Guidelines on Optimal Perinatal Nutrition
- Summary Statements
Perinatal Society of Singapore

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INTRODUCTION

Nutrition and weight management before, during and after pregnancy has a strong influence on the well-being of mothers and development of infants. Perinatal nutrition addresses nutrient and calorie recommendations in relation to the activity level before, during and after pregnancy. There is strong evidence that both under-nutrition (macro and/or micronutrient deficiencies) and excessive calorie intake in relation to low level of activity, have poorer health outcomes for mother and child. Therein lies the need for optimal perinatal nutrition.

The prevalence of obesity and diabetes in the general population is increasing rapidly worldwide, including Singapore. Non-optimal nutrition of women of childbearing age can increase the risk of complications in both pregnancy and infants such as Gestational Diabetes (GDM), macrosomic babies, predispositions to increased risk of non-communicable diseases and obesity throughout the life-courses. There is now increasing evidence for the need to optimize perinatal nutrition from international studies as well as local cohort studies in Singapore. These research evidences and guidelines have been reviewed to formulate these Guidelines on Perinatal Nutrition.

Key international publications are examined for the most recent evidence on maternal nutrition, the prevention of obesity and noncommunicable disease. Articles that gave recommendations for nutrition, physical activity and weight gain during pregnancy include those from the WHO Europe Office, American Academy of Pediatrics Committee on Nutrition and National Institute for Health and Care Excellence (NICE).

In addition to international guidelines or recommendations, two research cohorts in Singapore are relevant in providing local information and evidence, namely The Neonatal and Obstetric Risk Assessment (NORA) pregnancy cohort study in KK Women's & Children's Hospital Singapore which recruited 1013 antenatal patients from 2010 to 2014 and The Growing Up in Singapore Towards healthy Outcomes (GUSTO) birth cohort study which recruited 1136 pregnant women from KK Women's & Children's Hospital and National University Hospital (NUH) in 2009-2010. The initiative & support from the research group of Integrated Platform for Research in Advancing Metabolic Health Outcomes of Women and Children (IPRAMHO) an NMRC funded joint collaborative pot centre grant, provides the impetus for the translation of research evidence to guidelines.

This summary set of guidelines is commissioned by the Perinatal Society of Singapore (PSS). The committee appointed to specifically address perinatal nutrition is the Perinatal Society of Singapore Advocacy Group for Engagement on Optimal PErinatal Nutrition (PAGE OPEN). It has been developed with reference to recent evidence, local research findings, reports, WHO as well as NICE guidelines

and recommendations from other international bodies. It aims to address specific issues and will be updated periodically as new evidence emerges.

OPTIMAL PERINATAL NUTRITION RECOMMENDATIONS

The recommendations are divided into 5 parts (the 3 perinatal periods with special mentions of Breastfeeding & Early Childhood Nutrition and Gestational Diabetes):

1. PRECONCEPTION PERIOD
2. PREGNANCY PERIOD
3. POSTPARTUM PERIOD
4. BREASTFEEDING & EARLY CHILDHOOD NUTRITION
5. GESTATIONAL DIABETES

Perinatal Society of Singapore (PSS) recommends the following:

1. PRECONCEPTION PERIOD

a. Healthy eating and keeping physically active for all women of childbearing age.
b. Achieving optimal weight, if over or under weight.
c. Health professionals to offer advice on the importance of a balanced diet and daily folic acid supplement in preparation for pregnancy.

2. PREGNANCY PERIOD

a. Healthy eating according to “My Healthy Plate” guidelines.
b. Regular physical activity during pregnancy.
c. Appropriate gestational weight gain to optimise obstetric outcomes.
d. Avoiding excessive weight gain or extreme dietary restrictions.
e. Folic acid supplementation during the first trimester.
f. Iron supplementation.

3. POSTPARTUM PERIOD

a. Healthy eating, physical activity, and breastfeeding as strategies for encouraging a return to healthy weight.
b. Encouraging women to maintain an optimal weight between pregnancies.
c. Adequate dietary calcium and iron intakes.

4. BREASTFEEDING AND EARLY CHILDHOOD NUTRITION

a. Multifaceted approach and/or a coordinated program by healthcare professionals to increase exclusive breastfeeding rates and start early initiation of breastfeeding.
b. Exclusive breastfeeding for all infants because of its proven benefits for both infants and mothers.
c. Skin-to-skin contact of mother and infant and breastfeeding within the first hour after birth.
d. Introduction of appropriate complementary food rich in nutrients and iron not later than 6 months of age; free from salt, seasonings and flavorings.
e. The progression from puree and to age-appropriate texture and consistency for the infant’s developmental stage and ensure timely introduction of finger foods before 9 months and foods eaten by the family from 12 months of age.
f. Refraining from over-feeding and to discourage giving foods above the age-appropriate portion sizes.
g. Optimal growth velocity according to local growth charts.

5. GESTATIONAL DIABETES (GDM)

a. Universal screening for GDM by 75-gram 3-point Oral Glucose Tolerance Test (OGTT) at 24 to 28 weeks gestation using the full three-point IADPSG criteria (0h, 1h and 2h).
b. A multidisciplinary team approach (dietician, diabetic nurse, obstetrician, and endocrinologist) for GDM management
c. Education of women diagnosed with GDM of the risk of future DM and GDM in future pregnancies on lifestyle advice that includes weight control, diet, and exercise.
d. Postnatal test at 6-12 weeks for women with GDM to exclude DM or IGT with 75-gram 2-point OGTT.
e. Women diagnosed with GDM to be screened and given dietary and lifestyle education for DM at regular intervals thereafter. Women at higher risk for progression to DM should be screened yearly, whilst those at lower risk should be screened at least 3 yearly.

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This guideline summary was produced by the Perinatal Society of Singapore as an educational aid and reference for healthcare professionals practicing in Singapore. The guideline summary does not define a standard of care, nor is it intended to dictate an exclusive course of management. It presents recognized clinical methods and techniques for consideration by practitioners for incorporation into their practice. It is acknowledged that management may vary and must always be responsive to the need of individual patients, resources, and limitations unique to the institution or type of practice.

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