Nutrition care by general practitioners: Enhancing women's health during and after pregnancy

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CPD

Background

The importance of healthy dietary behaviours during pregnancy and after birth is well recognised given the short-term and long-term effects on the health of mothers and infants. Pregnancy is an ideal time to implement health behaviour changes, as women are receptive to health messages at this time. The majority of pregnant women have regular, ongoing contact with general practitioners (GPs), particularly during early pregnancy.

Objective

This paper provides an overview of the latest evidence regarding the nutrition requirements of women during and after birth, and describes simple ways that GPs can incorporate brief, effective nutrition care into standard consultations.

Discussion

Two approaches for enhancing the nutrition care provided by GPs are presented. These approaches are for GPs to feel confident in raising the topic of nutrition in standard consultations and being equipped with effective, evidence-based messages that can be incorporated into consultations. Collectively, these approaches promote healthy dietary behaviours for intergenerational benefits.

The importance of healthy dietary behaviours before and during pregnancy and after birth is well recognised, particularly with emerging knowledge about the 'developmental origins of health and disease'.[1] Following a diet in line with recommendations reduces the risk of poor health outcomes for mothers, including unhealthy gestational weight gain,[2] gestational diabetes mellitus (GDM),[3] anaemia,[4] preeclampsia,[5] preterm birth[2] and miscarriage.[2] Furthermore, these behaviours reduce the risk of poor health outcomes for infants, such as preterm birth,[6] low birth weight,[7] and risk of chronic diseases later in life.[8]

Supporting women to have healthy dietary behaviours before, during and after pregnancy is a key recommendation made by the World Health Organization to optimise health outcomes for mothers and their infants.[9] As a result, advocating for women to have healthy dietary behaviours during pregnancy is a key component of best practice guidelines for health professionals.[10]

General practitioners (GPs) have been identified as the ideal health professionals to coordinate care for women before, during and after pregnancy.[11] Recent Australian surveys of women receiving maternity care found that despite healthy eating being a personal priority, women commonly regarded themselves as having poor dietary behaviours during pregnancy, gaining excess weight, and receiving minimal nutritional support from health professionals.[12–15] These findings indicate that GPs have an important opportunity to enhance the support provided to women to have healthy dietary behaviours before, during and after pregnancy in order to promote optimal health outcomes for women and their infants. This opportunity is particularly important given that GPs are in contact with women from the very early stages of their pregnancy and have regular, ongoing contact with them and their families following the pregnancy.

The aim of this paper is to provide an overview of the latest evidence regarding the nutritional requirements of women before, during and after pregnancy, and describe ways that GPs can

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incorporate brief, effective nutrition care into standard consultations with them and their families.

Latest evidence on nutrition requirements during and after pregnancy

Nutrition recommendations for pregnant women have traditionally focused on 'foods to avoid', including mercury-containing fish[16] and foods at risk of containing *Listeria*.[17] Although these recommendations are important, there is a very low incidence of problems caused by these foods.[18] By contrast, the incidence of problems caused by women not achieving healthy lifestyle recommendations, including dietary behaviours, is considerable.[18] More than 90% of pregnant women do not meet the national recommendations for fruit and vegetable intake[14] and more than 80% consume excess amounts of 'extra' foods that are often high in saturated fats and sodium.[19] Increasing numbers of women (30–50%) are starting pregnancy above a healthy body mass index (BMI), often resulting in excessive gestational weight gain.[14] This weight gain is associated with a serious risk of adverse outcomes during pregnancy, such as GDM, preeclampsia, miscarriage and infection, and also contributes to life-long risks of chronic disease. Therefore, the nutritional care provided by GPs should focus on advocating for healthy dietary behaviours to promote optimal health outcomes for mothers and infants.

Women's requirements for some nutrients are increased during pregnancy and breastfeeding in order to support fetal and infant growth. A balanced diet, plus a supplement that contains folic acid and iodine, is essential for good maternal health and infant growth and development.[20,21] Early in pregnancy, the quality of a woman's dietary intake can influence the development of organs in the fetus. Later in pregnancy, a woman's dietary behaviours influence growth and brain development of the fetus. Table 1 outlines the required intake of key nutrients during pregnancy and breastfeeding, relevant to clinical practice.

Despite these increased requirements during pregnancy and breastfeeding, the basic principles of healthy eating remain the same. Table 2 outlines the recommended number of daily serves from the five food groups during pregnancy and breastfeeding. During the first trimester, a woman's energy intake should remain the same as that before pregnancy, which means that extra food is not required. During the second and third trimesters, additional servings from some of the five food groups consumed should meet additional energy requirements.[21] Excess energy intake will contribute to additional gestational weight gain. Table 3 outlines the recommended weight gain of pregnant women, based on pre-pregnancy BMI.

Nutrition care by GPs

'Nutrition care' refers to any practice conducted by a health professional to support a patient to have healthy dietary behaviours.[22] This can include aspects of dietary assessment, advice, counselling and referral. A systematic review of randomised, controlled trials involving brief nutrition care provided by GPs showed that GPs have strong potential to provide nutrition care that improves the dietary behaviours and health outcomes of patients.[23] Examples of improvements in patients' dietary behaviours include an increase in fruit and vegetable intake by two serves per week,[24] an increase in fish intake to more than one serve per week,[24] a reduction in energy consumption of 700 kJ/day,[25] a reduction in excessive alcohol consumption of 36%,[26] and a reduction in fat intake of 5–10%.[25,27,28] These studies demonstrate the potential positive influence GPs can have on patients' dietary behaviours by providing brief nutrition care.

Best practice guidelines recommend that GPs advocate about healthy eating when relevant to any clinical encounter. However, several factors within the current model of primary healthcare, such as time and funding, prevent nutrition care from occurring at all clinically indicated occasions.[29] For example, only 37% of adult

Table 1. Recommended daily intake of key nutrients and adequate intake of water for women[20]

Nutrient	Non-pregnant	Pregnant	Breastfeeding
Protein	14–18 years: 45 g (0.77 g/kg) 19–50 years: 46 g (0.75 g/kg)	14–18 years: 58 g (1.02 g/kg)* 19–50 years: 60 g (1.00 g/kg)*	14–18 years: 63 g (1.11 g/kg) 19–50 years: 67 g (1.10 g/kg)
Folate†	All ages: 400 µg	All ages: 600 µg	All ages: 500 µg
Iron‡	14–18 years: 15 mg 19-50 years: 18 mg	All ages: 27mg	14–18 years: 10 mg 19-50 years: 9 mg
Iodine	All ages: 150 µg	All ages: 150 µg	All ages: 150 µg
Water	14–18 years: 2.2 L total, 1.6 L fluids 19–50 years: 2.8 L total, 2.1 L fluids	14–18 years: 2.4 L total, 1.8 L fluids 19–50 years: 3.1 L total, 2.3 L fluids	14–18 years: 2.9 L total, 2.3 L fluids 19–50 years: 3.5 L total, 2.6 L fluids

**Protein requirements in pregnancy do not increase until the second trimester.*
†Women planning a pregnancy should take a daily folate supplement containing at least 400 µg one month before and three months after conception for prevention of neural tube defects.
‡Absorption of iron is lower from vegetarian diets, so intakes need to be 80% higher.

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patients with identified poor dietary behaviours report to have previously received nutrition care from a GP, and only 10% have been referred to an allied health professional, such as a dietitian, for further nutrition care.[30] In addition, prenatal care providers, including GPs, report confusion and uncertainty regarding the most appropriate approach to take when providing nutrition care and weight management advice to pregnant women.[31] The prenatal providers were concerned about how to provide effective care without being offensive, warranting further professional development support.

Additional barriers to GPs providing nutrition care include low self-efficacy,[32–36] perceived lack of nutrition knowledge,[32,34–38] and lack of time in consultations.[32,33,37,39] Older studies from the USA and Europe suggest that GPs place a low priority on nutrition,[32–34] but recent Australian investigations show that GPs consistently report nutrition as an important aspect of healthcare given its significant influence on patients' health outcomes.[37,40,41] Therefore, strategies that reduce barriers that GPs experience in providing nutrition care are warranted.

Supporting GPs to provide nutrition care

Previous Australian research indicates that two key components are required to support GPs in providing nutrition care for their patients.[42] First, GPs need to feel confident in raising the topic of nutrition and, if appropriate, weight management, in standard consultations. Previous Australian research shows that patients are very willing to discuss nutrition in consultations, but are uncertain about raising the topic themselves.[43] The most common reasons reported by patients for not raising the topic of nutrition are a fear of wasting their GP's time, and a fear that their nutrition care needs are irrelevant to the present consultation.[43] Therefore, GPs are encouraged to raise the topic of nutrition during standard consultations in order to support the provision of nutrition care.

One intervention that supports GPs in providing nutrition care uses laminated desktop quotes with suggested questions to ask patients.[44] This strategy was co-designed by GPs and patients, and is supported by behaviour change theories. Example desktop quotes are shown in Appendix 1 (available online only). The second component that supports GPs in providing nutrition care is being equipped with brief messages in line with latest evidence that can be incorporated into standard consultations. These messages should advocate for the importance of healthy dietary behaviours and be relevant for many patients.

For pregnancy and breastfeeding, the messages need to be brief, simple and practical, and the content needs to be consistent with the latest evidence for healthy eating during pregnancy.

Table 2. Recommended daily serves of core food groups for women (19–50 years)[21]

Food group	Non-pregnant	Pregnant	Breastfeeding	Examples of one standard serve
Vegetables and legumes/beans	5	5	7.5	½ cup cooked vegetables ½ cup cooked or canned beans, peas or lentils 1 cup green leafy or raw salad vegetables ½ medium potato or other starchy vegetables 1 medium tomato
Fruit	2	2	2	1 medium fruit, such as apple, banana, orange 2 small fruits, such as apricots, kiwi fruits or plums 1 cup diced or canned fruit (no added sugar) 30 g dried fruit (such as 4 apricot halves, 1½ tablespoons sultanas)
Grain (cereal) foods, mostly wholegrain and/or high-fibre varieties	6	8.5	9	1 slice bread, ½ medium roll or flat bread (40 g) ½ cup cooked rice, pasta, noodles, barley, polenta, quinoa ½ cup cooked porridge, ⅔ cup wheat cereal flakes, ¼ cup muesli 1 crumpet, small English muffin or scone
Lean meats and poultry, fish, eggs, tofu, nuts and seeds and legumes/beans	2.5	3.5	2.5	65 g cooked lean meats, such as beef, lamb, veal, pork (90–100 g raw) 80 g cooked lean poultry, such as chicken, turkey (100 g raw) 100 g cooked fish fillet (115 g raw) or one small can of fish 2 large eggs 1 cup cooked or canned legumes/beans, such as lentils or chickpeas 30 g nuts or seeds
Milk, yoghurt, cheese and/or alternatives, mostly reduced fat	2.5	2.5	2.5	1 cup (250 mL) fresh, long life, or reconstituted powdered milk 2 slices (40 g) hard cheese, such as cheddar ¾ cup (200 g) yoghurt 1 cup (250 mL) soy, rice or other cereal drink, with >100 mg calcium per 100 mL

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Box 1. Simple, evidence-based messages suitable for clinical practice[21]

You can eat well during pregnancy and breastfeeding by:

- enjoying a wide variety of fruits and vegetables, of different types and colours
- increasing your intake of grain and cereal foods
  - choose mostly wholegrain and high-fibre options
- choosing foods that are high in iron, such as lean red meat or tofu
  - iron-rich foods are important for pregnant women
- making a habit of drinking milk, and eating hard cheese and yoghurt, or calcium-enriched alternatives
  - reduced-fat varieties are best
- drinking plenty of water
- avoiding foods and drinks that are high in saturated fat, added sugar and salt

Here are practical tips to help achieve a healthy diet during pregnancy:

- Encourage women to make positive changes to meet their requirements from the five food groups.
- Pre-planning helps with positive choices – nutritious back-up meals and snacks are cheap and quick substitutes for takeaway. Frozen pre-chopped vegetables, tinned soups with added beans, pasta with bottled sauces, or scrambled eggs with grated cheese and washed salad are quick and easy meal choices.
- Start the conversation about dietary variety and recommended gestational weight gain.
- Monitor your patient's weight following the 5As (Assess, Advise, Assist, Agree, Arrange).
- Encourage food safety, but encourage suitable unsaturated fat choices such as salmon and sardines. Vegetarian unsaturated fat sources include walnuts, canola oil and margarine, and linseed bread.
- Encourage women to seek expert dietary advice from an accredited practising dietitian (APD). To access an APD, go to www.daa.asn.au and click on 'Find an APD', or call the toll-free APD hotline on 1800 812 942.

One approach is to ask a woman how many serves of fruit and vegetables she eats each day (see Table 1 for serve guides). GPs can encourage their patients to increase consumption towards their goal with simple, achievable changes. Box 1 outlines simple, evidence-based changes that are suitable recommendations in standard consultations.

The societal stigma associated with obesity has relevance when developing effective relationships with patients.[45] Terminology that is acceptable to patients may differ from that routinely used by GPs. Terms such as 'weight' and 'BMI' are likely to be received more positively than references to 'fat' and/or 'obese'.[40,46] When advising women about optimal weight gain during pregnancy (informed by pre-pregnancy BMI, Table 3), GPs are advised to avoid direct reference to BMI category names (eg 'underweight', 'normal' 'overweight' and 'obese'). Rather, GPs are advised to use objective language, such as in the following sentence: 'On the basis of your pre-pregnancy weight, you should aim to gain xx–xx kg for the healthiest pregnancy possible'. This language is more likely to respectfully promote healthy gestational weight gain. Furthermore, use of an evidence-based tool can also facilitate the discussion and monitoring of women's progress.[47]

Table 3. Recommended weight gain during pregnancy*[21]

Pre-pregnancy BMI (kg/m^2)	Total weight gain (kg)	Rates of weight gain for second and third trimester (kg/week)
Underweight (<18.5)	12.5–18.0	0.51 (0.44–0.58)
Normal weight (18.5–24.9)	11.5–16.0	0.42 (0.35–0.50)
Overweight (25.0–29.9)	7.0–11.5	0.28 (0.23–0.33)
Obese (≥30.0)	5.0–9.0	0.22 (0.17–0.27)

**Based on pre-pregnancy BMI (BMI, body mass index)*

Conclusion

Healthy dietary behaviours before pregnancy, during pregnancy and after birth reduce the risk of poor health outcomes for mothers and infants. GPs have an important opportunity to support women to have healthy dietary behaviours during pregnancy and after birth. GPs are encouraged to feel confident in raising the topic of nutrition in standard consultations, and should incorporate effective, evidence-based messages into their care. Collectively, these approaches support GPs in their role to promote healthy dietary behaviours for intergenerational benefits.

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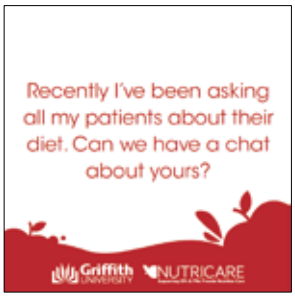
Appendix 1. Examples of laminated desk quotes to support raising the topic of nutrition in consultations



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