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MATERNAL OBESITY: MANAGING THE RISKS OF EATING FOR TWO AND MORE

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Pregnancy is one of life's major events and can motivate some women and their partners to make some healthy dietary and lifestyle changes. However, it seems that the 'eating for two' ethos is still very much alive and kicking in today's super-size 'all-you-can-eat' society. In the UK, almost half of women of childbearing age are overweight or obese, meaning almost one in five pregnant women in the UK is obese (1). This is proving to be a huge challenge to maternity services within the NHS. Dieting is not recommended during pregnancy, although in 2010 NICE published pre-, during and post pregnancy weight management guidelines, which can be effective if they are delivered appropriately (3).

Weight management intervention during pregnancy may be an opportune time to support obese women in making healthy diet and lifestyle choices, in order to manage their weight during and after pregnancy (4). But are we doing enough to support this patient group?

The prevalence of obesity has been increasing significantly over the last 20 years. The World Health Organisation (WHO) describes this as a 'global epidemic' (1). The rise in obesity has had a direct effect on the incidence of diabetes and hypertension (1), not only in the general population, but also in pregnant women. A body mass index (BMI) of 30 or above classifies a person as obese. The classification of obesity is defined in Table 1.

Having a BMI greater than 30 during pregnancy significantly increases various risks for both mum and baby (see Table 2 overleaf). Approximately one in five (20 percent) pregnant women have a BMI of 30 or above at the beginning of their pregnancy (1), which is likely to increase, as the average weight gain for a pregnant woman is between 8.0kg and 14.0kg (5). For many women it is greater than this.

Ensuring that the risks associated with a higher BMI in pregnancy are monitored and managed is a growing challenge and places an increased burden on maternity services in the NHS. In 2010, the Centre for Maternal and Child Enquiries (CMACE) and the Royal College of Obstetricians and Gynaecologists (RCOG), produced joint guidelines for the management of obesity before and during pregnancy (7). It was also acknowledged that the solution to this challenge should stream from the public health domain and that focusing on reducing the overall incidence of obesity will help to reduce the rates in pregnancy. Providing pre-pregnancy weight management advice is a challenge in itself; the CMACE/RCOG 2010 and NICE 2010 having published guidelines regarding the risks of obesity and weight management for women with a BMI of over 30. Despite this, it is rare that these are implemented.

On average only six percent of obstetrics units in the UK are reported to provide preconception advice or intervention to obese women (1). There is limited data available to reflect current practice in primary and secondary care, but it is likely that there is a similar picture. Ideally, prior to conception, women with a BMI greater than 30 should be offered the following intervention and advice (7):

- Measurement of weight and height followed by BMI calculation;
- Type 2 diabetes screening, if indicated;
- Information about the risks of obesity in pregnancy and childbirth;
- Advice and support to lose weight prior to conception;
- Information and advice on the benefits of folic acid (5mg/d) and vitamin D (10μg/d) supplementation prior to conception. This should be commenced at least one month prior to conception and should continue throughout the first trimester of the pregnancy.

Once pregnant, it is recommended that women with a BMI greater than 30 should have their weight monitored at key points throughout the pregnancy (7).

Emma has been a Paediatric Dietitian for four years. She works mostly in the community setting with a varied caseload, including children with disability, dysphagia, CF, coeliac disease and PKU. Emma also works with children with ADHD and ASD.

Table 1 - The classification of obesity (1)

Class	Body mass index (kg/m2)
Class I	30.0-34.9
Class II (severe obesity)	35.0-39.9
Class III (morbid obesity)	≥40.0
Super-morbid obesity	≥50 0

Table 2 – Obesity related health risks in pregnancy (6)

Health problem	Risk to mum
Thrombosis	Development of a blood clot in the legs (venous thrombosis) or in the lungs (pulmonary embolism) Increased risk in pregnant women compared with non-pregnant women. If BMI is 30 or above further increased risk
Gestational diabetes	Where BMI is 30 or above women are three times more likely to develop gestational diabetes than women whose BMI is below 30
Hypertension and pre-eclampsia	A BMI of 30 or above increases the risk of developing hypertension. Women with a BMI of 35 or above at the beginning of their pregnancy doubles the risk of pre-eclampsia compared with women who have a BMI of under 25
Complications during labour and birth	There is an increased risk of complications during labour and birth, particularly in women with a BMI of more than 40. These include: the baby being born early (before 37 weeks), prolonged labour, shoulder dystocia (where the baby's shoulder becomes 'stuck' during birth), emergency caesarean birth. If a caesarean section is required it may be more complex and there may be a higher risk of complications afterwards, e.g. wound infection and/or poor wound healing. There may be increased risks of anaesthetic complications, particularly with general anaesthesia. Postpartum haemorrhage (heavy bleeding after birth) or at the time of caesarean section is more common in women with a BMI greater than 40.
	Risk to Baby
Miscarriage	In the general population the risk of a miscarriage under 12 weeks is 1 in 5 (20%), but in women with a BMI of over 30, the risk increases to 1 in 4 (25%).
Macrosomia	Women with a BMI of over 30 are more likely to have a baby weighing more than 4.0kg (8lb and 14 ounces). The risk is doubled from 7 in 100 (7.0%) to 14 in 100 (14.0%) compared to women with a BMI of between 20 and 30.
Stillbirth	The risk of stillbirth in the UK is 1 in 200 (0.5%). This risk is doubled to 1 in 100 (1.0%) in women who have a BMI of over 30.
Neural tube defects (NTDs)	The incidence NTDs in the UK is approximately 1 in 1,000 babies. In women with a BMI of over 40, the risk of giving birth to a baby with a NTD is three times that of a woman with a BMI below 30.
Increased risk of obesity and diabetes	Children with one or more parents with a BMI of over 30 have an increased risk of obesity and diabetes in later life.

Table 3: Recommended weight gain in pregnancy

BMI (kg/m2)	Recommended weight gain (kg)
Below 18.5 (Underweight)	12.5-18.0
18.5-24.9 (Normal)	11.5-16.0
25.0-29.9 (Overweight)	7.0-11.5
Above 30.0 (Obese)	5.0-9.0

Weight measurements should be taken at the start of the pregnancy, during the antenatal booking appointment, and again in the third trimester. Advice on avoiding excessive weight gain during pregnancy should be offered, although there is limited guidance regarding this. Table 3 shows the Institute of Medicine (IOM) 2009 guidelines (8) for weight gain, for various pre-pregnancy BMI, which are the only guidelines available.

During the antenatal booking appointment, weight management advice should be broached. Folic acid supplementation of 5.0mg per day should also be initiated, if this has not already been commenced preconception. Due to time restraints, however, this is not always possible and advice is often provided via generalised written literature (3). This patient group should have access to healthy diet and lifestyle advice throughout their pregnancy, which is provided by a health professional trained to address the specific health risks and issues associated with maternal obesity (1).

NICE recommends that women with a BMI greater than 30 should be referred to a dietitian for healthy eating advice and information. It is hypothesised that this is not currently standard practice (3). Brown et al (3) found that a lack of personalised advice during pregnancy led to raised levels of anxiety, with a loss of trust in health professionals. These, along with inconsistencies in advice, were considered to be barriers to weight management. It is therefore clear that dietitians have a key role in the management of this patient group. We are well equipped with the skills and knowledge to provide appropriate advice, pre-, during, and post pregnancy, to women with a BMI greater than 30. However, due to the limited resources within many dietetic departments, this is not always hitting the radar and input can be somewhat ad hoc. There are some dietetic initiatives that are emerging in response to current guidelines, such as community-based structured education programmes for obese women pre-, during, and post pregnancy. Programmes such as these, that not only offer practical weight management advice, but also focus on the benefits of healthy diet and lifestyle for the child and other family members, may prove invaluable for the future management of overall obesity in the UK.

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Questions relating to: *Maternal obesity: managing the risks of eating for two and more.*
Type your answers below and then **print for your records.** Alternatively print and complete answers by hand.

Q.1	Describe the obesity-related complications that can occur during labour and birth.
A	
Q.2	What are the risks to baby when mum has a BMI of 30 or above?
A	
Q.3	What are the IOM guidelines for weight gain in pregnancy?
A	
Q.4	What is the ideal dietetic intervention and advice for obese women prior to conception?
A	
Q.5	Describe the recommended weight management procedure during pregnancy.
A	
Q.6	Lack of personalised dietetic advice can have what negative effects on mums-to-be?
A	
Q.7	What dietetic initiatives are emerging in response to current guidelines?
A	

Please type additional notes here . . .