# Enjoying a healthy pregnancy: GPs' essential role in health promotion

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## Background

For many women, a major pregnancy goal is to achieve an enjoyable, healthy pregnancy. The continuum of care from preconception counselling, management of early pregnancy, referral or continued pregnancy care and management into the postpartum period places general practitioners (GPs) in a unique position to meaningfully contribute on many levels to this realisation.

## Objectives

The aim of this article is to explore the determinants of a healthy and enjoyable pregnancy, and asks how GPs can facilitate an optimum experience for women in pregnancy, regardless of risk.

## Discussion

GPs can play a key role with prospective parents in health promotion, directing them to appropriate resources and services; addressing disease prevention by targeting modifiable lifestyle risks; and managing chronic health concerns in the optimisation of pregnancy care.


Pregnancy is a time of change, and the transition to parenthood can be challenging; however, for many parents, it can be an immensely enjoyable experience. The majority of pregnancies are unplanned, with 51% of pregnancies reported as unintended,[1] and not all pregnancies are healthy or low risk. Optimum maternal health during preconception and pregnancy is recognised as an essential component to the outcome of the pregnancy and may have a potentially lifelong impact on infant wellbeing.[2]

Good health is a central determinant of happiness, but it is not the only important factor. Health as it is self-perceived is a relative concept, and is expressed by our world view and our place in it. Poorer self-rated health is associated with poorer physical health and health behaviours (eg smoking, obesity), and greater psychological distress.[3] Self-rated health may be a useful screening tool in recognising women who are at potential risk.

In today's world, we are challenged by time restraints and information overload. Disseminating appropriate health education requires a delicate balance between giving too much or too little information. Managing information can be a major source of anxiety,[4] and anxiety in pregnancy is considered to be more prevalent than depression, with estimates of 6.6–21.7%.[5] Additionally, the rapid increase in internet use and accessing health information online, and with smartphone applications, (apps) increases the potential for information overload. Health information is cited as a common reason for use of the internet and apps, and some of the information accessed may have reduced evidence-based content.[6]

## General practitioners and health promotion

General practitioners (GPs) are ideally placed to implement effective health promotion, and there is no better time than

during discussions around pregnancy to achieve this. Pregnancy can be a perfect time, where women are engaged with health services and may be receptive to changes that can improve health outcomes for their unborn child, especially if the changes are perceived to be normal pregnancy behaviours.[7]

In order to capitalise on this opportunity for effective health change, we need to reconsider the concept of health promotion. As defined by the World Health Organization (WHO), health promotion is the process of enabling people to increase control over the determinants of health and thereby improve their health.[8]

**Table 1. Medical conditions in pregnancy**

| Condition | Prevalence in pregnancy | Risk assessment | Recommendations |
|---|---|---|---|
| **Diabetes mellitus (type 1, type 2, gestational)** | 7.5%[22] | Hb1Ac (%)<br>Risk of congenital abnormalities, miscarriage, perinatal mortality with increased levels | Preconception counselling, including diet and exercise advice<br>Early assessment endocrinology review (type 1, type 2)<br>Early referral to dietitian |
| **Cardiac disease** | 0.2–4%[23] | Risk assessment<br>Classification of disease<br>Physical examination/blood pressure<br>Full blood profile/iron studies<br>ECG, echocardiogram<br>Fetal echocardiogram if maternal structural cardiac disease[23] | Preconception counselling<br>Early assessment<br>Cardiology review<br>Anaemia prevention[23] |
| **VTE**<br>**Thrombophilias** | Overall, 2 per 1000 pregnancies[24]<br>Previous VTE (24.8%) | Consider risk factors when deciding on prophylaxis<br>Thrombophilia screen if not already undertaken in high-risk women | Preconception counselling<br>Thrombophrophylaxis planning (postnatal +/– antenatal; eg low-molecular-weight heparin)<br>Consider haematology review |
| **Previous bariatric surgery** | Increasing trend | Check vitamins D and B12, iron, folate, calcium, and micronutrient status[15] | Pregnancy is best avoided for 12–24 months to reduce the potential risk of intrauterine growth retardation[15]<br>Consider addition supplementation<br>Dietary review |
| **Thyroid conditions** | Overt hypothyroidism: 0.3–0.5%<br>Subclinical: 2–3%[25] | Targeted testing of thyroid function tests<br>Thyroid autoantibodies | Maintain thyroid-stimulating hormone <2.5 mIU/L in first trimester[25]<br>May require endocrinology review if difficult to control or hyperthyroidism<br>No recommendation for routine screening[25] |
| **Hypertension** | 0.01%[22] | Renal function, including eGFR<br>urinary ACR<br>Medication review | Switch to medications safe in pregnancy such as labetalol and methyldopa |
| **Hepatitis B and C** | Chronic hepatitis B in pregnancy 0.7%[26] | Liver function tests<br>Hepatitis status including RNA viral count +/– genome in hepatitis C if not done | Consider hepatology referral, may need prophylactic agent in third trimester for hepatitis B if viral load is >$10^6$ log copies/mL (200,000 IU/mL) or higher[27]<br>Newer treatments for hepatitis C prior/post pregnancy only |
| **Epilepsy** | 0.01%[22] | History of seizure disorder | Medication review<br>Sodium valproate not recommended in pregnancy<br>Neurology review |
| **Mental health disorder** | Anxiety: 21.7%[5] | Risk–benefit counselling regarding all psychotropic medication | Consider psychiatric review for severe illness<br>Consider 5 mg folic acid if on mood stabiliser medication |

*ECG, electrocardiogram; eGFR, estimated glomerular filtration rate, HBA1c, glycated haemoglobin; ACR, albumin to creatinine ratio; VTE, venous thromboembolism*

For many, this means disease prevention or risk reduction, particularly in the area of lifestyle risks, where people assess and consciously choose behaviours on the basis of their relationship to promoting or maintaining health.

Another innovative way of approaching health is based on Antonovsky's salutogenic theory, which derives its concept from studying the strengths and weaknesses of preventive practices in the complex system that is a human.[9] The framework of this theory uses the analogy of a river:

- curative medicine tries to save people from drowning
- health prevention attempts to stop people from being pushed into the river
- health promotion attempts to give people the skills to swim.

This theory could be applied to the concept of preparing and supporting parents to 'enjoy a healthy pregnancy'. We need to ask what we as GPs can do to help those with chronic health issues to reduce the risks associated with pregnancy, and better prepare women to cope with the issues that can arise in pregnancy. Preconception counselling, reducing lifestyle risks and coping with common minor issues of pregnancy will be discussed in this article. This will include strategies that GPs may consider when translating health promotion into supporting clients to enjoy a healthy pregnancy.

## Preconception counselling

Primary care physicians are well placed in the continuum of care for women of reproductive age to initiate preconception counselling around recognised modifiable risk factors. Discussions on reproductive planning, chronic health concerns, medication adjustment, risk reduction for lifestyle factors, and

**Table 2. Recommended supplements in pregnancy[28]**

| Supplement | Recommendation | Evidence |
|---|---|---|
| **Folic acid** | At least 0.4 mg daily to aid prevention of neural tube defect<br>High dose 5 mg of folic acid recommended in the below high risk groups:<br>• Taking anticonvulsant medication<br>• Pre-pregnancy diabetes<br>• Previous child or family history of neural tube defect<br>• Body mass index >30 kg/m$^2$<br>• Risk of malabsorption syndrome<br>• Family history of congenital heart disease<br>• Hyperhomoscystinaemia (eg *MTFHR* mutations)<br>• Multiple pregnancy | One month before conception and for the first 12 weeks reduces the risk of neural tube defect and possibly congenital heart disease |
| **Vitamin B12** | Vegetarians and vegans can be at risk of vitamin B12 deficiencies<br>Recommended daily intake: 2.6 µg/day in pregnancy | Untreated vitamin B12 deficiencies have been reported to cause neurological sequelae in exclusively breastfed infants[29] |
| **Vitamin D** | Women with vitamin D levels >50 nmol/L should take 400 IU daily<br>Those at risk of deficiency may need to be investigated and treated as appropriate:<br>• Reduced sun exposure<br>• Veiled women<br>• Dark-skinned women<br>• Body mass index >30 kg/m$^2$<br>• Treatment recommended:<br>– 30–50 nmol/L of 1000 IU per day<br>– <30 nmol/L of 2000 IU per day and retest in six weeks | Low maternal vitamin D is associated with low neonatal vitamin D, which can be associated with impaired skeletal development and hypocalcaemic seizures |
| **Calcium** | Recommended dietary intake of calcium per day for pregnant women is 1300 mg (aged 14–18 years) and 1000 mg (aged 19–50 years)<br>Supplement at 1000 mg/day for those with low intake or high risk of preeclampsia | Reduces the incidence of hypertensive disorders and preterm labour |
| **Iron** | Routine iron replacement is not recommended for every pregnancy. Haemoglobin should be routinely checked and anaemia investigated in early pregnancy and at 28 weeks<br>Women with iron deficiency will need replacement with at least 60 mg of iron daily | Iron deficiency anaemia increases the risk of preterm delivery and low-birth weight |
| **Iodine** | Recommended iodine supplement of 150 µg each day | Can cause subclinical hypothyroidism and cause cognitive and neurological development in offspring[30,31] |

identifying issues around a woman's health literacy, coping mechanisms and support structures are all relevant topics for a GP to introduce.

Pregnancy planning and timing are significantly associated with maternal psychiatric morbidity, psychological distress and poor social support during pregnancy, with the most important predictor being timing of pregnancy.[10] The idea of reproductive planning or identifying a woman's childbearing goals becomes important when trying to optimise her ability to enjoy a healthy pregnancy.

Management of chronic medical conditions is crucial for proper preconception care (Table 1), as is counselling around supplements (Table 2), weight management or reduction, assessing immunisation status, lifestyle risks and mental health.

## Lifestyle risk reduction

Smoking in pregnancy has decreased in Australia, but still occurs in 12% of women.[11] Women in particular risk groups, such as younger women (<20 years of age), those living in regional or remote regions, those from socially and economically disadvantaged backgrounds, Aboriginal and Torres Strait Islander women, and women with an enduring mental health diagnosis, continue to have high rates of smoking.[11,12] These groups require special consideration and targeted strategies to effectively reduce smoking rates. Nicotine replacement therapy can be effective and is offered, but women also need to feel supported in their attempts to quit. Women are aware of the health risks of smoking and may feel guilt and shame when they relapse,[13] resulting in non-disclosure around continuing to smoke. Resources such as Quit for you/Quit for two, which consists of a free smartphone

**Table 3. Australian e-resources**

| Area and site | Information/resource | Development |
|---|---|---|
| **Smoking**<br>www.quitnow.gov.au/internet/quitnow/publishingcp.nsf/content/home | Website<br>Free smartphone application: Quit for you/quit for two<br>Brochure | Department of Health and Ageing |
| **Nutrition and weight gain**<br>www.eatforhealth.gov.au<br>www.eatforhealth.gov.au/sites/default/files/files/the_guidelines/n55h_healthy_eating_during_pregnancy.pdf | Website<br>Brochure | Australian government National Health and Medical Research Council |
| **Pregnancy and parenting**<br>http://raisingchildren.net.au/pregnancy/pregnancy_and_birth.html | Website with information on:<br>• Pregnancy and birth<br>• Week by week<br>• Health and wellbeing<br>• Dad's guide<br>• Preparing for a baby | Created by a partnership of Australia's leading early childhood agencies and the Australian government |
| **Pregnancy and parenting**<br>www.pregnancybirthbaby.org.au | Website with information on:<br>• Pregnancy<br>• Birth<br>• Baby<br>• Child | *healthdirect* and Australian government |
| **Parenting**<br>www.whatwerewethinking.org.au | Website<br>Free smartphone application: What Were We Thinking | Jean Hailes Foundation |
| **Pelvic floor/incontinence issues**<br>www.pelvicfloorfirst.org.au/pages/exercising-during-pregnancy.html | Website with exercise information<br>Free smartphone application: Pelvic Floor First | Continence Foundation of Australia |
| **Mental Health**<br>www.mindthebump.org.au<br>www.beyondblue.org.au/the-facts/pregnancy-and-early-parenthood | Free smartphone application: Mind the bump – A mindfulness medication tool for new and expecting mothers/parents<br>Website | Smiling mind and beyondblue |
| **Dad's and pregnancy**<br>www.sms4dads.com | Free message service that sends text messages with tips, information and links to other services for new dads: sms4dads | The Family Action Centre at the University of Newcastle |

mobile phone app, can be an engaging and valuable resource (Table 3).

Obesity is a challenge in modern obstetrics, with >19% of pregnant women being obese (ie with a body mass index [BMI] >30 kg/m$^2$ measured at the first antenatal visit).[11] Many women are unaware of the recommended weight gain during pregnancy and this has consequences not only for the current pregnancy but also for any future pregnancies. For a woman with a normal BMI, the recommended weight gain during pregnancy is 11.5–16kg in total or 0.42 kg/week in the second and third trimester.[14] The adverse impact of obesity occurs prior to conception, persists throughout the pregnancy and into the postpartum period, and has a stepwise association with BMI classification.[15] Early referral to an appropriate allied health practitioner, such as a dietitian or exercise physiologist, should be considered.

While tackling this issue, it is important to explore concepts of body image with the patient. Simple questioning that addresses their self-perceived satisfaction with body weight or shape could help identify women at risk of experiencing poor body image.[16] Obesity can contribute to a less healthy pregnancy, and negatively influence self-esteem and body image during the physical changes of pregnancy, which contribute to increased weight gain.[16] Women who are obese have a 32% increased risk of depression. A recent study has shown that for women with high pre-pregnancy BMI, weight gain can increase their depressive symptoms significantly.[17] Even in women with normal BMI status, positive body image is highly protective of depressive symptoms.[17]

## Coping with common minor pregnancy issues

Common minor issues can decrease the enjoyment of pregnancy. The most common include musculoskeletal aches and pains, with >50% being lumbar or pelvic girdle pain, with or without pain in the pubic symphysis, ranging from mild to severe.[18] These issues may cause significant physical and psychological distress. Evidence-based treatment options to address this issue include physiotherapy, pelvic belts, transcutaneous electrical nerve stimulation, exercise programs to minimise activities that exacerbate pain, simple analgesia (eg paracetamol), acupuncture and yoga.[18]

Other issues such as nausea, gastro-oesophageal reflux, carpel tunnel syndrome, constipation, haemorrhoids and lack of sleep may affect a pregnant woman's sense of wellbeing. GPs are well equipped to deal with these physical issues. However, how can we build on the woman's strengths to contribute to her resilience? Although there is no universal definition of resilience, themes reflecting this concept within a health promotion framework include rising above, adaptation and adjustment.[19]

In Antonovsky's salutogenic theory, a sense of coherence is an important contributor to overall health,[20] and aligns with the principles of 'Act, Belong and Commit', a successful campaign promoted in Western Australian. This campaign encouraged action, belonging to a group or community, and committing to a task to improve personal mental health and wellbeing.[21] Encouraging women to engage in the pregnancy, being active in managing their own health and belonging to groups can be beneficial in building resilience and developing positivity, which enhance a person's ability to manage adverse situations while providing meaning or purpose. An example of this is that GPs can guide expectant parents to credible websites that distribute knowledge in a timely way, and apps that integrate knowledge delivery, allow for social interaction and provide immediate feedback. Furthermore, GPs can link parents to pregnancy groups for support and mental health promotion, and arrange referrals to appropriate exercise regimes and perinatal education.

## Conclusions

GPs can play a key role in health promotion with prospective parents, a role that can extend beyond treating chronic health conditions and giving lifestyle or dietary advice. Being able to direct patients to credible resources that offer accurate and engaging information, and connecting them to appropriate support services, may offer the opportunity to develop important skills to cope with challenges they may face across the perinatal period and into early parenting and facilitate enjoyment of pregnancy.

## Key points

- Self-rated health in pregnancy is an important factor.
- Unintended pregnancy and poor timing of pregnancy may contribute to psychological distress.
- Preconception counselling should be encouraged to foster optimal pregnancy care.
- Lifestyle risk reduction is important, but awareness of risks around guilt and shame must be mitigated.
- Body image and self-esteem are contributors to psychological wellbeing.
- Coping mechanisms for adjustment to common minor issues in pregnancy may be enhanced through engagement with credible sources (eg interactive media, education, support services).

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