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Midwives' experiences of referring obese women to either a community or home-based antenatal weight management service: Implications for service providers and midwifery practice.

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Highlights

- Midwives welcomed the option to refer obese pregnant women to weight management services
- Midwives were split between taking a ‘refer all’ or ‘refer with agreement’ approach
- Detailed information on the service and feedback on referrals are vital
- Training for midwives could facilitate women’s informed decision-making

Abstract

Objective:

A variety of services to support women to undertake weight management behaviours during pregnancy have recently been implemented as a means to reduce the risks to mother and baby. In the UK, midwives lead the care of the majority of pregnant women and are seen as the ideal source of referral into antenatal services. However, midwives have reported concerns regarding raising the topic of weight with obese women and negative referral experiences have been cited as a reason not to engage with a service. This study explored midwives' experiences of referring women to one of two antenatal weight management services.

Design:

Qualitative, cross-sectional interview and focus group study, with data analysed thematically.

Setting:

Midwifery teams in the West Midlands, England.

Participants:

Midwives responsible for referring to either a home-based, one to one service (N=12), or a community-based, group service (N=11).

Findings:

Four themes emerged from the data. Participants generally had a positive *View of the service*, but their *Information needs* were not fully met, as they wanted more detail about the service and feedback regarding the women they had referred. *Approaches to referral* differed, with some participants referring all women who met the eligibility criteria, and some offering women a choice to be referred or not. Occasionally the topic was not raised at all when a negative reception was anticipated. *Reasons for poor uptake* of the services included pragmatic barriers, and their perception of women's lack of interest in weight management.

Key conclusions:

Midwives' differing views on choice and gaining agreement to refer means referral practices vary, which could increase the risk that obese women have inequitable access to weight management services. However, midwives' confidence in the services on offer may be increased with more detailed information about the service and feedback on referrals, which would additionally act as prompts to refer.

Implications for practice:

Weight management services need to improve communication with their referral agents and try to overcome practical and psychosocial barriers to uptake. It would be beneficial to develop a shared understanding of the concept of 'informed choice' specifically regarding referral to health promotion services among midwives. Training which demonstrates effective methods of sensitively introducing a weight management service to obese women may increase midwives' confidence to consistently include this in their practice. These measures may improve women's engagement with services which have the potential to reduce the risks associated with maternal obesity.

Introduction

There are significant risks to mother and baby associated with maternal obesity (Abenhaim et al., 2006, Marchi et al., 2015) and excess gestational weight gain (Cedergren, 2006). There is also an established link between maternal body mass index (BMI) and risk of childhood obesity (Pirkola et al., 2010). Gaining excess weight during pregnancy is associated with post-natal weight retention (Rooney and Schauberger, 2002, Siega-Riz et al., 2004), making this a major risk factor for long term obesity. In addition, the costs of caring for obese women during pregnancy and childbirth are significantly higher than for healthy weight women (Morgan et al., 2014). As a result, public health guidance in the UK advocates promoting healthy lifestyle behaviour change during pregnancy, and the commissioning of specialised weight management services (WMS) to support those most at risk (National Institute of Health and Care Excellence: NICE; 2010). However, uptake of such services is often poor (Knight and Wyatt, 2010) and multiple barriers to attending these services have been identified (Davis et al., 2012, Atkinson et al., 2013, Olander and Atkinson, 2013).

As the primary caregivers for the majority of pregnant women in the UK, midwives are ideally placed to identify women who may benefit from WMS. Women want weight-related information (Olander et al., 2011) including information on weight management services from their midwife (Patel et al., 2013). However, midwives report lacking confidence to raise the issue of weight management with women (Macleod et al., 2013). Midwives may also perceive management of gestational weight gain as low priority and have concerns about the psychological impact of focusing on weight gain during pregnancy (Willcox et al., 2012). Additionally, the referral experience is likely to be influential in the woman's decision whether to engage with WMS (Atkinson et al., 2013). As such it is important to explore midwives' views of WMS and their role as referral agents for such services.

The present study aimed to explore midwives' experiences of referring obese women to two distinct WMS. Details of the design and delivery of the two services are shown in Table 1, and related service evaluation articles have been published elsewhere (Atkinson et al., 2013, 2016). By comparing the experiences of midwives referring to two WMS that differed in format, delivery method, duration and location, the study aimed to identify whether barriers to referral and uptake were universal or related to the specific service on offer.

Methods

Design:

A cross-sectional design was employed using semi-structured interviews and focus groups. Ethical approval was granted by the lead author's institution's Research Ethics Committee and, where required, local Research Governance approval was granted by the hospital trusts where participants were employed.

Participants:

Participants were recruited from midwifery teams across the Midlands area of England where either a home-based, one to one weight management service (n=12) or a community-based group weight management service (n=11) was available to overweight and obese women. All participants were community midwives, except two from the home-based service who worked in specialist hospital clinics attended by women with a raised BMI. All participants were female. Demographic information was not collected from focus group participants (n=5) for reasons of confidentiality and time constraints. The remaining 17 participants that were interviewed were aged between 34 and 60 years. The average time as a practising midwife was 20.8 years, with only three participants having less than ten years in practice.

Procedure:

Data collection took place in 2010 for participants referring to the home-based service, and in 2012 and 2013 for participants referring to the community service. For both services, all community midwives who were eligible to refer women to the weight management service were approached by the project manager for that service or directly by the research team, to invite them to participate in the study. For both samples, purposive recruitment strategies were employed to ensure a geographical spread of participants across the area served by the relevant service. Recruitment continued until all eligible midwives had been offered the opportunity to participate. Accurate recruitment rates cannot be calculated due to incomplete data on the numbers of midwives eligible to participate at the time of data collection, however from the available data it is estimated that between 5% and 10% of eligible midwives participated. Informed consent was provided by all participants prior to data collection.

Midwives in the home-based group were interviewed face to face. Having experienced some difficulties in recruiting those midwives for a face to face interview, midwives in the community-based group were asked to take part in a telephone interview, as a means of making participation more convenient. Similarly, a single focus group was arranged at the hospital where midwives from the community-based group were employed, timed to coincide with a scheduled team meeting, in order to make it easy for midwives to participate in the study if they chose to. Five participants took part in the focus group. The same topic guide (see Figure 1) was used to guide all interviews and the focus group in both participant groups, in order to facilitate comparison, although participants were encouraged to speak freely about any topic they deemed important. All interviews and the focus group were digitally recorded and transcribed verbatim.

Analysis:

Analysis was conducted using a deductive, realist approach, reflecting that interventions take place in the 'real world' (Pawson & Tilley, 1997) and that emotions, beliefs and values

are part of reality and therefore relevant to understanding and explaining the phenomena being studied (Putnam, 1999). A process of thematic analysis was undertaken on the data for each participant group independently, according to the principles outlined by Braun and Clarke (2006). Briefly, this involved initial familiarization with the data, followed by manual coding of all data relevant to the specified study aims. Patterns (themes) within the data were then identified and checked against the coded data. Preliminary analysis of data revealed many similarities between the two datasets, so data were analysed together. Themes were only drawn from the final analysis if they were supported by data from multiple participants' accounts, and across both samples. Final themes were derived through a process of discussion, and were agreed by all authors.

Results

Four themes emerged during analysis; Views of WMS, Information needs, Reasons for poor uptake, and Approach to referral. To preserve anonymity, participants are represented by the service they referred to (H = home-based, C = community) and a randomly assigned participant number.

Views of WMS

Participating midwives demonstrated awareness of the serious risks associated with maternal obesity. All participants spoke about the service they were referring to in broadly positive terms, viewing it as a valuable source of health education which could facilitate women eating healthily and being physically active. When questioned, participants saw no conflict with their own practice and expressed no specific concerns about the service or the abilities of the professionals delivering it. Many participants referred to the importance of providing support for a healthy lifestyle for obese women, and that they hoped the service

would provide this for their women, as they had limited time available to provide this to women themselves.

The weight management, not necessarily the weight loss but the weight management, the healthy eating, and it's just the education of the calorific value of food, and that will then rebound through the family…there's a real need for it. (H10)

Well it helps us because we haven't got the time to be going through a huge amount of things to do with diet and exercise, and these ladies are the ones that really need it, because obesity obviously leads to other major health issues in the long term as well as the short term. So I think it's useful to be able to refer to a specialist team that deal with that sort of thing, that's how I feel about it. (C11)

Participants cited a number of potential short and long term benefits of the service they were referring to. These included benefits to the women in both their current and future pregnancies of reducing complications, having a healthier pregnancy and baby and improving mental health, as well as enabling women to have more birth choices. Reducing complications and the need for intervention was also reported as beneficial for the midwives.

Making pregnancies less complex, making ante natal clinics umm, easier is not the word, but less complicated. Therefore less interventions in labour ward, less referrals to anaesthetics, because they're obese, and consultant clinic appointments that are completely unnecessary. More home births, ladies with more sort of normal range BMI's. I suppose more satisfied babies because I think sometimes they're so depressed about their weight, that it just makes them really unhappy, even though they're having a baby. (C6)

It's good for their pregnancy, helps maintain a healthy pregnancy, and a healthy baby, so a good outcome to the pregnancy. Hopefully prevent high blood pressure, gestational diabetes, and all the things that go along with a raised BMI. (C7)

Hopefully, then they will then carry that on with their children, bringing their children up to eat healthily and in our future generations, you know, put right some of the problems that we're having to deal with at the minute. (H4)

For both services the referral process consisted of a form completed at the booking appointment (or occasionally at a later appointment) which was passed on to the WMS to contact the woman directly. This process was considered to be easy to follow and had worked well, after some initial teething problems had been ironed out. For the community service the referral process was changed after a few months so that referred women had to contact the service to book onto the course. This change was made as uptake rates from referrals had been low and the service wanted to avoid contacting women who were not interested in the service. However, community service midwives felt that uptake would likely be higher if the service proactively contacted referred women.

That's the thing, that's what I'm saying. Because if they [women] have to do it themselves, rather than somebody contacting them then who's actually gonna be proactive well you know. (C5)

if the referral came via and people contacted them, they [women] might make the first effort, but when they're actually having to be bothered, I think that can be a little bit of a get out clause. (C10)

Information needs

Regardless of service, participants reported receiving only basic information about the service, and mostly had received no further information since the service was initially introduced. Participants' descriptions of the service they were referring to were varied, demonstrating that there was not a detailed or common understanding of that service's aims or content.

Well, it's hard...really you know it's kind of a faceless thing, cos we fill the form in, you very rarely get any contact with anybody back, as far as discussions, I don't ever remember anybody calling from the service. (H1)

I'm not sure exactly what happens at the class because I haven't attended any, I haven't had much information about the actual structure of the classes. (C7)

Participants explained that this lack of information could lead to an inability to effectively promote the service to women, as they were unsure about service content, location, etc. An inability to answer common questions about the service was reported as a reason why women might decline to be referred.

It would have been really useful to have something just for us, giving us that information about what the course aims to do. It's much easier to tell someone about something when you know what it's about. (C4)

Well I wouldn't mind a little bit more information personally, because I was unfortunate enough not to receive any of the information...It's a bit patchy to be fair. I understand what it's about to a degree of course but I haven't heard anyone talk about it. (H2)

Women have asked me that and I've gone, "hmm, dunno. Email them or ring them, they'll be able to tell you". I don't know. (C1)

Participants across both samples expressed a desire to be informed of whether their referral was followed up, and whether the woman had attended the service. At the time of data collection, this had only recently been implemented for the home service and only in some areas. Participants felt this would be beneficial for a number of reasons. These included; being able to offer dietary and physical activity advice to women who were not attending the service, reassurance that they were completing referrals correctly, and gaining feedback about the service from those attending, which could then be useful in promoting the service to other women.

Because it's important to close the loop, isn't it? ...and we can say "How are you getting on?", knowing that they've had some contact. (H4)

Participants also mentioned that regular updates from the service, reminders about the service and contact with the people who were delivering the service would be valued and would act as prompts to remember to complete referrals.

It would be good to have some sort of feedback on how effective it is so that would encourage us to keep going with it. (H9)

Every so often it's good to just be updated with you know are you saying this and are you saying that, have you got enough leaflets, and have you got enough referrals, and umm … you know just so that we are still sort of … it's still in the forefront of our minds because it just … to be honest I think it's just so hectic out here. (C6)

Approach to referral

When asked about the process of identifying and referring women to the service, all participants reported that they briefly explained the service to all women with an eligible BMI, usually during their booking appointment and/or as part of a discussion about their weight or lifestyle in pregnancy. Although the participants acknowledged that weight was a sensitive issue, most said that they raised the issue with all eligible women. A few midwives did report that they would not mention the service if they felt the woman was very sensitive about her weight and mentioning the service would be likely to cause upset. Additionally, some midwives mentioned the busyness of the booking appointment as a reason for not mentioning the service, and feeling that there were other areas to discuss that had a higher priority than weight management.

Whereas with weight we were all sort of probably a little bit more pussy footing around. I think we're being slightly more direct in a sensitive way now, but I think that's taking time. (C6)

My only concern is that we have to be perceptive and we have to pick up on those women that are particularly sensitive about their weight. (H4)

…but there's so much to address at umm booking…and then it's weight and [service], and you know it's not top of the list, I don't know what is top of the list, but it's another one, you know, and you know we shouldn't be taking it down the priority. (H6)

Overall, participants were divided between those who took a ‘refer all’ approach, and those who only referred women who confirmed they were interested in using the service. Participants who reported only referring where the woman had agreed to the referral talked about this in terms of women needing to consent to participate in the service, or they stated that it was pointless to refer someone if they were not interested.

So you kind of chat them through, roughly what the service is about, and then if they're interested you refer them and if they say no, then you don't take it any further. (C7)

We give the woman the information. If she then meets the criteria we ask if she wants to be referred, so it's based on the woman's consent. (H10)

It is sensitive, yeah. I never say to someone "you're overweight", I would never come up with that directly ever, but I say "you've got a slightly raised BMI" and they know what it means, they understand totally and they, well they know for themselves, but they don't always want to discuss it or perhaps even admit it. They certainly don't want to go into any detail, which I don't do, I just mention it and you can tell, you can judge how they react, whether they're up for it or not. (H2)

For participants who referred all eligible women, their explanation of their approach (both to the interviewer and the women) varied from treating the referral as "automatic" or an "opt-out", to feeling that it was best for the service to contact the women to explain what was involved and ask them if they wanted to attend.

We kind of sell now as everybody gets referred, it's kind of an opt-out rather than an opt-in. (H1)

Anybody with a BMI above 30 I offer them the service, explain it, but I normally will refer them regardless.
[Interviewer: So regardless whether they seem interested you refer them anyway?]
Yes… because they may, once they've spoken about it with someone in a bit more detail maybe they would change their minds and like to go. (C8)

Reasons for poor uptake

Many participants from both services reported concerns about poor uptake of the service and several stated that it is often the women who would benefit most from attending that were not accessing these services. Across both services, participants stated that this may be due to many women's lack of motivation regarding weight management during their pregnancy. This in turn was thought to be either because they did not consider themselves to be overweight, were unaware of the risks associated with obesity, poor diet or physical inactivity, or because weight management was considered to be about the woman's wellbeing, not the baby's and the baby was their priority. Multiparous obese women were reported to be less interested in the service if they had not experienced problems in previous pregnancies.

A lot of them won't consider themselves overweight, some will not understand the concept of it at all and others recognize they're overweight but don't particularly see it as an issue. (C8)

I think they probably do see it for themselves, I don't know if they are always aware of that link. (H2)

A lot just don't see themselves as important at that point...They just don't address their own health at that point. (C6)

I mean sometimes they have a raised BMI and they're already on their second plus baby, and they think, "Oh yeah everything was fine." (C5)

Participants also reported that some women were already attending a generic (not antenatal) WMS and preferred to either continue to attend that service during pregnancy or that this previous experience of WMS had given them sufficient confidence to be able to manage

their weight on their own. Midwives were usually happy to support this decision as they felt they did not want to encourage them to stop using a service that was working for them.

Some ladies are very eager but don't want to do the programme…They'll say I'll do it myself. I'll do it myself. And some are already involved in slimming clubs and Slimming World and Weight Watchers and say I'm going to continue with that. (C6)

[Women say] "I do need to lose a bit of weight, but I do know what's healthy eating and I'll do it myself." (H2)

More prevalent in relation to the community service, participants also reported that women cited a lack of time, or work or child caring responsibilities as barriers to attendance. This is likely due to this service being run during the day on weekdays at fixed times and locations, compared to the home service being a more flexible, individualised service. Additionally, some participants for the community service reported some cultural barriers to taking up the service among women from some ethnic minority communities.

Often it's to do with other commitments they've got, so often they say, 'I haven't got time, I'm working' or they've got childcare issues, they'll be something like that going on in their lives. And they won't have any free, they think they won't have any free time to do it. (C11)

We have a very high proportion in the area that is non-English speaking. Um a lot of them may not well have been in this country very long at all. So quite isolated before we start and then either they don't have the, don't particularly want to go out, because they're from an isolated community or as I say there are some where their husbands don't seem keen.(C4)

Across both samples, participants reported that women would often tell their midwife they were interested in using the service even if they had no intention of attending. This was

thought to be due to women understanding the risks and feeling guilty about their weight, but lacking the necessary motivation or resources to engage with the service.

"Oh yeah, yeah I'll be referred, I'll do that", and then they don't. (C2)

I guess the majority will say yes, but whether they're just saying yes because they feel like they've got to say yes in a hospital and you've got a uniform on I don't know. (H7)

Discussion

The present study elicited the views and experiences of midwives in relation to referring obese women to one of two different WMS. The results revealed a number of challenges to effective referral of obese women into these services, which in turn may have implications for service feasibility and uptake.

A welcome addition

The midwives in the present study welcomed the introduction of a specialised WMS, recognising both the significant risks to obese mothers and their babies, and the limited time available within routine midwife consultations to provide lifestyle and weight management advice. Previous research on midwives' practice has highlighted the difficulties midwives face in finding time to provide detailed weight management and healthy lifestyle advice (Foster and Hirst, 2014, Heslehurst et al., 2015) and suggested that these topics can often be seen as low priority (Chang et al., 2013). As such, although midwives were eager to point out that they would provide weight management support to women who declined to use the

service, it seems that the ability to refer to a WMS offers an opportunity to ease some of the burden on midwives to address this issue.

Barriers to engagement

A number of reasons for poor uptake of WMS were identified. Some of these were common to both services, including a lack of motivation towards weight management during pregnancy and women's current or previous experience of other WMS giving them confidence to manage their weight without the support of the offered WMS. Midwives referring to the community service also identified a number of pragmatic barriers to attending this community-based, group service, such as work and childcare commitments, and inconvenient locations or timings, and reported some cultural barriers to attending the service and engaging in physical activity. These results closely reflect the reasons provided by women who had declined the same WMS (Olander and Atkinson, 2013) and mirror the experiences of Australian midwives when referring overweight and obese women into a midwife-led WMS (Davis et al., 2012). This corroboration should provide further impetus for service providers to overcome pragmatic barriers to participation in WMS, for example, scheduling sessions outside of working hours and providing childcare. Additionally, these results are consistent with previous findings which suggest that a significant number of obese women are not motivated towards weight management during pregnancy, either due to not believing that their weight carries a risk, because they have other priorities or find the prospect of change too challenging (Furness et al., 2011, Olander et al., 2011).

The present results also reflect other findings that weight management may be perceived by pregnant women as a self-motivated activity, unrelated to the welfare of their baby (Furness et al., 2011). Thus it is important to identify ways to change this perception and develop women's understanding of the benefits to their baby of weight management and a healthy

lifestyle during pregnancy. Midwives can contribute significantly to this, but are likely to require good quality training to be able to do this effectively (Heslehurst et al., 2013).

Influences on referral practice

Across both the WMS studied, midwives reported that they had received minimal information about the service and suggested that having a more detailed knowledge of the format, content and logistics of the service would increase both their confidence in referring, and the likelihood that women would attend once referred. In Australia, midwives reported that a WMS became easier to recommend once their understanding of the service had increased (Davis et al., 2012). The midwives in the present study found the lack of feedback, from both the WMS and the women they had referred to it, frustrating. It was suggested that regular updates from the service would not only act as a prompt to continue to refer but enable midwives to "close the loop" by then following up women who had attended, and gain valuable knowledge about the service to facilitate future referrals. Indeed, Australian midwives reported recommending a WMS more once they had received positive feedback from participating women (Davis et al., 2012). This demonstrates a need on behalf of midwives to be informed of the value and appropriateness of the service through personal accounts of those who have experienced it, in order to wholeheartedly recommend it to the women they care for. Indeed, midwives require evidence about the acceptability and effectiveness of services in order to implement the evidence-based decision-making in partnership with women that is required of them as professionals, and clearly outlined in their professional codes (Nursing and Midwifery Council, 2012, 2015).

An evidence-based model of decision-making in midwifery supports this process and highlights the importance of examining all the evidence when working in partnership with women (Ménage 2016). Clearly, within this framework lack of evidence regarding the experience and outcomes of WMS' is a significant obstacle. While rigorous service

evaluation should be the aim of all service providers, this can take time to complete. In the early stages of a WMS simple statistics on recruitment, attendance and completion rates, case studies and the personal stories of women who have used the WMS may all be an effective method to increase midwives' confidence in referring eligible women, which may subsequently increase service uptake. In the home service, regular feedback on who had engaged with the service had been implemented in some areas, and this should be considered an essential component of future referral pathways.

Finally, although all participants reported mentioning the service to all women who met the eligibility criteria, midwives across both samples were divided in their approach to referring eligible women. Some midwives treated the referral as "automatic" or an "opt-out", explaining that it was best for the service to contact the women to inform them about what was on offer. Some of these midwives also noted that the booking appointment may be too busy, and/or too early in pregnancy to ask women to decide if they want to attend a WMS, as the woman may not be considering the impact of her weight at this time, but may be motivated towards weight management later. Hence referring the woman regardless of her interest in the WMS at booking effectively deferred this decision to when the service made contact, and enabled those with most knowledge about the WMS to explain the service. Alternatively, some midwives reported that they would not complete a referral for any woman unless that woman had explicitly agreed to it.

The difficulties of discussing weight management at the booking appointment are commonly reported (Furness et al., 2011; Davis et al., 2012), as is the sensitivity of weight as a topic, and concerns that raising the issue with some women may risk damaging the woman-midwife relationship (Foster & Hirst, 2014; Heslehurst et al., 2015). The differing approaches to referring women reported by the midwives in the present study reflects different interpretations of facilitating this informed choice, and highlights an important question around the midwife's role as a gatekeeper to these and other antenatal services. An

"automatic" or "opt-out" referral pathway appears to conflict with the person-centred, shared decision-making approach advocated by the Nursing & Midwifery Council (NMC, 2015) and the National Health Service (National Institute of Health and Care Excellence, 2012) in the UK. Yet evidence from the midwives in the present study suggests this approach may facilitate better decision-making by the woman, by providing more time and information to consider the potential pros and cons of engaging with the service. On the other hand, for those midwives who ensured they sought explicit agreement before completing referral to WMS, their admission that they have very little knowledge of, and information about the service, calls into question whether this consent meets the criteria for being 'informed', as women are unlikely to have all the information they need to make their choice at that time.

A small number of midwives reported that there were some women with whom they had not broached the service as they suspected that the woman would be upset or would not be open to discussing weight or WMS. This is problematic as women expect midwives to inform them of any risks related to their pregnancy (Olander et al., 2011) and not providing information about a service removes the opportunity for women to make choices about whether to attend that service. This 'protective steering' of women towards the 'best' or 'safe' option through the selective and deliberate presentation of information is motivated by a desire to preserve the woman's physical and mental well-being, while also respecting her personal wishes and preferences (Levy, 2006). It has also been argued that an experienced midwife's intuition forms a valuable element of the evidence base for her decision making, alongside more objective sources (Ménage, 2016) and as such midwives should exercise their professional judgement not to pursue a sensitive issue with a particular woman, at a particular time, for particular reasons. On the other hand, the increasing prevalence of obesity in pregnancy and the severity of the risks associated with it have led to calls for midwives to "stop beating around the bush" (p.17), talk to women about the impact of their weight on themselves and their children and offer practical advice and support (Richens, 2008).

Overall the present findings suggest that further research and discussion is needed to establish how midwives may best provide evidence-based, person-centred care while also fulfilling an important role in tackling the obesity crisis (Olander et al., 2015). This may include work to reach a consensus regarding the definition and boundaries of agreement or consent to a referral. Again, midwives will need high quality training to help develop the skills necessary to discuss the issue of raised BMI in pregnancy (Heslehurst et al., 2013) and women with a high BMI could usefully contribute to the content of such training (Lavender and Smith, 2016). It is likely that including typical scenarios and examples of how to effectively raise the subject of a WMS with obese women without jeopardising the midwife-woman relationship would increase midwives' confidence to include this consistently within their practice.

Strengths & Limitations

A strength of the present study is that it is the first to examine the views and experiences of midwives specifically in relation to referring obese pregnant women into WMS that have been introduced into usual antenatal care pathways in the UK. As such, the present study provides valuable insight into the practicalities of identifying and referring eligible women into WMS implemented into standard antenatal care, and how UK midwives have approached incorporating this activity within their practice. Additionally, by comparing the experiences of midwives referring to very different WMS the present study has identified both unique and common barriers to referral. As participants were spread across seven local National Health Service organisations, we expected to identify some local variation in practice, including variation due to cultural or demographic characteristics within specific populations. For example, some areas had a much higher proportion of women from minority ethnic backgrounds, where language and traditional cultural practices can be barriers to providing weight management support. However, careful examination of the two separate datasets

collected two to three years apart revealed no substantial differentiation in practice according to locality or employing trust. This suggests that the issues identified are both common and have endured over several years. While the demographic of the women in these areas is unlikely to have changed significantly since data collection, midwives' practice is likely to have developed slightly in recent years, as the clinical guidance on weight management issued in 2010 (Centre for Maternal and Child Enquiries and Royal College of Obstetricians and Gynaecologists, 2010; NICE, 2010) has become more embedded into their routine practice. For example, it is possible that some midwives may be more comfortable in raising the issue of weight after repeated practise, and that some women may be more aware of the risks due to more media coverage since 2010. Nevertheless, implementation of the recommendations suggested by our research is likely to significantly increase midwives' confidence to refer women to WMS and improve uptake of services among women who are motivated to manage their weight during pregnancy. Finally, including the experiences of healthcare professionals who act as gatekeepers or referral agents to a service as part of service evaluation further informs the assessment of the feasibility and acceptability of that service.

In common with much qualitative research, the generalizability of our findings are limited by the relatively small sample size, estimated at around 5-10% of the eligible midwives. Purposive recruitment strategies were used to ensure a geographical spread of participants within the areas covered by the services with the aim of providing data which would be broadly representative of all midwives' experiences. However, ultimately study participants were drawn from those willing to be interviewed. As such, it is possible that alternative views were held by midwives who were unavailable for data collection or chose not to participate. The lack of any new themes or contrasting experiences emerging in the latter stages of data collection suggests this is unlikely, however further research that employs larger sample sizes would be beneficial to assess whether the present findings are replicated across the UK, and also whether these have changed significantly over the time since data collection.

A range of data collection methods was used in recognition of the mobile and time-pressured nature of participants' work. It is possible that data elicited was influenced by the method used, for example participants may not have wanted to share views as openly in front of colleagues. Comparison of telephone and face to face interviews showed that these were similar in duration and depth of data obtained. Data obtained from midwives during the focus group broadly reflected the data their colleagues provided during telephone interviews. Thus it is likely that the data elicited was only minimally influenced by the collection method.

Further research should be conducted to investigate women's lack of motivation towards weight management and establish how best to increase awareness of the risks of obesity and benefits of weight management to the baby. The midwife's role in this should be clarified, and specialised training on both weight management and how to refer to WMS may be beneficial in ensuring that all obese women are able to make an informed choice regarding attending a WMS. Given the time constraints of usual midwife appointments, and recent findings suggesting that women often make decisions about diet and physical activity during early pregnancy based on non-reflective, impulsive processes (Atkinson et al., 2016), it is unlikely that a significant shift in perceptions and motivation can be achieved through information provision during usual antenatal care alone. It may therefore be even more important to make WMS accessible and inclusive to increase uptake and begin the process of normalising weight management during pregnancy.

Implications for WMS providers

The present findings suggest that providers of WMS should carefully consider how midwives are informed about their service when expecting them to act as referral agents. Detailed information about the structure, content and format of the service, regular updates on service uptake and impact, and feedback on which women have attended the service are all likely to increase referrals. Providers also need to consider the significant pragmatic barriers to

attending structured, community-based WMS and seek to offer options to attend outside of working hours and/or with childcare provided.

Implications for midwifery practice

Midwives could inform their decision-making and referral practice by proactively seeking feedback from the women in their care who have attended a WMS. Training on how to sensitively discuss the risks of obesity and the benefits of weight management, as well as how to introduce a WMS should be provided. Midwives should be supported to exercise professional judgement in their referral practice but should also consider how they ensure that all obese women receive the necessary information, in the best way, at the best time, to make an informed choice about any available WMS.

Conclusions

Midwives may view WMS as a potentially valuable service for obese women, but they require much more detailed information regarding the content and format of these services, as well as evidence for their acceptability and effectiveness. Provision of this information is likely to contribute to increased uptake of WMS, as would improving the accessibility of services, especially those provided in a community, group-based setting. Clarification and training for midwives on how to make a referral to WMS in the context of evidence-based and woman-centred practice would be beneficial.

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Table 1

Table 1 – Description of weight management services

	Home-based service	**Community-based service**
Format	One to one	Group (up to 8 per group)
Setting	Woman's home	Community Venue (e.g. sports centre, community hall)
Frequency & Duration	From early pregnancy to 24 months post-partum – approximately 12 visits, five in pregnancy	Weekly meetings of two hours for six weeks anytime during pregnancy
Delivery agents	Non-clinical, specially trained, Healthy Weight Advisors	Dietician, Public Health Nutritionists and Physical Activity Specialists
Content	Largely based on Social Cognitive Theory, behaviour change techniques included; goal-setting, self-monitoring, weight monitoring, action planning (implementation intentions). Tailored advice on healthy eating, physical activity, infant feeding/weaning and active play, plus signposting to other services.	Non-theory based, sessions comprised advice on healthy eating and physical activity, plus a gentle exercise session (e.g. low impact aerobics, gym work and aqua-aerobics). Latterly weight monitoring was added to the service. Signposting to other services, including post-partum physical activity and infant feeding.

Figure 1 – Interview Topic Guide

How do you identify women to refer to the service? How do you introduce the service to them?

What are some of the reasons why you would not refer someone?

What information have you been given about the service? What are your expectations of the service? What do you see as the potential benefits to women? And to you?

Do you have any concerns about the service? What concerns do you have?

How confident are you that the people delivering the service have the necessary skills and abilities?

How does the referral process work? Would you like any changes to the referral process?

What feedback have you had from women referred to the service? What other feedback have you had about the service, e.g. from colleagues, people delivering the service, etc.? How confident are you that the service is beneficial and/or meeting your expectations?

What would you change about the service, to make it more beneficial?

Do you have any other comments?