectives are required to inform the development of engaging maternal obesity services: A qualitative study of obese pregnant women's experiences

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Abstract:

Background: Increasing maternal obesity trends and accompanying risks have led to the development of guidelines internationally. However, the evidence-base is poor for effective intervention, and there is a lack of representation from the perspective of obese pregnant women. Women's engagement with weight management support services is low.

Objective: To explore obese pregnant women's experiences to better understand factors which need to be considered when developing services that women will find acceptable and utilise.

Population: Obese women referred to an antenatal dietetic service in the Northeast of England, UK.

Methods: Low-structured depth-interviews allowed women to freely discuss their own experiences. Discussion prompts were included; however, issues which women raised were explored thoroughly. Women summarised what they considered most important to ensure the analyses placed appropriate emphasis on factors women perceived as important. Thematic analysis identified common themes. Saturation was confirmed after 16 interviews.

Results: Key issues included: women's weight; families; experience of negativity; and priorities and desired outcomes. These combined represented women's perspectives of issues which they considered important and integral to their lived experience of being obese and pregnant. The theme incorporates women's pregnancy related experiences, as well as life experiences which contributed to how they felt about their weight during pregnancy.

Conclusions: There are strong associations with women's lived experiences and engagement with antenatal weight-management services. Incorporating women's perspectives in the development of these services could encourage engagement by focussing on women's priorities and motivations, while taking into consideration their socially-related experiences in addition to their clinical health needs.

Keywords: obesity, maternal, pregnancy, qualitative, experiences

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Background

Recent studies have identified increasing trends in maternal obesity (defined as a body mass index (BMI) >30kg/m² at the first antenatal contact), and significant associations with socio-demographic inequalities including deprivation and ethnic group¹⁻⁶. The risks associated with maternal obesity are also multiple and severe, including maternal and neonatal mortality, gestational diabetes, congenital anomalies, and some evidence of fetal programming for obesity development among the offspring⁷⁻¹¹. These trends and risks have led to an increasing international focus on maternal obesity and gestational weight gain over recent years, including the development of healthcare guidelines in the United Kingdom (UK)¹²⁻¹³, Ireland¹⁴, the United States of America (USA)¹⁵⁻¹⁶, Canada¹⁷, and Australia¹⁸⁻¹⁹.

Pregnancy is considered an appropriate time for obesity and weight management intervention as women are at a vulnerable life stage for weight gain, and more open to behaviour change²⁰⁻²¹. However, obesity has strong associations with societal stigma²²⁻²⁴, and healthcare professionals have expressed concerns about re-enforcing social stigma among pregnant women if support services are not women-centred, potentially resulting in disengagement from antenatal care²⁵. When developing health services for a condition with strong social and psychological relationships, such as obesity, there are ethical challenges to ensure that the potential for harm is minimised. This balance requires the perspectives of the target population to inform the development of patient-centred and engaging services, yet there is an absence of research with women included in the evidence-base for international guidelines. This is likely to be due to the relative paucity of women's perspectives in the research literature compared with research on maternal obesity-related clinical outcomes. For example a recent systematic review of obese pregnant women's experiences of maternity care identified six published studies²⁶. In comparison, systematic reviews relating to BMI and clinical outcomes of pregnancy include much higher numbers of studies. For example, a published systematic review of the relationship between maternal body mass index (BMI) and gestational diabetes included 70 studies¹¹; a review of pregnancy outcomes which impact on maternity resources included 49 studies²⁷; a review of congenital anomalies included 39 studies⁷; a review of pre-term birth included 39 studies²⁸; and a review of breastfeeding outcomes included 27 studies²⁹.

A recent meta-synthesis of obese pregnant women's experiences of maternity care²⁶ identified a core concept that women view obesity and weight gain as acceptable in pregnancy (compared with non-pregnancy). The authors argued that healthy behaviour change is conceived during pregnancy and executed postnatally, and barriers to change included a lack of advice and perceived negative experiences with healthcare professionals²⁶. These findings support healthcare professionals concerns of re-enforcing societal stigma, as women felt alleviated of the stigma of being 'fat' which they faced when not pregnant. In addition, the authors reported that negative experiences were central themes across several of the included studies, and that weight-related medicalisation of pregnancy creates an impersonal experience²⁶. The majority of published research relating to women's perspectives of maternal obesity focus on women's experiences of antenatal care received. While the importance of developing an evidence-base of care experiences should not be underestimated for service improvement, this focus may not capture an holistic overview of obese pregnant women's weight-related lived experiences. Furber and McGowan³⁰ argue the need for a greater understanding of the impact of being obese when pregnant, particularly exploring obese women's needs and expectations to plan appropriate management. A greater understanding of women's perspectives could allow for the development of more effective and engaging women-centred services.

This research aimed to explore women's lived experiences of being obese and pregnant to inform the development of services that women will find acceptable and utilise. This was a component part of a study exploring women's experiences of being referred to a specialist antenatal dietetic service for obesity in the Northeast of England, UK. The dietetics service was established in October 2008 at Gateshead NHS Trust. The aim of the dietetics service was to reduce risk of complications in pregnancy associated with obesity through educating women about healthy eating and food safety in pregnancy, monitoring weight in pregnancy, and helping women to minimise gestational weight gain. Women were not involved in the development of this service and engagement was low (approximately 10% of eligible women). This level of engagement with antenatal obesity dietetics services is similar to that reported elsewhere²⁵.

Methods

An interpretive approach was used to explore the lived experience of obese pregnant women. The study was approved by Teesside University School of Health and Social Care ethics committee, County Durham and Tees Valley 2 NHS research ethics committee, and Gateshead NHS Trust research and development committee.

Recruitment

Postal information and pre-paid reply slips were sent to women with a booking BMI > 30 kg/m² (n=88 mail outs between November 2009 and February 2010; 3% recruitment rate). The recruitment method was subsequently amended due to the low response. The revised strategy included in-person recruitment when women attended the dietetic clinic (n=19 women approached between June and August 2010; 68% recruitment rate). Attempts were made to recruit women who did not engage with the dietetic service through contacting a random sample of 20 non-responders from the postal invitation by phone. However, this method did not result in any further recruitment.

Data Collection

One-to-one depth-interviews were carried out between the researcher (NH) and the women in locations of the women's choice (including their homes, maternity unit, or Sure Start Children's Centres). The interviews were audio recorded, transcribed verbatim and women were allocated pseudonyms. Low structured discussion prompts were used to allow women to control the focus of the interviews based on their own personal experiences, rather than having pre-defined research objective driven interview schedules. Prompts included their experience of being referred to the service, factors influencing their decision to accept the referral, what they wanted from this type of service, and their experience of the service. However, through the process of depth-interviewing, issues which women raised were explored thoroughly. Towards the end of the interviews women were asked to summarise what they considered their most important issues to ensure that appropriate emphasis was placed on these during the analyses.

Data Analysis

Thematic content analysis³¹ was carried out by two researchers (NH and SR). Both independently open-coded all interview transcripts. The coding was combined to develop category systems and themes which both researchers agreed were representative of the data. Copies of full transcripts and women's summaries were

retained to ensure that the interpretation of data reflected issues most important to women, and to ensure that the significance of other themes were not over emphasised by the researchers. Recruitment continued until saturation of themes was confirmed in the final interview (no new themes emerged). All of the results in italics are direct quotations from the interview participants. Quotes include women's pseudonyms and parity (P, number of times the woman has previously given birth).

Results

Sixteen women were interviewed. All participants were of white ethnic group, P0-2, and BMI's ranged from 30-51kg/m² (table 1). The majority of women were on their own at the time of interview, although some had others present for all or part of the interview: Vicky and Janice had their husbands present; Amy had her grandmother present; and Jenny and Lisa had their young children present. The analyses identified two overarching concepts with multiple themes. The first overarching concept, discussed in this paper, relates to 'key issues' including women's priorities and weight-related experiences. These were integral to their lived experiences of being obese and pregnant and have strong associations with women's engagement with the service. The second overarching concept draws on women's experiences of care received, particularly their experience of the dietetics service process and content; this will be reported separately.

Key Issues for Women

The key issues which women identified as being important to their pregnancies, and their lives, are summarised in table 2.

Theme 1) Women's Weight

Women discussed their relationship with their weight ~~and their weight awareness~~. Most had long histories of weight issues and prior experience of ~~weight management included~~ successful and unsuccessful attempts at weight loss (including weight loss in order to conceive, or just prior to conceiving), and of dietetic or commercial weight management services. Women's weight awareness came from direct measurements, as well as self-assessment (looking at photographs and in the mirror, and clothing sizes). Some expressed how they were uncomfortable or self-conscious about their weight prior to pregnancy.

"I always felt a bit uncomfortable about my weight beforehand, not majorly like, going on seriously bad diets or anything but I always felt self-conscious about it" (Debbie, P0)

However, some women were comfortable with their weight and would not have engaged with the dietetic service if they weren't pregnant. Others had previously declined dietetic referrals as they hadn't felt as though their weight was an issue for them. Women gave these as potential explanations for low engagement with the service among pregnant women. However, others felt that a lack of weight awareness may have been an influence.

"If I hadn't been pregnant I wouldn't have [seen a dietitian]...Because me, really I'm happy the way I am, do you know what I mean? I am." (Tina, P0)

"Some people might not even recognise that their weight is so high. I didn't realise until I'd put on about five stone" (Lisa, P1)

Theme 2) Women's Families

Women discussed support and motivation in relation to their families. Women were motivated to provide a healthy environment for their baby, and this was given the highest priority for engaging with the service. Women wanted to ensure that they were doing all they could for their baby's health by providing the right nutrients for development and *'feeding the baby properly'*. Women felt they understood the potential risks to their baby due to their current weight which caused them to worry. They were also concerned about heightening the risks through gestational weight gain. The following quotes are women's explanations of engaging with the service.

"To do like what was best for the baby kind of thing, make sure I was doing the right things for the baby's growth and the baby's health, that I wasn't hurting him in anyway kind of thing. And giving him the best start"
(Debbie, P0)

"You're a lot more concerned about your baby, and if you're doing the right things for them... I was reassured that I was sort of eating the right foods and that I wasn't doing anything like really bad or like harmful to my baby" (Amy, P0)

"I'm overweight as it is and so it's harmful for me, harmful you know for the baby" (Valerie, P0)

Due to the priority women gave to their baby's health during pregnancy, they felt that this *'focus on their baby'* could be used to encourage engagement with the service among women. Women were particularly interested in which nutrients were beneficial for specific aspects of their baby's development, but also wanted to know about foods which can be harmful to the baby. They felt that promoting this aspect of the service to women would improve engagement.

"I'd just explain and try and promote the benefits to the baby more than to themselves, because as soon as you mention the baby that'll be it. I know my head now is about 'what do I need to eat that's best for the baby', rather than what's best for me, you know so...that might trigger a positive response rather than a negative response" (Lisa, P1)

Women described the importance of a supportive family environment, giving examples of how their partners or families provided support, or had been unsupportive. Some women wanted to take family members along to the service for support, and others discussed practical support they had received from their families over and above attending the service. Vicky's husband had been filtering key information when she felt she was overloaded with information, and Lisa's husband had been helping her to make changes by providing a supportive environment and making the changes alongside her.

"My husband goes 'why don't you set yourself some goals, eat two portions of fruit and veg, and then we'll increase that when we get that one covered, and we'll stop eating the white rices and the white breads, and we'll go onto the wholemeal' so we're just setting ourselves little goals. He's been really, really good and supportive and he's helping...I think he knows that if he's doing it I'll end up doing it" (Lisa, P1)

However, some women felt their families were not actively supporting them which created added pressures for them to deal with. Women gave accounts of situations when their families did not want to make changes to their own behaviours, or when there was a conflict between what they felt was important. Janice described her experience of having previously miscarried, and how her husband's worries about risk in this pregnancy were conflicting with what she thought was best for her and the baby.

"My husband is useless with that sort of stuff, you know, I smalled both of our portions down and all he wants to do is top up on breakfast cereal on a night time as well, so that's up to him" (Jenny, P1)

"He's like 'you've got to keep eating because the baby's not being fed' sort of thing...he's trying to fill us up and I'm trying to tell him basically 'no I don't need this much food'...that I haven't got to be eating for three sort of thing...I hate sitting round, I've got to be up all the time, I'm getting wronged off him all the time for it.

'You're not sleeping enough, sit down, you do this, you do that' and I'm like [rolls eyes]" (Janice, P2)

Theme 3) Women's Experience of Negativity

All women described past negative experiences relating to their weight throughout the course of their interviews. This line of discussion was always initiated by the interviewee rather than the interviewer. Women gave detailed accounts of their negative experiences with healthcare professionals throughout their lives, as well as more general encounters in society. Women felt that the media represented slimness as beautiful and healthy, and described experiences of people assuming that they were 'greedy' or 'lazy'. Women discussed how healthcare professionals expressed surprise when they perceived women's descriptions of their lifestyles to be healthy, which confirmed their views of the societal assumptions of obesity. Women had also experienced people making assumptions about their level of intellect based on their size.

"I think there's just something wrong with the way that people who are overweight are viewed in this country by everybody, whether you are pregnant or not...there's just an assumption that you're a bit thick, and that's why you are overweight, and it's not necessarily true" (Melanie, P1)

Women were frequently defensive about their weight during the interviews, and appeared to feel obliged to explain why their weight was high. For some women the focus appeared to be on ensuring that they were

acknowledged as having healthy lifestyles by stressing that they were active or had a healthy diet. Other women focussed on providing justifications for their history of weight gain, such as having emotional relationships with food, busy working and family lifestyles, postnatal depression, previous pregnancy weight-gain, and quitting smoking.

"I'm not lazy, I like to be on the go all the time...I've always been active, and it doesn't matter how big or how small I am, I've always been active. I've always walked everywhere. I've never been one for fried breakfasts."

(Janice, P2)

"I put on a lot of weight between pregnancies as well, with post natal depression, because I like binged eat a lot and then everything just escalated from there, and I also quit smoking at that time as well so it was just one thing after another" (Lisa, P1)

There were frequent references from women about previous negative weight-related experiences with healthcare professionals. Most of these incidents were not pregnancy-related or recent to their pregnancy, although women were still visibly upset or angry when describing the encounters. Some felt they had been denied access to services in the past because of their weight (e.g. birthing pools in previous pregnancies), as well as services to support their weight management. Karen described how she had been asking her GP for a dietetic referral for a number of years but had been refused and told *'just go on a diet'*. Karen felt that her request for support had been dismissed by her GP, yet whenever she had health problems these were blamed on her weight. These negative experiences and feelings of weight-blame were identified by women as a cause for their defensiveness relating to their size when it was brought up by other healthcare professionals, including during this pregnancy.

"Whenever I was seeing the doctor, I would go in to see them for something different but the first thing they'd say is 'your weight's too high'. 'I know my weight is too high, I'm not here to see you about my weight, I'm here about this'...they would almost always have a go and it really upset me to the point where I ended up losing my temper with the doctor one day, 'I don't really care about my weight, I'm not here about my weight, I'm here for something else, get off my back, I'll get it sorted out in my own time'...I didn't go and see another doctor for ages because well, [I thought] they're going to mention my weight and I don't want to go...I was constantly sick

of the doctor going on at me all the time about it, I was like 'I know I'm fat, I know I need to lose weight you're not going to help by having a go at us' " (Lisa, P1)

"I went to see a dietitian a few year ago, and it was sort of...she wasn't listening...I think I saw her twice and she just sort of spoke at us and I didn't like it, as though I was being a naughty little teenager the way she was talking to us and I didn't like it, because I was probably older than what she was anyway!" (Janice, P2)

Being 'labelled' also made some women defensive and upset, even when they understood 'with their logical head' why they were being 'put into boxes' because of the related risks. There was an obvious difference in the language women used throughout the interviews to refer to their weight depending on the focus of the discussion. When women recalled how healthcare professionals had described their weight status they predominantly used the terms BMI and overweight as matter of fact. However, when women were referring to themselves, there was a noticeable difference in the terminology they used to describe their weight status (usually overweight or my weight), compared to when they were expressing negative experiences relating to their weight (usually fat or obese). This difference extended to women's body language and the tone of expression as they became upset or angry when discussing past negative experiences. The effects of these experiences were feelings of self-consciousness, low confidence or self-esteem, guilt, and embarrassment about their weight. In addition to women's weight-related experience histories (which remained highly sensitised during pregnancy), their emotions were also heightened due to additional fears about their baby's safety.

"I've come away feeling like I'm on the outer perimeters of whatever normal is and I'm being treated differently to other people and I don't like that really...It's not my intention to be very very negative but it's a really emotive subject that makes you very emotive, it brings out your emotions about a very strong subject" (Vicky, P0)

Theme 4) Women's Priorities and Desired Outcomes

When discussing their experiences of being referred to the service, most women reflected on what they most wanted to get out of attending. As discussed in theme 2, women prioritised the health of their baby. Therefore this theme describes women's priorities and desired outcomes which are secondary to this.

Most women discussed weight management and improving their diet as being a desired outcome of the service, with an apparent difference between nulliparous women (those who had never given birth) and parous women (those who had given birth one or more times). Nulliparous women were more likely to focus on the nutritional properties of their diet for their health and their babies' health. While this was also an issue for parous women, they were more likely to focus their discussions on weight gain. They described being unaware of how much weight they were gaining in previous pregnancies, and that they had put on more weight than they felt they should have. In addition, they often hadn't made the association between gestational weight gain and subsequent weight retention. In this pregnancy, parous women were already thinking ahead to the potential benefits of the service postnatally.

"I had no sense of how much weight I'd put on with my first...I mean I did notice obviously every time I went to the midwife that I had put on another kilo or whatever, but I hadn't really sort of taken it into consideration that it wouldn't be gone once she was born" (Jenny, P1)

Women discussed the need to look after themselves during their pregnancy, as well as prioritising the health of their babies and children. They discussed the importance of feeling healthy, and how their weight had an impact on their health and fitness levels. Some women felt that prioritising their own health was particularly important due to the potential impact on the baby, and that previously other priorities meant that their health had often taken second place.

"The thing that I've let go is looking after myself really, because I put everything into my children and my job. And I need to start thinking hang on a minute here you need to look after the kids and yourself" (Maggie, P2)

Some women discussed existing health conditions which they did not want to exacerbate through gaining excessive gestational weight. Others were concerned about the heightened risk of developing co-morbidities such as gestational diabetes and were trying to prevent these. However, some women's priorities were more long term, and they were looking ahead to the potential impact of changes they make in pregnancy on their future health, and on the health of their families. These women prioritised passing on healthy lifestyles to their

children. Therefore although their own health was considered to be important, for some this was primarily related to the potential impact on their children.

“I want to be able to run if they fall over and like play football and run round and that. I mean especially as I found out I’m having a little boy, so little boys’ things, it’s all about running around really and jumping” (Lucy, P0)

“When I’m on the go I can have the kids on the go...I want them to stay healthy...there’s heart disease in our family, diabetes, and I’m just trying to keep them away from that as well as I can” (Janice, P2)

Discussion

This study has explored obese pregnant women’s weight-related experiences, including their past experiences which are carried over into pregnancy. This has allowed for a deeper understanding of issues which obese women view as being of greatest importance during their pregnancies, and therefore issues which health services should take into consideration to ensure service development is women-centred. This research has identified that developing services which engage obese pregnant women requires consideration of their key priorities and motivators. The health of their baby, nutrition and weight-related benefits of intervention were priorities for women, and promoting these benefits is most likely to motivate engagement with services. Women in this research have also identified the importance of verbal and non-verbal communication by healthcare professionals when trying to engage women with obesity services, the need for healthcare professionals’ to understand their past weight-related encounters and the impact this has on pregnancy, and the importance of promoting family support.

The priority that women gave to their baby’s health and in providing an optimal fetal environment has been identified by others as the greatest antenatal motivation for behaviour change among obese women, over and above maternal weight restriction^{32 33}. However, previous studies did not differentiate between the priorities of nulliparous and parous women. Although the ultimate priority in this study was the baby’s health, there was an additional dimension specifically relating to motivation for changing dietary behaviours. Women who had previously given birth were more likely to perceive weight management to be their priority based on past experience of weight gain and retention; whereas women who had not were more likely to perceive the

nutritional benefits to be most important. Others have described multiparity to be a motivator for overweight and obese women's postnatal engagement with weight management, and identify women's disappointment when they retain pregnancy-related weight^{34 35}. This suggests that there may be different approaches required to engage nulliparous and parous obese women with antenatal weight-management based on the differences between these perceived priorities.

There was a strong association between women's past weight-related experiences and how they felt about their weight during pregnancy. The majority of women discussed their weight as being a long-standing issue which they had variable success in managing. This is reflected in other research which identifies the variability in success to result in feelings of failure³⁶. Women in this study disclosed highly emotional relationships with their weight and all had experience of negativity. This adds to the importance of acknowledging past experiences during maternal obesity service development. The emotional relationships included women's perceptions of the assumptions of healthcare professionals and general society about their lifestyles and intellect based on their size. Similar to some women in this study, others report negative stereotypes to be carried over into pregnancy, resulting in women feeling as though they were being treated differently to others, or denied access to services³⁷. In addition, pregnant women report experiencing social stereotypes of obesity and stigma from friends and family, and the importance of receiving support from their partners and other family members^{32 38}. In this study, the emotive nature of obesity was primarily associated with being labelled, which to women signified the social assumptions they felt were related to obesity such as greed, laziness, and intellect. This was reflected in the verbal and body language women used when discussing their weight. Terms which were used negatively included 'obese' and 'fat' when discussing past experiences. The term obese is associated with medical discourse and social stigma connotations³⁹, and is predominantly viewed as being offensive with alternative terms such as weight and overweight being preferred³⁹⁻⁴⁶. The emotional nature of being labelled identified in this study (e.g. singled out, judged, or not normal) is also described by others. Nyman et al discuss how pregnant women classified as obese had a constant awareness of their body, felt constant exposure to the close scrutiny and observation of others, feelings of alienation, being judged by their body size, and not feeling recognised or respected like other women⁴⁷.

Women described negative experiences in society, and others have identified that pregnant women experience negative stereotypes by the general public³⁰. However, the majority of negative experiences in this study related to previous interactions with healthcare professionals unrelated to their current pregnancy. Women described how these negative past experiences had made them defensive when discussing their weight, including during pregnancy. Obese patients (including non-pregnant populations) have also described a range of negative emotional experiences with healthcare professionals when dealing with obesity, and humiliating comments relating to their bodies being unattractive^{24 38 41 42 48-50}. When pregnant women view healthcare professionals to be re-enforcing the stigma of obesity, it evokes feelings of guilt, blame, self-loathing, and embarrassment³⁰. Similar to some women in this study, others have identified that patients (including non-pregnant populations) have avoided seeking healthcare based on these negative experiences⁴⁸⁴⁹, and pregnant women have avoided confronting healthcare professionals about humiliating weight-related treatment due to worries about the impact on their maternity care⁴⁷. Feelings of being dismissed by healthcare professionals including not being believed, receiving no treatment for their health problems, or healthcare professionals attributing ill health to weight without checking associations, have also been identified by non-pregnant populations^{36 49}.

Factors which obese patients (including non-pregnant populations) have described as being important in building and maintaining a trusting relationship with healthcare professionals include being listened to, believed, shown empathy, compassion, awareness of stigma, and respect^{47 49 51}. In order to develop supportive obesity services, it is also important to understand the perspectives of healthcare professionals as well as women. There is evidence of some healthcare professionals having a negative attitude towards obesity, and prioritising the individual's role in its management over theirs^{51 52}. However, there is also evidence that healthcare professional's want to support obese patients including pregnant and non-pregnant populations, but face multiple barriers to effective practice. A key barrier relates to the difficulties healthcare professionals face with sensitive obesity discussion, including issues such as patient dignity, embarrassment (their own and the patients), and women feeling victimised when they raise the issue^{25 33 38 41 47 53 54}. Midwives in particular have described the difficulties they face in initiating discussions with obese women about their weight due to the emotive nature of the topic, and how they often struggle to get the right balance of clinical information and sensitivity^{25 53 54}. Therefore there is a need for maternal obesity service development to incorporate a

shared understanding of healthcare professionals and women's perspectives in order to overcome healthcare professionals concerns about the psychological impact of discussing obesity with pregnant women. It is also important for healthcare professionals to have an understanding of women's past negative experiences, how they impact on their weight-related feelings during pregnancy, and are intensified due to fears of adverse implications to their baby. In addition, it is important for women to understand that maternity service healthcare professionals want to provide support and empathise with their weight-related history in order to break down the defensive barriers to communication.

Strengths and Limitations

There are strengths and limitations to this research. The main limitations relate to the difficulties in recruiting non-engagers with the dietetic service through postal invitations and follow up phone calls. Recruiting obese pregnant women into research has been reported by others to be challenging⁵⁵, and this seems to be especially the case when trying to recruit service non-engagers. However, the in-person recruitment of women who were service engagers potentially reduced selection bias among this population. A number of women approached in-person agreed to be interviewed but also expressed concerns that they would not be able to contribute anything worthwhile, and felt that they might be wasting the researcher's time. These women would have been unlikely to respond to a postal invitation, yet they provided very rich and interesting perspectives. Relying on a more 'hands off' approach to recruitment, such as postal invitations, could result in biased recruitment of those women who had extreme perspectives of their care, both positive and negative. Additionally, the included population were all white women. While the purpose of qualitative research is not to achieve societal representation, the inclusion of women from other ethnic groups may have influenced the findings. However, the population of Gateshead is predominantly white and therefore research in more ethnically diverse communities would be required to explore this relationship.

Conclusion

The evidence-base for effective obesity intervention in pregnancy is limited, and recent guidelines identify the need for more robust research to inform practice¹². A critique of the obesity strategies to date which have shown limited effectiveness is the focus on food, bodies and eating in a way which is disembodied and disengaged from the social contexts in which people live their lives³⁹. Incorporating obese pregnant women's

perspectives in the development of healthcare services and obesity intervention could encourage engagement by focussing on women's priorities and motivations, while taking into consideration their socially-related experiences in addition to their clinical health needs.

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