

## **Protocol Review: Evidence used and rationale**

**Protocol name:** Nutrition, Exercise and Weight in Pregnancy

**Rationale:** The current Antenatal protocol, which contains sections on nutrition, exercise and weight in pregnancy, was overdue for review. Clinicians in the region have requested greater detail in the Antenatal protocol, therefore the decision was made in the working group to separate the protocol into multiple components, one of which is the new "Nutrition, Exercise and Weight in Pregnancy" protocol.

A new study (Nini Helthiwan) into maternal and child health is due to commence in the Kimberley in 2015/2016. A review of the maternal and child health protocols to reflect the best evidence was requested in order to inform that study.

*Last updated: 2012*

### **Initial Working Group:**

KAMS: Emma Griffiths (GP and protocol co-ordinator), Janet de San Miguel (Regional Coordinator Maternal & Child Health), Donna Stephen (Nini Helthiwan Project Manager), Rebekah Ledingham (Obstetric GP)

WACHS Obstetrics: Wendy Hughes (Regional Obstetrician), Pip Gale (Senior Obstetrics Registrar)

WACHS KPHU: Melissa Williams (Maternal and child Health Coordinator)

**Further review from:** Emma Robinson (Paediatric Nutritionist), Kimberley Aboriginal Health Planning Forum (KAHPF) Maternal and Child Health Sub-committee

### **Discussion points:**

#### Guidelines for safe weight gain in pregnancy:

Please note that this table is an adaptation of the table from the Institute Of Medicine guidelines. The table separates obesity into three classes and is more conservative in terms of recommending the lower figure of safe weight gain, and in the highest class of obesity allowing for the possibility of no weight gain, as long as women are eating sufficient quantities of the essential food groups as per the "Australian Guide to Healthy Eating". This is in recognition of the high rates of metabolic syndrome in women of childbearing age in the Kimberley region.

#### BMI cut offs for delivery in Kimberley hospitals:

Guidelines for BMI cut offs to deliver in Kimberley hospitals were requested by staff during the process of reviewing this guideline. The figures used were those supplied by the regional obstetrician and should be considered as a guide only. Individual factors will always need to be taken into consideration, and the management of any individual woman will depend on the skill set of the available anaesthetic and obstetric doctors working at the hospital in question. These figures should be used to guide referral for further assessment, not as any guarantee to a woman that she will be able to delivery in a particular location.

#### Vitamin D dosing:

There is quite a lot of variability in recommendations for vitamin D screening and treatment in pregnancy in Australian guidelines. We have recommended the RANZCOG guidelines as they were most recently reviewed. This regime uses lower doses of supplementation and is a change from the last version of the Kimberley Antenatal Protocol. Avoiding an excessive "pill burden" was felt to be a benefit of adopting the RANZCOG regimen.

#### Routine use of multivitamins:

There is insufficient evidence to recommend routine prescription of multiple micronutrient supplementation (multivitamins) as opposed to an approach whereby routine use of folate and iodine is recommended, and the need for other micronutrient supplementation is assessed on an individual basis. Iron and calcium, the next most common micronutrients that may need supplementation,

should not be administered together as absorption will be impaired – therefore a “one size fits all tablet” is not achievable. Such medications are not S100 and would require more evidence of benefit to recommend.

### **Resources and references used:**

#### Guidelines (Government, College and Hospital):

National Health and Medical Research Council (2013) Australian Dietary Guidelines. Canberra: National Health and Medical Research Council.

NSW Government Food Authority, Food safety During pregnancy, (Available online: [http://www.foodauthority.nsw.gov.au/\\_Documents/consumer\\_pdf/pregnancy-brochure.pdf](http://www.foodauthority.nsw.gov.au/_Documents/consumer_pdf/pregnancy-brochure.pdf))

#### RANZCOG guidelines:

- Vitamin and Mineral Supplementation in Pregnancy:
- <https://www.ranzcog.edu.au/doc/vitamin-and-mineral-supplementation-in-pregnancy.html>, updated May 2015.
- Management of Obesity in Pregnancy:
- <https://www.ranzcog.edu.au/doc/management-of-obesity-in-pregnancy.html>

#### KEMH guidelines:

- Women with a body mass index above 40: Management of pregnancy and childbirth in: [http://www.kemh.health.wa.gov.au/development/manuals/O&G\\_guidelines/sectionb/2/b2.21.pdf](http://www.kemh.health.wa.gov.au/development/manuals/O&G_guidelines/sectionb/2/b2.21.pdf), reviewed May 2014
- Neonatal management of existing maternal conditions: Maternal vitamin D deficiency [http://www.kemh.health.wa.gov.au/development/manuals/O&G\\_guidelines/sectionp/alpha/p\\_c\\_holecalciferol.pdf](http://www.kemh.health.wa.gov.au/development/manuals/O&G_guidelines/sectionp/alpha/p_c_holecalciferol.pdf), updated 2013.

Royal College of Obstetricians and Gynaecologists: Recreational exercise and pregnancy – information for you, <https://www.rcog.org.uk/globalassets/documents/patients/patient-information-leaflets/pregnancy/recreational-exercise-and-pregnancy.pdf>, September 2006.

Department of Health National Antenatal Care Guidelines, Module 2, [http://www.health.gov.au/internet/main/publishing.nsf/content/015FBFDD266795DBCA257BF0001A0547/\\$File/Antenatal-care-module2\\_Clinical-Practice-Guidelines.pdf](http://www.health.gov.au/internet/main/publishing.nsf/content/015FBFDD266795DBCA257BF0001A0547/$File/Antenatal-care-module2_Clinical-Practice-Guidelines.pdf), 2014.

#### Systematic reviews:

Ramakrishnan U, Grant F, Goldenberg T, Zongrone A, Martorell R, Effect of women's nutrition before and during early pregnancy on maternal and infant outcomes: a systematic review, *Paediatr Perinat Epidemiol.* 2012 Jul 26 Suppl 1:285-301

Furber C, McGowan L, Bower P, Kontopantelis E, Quenby S, Lavender T, Antenatal interventions for reducing weight in obese women for improving pregnancy outcome, Cochrane Database of Systematic Reviews, January 2013, DOI: 10.1002/14651858.CD009334.pub2.

Ota E, Hori H, Mori R, Tobe-Gai R, Farrar D, Antenatal dietary education and supplementation to increase energy and protein intake, Cochrane Database of Systematic Reviews, June 2015, DOI: 10.1002/14651858.CD000032.pub3.