Barriers encountered when recruiting obese pregnant women to a dietary intervention

Maternal obesity has health implications for mother and baby but a study revealed how midwives were reluctant to raise this issue with women in their care.

BACKGROUND

Obesity is a complex problem. Although personal responsibility plays a part, the ready availability of energy dense foods and an increasingly sedentary lifestyle is producing a society that almost perceives being overweight as normal (Foresight, 2007).

It is estimated that 57% of women in England over the age of 16 are overweight and that 24% are obese; that is, they have a body mass index greater than or equal to 30kg/m² (Box 1 outlines how to calculate a BMI and what scores indicate). The healthcare costs related to obesity are suggested to be £4.2bn per year; if current trends continue this figure could double by 2050 (NHS Information Centre, 2009).

This general trend of increased BMI in the female population is reflected in the proportion of women who are obese booking with maternity services – the figure has more than doubled (from 9% to 18.9%) in the past decade (Kanagalingam, 2005). Moreover, it is now considered the most common clinical risk factor in obstetric practice (Krishnamoorthy, 2006).

The Confidential Enquiry into Maternal and Child Health (2007) highlighted that obesity in pregnancy carries significant risks and identified that over half the women who died either directly or indirectly from pregnancy related causes were overweight or obese. Sebire (2001) stated that when compared with mothers of ideal weight, obese mothers are also at increased risk of:

- Gestational diabetes;
- Proteinuric pre-eclampsia;
- Delivery by emergency Caesarean section;
- Delivering an infant with a birthweight above the 90th centile.

This has considerable implications for the mother and her family, as well as maternity services. While services have responded to the rising problem of obesity in pregnancy by developing specific guidelines for the identification and management of the associated clinical risks, an optimum dietary intervention for these high risk mothers has not been identified.

Studies of women who are obese but not pregnant have suggested that even a 10% reduction in body weight may have significant health benefits (Orzano, 2004). This would be the favoured preconceptual approach – given that up to half the pregnancies in England and Wales are unplanned (Rowlands, 2007) – but one that is more practical may be needed. Women who are overweight or obese often gain more weight during pregnancy than recommended (Rhodes, 2003), which often results in offspring who are bigger and fatter at birth (Knight, 2005) and in early childhood (Knight, 2007).

Current guidelines (NHS Choices, 2009) identify that pregnancy is not the time to diet and suggest that most women put on 10-12kg. Clinical experience identifies that women consider pregnancy to be a time
when they do not have to worry about putting on weight. This view may limit the success of a dietary intervention aimed at avoiding excessive weight gain.

**AIM**
Health professionals have the potential to make a positive impact on the amount of weight gained during pregnancy by providing specific dietary advice and tackling individual motivation. However, this is a complex intervention that requires thorough testing if it is to provide an evidence base. This pilot project was a preliminary step to assess how feasible and acceptable such an intervention might be.

One of the first things to determine were issues concerning recruitment – for example, how easy it would be to get women involved and would they want to stay involved? Ethical approval for the study was obtained from the Devon and Torbay Research Ethics Committee in 2008.

**METHOD**
This was a community based project in Exeter. The local maternity unit has approximately 3,000 deliveries per year and approximately 40% of its expectant women are overweight or obese. It is one of the few units in England to offer a first trimester screening clinic (FTSC), which aims to give women in early pregnancy (11–14 weeks’ gestation) a stop appointment that involves an ultrasound, routine antenatal blood tests and optional screening for Down’s syndrome. Access to this service is usually arranged in early pregnancy (8–10 weeks’ gestation) by a community midwife or GP.

Women have their height and weight measured routinely when booking in with the maternity services (6–8 weeks’ gestation). Weight is needed prior to booking an FTSC appointment and a BMI is calculated to identify those at risk due to a low BMI (less than 18.5 kg/m²) or a high BMI (greater than 30 kg/m²) who may need referral to consultant services.

Women with a BMI greater than 30 kg/m², who were not diabetic and were not carrying twins, were informed of the project by their midwife and asked if they would have a problem with it. Although most midwives felt uncomfortable about raising the issue or asking women if they would have a problem being recruited to the project, such as: “One of our midwives is pregnant and would they want to stay involved? Ethical approval for the study was obtained from the Devon and Torbay Research Ethics Committee in 2008. Some feared upsetting the women in their care by raising the issue of obesity, while others found it difficult to discuss due to personal weight issues. The obesity rates for the general population are reflected in the NHS workforce, where the number of nurses and midwives who are overweight or obese is increasing (DH, 2009). This could affect how effectively dietary advice is delivered and how well it is received. Early participants to the project were asked if they would have a problem being recruited to the project by a person who was overweight. Although most said they were unsure, several were certain they would have a problem with it.

The midwives were reassured their role was purely to identify potential recruits – that is, women with a raised BMI in early pregnancy – and that the project midwife would be responsible for recruiting them to the study and subsequently providing routine antenatal care and the proposed dietary intervention for all those who agreed to participate.

Midwives were given a copy of the patient information sheet, which explained the absence of help and advice for women with a raised BMI in pregnancy. It also detailed how the project aimed to examine ways to prevent those who were overweight from gaining too much additional weight during pregnancy in an effort to reduce the risk of complications for mothers and babies and, hopefully, help mothers to lose weight after their baby’s birth.

**RESULTS**
Over a three month period, 127 women appeared to meet the entry criteria. Of these, only two were referred by their midwife for more information and, when contacted by the project midwife, neither wanted to take part. Because of this lack of success, an alternative was developed.

On attending the FTSC, women are weighed, usually by a healthcare assistant, to ensure an accurate figure is incorporated into the screening test. The project midwife approached the HCAs to ask for their assistance in raising awareness of the project. The project and eligibility criteria were discussed with them and it was explained that their role was to ask women if they would be interested in finding out more.

Suggestions were offered on how to introduce the project, such as: “One of our midwives is doing a project on the best advice to give to mothers who may be a bit overweight for their height. Would you be interested in hearing more about it?”

Over the next four months, 172 women appeared to meet the entry criteria. Of these, 67 expressed an interest, were sent written information, then telephoned by the project midwife. This resulted in 25 women being recruited. Of these, five helped assess and refine the study paperwork, while the other 20 were randomised to one of two groups: one group received routine antenatal care and the intervention; the other group received routine antenatal care only. Data from the trial is being analysed for publication.

**DISCUSSION**
One of the areas the pilot study wanted to assess was how easy it would be to recruit pregnant women with a BMI greater than 30 kg/m² into a dietary intervention study. The preliminary results indicated that recruitment was difficult. The recruitment rate of 14.5% is much lower than rates achieved for other local dietary intervention studies: a study on diet and weight loss in patients with type 2 diabetes achieved a recruitment rate of 28% (Daly, 2006), while another on healthy eating to reduce the risk of diabetes in adults who were overweight achieved a rate of 33% (Greaves, 2008).

It had been anticipated that pregnant women would have had a similar motivation to these groups in terms of addressing a health related issue, as well as the greater incentive of the health of their growing baby but this was clearly not the case. As mentioned, many women feel pregnancy is not the time to “diet” and, in fact, expect their weight to increase – they are not in the correct frame of mind to approach any dietary modification.

When the initial recruitment strategy failed, the project midwife spoke directly to a number of midwifery colleagues to try to identify what the difficulties might be. The initial reasons given by midwives were usually “too busy” or “just forgot”, both of which are understandable in the context of busy antenatal clinics. However, as conversations developed it became clear that many midwives felt uncomfortable about raising the issue or asking women if they would be interested. Some feared upsetting the women in their care by raising the issue of obesity, while others found it difficult to discuss due to personal weight issues.

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Although the second recruitment strategy was more successful than the first, it was also slow and problematic. The HCAs who helped with the study had worked in the maternity services for many years and were experienced in dealing with pregnant women and their families. However, they were initially reluctant and felt awkward about raising the subject through fear of embarrassing anyone. Initially, they did not ask all women who met the study criteria if...
they wanted to take part as they perceived that some would not be interested.

Selecting who to ask was often based on what the women looked like rather than a BMI calculation. However, using “looking big” as a selection criterion can be flawed because the general increase in obesity has distorted our perception of what is considered “normal”. The director of the Cancer Research UK Health Behaviour Research Centre has said: “There is a wide presumption that the average weight of people around you is normal, but this isn’t true. The majority of the population is overweight” (Wardle, 2008). One study from Plymouth (Jeffery, 2004) showed that 40% and 45% of mothers and fathers, respectively, who were overweight thought their weight was “just right”. Perhaps more worrying was that only 25% of these parents recognised their child was overweight.

This inability to recognise the problem is not confined to the lay public: a study from Germany (Bramlage, 2004) identified that health professionals could only correctly classify 20-30% of patients who were overweight as being overweight.

**CONCLUSION**

This pilot project appears to have identified an important barrier to conducting research in this area. While it was anticipated that any research involving maternal obesity would be challenging, the difficulty was originally assumed to be in developing an intervention for pregnant women who were obese, rather than identifying and recruiting participants.

Maternity staff are crucial to these projects, yet appear uncomfortable mentioning them. Midwives routinely discuss sensitive issues such as domestic violence, mental health and drug use, which require specific training and support; the difficulty in addressing obesity in pregnancy may reflect a training need. The visibility of obesity and the midwives’ and mothers’ sensitivity about it may affect midwives’ ability to discuss the consequences of obesity in pregnancy in a credible way. We may also need to help staff address feelings about their own weight before it is possible to develop an effective intervention that can have a long term impact on reducing obesity related complications in pregnancy.

*This study was funded by The Burdett Trust for Nurses*

**REFERENCES**

- Wardle J (2008) *Obesity Increases But Fewer People Think They Are Overweight*. tinyurl.com/obesity-increase