Obstetric Update for GPs

GP CME Rotorua, June 2011

Drs Deralie Flower & Ngaire Anderson

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Outline

- Dr Deralie Flower
  - Risk factors in early pregnancy
  - Smoking in pregnancy
- Dr Ngaire Anderson
  - Pre-pregnancy BMI and gestational weight gain
  - Customised fetal growth charts
- Q&A

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PRE-PREGNANCY BMI AND GESTATIONAL WEIGHT GAIN

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Pre-pregnancy BMI and Gestational Weight Gain (GWG)

- Obesity is increasingly prevalent in New Zealand women
- What are the adverse pregnancy outcomes associated with increased pre-pregnancy BMI?
- How does gestational weight gain affect pregnancy outcomes?
- So what should I recommend as the optimal weight gain in pregnancy?

Classification of Obesity

Classification	Body mass index (kg/m^2)	Class	Disease risk*
Normal weight+	18.5–24.9		–
Overweight	25.0–29.9		Increased
Obese			
Mild	30.0–34.9	I	High
Moderate	35.0–39.9	II	Very high
Extreme	≥ 40.0+	III	Extremely high

* Disease risk for type 2 diabetes, hypertension, and cardiovascular disease.

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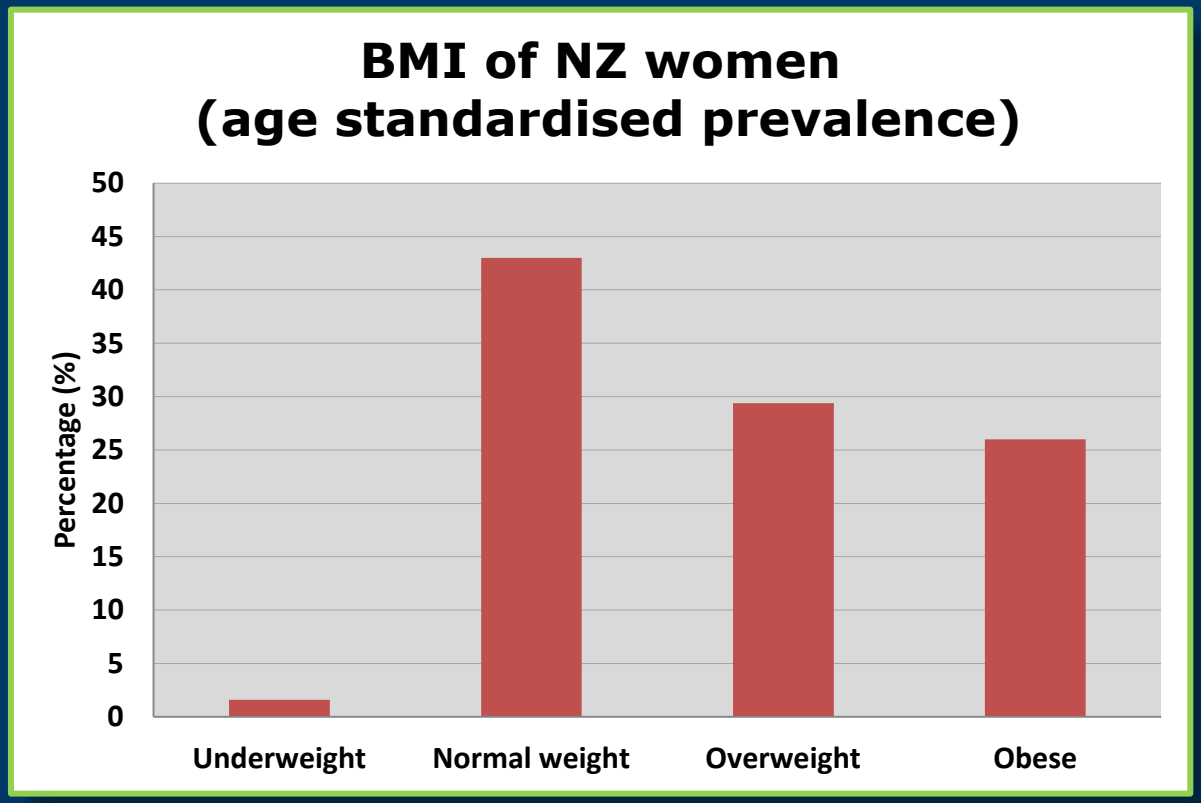
Obesity in NZ women



A portrait of health: MOH 2006-7 NZ Health Survey

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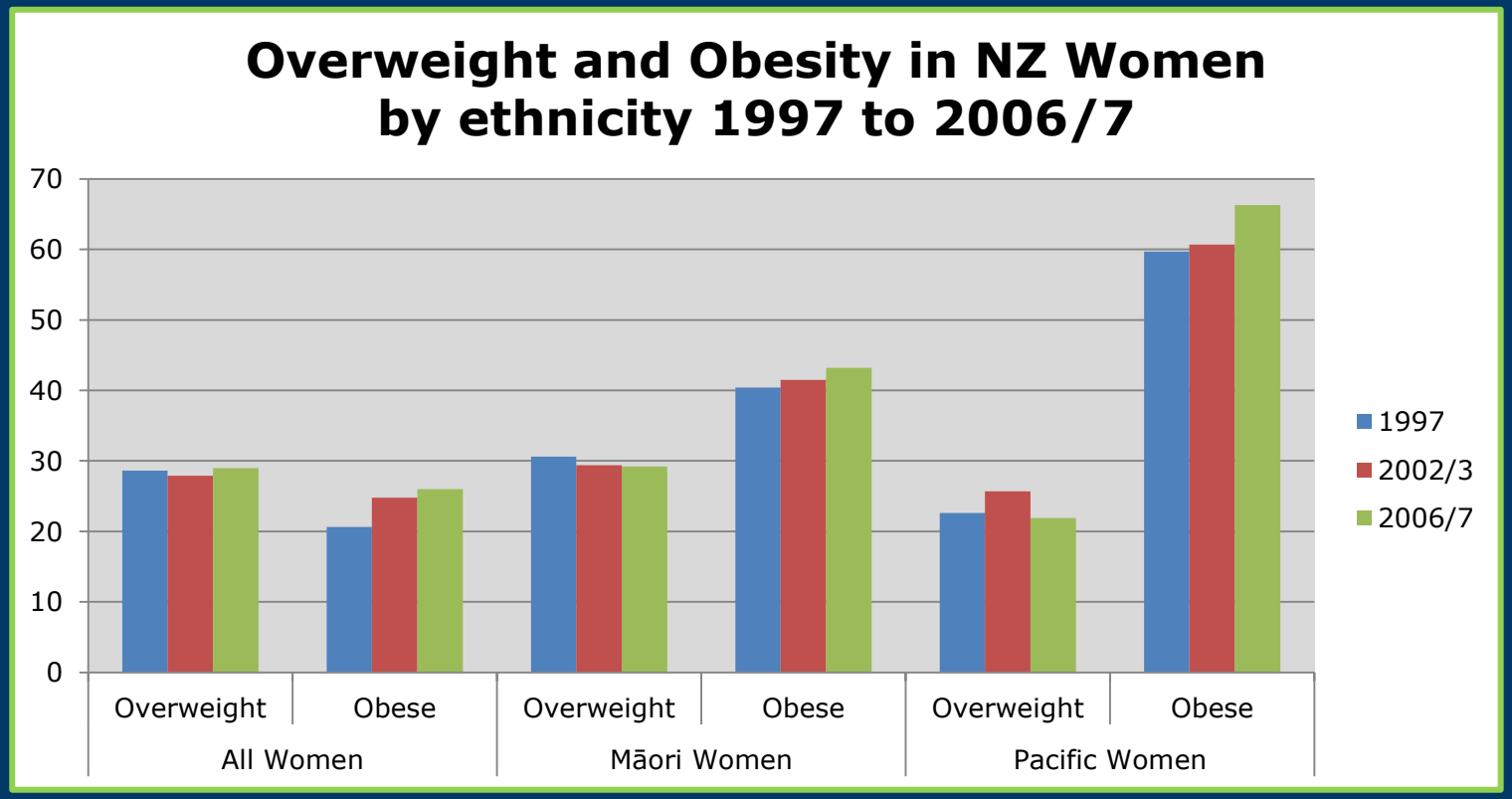
High BMI by ethnicity in NZ



NZ MOH Body Size Technical Report 2006/7

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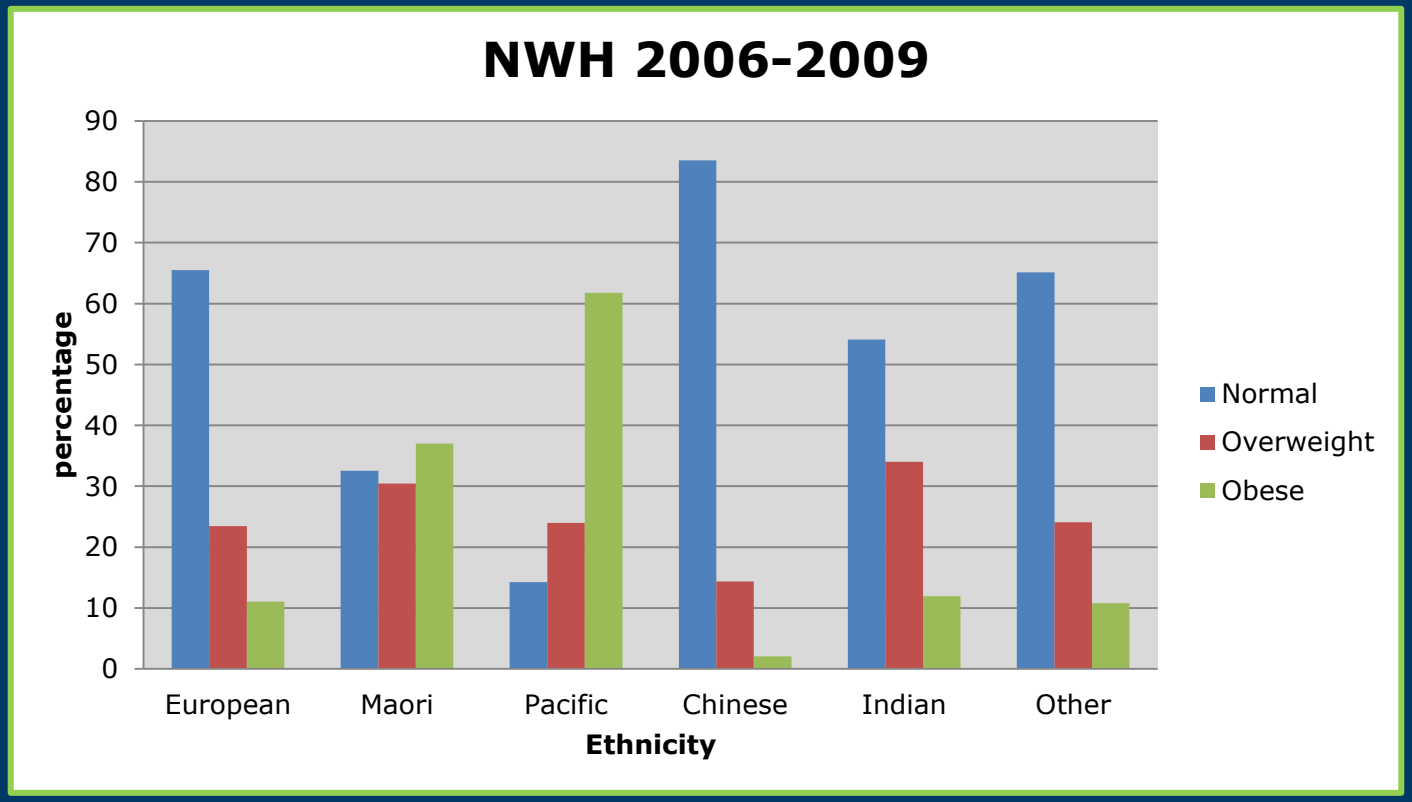
BMI by ethnicity at NWH



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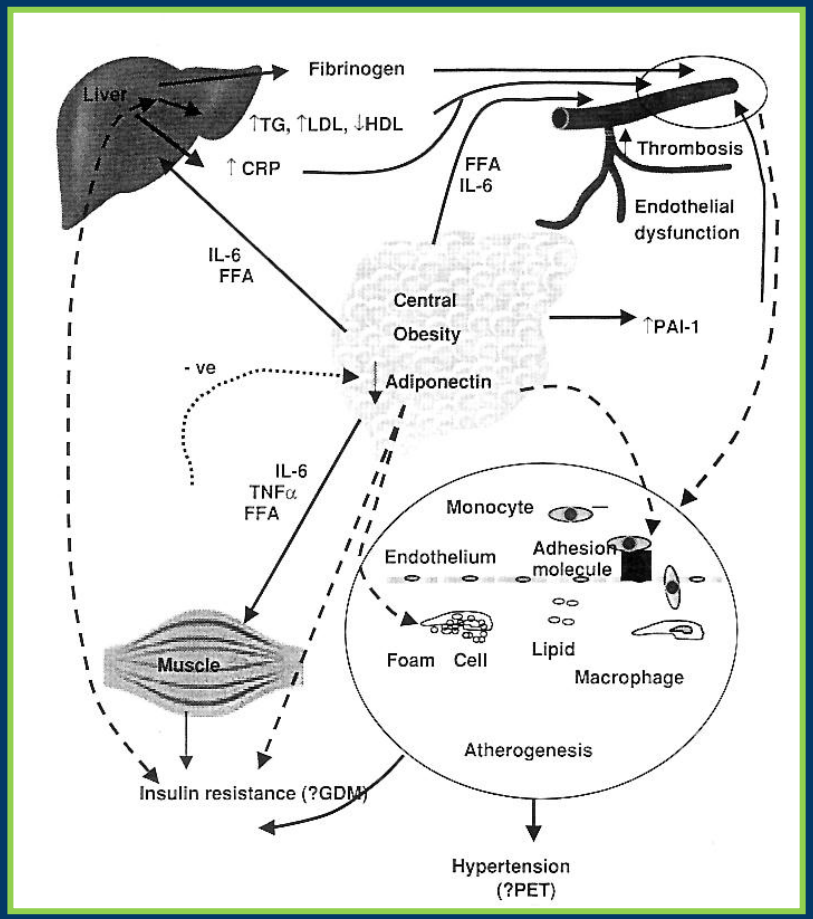
Obesity: Metabolic and Vascular effects



- ↑ TGs, LDL cholesterol, leptin, fasting insulin, IL-6, CRP
- ↓ HDL cholesterol
- Pro-inflammatory state
- Endothelial dysfunction
- Vasoconstriction

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What are the Pregnancy Complications with a BMI >30?

Early pregnancy	RR
•Miscarriage	2.0
•Birth defects	1.6

Antenatal	RR
•Gestational Diabetes	3.0
•Hypertensive disorders	2.7

Perinatal	RR
•Venous Thromboembolism	9.7
•Caesarean	2.1
•Shoulder dystocia	3.0
•Postpartum Haemorrhage	1.9
•Wound infection	2.2
•Maternal death	1.5

Neonatal	RR
•Prematurity	1.2
•Macrosomia	2.8
•SGA	1.3
•Admission to NICU	1.4
•Stillbirth	2.1
•Neonatal death	2.6

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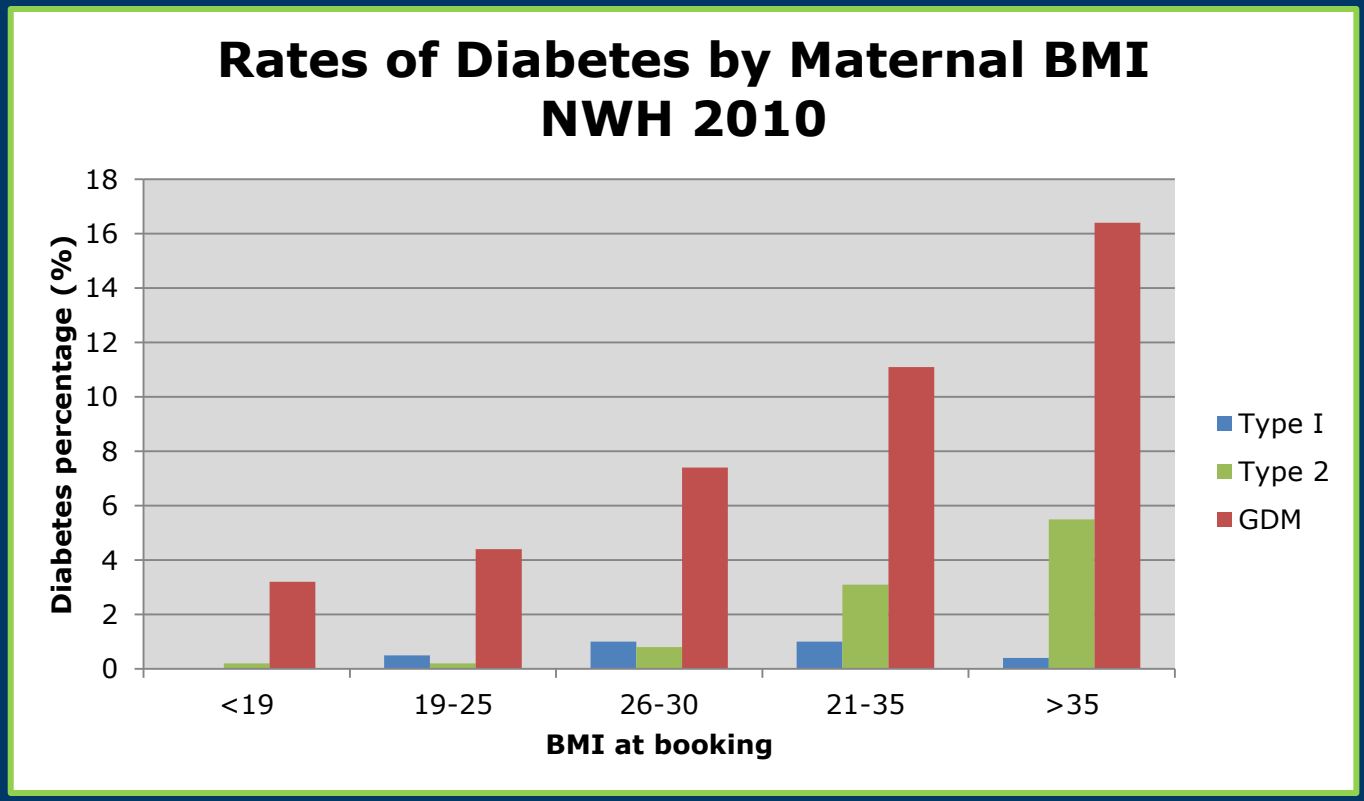
BMI and Diabetes



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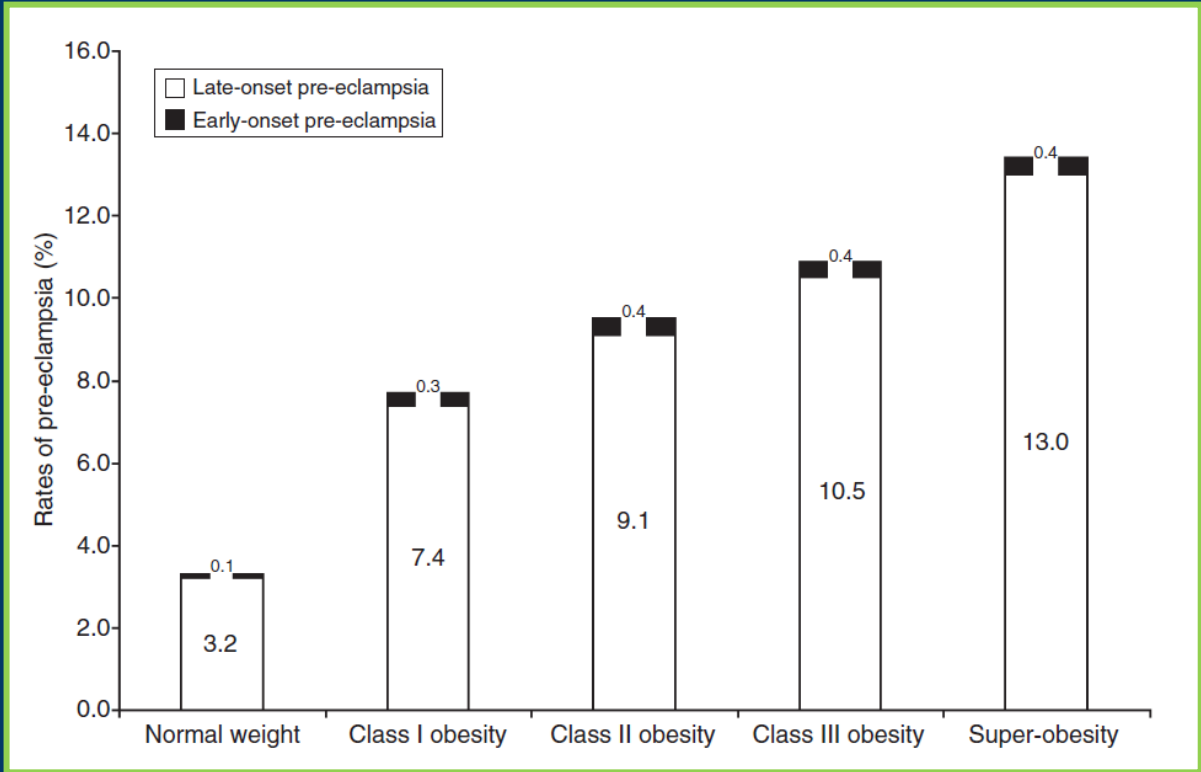
BMI and Preeclampsia



Mbah et al 2010
n= 854 085 singleton births

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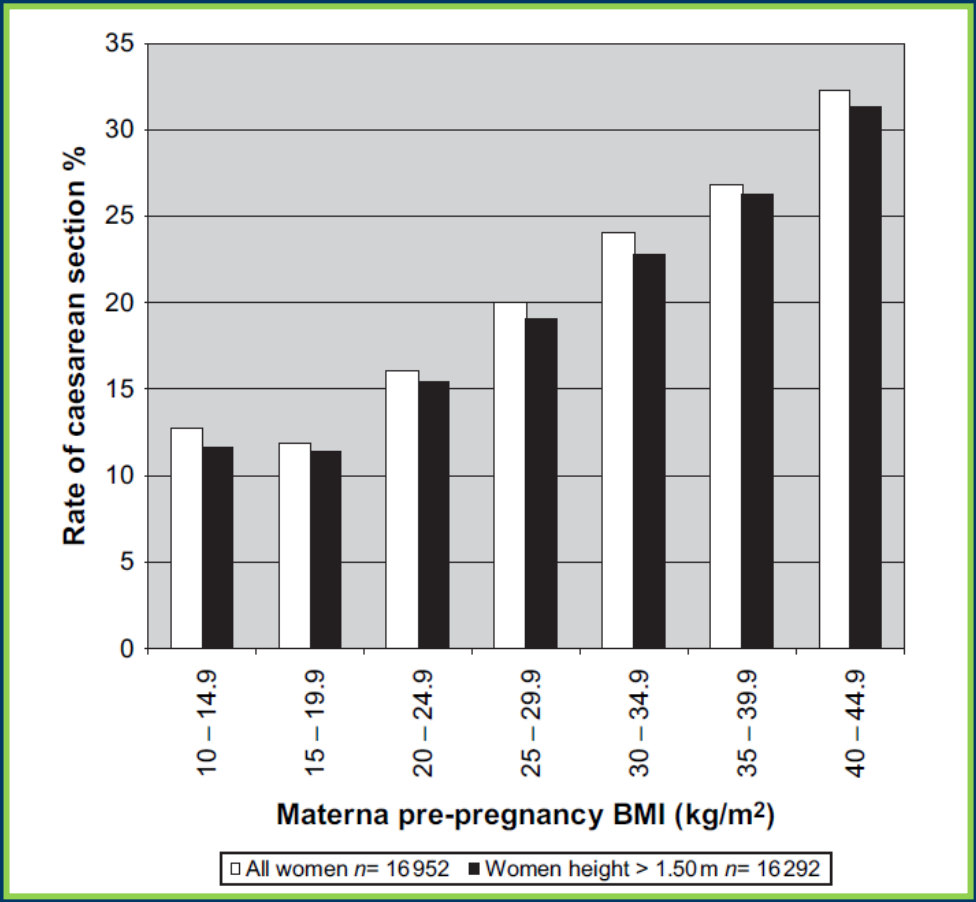
BMI and Caesarean section



Barau et al. 2006 n=16952

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Gestational Weight Gain (GWG)

- How much weight is normal to gain in pregnancy?
- GWG modifies the effect pre-pregnancy BMI has on pregnancy outcomes

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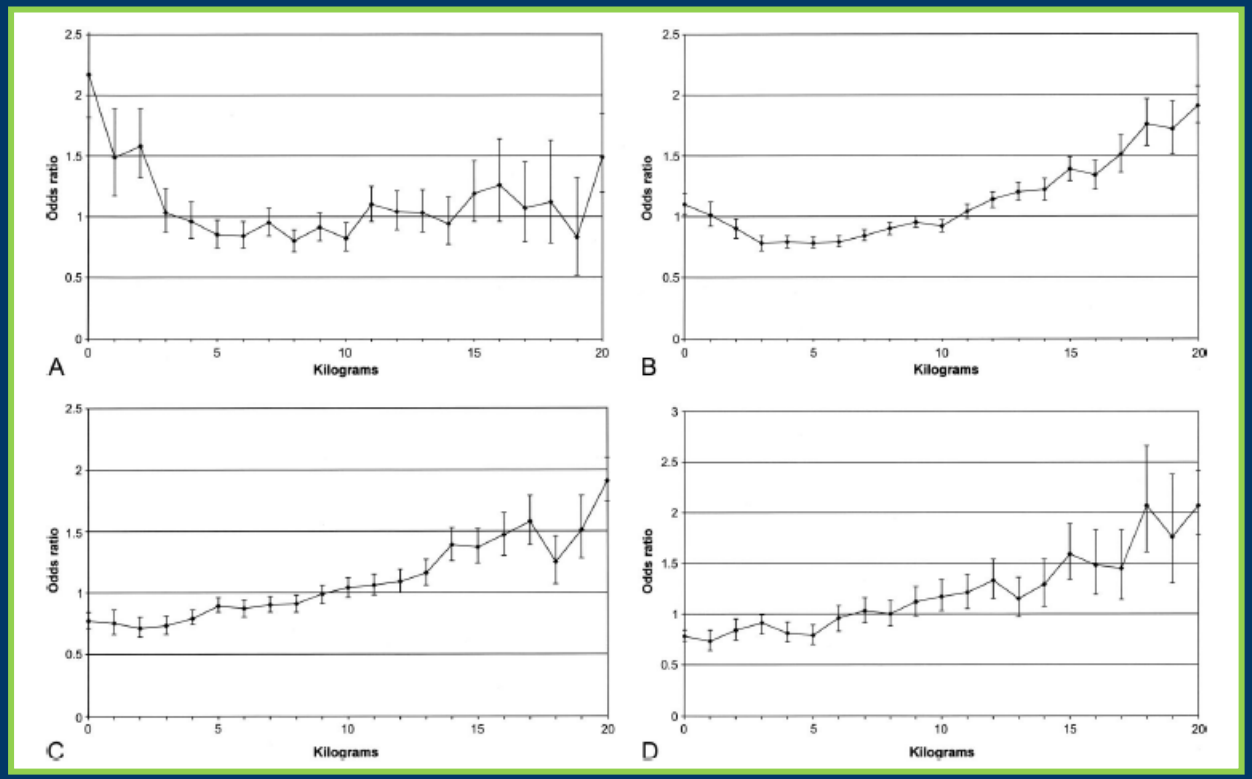
Gestational Weight Gain (GWG)



A=underweight, B=normal weight, C=overweight, D=obese

Cedergren Optimal GWG O&G 2007
n=298,000

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GWG Recommendations

Pre-pregnancy BMI	Cedergren et al. (O&G 2007)	Kiel et al. (O&G 2007)	US Institute of Medicine (2009)
Normal	2-10kg	-	11-16kg
Overweight	<9kg	-	7-11kg
Obese	<6kg	-	5-9kg
Class I (30-34)		5-11kg	
Class II (35-39)		0-4kg	
Class III (≥40)		Weight LOSS 0-4kg	

Limited or no weight gain in obese women is associated with improved pregnancy outcomes

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What can we do?

- **Pre-pregnancy**
  - Weight loss
    - **Diet**
    - **Exercise**
  - Folic acid (5mg)
  - Smoke Free
  - Diabetes screening
  - BP review

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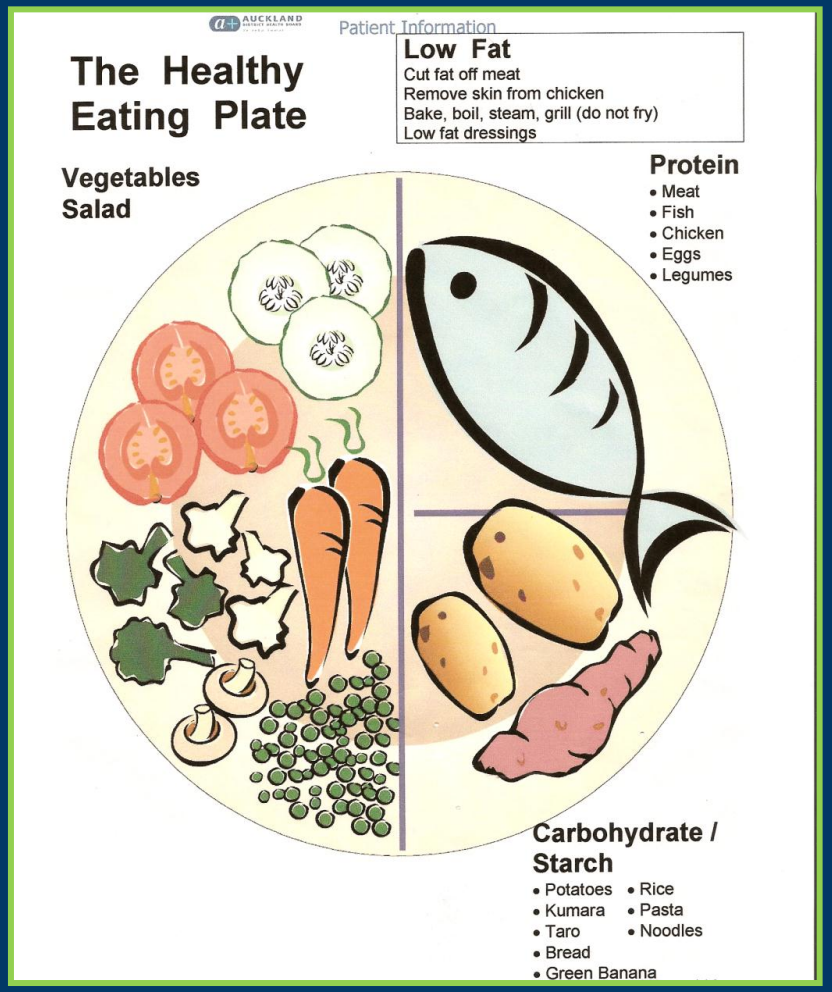
What can we do?

Antenatal:

- Advice about healthy eating & portion size
- Set goals for weight gain/loss
- Exercise plan
- Early diabetes testing
- Serial weight measurements throughout pregnancy
- Monitor for complications
- Timely referral (complications or morbidly obese)



Diabetes screening in obese women

- BMI >30 DON'T DO POLYCOSE!
  → BMI 30-35 = OGTT at 24-28week's gestation (consider BMI 27-32 in Asian / Indian women)
- Additional risk factors:
  - BMI>35 (consider >32 in Asian / Indian women)
  - Previous GDM / Macrosomia / unexplained stillbirth
  - >40years / history of PCOS
  - Medications (antipsychotics/ prednisone)

  → **OGTT at 16weeks (pre-existing DM)** + 24-28weeks

  → Consider OGTT again at 30-32weeks if complications (LGA, polyhydramnios etc.)

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Take Home Messages

- Maternal obesity is a major obstetric risk factor
- The greater the BMI the greater the risk
- Risk is modifiable with limited gestational weight gain and monitoring / planning for complications
- Maternal obesity will have a huge impact on obstetric resources in the next ten years