NHS Lanarkshire
Wishaw General Maternity

Management of Pregnant Women With A Raised Body Mass Index

Aim

To provide guidance on the management of women who are obese, pre-conceptually, during pregnancy, labour and the postnatal period.
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Introduction

The prevalence of obesity throughout the developed world is rising. On a global level Scotland has the second highest proportion of obese adults, 25.5 % of the population [1]. Currently it is considered that 50% of women of childbearing age are overweight and 18% are morbidly obese with a BMI≥ 40kg/$m^{2.}$. In Lanarkshire current figures show that 24 % of pregnant women have a BMI≥ 30) If current trends continue 50% of women in the UK will be obese by 2050[2].

Women who are overweight or obese have an increased risk of pregnancy, labour and during the postnatal period to both them and their baby of complications during pregnancy, labour and in the postnatal period. Even moderate overweight increases both maternal and fetal morbidity[4].

Risks For Women	
Infertility	Increased Instrumental Delivery
Miscarriage	Increased Caesarean Rate
Hypertension	Wound Infection
Pre-eclampsia	Anaesthetic Problems
Thromboembolism	Postpartum Haemorrhage
Cardiac Disease	Shoulder Dystocia
Diabetes	Poor breastfeeding outcome
Gestational Diabetes	Longer stay in hospital
Prolonged pregnancy	Maternal Death

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Risks For Baby
Prematurity
Congenital abnormalities
IUGR
Macrosomia
Metabolic problems- Hypoglycaemia

Stillbirth and Neonatal death

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The risk of complications for both mum and baby are increased with increasing BMI. One study suggested a two fold increased risk of spina bifida for women who have a BMI between 30 and 35kg/m^2 and a five fold increase for women who have a BMI greater than 40kg/m^2. [11]

The health complications of obesity can potentially have a considerable impact on maternity services cost. Obese women remain in hospital longer, on average 4.83 more days in hospital than healthier weight women.[13] There may also be costs to be considered if the baby requires admission to the Neonatal Unit for care. Estimated costs are considered to be 3.5 times greater compared to a baby delivered to a healthier weight women.[13]

Due to the potential of obese women requiring increased care and the continuing rise of obesity within Scotland there are serious implications for increasing costs of maternity services.

Preconception

If the opportunity arises:
Women who are obese should be encouraged to enter pregnancy at a healthier weight, ideally between a BMI of 18.5 and 25 kg/m^2.

Provide personalised practical advice on healthy diet and exercise, direct to www.eatwell.gov.uk and www.eatbetterfeelbetter.co.uk

Signpost to local leisure facilities and community initiatives which promote healthy lifestyle.
Signpost to local weight loss programmes which provide support and follow healthy diet and exercise advice enabling gradual weight loss and improvement of overall nutritional status.

Recommend Folic acid supplements of 5mg as obese women- BMI>30kg/m2 have an increased risk of NTD (neural tube defects) due to reduced folic acid circulating volume. Folic acid should be taken for a minimum of one month prior to pregnancy. Discuss vitamin requirements for pregnancy and promote 10 mcg of vitamin D supplements.[8]
Discuss food safety and hygiene.
Suggest Screening for Diabetes if BMI $\geq$30 kg/m^2.[8]

Antenatal Booking Visit All women with BMI $\geq$ 30kg/m^2

Offer referral to Healthy Lifestyle in pregnancy service.

All pregnant women should have accurate measurement of weight and height using appropriate equipment. Calculate Body Mass Index, record in electronic notes and discuss the relevance of this measurement.

Discuss weight gain in pregnancy refer to Institute of medicine recommendations for weight gain in pregnancy. (Appendix 2)

Pregnancy is not a time to encourage women to lose weight and they should be encouraged to have a healthy diet, eating a variety of foods such as fruit, vegetables, starchy foods (carbohydrates) protein and dairy, to ensure enough vitamins, minerals to develop baby.

Provide pregnancy information leafet “Information for pregnant women with a BMI>greater than 35.

Provide Healthy Start Vitamins and advise to continue with daily 5mg of folic acid until completed 12 weeks gestation or commence if not already taking this supplement.

Assess nutritional status by using the Healthy Eating Checklist, and discuss healthy diet. This resource should be filed within the woman's purple folder or scanned into her electronic notes

Discuss exercise in pregnancy, benefits of Aquanatal and signpost to local leisure facilities and community initiatives, which promote healthy lifestyle.

Encourage attendance to Infant feeding workshops and promote Active Birth sessions.
Arrange a booking scan for around 12 weeks and an anomaly scan around 20 weeks gestation.
Refer to the Consultant Obstetrician for Risk Assessment and plan of care for pregnancy and delivery.
Assess thromboembolism risk.
Refer to Anaesthetist if additional risk.

Care throughout Pregnancy for all women with BMI≥ 30kg/m^2

Continue to assess thromboembolism risk.
Provide thromboprophylaxis if indicated.
Arrange GTT for 28weeks gestation
At each antenatal assessment monitor BP with appropriate cuff size.
Continue to promote healthy diet and exercise and advise to continue with Healthy Start Vitamins.
Promote Infant feeding education workshops
Re-calculate BMI and record in electronic notes

Labour And Delivery Care For All Women with BMI ≥ 30kg/m^2

Encourage mobilisation in labour.

Promote active management of the third stage of labour.
Provide oral or IV ranitidine 6 hourly throughout labour to reduce gastric acid.
Provide a single dose of prophylactic antibiotic at caesarean section.
Women with a BMI of >30 have a higher risk of failure of breastfeeding; therefore provide support for achievement of initiation and maintenance of breastfeeding.

Postnatal Care For All Women with BMI≥ 30kg/m^2

Encourage early mobilisation as soon as practicable.
Re-assess thromboembolism risk and provide thromboprophylaxis for 10 days (local guideline) RCOG/CMACE
Provide T.E.D. anti-embolism stockings if ≥ 2 additional risk factors for thromboembolism.
Continue to provide support and encouragement of continuance of breastfeeding as women with a raised BMI have a reduced sucking response and delay in lactation within the first 7 days.[6]
Advise breastfeeding women to continue with Vitamin D 10mcgs supplements until the baby is 6 months old.
Provide information on healthy diet and appropriate exercise promoting a healthy lifestyle.

Additional Antenatal Care For All Women with BMI≥ 35kg/m^2

Consider 75mg of Asprin daily if additional moderate risk factors for pre-eclampsia. (Refer to Appendix 3)

Arrange further scan for 36 weeks gestation as considered useful for confirming presentation, and discuss mode of delivery.

Additional Labour and Delivery Care For Women With BMI≥ 35kg/m^2

Advise delivery within a Consultant led Unit as increased risk of labour and delivery complications.
Inform Anaesthetist and Obstetrician when admitted in labour

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Additional Antenatal Care For All Women With A BMI ≥45kg/m^2

Refer to Anaesthetist and provide information leaflet “Why I need to see an Anaesthetist”.

Additional Labour and Delivery care For All Women With BMI≥40kg/m^2

On Admission inform Senior Obstetrician and Anaesthetist.
Consider weight capacity of labour ward bed and theatre table. Ensure all equipment within the labour ward environment is suitable for this client group.
Obtain early venous access.
If the woman chooses an epidural analgesia for pain consider this sooner rather than later as it may take some time to locate the epidural space and therefore take longer to site.
Continuous monitoring of the fetal heart is recommended and it may be necessary to apply a fetal scalp electrode.
Be aware of increased risk of shoulder dystocia

Additional Postnatal Care For All Women With BMI≥40kg/m^2

Regardless of delivery type provide postnatal thromboprophylaxis for 10 days
Provide TED anti embolism stockings.
Consider Tissue viability issues, observe closely for signs of infection/dehiscence.

Appendix 1

BMI Classification (WHO)

Body Mass Index	
Classification	BMI kg/m
Underweight	≤18.5

Normal Weight	18.5-24.9
Overweight	25-29.9
Obese I	30-34.9
Obese II	35-39.9
Obese III Morbidly Obese	≥ 40

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Appendix 2

Weight Gain In Pregnancy
Guidance from the Institute Of Medicine – May 2009
New recommendations for total and rate of weight gain during pregnany.

Pre-Pregnancy BMI	BMI (Kg/m^2) WHO	Total Weight Gain Range (lbs) = kgs	Rates of weight gain – 2nd and 3rd Trimester (Mean Range in lbs/wk
Underweight	<18.5	28-40lbs= 12.5-18.5kgs	1 (1-1.3lbs)
Normal Weight	18.5-24.9	25-35lbs= 11.5-16kgs	1 (0.8-1lbs)
Overweight	25.0-29.9	15-25lbs= 7.0-11.5kgs	0.6 (0.5-0.7lbs)
Obese (includes all classes)	≥30.0	11-20lbs= 9.0kgs	0.5 (0.4-0.6lbs)

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These guidelines are supporting recommendations and are intended to be used in conjunction with good clinical judgement and should include a discussion between the women and her care provider about diet and exercise.

Appendix 3

Moderate risk factors for pre-eclampsia.

First Pregnancy, Maternal age ≥40 years, family history of pre-eclampsia, multiple pregnancy, ≥ 10 years since last baby, booking

diastolic BP ≥ 80mmHg, booking proteinuria ≥ 1+ on more than one occasions or ≥ 0.3g/24 hours and certain underlying medical conditions such as antiphospholipid antibodies or pre-existing hypertension, renal disease or diabetes.[8]

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