University Hospitals Sussex
NHS Foundation Trust

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TRUST CLINICAL GUIDELINE

Obesity in Pregnancy

OVERVIEW

This guideline provides clear guidance for staff in the management of obesity during pregnancy, labour and postnatal periods. It aims to minimise complications associated with obesity by ensuring that appropriate care is delivered during and pregnancy and labour.

For use by:

- Midwives
- Obstetricians
- Anaesthetists
- Support staff

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PROTOCOL VERSION	v6.0
RELATED POLICIES	N/a
RELATED DOCUMENTS	Maternity Guidelines (SRH&WH): Venous Thromboembolism, Waterbirth, Antenatal Clinical Risk Assessment , Diabetes in Pregnancy, Labour Risk Assessment, Caesarean Section, Fetal Surveillance
STANDARDS	NG121 Intrapartum care for women with existing medical conditions or obstetric complications and their babies 2019 RCOG (2018) Green-top Guideline No. 72
SUPERSEDED DOCUMENTS	N/A
REVIEW DUE	August 2027
REFERENCE NUMBER	CG1139

Approval		
Joint Obstetrics Guideline Group	Date approved	21st February 2024
Women & Children's Clinical Effectiveness Meeting	Date approved	21st March 2024
Consultation		
Medicines Governance Committee	Date approved	11th June 2024
Anaesthetic Leads (SRH&WH)	Date approved	5th & 6th August 2024
Ratification		
Clinical Document Approval Group	Date approved	21st August 2024

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Obesity in Pregnancy

1.0 Introduction

This guideline is to minimise complications associated with obesity by ensuring that appropriate care is delivered during pregnancy and labour.

Obesity in pregnancy is associated with an increased risk of a number of serious adverse outcomes, including miscarriage, fetal congenital anomaly, thromboembolism, gestational diabetes, pre-eclampsia, dysfunctional labour, postpartum haemorrhage, wound infections, stillbirth and neonatal death. There is a higher caesarean birth rate and lower breastfeeding rate in this group of women and birthing people nationally compared to women and birthing people with a normal BMI. There is also evidence to suggest that obesity may be a risk factor involved in maternal and birthing person death (MBRRACE-UK Report, 2019).

2.0 Definitions and abbreviations used in this document

BMI - Body Mass Index	**WBIP-** Wellbeing in Pregnancy
SFH - Symphsis Fundal Height	**VTE -** Venous Thromboembolism
MIS - Maternity Information System	**WEPP-** Wellbeing and Exercise in Pregnancy Programme

Obesity is measured by calculating the body mass index (BMI) using the formula:

BMI = weight (kg) / height $(m)^2$.

This calculation is invalid for women and birthing people <18 years – use percentile charts instead.

According to World Health Organization criteria adults can be classified according to BMI as shown below:

Classification	BMI
Underweight	BMI <18.50
Normal range	BMI 18.50–24.99
Overweight	BMI ≥25.00
Preobese	BMI 25.00–29.99
Obese class I	BMI 30.00–34.99
Obese class II	BMI 35.00–39.9
Obese class III	BMI 40 or more

Recommendations in this guideline are based on the booking BMI unless specified otherwise.

People with a South Asian, Chinese, other Asian, Middle Eastern, Black African or African-Caribbean family background are prone to central adiposity and their cardiometabolic risk occurs at a lower BMI, so use lower BMI thresholds as a practical measure of overweight and obesity:

- Overweight: BMI 23 kg/m2 to 27.4 kg/m2
- Obesity: BMI 27.5 kg/m2 or above

For people in these groups, obesity classes 2 and 3 are usually identified by reducing the thresholds highlighted before by 2.5 kg/m2.

3.0 Duties and responsibilities

Midwives, obstetricians & anaesthetists	• To access, read, understand and follow this guideline. • To use their professional judgement in application of this guideline.
Maternity Managers	• To ensure the guideline is reviewed three yearly and aligns with national standards. • To ensure the guideline is accessible to all relevant staff.

4.0 Pre-pregnancy care

The following information is based on best practice and should be available to women and birthing people through primary care services:

Women and birthing people of childbearing age with a BMI ≥30 should receive written information and advice about the risks of obesity during pregnancy and childbirth, and be supported to lose weight before conception through exercise and healthy eating/lifestyle.

Women and birthing people with a BMI ≥30 wishing to become pregnant should be advised to take 5mg folic acid supplementation daily, starting at least one month before conception and continuing during the first trimester of pregnancy.

Obese women and birthing people are at high risk of vitamin D deficiency. However, although vitamin D supplementation may ensure that pregnant women and birthing people are vitamin D replete, the evidence on whether routine vitamin D should be given to improve maternal or birthing person and offspring outcomes remains uncertain RCOG (2018) Care of Women with Obesity in Pregnancy (Green-top Guideline No. 72).

Pregnant women and birthing people should be advised that supplementation of 10 mcg per day (as part of a pregnancy multivitamin) is now thought to be sufficient unless deficiency has been identified in serum at which point a higher dose can be given. See Appendix 1: GP letter for Vitamin D.

5.0 Antenatal care

Pregnant women and birthing people should have their weight and height measured using appropriate equipment, and their BMI calculated at the antenatal booking visit, first hospital visit or

at the time of the combined screening test. This should be recorded on the electronic maternity information system (MIS).

Pregnant women and birthing people should be directed towards the Wellbeing and exercise in Pregnancy Programme (WEPP) If they are not already aware of the programme. WEPP provides free online exercise videos and resources and is also suitable for use in the postnatal period. If anyone is anxious about embarking on an exercise programme and/or you think it may facilitate motivation, the self-screening section on WEPP can be reviewed with the individual during the appointment.

Anyone declining attendance at the wellbeing Groups should still be commenced on the pathway which will include scans, weighing etc.

The NICE Clinical Guideline on Hypertensive Disorders during Pregnancy states that pregnant women and birthing people with ≥1 moderate risk factors for pre-eclampsia (including obesity, first pregnancy, maternal age >40 years, family history of pre-eclampsia, multiple pregnancy) may benefit from taking 150mg aspirin daily at night with food from 12 weeks' gestation until 36 weeks or as advised by an obstetrician. The healthcare professional should arrange for a prescription (as recommended by NICE NG133 Hypertension in Pregnancy 2019 and Saving babies' lives version three (2023).

5.1 Excessive weight gain in pregnancy

For pregnant women and birthing people who start their pregnancy with a BMI<30, please see weight management in pregnancy in CG1103 Guideline for antenatal care and patient information to assess and manage potential excessive weight gain in pregnancy. WEPP resources will be particularly useful for this group of pregnant women and birthing people.

5.2 Antenatal discussion of infant feeding

Pregnant women and birthing people should be offered infant feeding advice at Baby Matters and infant feeding assessment should be completed. They should be advised that breastfeeding is recommended to reduce risk factor for obesity in the next generation. If a pregnant woman or birthing person's choice is to formula feed following an informed discussion, pace feeding and volume should be discussed.

5.3 Care pathway for BMI ≥30

Pregnant women and birthing people with BMI ≥30 should have a BMI ≥30 pathway of care commenced following booking.

Pregnant women and birthing people with BMI ≥30 will be given an appointment to attend the WBIP. This specialised programme provides accurate information about the maternal or birthing person and fetal risks associated with obesity in pregnancy and how they may be minimised. The programme also works closely with the WEPP team.

If there additional co morbidities are present the usual risk assessment process undertaken at booking will apply.

Where pregnant women and birthing people decline the WBIP their named midwife should continue the BMI ≥30 Pathway of Care which includes the provision of an individualised birth plan and discussion of possible intrapartum complications, this can be with the community midwife or if attending antenatal clinic it can be discussed there. This discussion should be clearly documented.

Pregnant women and birthing people with a booking BMI ≥30 should be screened for gestational diabetes at booking and 28 weeks' gestation - see Maternity Diabetes guidance.

5.4 Additional Care for BMI ≥35

Pregnant women and birthing people with a booking BMI ≥35 should be advised to give birth in an obstetric led unit.

Pregnant women and birthing people with a booking BMI ≥35 with no additional risk factors can have community monitoring for pre-eclampsia at a minimum of 3 weekly intervals between 24 and 32 weeks gestation, and 2 weekly intervals from 32 weeks to birth.

Pregnant women and birthing people with BMI ≥35 will be offered a fetal growth ultrasound every 4 weeks from 32 weeks.

Pregnant women and birthing people should be advised of the potential for poor ultrasound visualisation of their baby and consequent difficulties in fetal surveillance and screening for anomalies including prenatal diagnosis. They should be given the patient information leaflet Anaesthetic information for pregnant women with a high BMI - University Hospitals Sussex NHS Foundation Trust (uhsussex.nhs.uk).

5.5 Additional care for BMI ≥ 40

An anaesthetic antenatal appointment should be arranged for:

- All pregnant women and birthing people with BMI ≥ 40 with co-morbidities.
- All pregnant women and birthing people with BMI≥45.

During this appointment an anaesthetic management plan for labour and birth should be discussed with the pregnant women and birthing people and documented on MIS. This should include discussion of difficulty in siting epidurals with raised BMI particularly in emergency situations, risks associated with general anaesthesia and consideration of early epidural to reduce risks. They should be given the patient information leaflet Anaesthetic information for pregnant women with a high BMI - University Hospitals Sussex NHS Foundation Trust (uhsussex.nhs.uk).

Pregnant women and birthing people with BMI ≥ 40 are provided with a creating comfort / manual handling and birth plan discussion from the WBIP midwives or their community midwife. Refer to local processes. See appendix 2 for examples of equipment available.

This should be documented in the third trimester within the BMI ≥ 30 Pathway of Care.

5.6 Maternal and birthing person surveillance

An appropriate size of arm cuff should be used for blood pressure measurements taken at the booking visit and all subsequent antenatal consultations.

Measuring cuff size

Measure around the upper arm at the midpoint between the shoulder and elbow, and choose the cuff size from the chart below.

Upper Arm Blood Pressure Monitor cuff sizes

Measurement (cm)	Measurement (inches)	Cuff size
18-22 cm	7.1-8.7”	Small
22-32 cm	8.8-12.8”	Medium
32-45 cm	12.8-18”	Large

Larger sizes such as thigh cuffs are available, if needed. Liaise with ward manager or community team leaders to arrange for this.

5.7 VTE assessment & thromboprophylaxis

All pregnant women and birthing people should be assessed at their first antenatal visit, throughout pregnancy and post-birth for the risk of thromboembolism and managed according to maternity venous thromboembolism guidelines.

Pregnant women and birthing people should be re-weighed before commencing thromboprophylaxis antenatally or postnatally to ensure an appropriate dosage is prescribed.

6.0 Manual handling requirements and tissue viability

Tissue viability issues are assessed for pregnant women and birthing people on admission in labour / for elective caesarean birth in line with maternity pressure area care guidelines and appropriate care arranged. The assessment should be documented on MIS as appropriate.

Carry out a risk assessment to ensure that essential equipment, in a size-appropriate form, is available for the intrapartum care of pregnant women and birthing people with a BMI over 30 kg/m^2 at the booking appointment, including:

- Surgical, obstetric and anaesthetic equipment
- Blood pressure cuffs
- Operating theatre tables
- Lifting and lateral transfer equipment
- Anti-embolism stockings
- Wheelchairs
- Monitoring and measuring equipment.

(NG121 Intrapartum care for women with existing medical conditions or obstetric complications and their babies 2019)

Within the Trust, there are suitable beds, chairs, commodes and hoists which are available for pregnant women and birthing people with a raised BMI. If required, this will be highlighted during the manual handling assessment and arrangements for admission can be made. Both hospitals

possess a 'Tenor Hoist' which can be used for moving patients of 50 stone; this can be located by contacting the medical leads/matrons at any time.

The patslide™ should be used for the lateral transfer of immobile pregnant women and birthing people from bed to operating table and vice versa. If the safe working load is exceeded, an Air Assisted Jack and Mattress can be used. If unsure, contact Manual Handling Team for advice**.**

The Back Care Advisor / Manual Handling Team can be contacted for any advice on manual handling requirements.

Health professionals involved in maternity care should receive training in manual handling techniques and the use of specialist equipment which may be required for pregnant and postnatal women and birthing people with obesity.

Note: GP surgeries and children centres will have their own environmental risk assessments for pregnant women and birthing people with a raised BMI.

See appendix 2: Manual handling equipment for raised BMI.

7.0 Induction of labour

Pregnant women and birthing people with a BMI 30 or more should have IOL discussed at 36-38 weeks and be offered IOL by 40 weeks. Elective induction of labour at term in obese pregnant women and birthing people may reduce the chance of caesarean birth without increasing the risk of adverse outcomes; the option of induction should be discussed with each pregnant woman or birthing person on an individual basis. RCOG (2018) Green-top Guideline No. 72

8.0 Intrapartum care

Consider ultrasound scanning at the start of established labour if the baby's presentation is uncertain for pregnant women and birthing people with a BMI over 30 kg/m^2 at the booking appointment, particularly those with a BMI over 35 kg/m^2 (NG121 Intrapartum care for women with existing medical conditions or obstetric complications and their babies 2019).

Pregnant women and birthing people with a BMI ≥30 should be recommended to have active management of the third stage of labour. This should be documented on MIS.

Pregnant women and birthing people with a BMI over 30 kg/m^2 at the booking appointment, and reduced mobility in the third trimester, consider advising the lateral position in the second stage of labour (NG121 Intrapartum care for women with existing medical conditions or obstetric complications and their babies 2019).

Pregnant women and birthing people with BMI≥ 35, at booking, should be discouraged from using the birthing pool due to the risk factors associated with a raised BMI. All these issues must be discussed with the pregnant woman or birthing person and documented in the individualised birth plan.

Operating theatre staff should be alerted regarding any pregnant women and birthing people whose weight exceeds 120 kg where an operative delivery is anticipated. The operating table on both labour wards can support a weight of 150 kg, and all patients can be transferred between bed and operating table using a Pat Slide (providing the safe working load is not exceeded-see above).

In pregnant women and birthing people with raised BMI, if continuous fetal monitoring is indicated, labour may be complicated by difficulty with achieving an accurate assessment. Fetal scalp monitoring may provide a clearer assessment of fetal cardiac activity.

Pregnant women and birthing people undergoing caesarean section, who have more than 2cm subcutaneous fat, should have suturing of the subcutaneous tissue space in order to reduce the risk of wound infection and wound separation.

PICO dressings are recommended for women and birthing people with BMI 35 or more. See caesarean birth guideline.

BMI ≥40

The on-call senior obstetrician should be informed and be available for advice during the care of pregnant women and birthing people with a BMI ≥40 during labour and birth. This includes attending operative vaginal or caesarean birth.

RCOG Good practice no.8 (March 2009) recommends that if the trainee obstetrician on duty for the labour ward requests assistance, the consultant on-call for labour ward should attend in person.

The on-call anaesthetic registrar should be informed when a pregnant woman or birthing person with a BMI ≥40 is admitted to the labour ward. The on-call consultant anaesthetist should also be informed prior to delivery and this information must be documented on MIS.

When in established labour, pregnant women and birthing people with a BMI ≥40 should have venous access established and should have their oral intake restricted to isotonic fluids only because of the increased risk of requiring an anaesthetic.

9.0 Postnatal care

The obesity in pregnancy care pathway will highlight any equipment needed in the postnatal period. This will ensure that any appropriate equipment will be available on the postnatal ward. If any advice is needed, the Back Care Advisor can be contacted.

Pregnant women and birthing people with a booking BMI ≥30 should be encouraged to continue to attend the WBIP up to 12 weeks post-birth. They should be advised that postnatal WEPP videos are suitable from 6-8 weeks postnatal as long as they are medically fit. If support is wanted after this, or any woman or birthing person with a BMI of 25 or more would like help with managing their weight and healthy eating, they can be signposted towards a self-referral service at West Sussex Wellbeing - Healthy Eating Services (NICE (Updated 2015) PH42.

10.0 Pregnancy following bariatric surgery

Please see maternity guidance CG16016 Bariatric Surgery.

Appendix 1: Appendix 1: GP letter for folic acid & vitamin D information

Date:

Dear

RE:

NHS number:

Your patient …… has been identified as having a BMI≥30 at their booking appointment.

Pregnant women and birthing people are recommended to have 5mg Folic Acid in the first trimester and we would appreciate you prescribing this.

Obese women and birthing people are at high risk of vitamin D deficiency. However, although vitamin D supplementation may ensure that pregnant women and birthing people are vitamin D replete, the evidence on whether routine vitamin D should be given to improve maternal and offspring outcomes remains uncertain RCOG (2018) Care of Women with Obesity in Pregnancy (Green-top Guideline No. 72).

Pregnant women and birthing people should be advised that supplementation of 10 mcg per day (as part of a pregnancy multivitamin) is now thought to be sufficient unless deficiency has been identified in serum at which point a higher dose of 25mcg Vitamin D can be given. If this has been identified by yourselves, please could you provide a prescription.

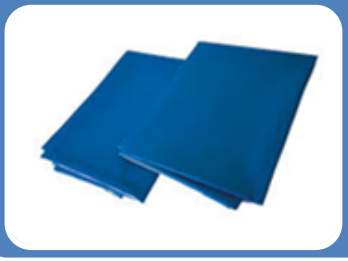
Yours sincerely,

Midwife

Appendix 2: Manual handling equipment for raised BMI

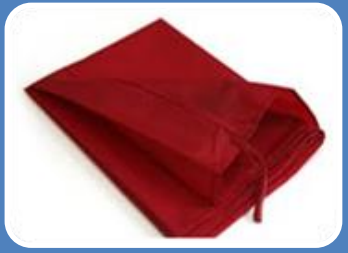
The larger patient

- **Theatre table**
- **Birthing bed**
- **Electric profiling bed**



A lateral

- **Theatre table**
- **Birthing bed**
- **Electric profiling bed**



To repostion

- **Birthing bed**
- **Electric profiling bed**

Monitoring the effectiveness of this guideline

Suggested auditable standards for this pathway:

- Pregnant women and birthing people with a body mass index of 30 kg/m^2 or more at the booking appointment should be offered personalised advice from WMIP.
- All pregnant women and birthing people with body mass index of 40 kg/m^2 or more should have an anaesthetic review and anaesthetic management plan for labour and birth should be documented in antenatal notes.
- Pregnant women and birthing people with BMI ≥35 should be offered a fetal growth ultrasound every 4 weeks from 32 weeks.

Guideline Version Control Log

Change Log – Obesity in Pregnancy

Version	Date	Author(s)	Reason for change
1.0	September 2010	Obstetric Consultant and Midwifery Public Health Lead	New Trust guidance.
2.0	February 2011	CNST Lead	Administrative update
3.0	October 2012	Midwifery Public Health Lead	Amended to include 2012-13 CNST standards
3.1	September 2013	WBIP Midwives & CNST Midwife	3 yearly review and update
4.0	December 2016	Public Health Lead Midwife	3 yearly review and update
5.0	January 2020	C. Parr, Public Health lead, Weight management/wellbeing midwives, Clinical Effectiveness Support Midwife	Guideline amended to comply with NICE (2019) NG121 Intrapartum care for women with existing medical conditions or obstetric complications and their babies 2019. NICE (Updated 2015) PH42 Obesity: working with local communities.
5.1	March 2022	Clinical Effectiveness Support Midwife	• Offer IOL at term for those with a BMI >30 added in line with: RCOG (2018) GTG no. 72 Care of Women with Obesity in Pregnancy • Excessive weight gain in pregnancy link added. • Post CS a PICO dressing recommended for those with BMI 35 or more. • Re-weigh before commencing or re-commencing VTE prophylaxis. • Folic Acid added to GP prescription request letter.
5.2	January 2022	CE Team	• Recommendation for higher does Vitamin D supplementation removed in line with RCOG (2018) Care of Women with Obesity in Pregnancy (Green-top Guideline No. 72) • New appendix 2: Manual handling equipment for raised BMI.
6.0	February 2024	Weight Management Midwives A. Elgarhy, Consultant O&G	• Wellbeing and exercise in Pregnancy Programme (WEPP) instead of WMIPP • BMI classification • BMI 30 or more should have IOL discussed at 36-38 weeks and be offered IOL by 40 weeks.

Due Regard Assessment Tool

To be completed and attached to any guideline when submitted to the appropriate committee for consideration and approval.

		Yes/No	Comments
1.	**Does the document/guidance affect one group less or more favourably than another on the basis of:**		
	Age	*No*	
	· Disability	*No*	
	· Gender (Sex)	*No*	
	· Gender Identity	*No*	
	· Marriage and civil partnership	*No*	
	· Pregnancy and maternity	*No*	
	· Race (ethnicity, nationality, colour)	*No*	
	· Religion or Belief	*No*	
	· Sexual orientation, including lesbian, gay and bisexual people	*No*	
2.	**Is there any evidence that some groups are affected differently and what is/are the evidence source(s)?**	*No*	
3.	**If you have identified potential discrimination, are there any exceptions valid, legal and/or justifiable?**	*NA*	
4.	**Is the impact of the document likely to be negative?**	*No*	
5.	**If so, can the impact be avoided?**	*NA*	
6.	**What alternative is there to achieving the intent of the document without the impact?**	*NA*	
7.	**Can we reduce the impact by taking different action and, if not, what, if any, are the reasons why the guideline should continue in its current form?**	*NA*	
8.	**Has the document been assessed to ensure service users, staff and other stakeholders are treated in line with Human Rights FREDA principles (fairness, respect, equality, dignity and autonomy)?**	*Yes*	

If you have identified a potential discriminatory impact of this guideline, please refer it to [Insert Name], together with any suggestions as to the action required to avoid/reduce this impact. For advice in respect of answering the above questions, please contact uhsussex.equality@nhs.net 01273 664685).

Template Dissemination, Implementation and Access Plan

To be completed and attached to any guideline when submitted to Corporate Governance for consideration and TMB approval.

	Dissemination Plan	Comments
1.	Identify:	
	Which members of staff or staff groups will be affected by this guideline?	Midwives, obstetricians, anaesthetists.
	How will you confirm that they have received the guideline and understood its implications?	Dissemination through the usual Communication channels and highlighted at Safety Huddles.
	How have you linked the dissemination of the guideline with induction training, continuous professional development and clinical supervision as appropriate?	All new members of staff shown where to access Clinical documents that are relevant to their area of practice.
2.	How and where will staff access the document (at operational level)?	Accessed by staff via Sharepoint

		Yes/No	Comments
3.	Have you made any plans to remove old versions of the guideline or related documents from circulation?	Yes	Previous versions will be archived.
4.	Have you ensured staff are aware the document is logged on the organisation's register?	Yes	Dissemination plan includes notifying staff via email, safety noticeboards, departmental newsletter and social media.

Additional guidance and information

Caro JF (2002) Definitions and Classification of women with Obesity http://www.endotext.org/obesity1.htm

CMACE/RCOG joint guideline (2010) Management of women with obesity in pregnancy

Confidential Enquiry into Maternal and Child Health (CEMACH) 'Saving Mothers Lives 2003-2005', RCOG Press

Cooley S.M, Donnelly J, Walsh T, Sarkar R, Munaza S, Geary M, Gillan J, Macmaron C. (2005). The influence of body mass index (BMI) on maternal and fetal wellbeing. A prospective study. Journal of Obstetrics and Gynaecology 25 S43.

Dao T, Kuhn J, Ehmer D, Fisher T, McCarty T (2006) Pregnancy outcomes after gastric-bypass surgery. American Journal of Surgery 192(6):762-6.

Kabiru W, Raynor B.D. (2004) Obstetric outcomes associated with increase in BMI category during pregnancy. American Journal of Obstetrics and Gynaecology 191(3) 928-932.

MBRRACE-UK Report Nov 2019

NHS England (2023) Saving babies' lives version three: a care bundle for reducing perinatal mortality

NICE (2006) Obesity. Guidance on the prevention, identification, assessment and management of overweight and obesity in adults and children.

NICE (2021) NG201 Antenatal Care

NICE (2010) Weight Management before, during and after pregnancy

NICE (2019) NG133 Hypertension in Pregnancy 2019

NICE (2019) NG121 Intrapartum care for women with existing medical conditions or obstetric complications and their babies 2019.

NICE (Updated 2015) PH42 Obesity: working with local communities.

Royal College of Obstetrics and Gynaecology (2015). Thrombosis and embolism during pregnancy: reducing the risk (Green-top 37a)

RCOG (2018) Care of Women with Obesity in Pregnancy (Green-top Guideline No. 72)

Sebire NJ, Jolly M, et al. (2001) Maternal obesity and pregnancy outcome: a study of 287,213 pregnancies in London. International Journal of Obesity & Related Metabolic Disorders: Journal of the International Association for the Study of Obesity 25(8):1175-82.

Singhal T, Vogiatzi M, Parmeshwaran S, Howarth E.S. (2005) Maternal obesity and its impact on pregnancy outcome. Journal of Obstetrics and Gynaecology 25 S39.

Thorsdottir I (2002). Weight gain in women of normal weight before pregnancy: complications in pregnancy or delivery and birth outcome. In Obstetrics and Gynaecology 799-806