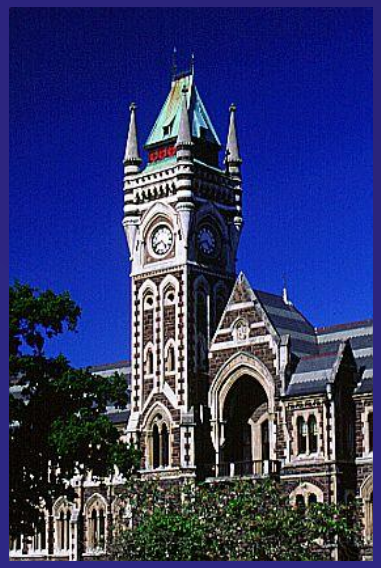
Better Antenatal care – case studies



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Te Whare Wānanga o Otāgo

Mrs West

- 30 years old
- G1 P0
- Just finished PhD
- Married for 5 years
- Using a Mirena for contraception
- No medical history
- No Medications
- Wants to have a baby!

Pre-conceptual care – what is it?

- A set of interventions that aim to identify and modify biomedical, behavioural, and social risks to a woman's health or pregnancy outcome through prevention and management, emphasizing those factors that must be acted on before conception or early in pregnancy to have maximal impact

Table 3. Multivariate comparisons of clinical, behavioural and ultrasound risk factors for SGA by customised birthweight centiles

Risk factors	Non-SGA *N* = 3137	SGA *N* = 376	Clinical data 15 weeks aOR (95% CI)	Clinical data 15+ 20 week Scan***** aOR (95% CI)
Pre-pregnancy				
Participant's birthweight (per 200 g ↓)*	3302 (549)	3155 (560)	1.1 (1.03–1.12)	1.1 (1.03–1.12)
Low fruit intake**	289 (9.2%)	57 (15.2%)	1.5 (1.1–2.1)	–
*High green leafy vegetable intake****	*292 (9.3%)*	*16 (4.3%)*	*0.47 (0.28–0.79)*	*0.55 (0.33–0.93)*
15 weeks of gestation				
Age (per 5 year ↑)	28.1 (5.8)	28.3 (5.9)	1.2 (1.1–1.3)	1.3 (1.1–1.4)
Tertiary education student	97 (3.1%)	22 (5.9%)	2.6 (1.6–4.2)	2.7 (1.6–4.5)
Strong family history of pre-eclampsia	19 (0.6%)	7 (1.9%)	3.1 (1.3–7.5)	3.1 (1.2–8.5)
Smoking (per five cigarettes/day ↑)	315 (10.0%)	72 (19.2%)	1.3 (1.1–1.6)	1.3 (1.2–1.6)
Recreational drug use	48 (1.5%)	17 (4.5%)	2.2 (1.2–4.0)	2.2 (1.1–4.2)
Daily vigorous exercise	31 (1.0%)	10 (2.7%)	2.9 (1.4–6.2)	2.7 (1.1–6.6)
Mean arterial pressure (per 5 unit ↑)	79 (8)	81 (9)	1.2 (1.1–1.3)	1.2 (1.1–1.3)
HDL-cholesterol (per 0.2 mmol/l ↓)	1.81 (0.37)	1.76 (0.40)	1.1 (1.02–1.1.2)	1.1 (1.01–1.2)
Head circumference (per 5 cm ↑)	*55.9 (1.7)*	*55.6 (1.8)*	*0.60 (0.43–0.84)*	*0.62 (0.43–0.88)*
Rhesus-negative blood group	*470 (15.0%)*	*35 (9.3%)*	*0.57 (0.39–0.82)*	*0.54 (0.37–0.80)*
20-week ultrasound**				
Fetal head circumference *Z* score <10th centile	267 (9.0%)	57 (16.2%)		1.8 (1.3–2.5)
Fetal abdominal circumference *Z* score <10th centile	259 (8.7%)	63 (18.0%)		1.9 (1.4–2.7)
Average umbilical resistance index (per 0.1 unit ↑)	0.73 (0.07)	0.75 (0.07)		1.4 (1.2–1.7)
Average uterine RI (per 0.1 unit ↑)	0.56 (0.10)	0.61 (0.11)		1.6 (1.5–1.8)

Results expressed as *n* (%), mean (SD) and median (5th–95th) with non-SGA as the referent group. Italics indicate that the factor is protective.
**n* = 2955 and 352, respectively.
***Less than one piece of fruit per week.
****Three or more servings of green leafy vegetables per day.
*****Reduced cohort after exclusion of participants with missing Doppler data *n* = 3347 (non-SGA *n* = 2994; SGA *n* = 353).

McCowan L, Roberts C, Dekker G, Taylor R, Chan E, Kenny L, Baker P, Moss-Morris R, Chappell L, North R. Risk factors for small-for-gestational-age infants by customised birthweight centiles: data from an international prospective cohort study. BJOG 2010; DOI: 10.1111/j.1471-0528.2010.02737.x.

Mrs West -Pre-conceptual

- Optimise number of planned pregnancies by using LARC
- Stop smoking
- Measure and optimise BMI- maternal and paternal
- Folate– 800ug low risk, 5mg high risk inc. BMI>35
- Vitamin D?

- First antenatal screen (includes HIV)
- STI screen
- Smears up-to-date
- Review of drug use legal and illegal
- Vaccinations - rubella, flu
- Medical history
- Medications
- Regular exercise - 30 mins most days week

Gets a positive pregnancy test

- Iodine
- Arrange dating scan
- LMC
- Screening for Down syndrome and other conditions

Risk assessment -

Guidelines for Consultation with Obstetric and Related Medical Services

- BMI – advise optimal weight gain
- Past medical and surgical history
- Family history

Appropriate weight gain in pregnancy (Institute of Medicine of the National Academies 2009)

Prepregnancy BMI	Recommended weight gain in pregnancy (kg)	Appropriate rate of weight gain in second and third Trimester (kg/week)
Underweight (<18.5)	13–18	0.5 (0.5–0.6)
Normal weight (18.5–24.9)	11–16	0.5 (0.4–0.5)
Overweight (25–29.9)	7–11	0.3 (0.2–0.3)
Obese (>30)	5– 9	0.2 (0.2–0.3)

Miss South

- 17 years old
- Maori
- G2P0
- Smoker
- BMI 30
- Occasionally uses recreational drugs
- PMH - depression/anxiety (was on paroxetine)
- Irregular cycle
- Positive home pregnancy test

What are her risk factors?

- What do these things make her high risk for

Perinatal mortality

- Age
- Ethnicity
- Smoking drugs
- Obesity

Maternal mortality

- Depression / anxiety
- Obesity

The Suicide profile

- Based on a review of 46 published articles on obstetric suicide.
- Risk factors:
  - current or past history of psychiatric disorder, young (<20 years), unmarried, unemployed, unplanned pregnancy, illicit drug use, alcohol use in pregnancy, low supports, previous sexual or physical violence.

- Gentile S, J Inj Violence Res 2011; 3(2): 90-7
- Beyond the numbers: Midwifery challenges in addressing perinatal mortality in New Zealand - http://www.hqsc.govt.nz/our-programmes/mrc/pmmrc/publications-and-resources/publication/493/

Perinatal depression

- Suicide commonest cause of maternal mortality in developing world – inc NZ
- In NZ 13 maternal deaths from suicide 2006 - 2010
- Risk increased throughout pregnancy highest per day in postnatal period

Indications for primary referral

- Arrhythmia/palpitations; murmurs - Recurrent, persistent or associated with other symptoms
- Hypothyroidism
- Symptomatic cholelithiasis
- Inactive inflammatory bowel disease
- TB contact
- Controlled epilepsy
- Depression and anxiety disorders
- Mild /moderate asthma
- Flu like illness

Primary – category of referral

- The Lead Maternity Carer (LMC) discusses with the woman that a consultation may be warranted with a general practitioner, midwife or other relevant primary health provider, as her pregnancy, labour, birth or puerperium (or the baby) is, or may be, affected by a condition that would be better managed by, or in conjunction with, another primary provider.
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- Where a referral occurs, the decision regarding ongoing clinical roles and responsibilities must involve three-way conversation between the primary care provider, the LMC and the woman. This should include discussion of any ongoing management of the condition by the primary care provider. Clinical responsibility for the woman's maternity care remains with the LMC.
- A referral to a primary care provider may result in a referral for consultation or a transfer of clinical responsibility. In this event, the provider must notify the LMC of any referral or transfer.

Ms North

- 40 years old
- G0P0
- BMI 40
- Hypertensive
- Diabetic
- On metformin & enalapril

Referral to secondary care

- Optimise medication
- Routine care

- High dose folic acid
- Asprin
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What do you have to deal with?

Resources

- http://bpac.org.nz/magazine/2011/april/preconception.asp
- http://www.health.govt.nz/publication/guidelines-consultation-obstetric-and-related-medical-services-referral-guidelines
- http://www.health.govt.nz/our-work/preventative-health-wellness/nutrition/iodine
- http://www.hqsc.govt.nz/our-programmes/mrc/pmmrc/

Resources cont.

- http://www.nsu.govt.nz/current-nsu-programmes/antenatal-newborn-screening-programmes.aspx
- http://www.nejm.org.ezproxy.otago.ac.nz/doi/pdf/10.1056/NEJMcp1102730
- http://www.nice.org.uk/guidance/index.jsp?action=download&o=40145