

Healthy Eating during Pregnancy & Lactation

Meeting increased nutritional needs of mums



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It Starts in the **WOMB**

Congratulations, mums-to-be! Now that you are pregnant, you are on the path of an amazing journey towards motherhood. With a new life forming in your womb, you need to take special care of your health, which includes eating well.

Eating healthily is very crucial during pregnancy, because the energy and nutrient you take in during this period will be channelled towards nourishing your baby and enhancing your own health. In fact, your baby's health starts right in your womb.

During your pregnancy, you may experience symptoms such as nausea, tiredness and constipation. Some women may also develop conditions such as gestational diabetes and pregnancy-induced hypertension. Good nutrition and healthy eating habits help to reduce these problems.

So read on and learn how to eat well to best ensure your health and your baby's!

Good nutrition during pregnancy helps to...

- Meet your increased energy and nutrient needs, especially during the second and third trimesters.
- Nourish your baby as he grows and develops inside you.
- Build tissues in the placenta and uterus, which supports your foetus growth.
- Develop breast tissues to prepare you for breastfeeding.



10 Steps to Eating Well During Pregnancy

Eating well during pregnancy doesn't mean that you have to totally change your eating habits or double your food portions. It's about making small but positive changes to what and how you eat.

1. Choose your foods according to the Malaysian Food Pyramid. Balance your meals by incorporating foods from the 5 major food groups.
2. Enjoy a variety of foods from within each food group, so that you reap the benefits of different nutrients and other food components supplied by different foods.
3. Eat moderately following the recommended serving sizes in the food pyramid and exercise regularly to maintain a steady weight gain.
4. Eat more fruits and vegetables. They are rich in vitamins, minerals, fibre and other phytochemicals to ensure your general well-being.
5. Increase your consumption of milk, dairy products and other calcium-rich foods to ensure adequate intake of calcium.
6. Avoid eating raw and under-cooked meats/seafood as they are prone to cause food poisoning.
7. Limit intake of caffeine, which is present in coffee, tea and cola drinks.
8. Drink at least 8 glasses of fluids a day, especially plain water.



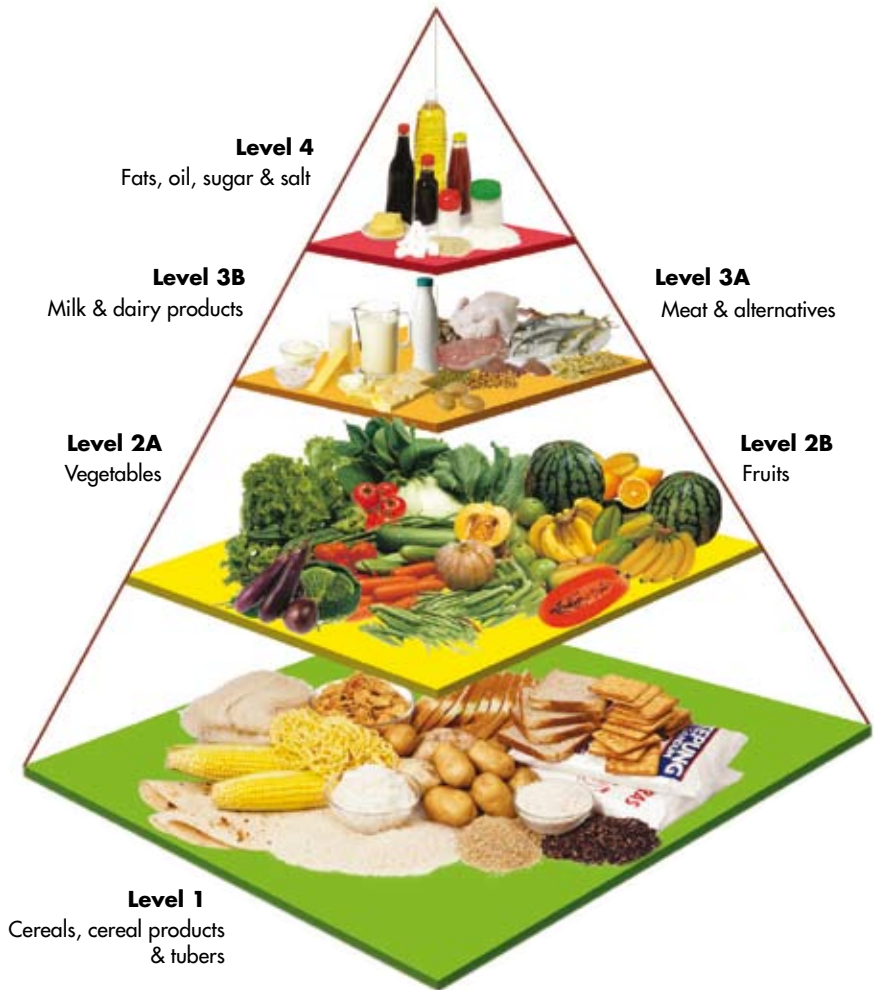
9. Keep your mealtimes scheduled and take healthy snacks if you feel hungry between meals.
10. Take supplements only when prescribed by your doctor.

More health tips for mums!

- Stop smoking if you are a smoker.
- Avoid alcohol.
- Keep physically active by doing light exercises.

Balance, Moderation

That's the key to eating right for everyone and at all times. You can easily practise balance, moderation and variety in your diet during pregnancy by following the recommendations from the Malaysian Food Pyramid!



Malaysian Food Pyramid

and Variety

Level 1: Cereals, cereal products & tubers

- Good sources of complex carbohydrates that provide energy for all body functions and activities.
- Take 6-8 servings each day.
- Examples of 1 serving: 1 cup cooked rice or noodles, 2 slices wholemeal bread, 1 cup breakfast cereals, 1 piece thosai, 1 small piece chapatti, 6 plain cracker biscuits, 2 medium potato/ sweet potato.

Level 2A: Vegetables

- Good sources of vitamins, minerals and fibre that help maintain a healthy immune system, promote growth and development, and improve bowel function.
- Take 3 servings each day.
- Examples of 1 serving: ½ cup cooked dark green leafy vegetables with edible stem, 1 cup *ulam*.

Level 2B: Fruits

- Good sources of vitamins, minerals and fibre.
- Take 2 servings each day.
- Examples of 1 serving: 1 slice of papaya/ watermelon/ pineapple, 1 medium banana/ orange/ pear/ apple, ½ medium-sized guava.

Level 3A: Meat & alternatives

- Good sources of protein to build and repair muscles, skin and tissues.
- Take 1 serving of fish, 1–2 servings of poultry/meat and 1 serving of legumes each day, respectively.
- Examples of 1 serving: 1 medium-sized chicken drumstick, 1 medium-sized fish (*ikan kembong*), 2 pieces of *taukua/tempeh*, 2 eggs.

Level 3B: Milk & dairy products

- Good sources of calcium to build bones and teeth.
- Take 2–3 servings each day.
- Examples of 1 serving: 1 glass (250ml) milk, 1 cup yoghurt, 1 slice cheese.

Level 4: Fats, oil, sugar & salt

- Fats and oils, sugar and salt are needed only in very minimal quantities.



Food Sources of

One of the ways to meet the increased nutritional needs during pregnancy (and lactation) is to choose foods that are rich in essential nutrients that you and your baby now need. Here is a list of important nutrients during pregnancy and the types of food that provide them.

CALCIUM

Milk and dairy products, bean and bean products including yellow dhal, *tofu* and *tempeh*, vegetables like spinach, watercress, mustard leaves, *cekur manis*, kai lan, calcium-fortified products such as high-calcium milk, yoghurt, breakfast cereals

IRON

Lean meat, chicken, eggs, chickpeas, dried soya bean curd, *pucuk paku*, bitter guard, spinach, *kangkung*

IODINE

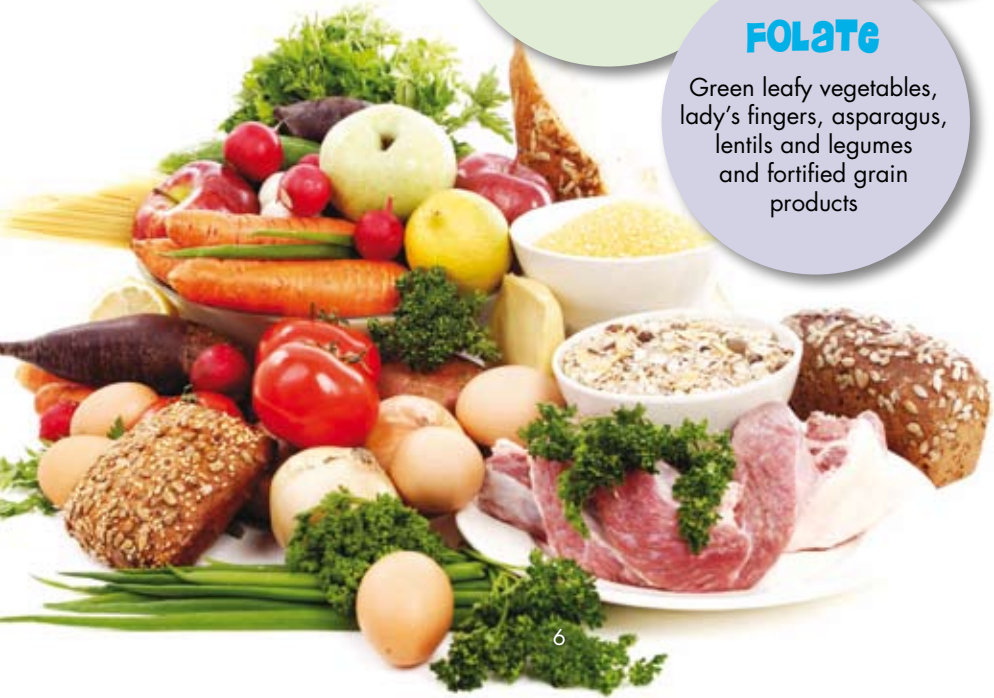
Seafood such as cockles, mussels, marine fish, seaweed, eggs, meat, milk and milk products, cereal grains

ZINC

Meat, fish, shellfish, nuts, legumes and whole grain cereals

FOLATE

Green leafy vegetables, lady's fingers, asparagus, lentils and legumes and fortified grain products



Essential Nutrients for You & Baby

VITAMIN A

Milk, eggs, yellow and red coloured fruits (mangoes, papaya), yellow and red coloured vegetables (carrot, pumpkin) and green leafy vegetables

Mums, take note!

Stick to food sources for your vitamin A supply. Avoid taking vitamin A supplement as too much of it can increase the risk of birth defects.

VITAMIN B1

Yeast, lean pork and legumes, fortified products such as bread, cereal products and biscuits

VITAMIN B2

Legumes (chickpeas, red and black gram and soya bean), meat, eggs and beef extract

VITAMIN B3

Beef, pork, fish, anchovies, peanuts and other nuts, whole grains and wholemeal wheat flour

VITAMIN E

Vegetable oils (e.g. palm oil, olive oil, corn oil), nuts (e.g. almond, hazelnut) and whole cereal grains

Cautions for seafood intake:

- Raw seafood should be avoided because of its increased risk of contamination that may lead to seafood borne illness.
- Beware of fish that may contain potentially high levels of mercury as it may affect your child's brain development and nervous system! Some examples are swordfish, king mackerel, tile fish & shark.

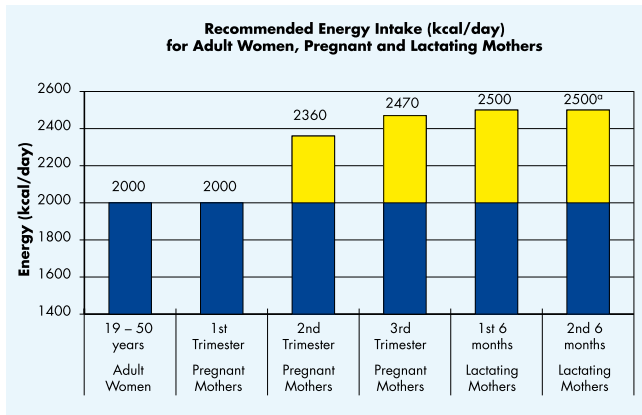
Major Nutrient Needs:

Pregnant and lactating women have greater energy and nutrients needs than non-pregnant women. It is advisable to obtain the additional energy and nutrients required from food sources as much as possible.

The charts below show the differences in the recommended nutrient intakes (RNI) and tips on how to achieve these increased nutritional requirements.



a) Energy intake



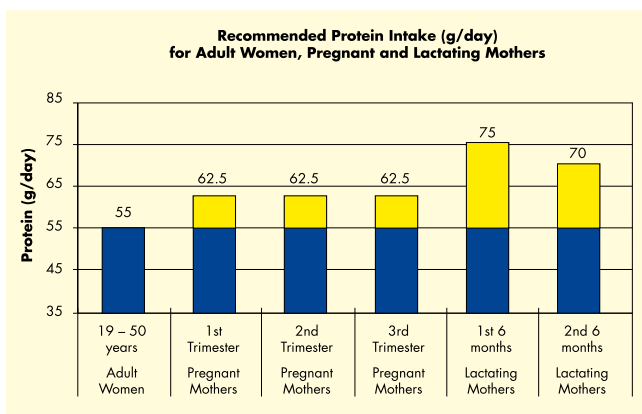
Tips:

- Your energy needs increased by 18% in the second trimester, 23.5% by the third, and 25% throughout the lactation period.
- Your extra energy requirements can be met by consuming additional 2½ servings of cereal (e.g. rice, oats) or cereal products (e.g. bread, noodles) every day during second trimester, 3 servings during third trimester and 3 ½ servings for first six months of lactation.
- Spread the additional foods over 3 main meals and 2 snacks.

Remark:

^a Energy requirement depends on amount of breastmilk produced

b) Protein intake

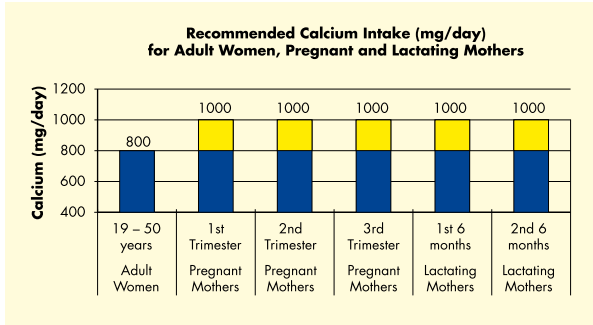


Tips:

- During pregnancy, increase your protein intake by adding one extra serving of legumes (e.g. dhal, lentils, beans) to your daily diet. If you don't like beans, try soy products such as *tempeh* or *taufu*.
- During lactation, consume more protein-rich foods to support breast milk production. It can simply be achieved by adding one medium-sized fish (e.g. *ikan kembong*) and one egg to your existing diet.

Before, During, After

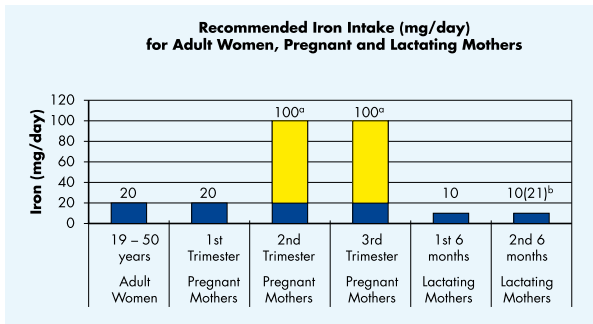
c) Calcium intake



Tips:

- Your calcium requirement increases by 25% during pregnancy and lactation period.
- Meeting your calcium requirement can be as simple as adding one glass of milk to your current diet.
- You can also obtain calcium from fish (e.g. sardines, *ikan bilis*), beans and bean products (e.g. *taufu*, *tempeh*), and green leafy vegetables.
- Other calcium-rich foods include dairy products (e.g. yoghurt) and calcium-fortified products (e.g. breakfast cereals).

d) Iron intake



Tips:

- Take iron supplements as advised by your doctor.
- Iron can also be obtained from meat, chicken, eggs and certain vegetables such as spinach and *kangkung*.

Remarks:

- ^a Iron supplements in tablet form are recommended for all pregnant women. In non-anaemic pregnant women, daily supplements of 100mg iron given during the second half of their pregnancy are adequate. In anaemic women, higher doses are usually required.
- ^b Lactating mothers who start menstruating.

e) Folate intake

- Tips:**
- Start taking folate supplements even before conception to reduce the risk of neural tube defects in your baby.
 - Continue to take folate during pregnancy as advised by your doctor.
 - You can also obtain folate from foods, such as green-leafy vegetables, lady's fingers, and fortified grain products.



Healthy Weight Gain for a Healthy Baby

You will gain weight progressively during pregnancy, and achieving the right weight is important to avoid an oversized or underweight baby. Eating well is one of the important ways to help you gain weight within the recommended range.

How much weight should you gain?

The amount of weight you should healthily gain during pregnancy is relative to your pre-pregnancy body mass index (BMI).

1. Calculate your pre-pregnancy BMI by dividing your weight in kilograms by the square of your height in meters (kg/m^2).

$$\text{Your BMI} = \frac{\text{weight (kg)}}{\text{height (m)} \times \text{height (m)}}$$

2. Based on your pre-pregnancy BMI, find out how much weight you should gain by full-term using the table below.

Pre-pregnancy BMI	Total weight gain by full-term
<18.5 (Underweight)	12.5–18 kg
18.5–24.9 (Normal)	11.5–16 kg
25–29.9 (Overweight)	7–11.5 kg
≥ 30 (Obese)	5–9 kg

Example: If your pre-pregnancy BMI is 28, you are overweight. You should aim for a weight gain of 7–11.5 kg by the end of your pregnancy.



Give Your Newborn the Best

Congratulations again! Not only because you have now begun motherhood, but also you have made the wisest decision in your life, that is to breastfeed your newborn.

Breastfeeding is the best gift you could ever give to your baby. Breast milk is the best nutritional choice during a baby's first 6 months of life, and it offers a myriad of health benefits that your child will enjoy for a lifetime.



“*Infants should be exclusively breastfed for the first 6 months of life to achieve optimal growth, development and health. Thereafter, infants should receive nutritionally adequate and safe complementary foods, while breastfeeding continues up to 2 years of age or beyond.*”

- WHO-

The wonderful benefits of breast milk!

- Baby gets the right balance of protein, fat and carbohydrates, all from mother's milk.
- Breast milk contains antibodies to protect baby against infections while his immune system is still developing.
- Nutrients in breast milk are easily digested and absorbed by baby.
- Breast milk contains essential fatty acids, such as alpha linolenic acid (ALA) and linoleic acid (LA), which are essential for brain development.
- Breastfed babies are less likely to suffer from diarrhoea or develop allergies.

So go on and give your baby a sound nutritional start in life!

Eating



Well During Lactation

Your baby relies on you to provide him with the necessary nutrients to help him grow. Therefore it is important for you to continue eating a nutritious and balanced diet after giving birth. The nutrients you gain from your diet will be passed on to your baby through breastfeeding.

Your energy and certain nutrient requirements are increased in the first 6 months of lactation (see charts in pages 8 & 9). It is essential that you eat well to meet these needs; you need to produce adequate and good quality milk for your newborn, and also to have energy to take care of him.

Milk production can be affected by what you eat, so eat healthily.

- Eat a well-balanced diet according to the Food Pyramid, to obtain enough protein, calories, vitamins and minerals to cover both your needs and your baby's growth.
- Drink plenty of fluids throughout the day, i.e. 6-8 glasses plain water daily, even if you are not feeling thirsty.
- Take supplements only if advised by your doctor.
- Eat a variety of nutrient-rich foods (see pages 6 & 7).

Can I still eat well during confinement?

You are likely to follow some traditional confinement rules and adhere to some recommended confinement diets to help you recover from the exertion of labour and to produce sufficient breast milk.

No matter which confinement diet you follow, make sure your nutritional needs for lactation are met by practising a well-balanced diet. Follow the dietary tips below to keep you and your baby healthy!

- Obtain good quality protein from fish, poultry, red meat, as well as legumes.
- Ensure adequate intake of calcium from milk, dairy products as well as other calcium-rich foods.
- Get your nutrients by eating nutritious foods instead of taking supplements.
- Limit caffeine intake, avoid alcohol, and stop smoking if you are a smoker.



Staying Active during Pregnancy and Lactation

A regular and moderate exercise routine helps you stay healthy and feel good during pregnancy and lactation.

Regular physical activity...

- ✓ Improves fitness.
- ✓ Enhances blood circulation.
- ✓ Helps you feel and sleep better.
- ✓ Maintains a healthy body weight, making it easier for you to regain your pre-pregnancy weight and shape.
- ✓ Prepares you for the rigours of labour and birth.

How much do I need to exercise?

- If you are not previously active: Exercise moderately for up to 30 minutes a day. It can be an accumulation of 10 minutes of exercise done 3 times a day.
- If you have been active before pregnancy: Continue to stay active at an appropriate level of physical activity.

Exercise tips for mums

During pregnancy

- Do moderate-intensity exercises, such as walking, swimming, pregnancy yoga.
- Avoid activities that require jumping, hopping and running.
- Always check with your doctor before you start an exercise routine.

Post-natal

- You can begin with pelvic floor exercises a few days after giving birth.
- Progress to gentle exercises, such as a short walk (10-20 minutes), light stretching and exercises to tone the abdominal muscles (e.g. pelvic tilts).
- Wait 6 weeks before joining an exercise class.
- Don't swim until you have had 7 days without vaginal bleeding or discharge.
- Start slowly and listen to your body. Don't over-exert yourself.

Caution for pregnant mothers

- Avoid activities with high risk of falling (e.g. riding) and contact sports (e.g. netball).
- Avoid overheating the body.
- Stop exercising if you experience back or pelvic pain, headache, dizziness, shortness of breath or vaginal bleeding.
- DO NOT exercise if you have a complicated pregnancy (e.g. placenta praevia, pregnancy-induced hypertension, heart disease, multiple pregnancy, history of miscarriages and bleeding).



Nutrition Society of Malaysia

IMPROVING LIVES through **NUTRITION**

As a professional organisation, we are guided by a simple belief – the more people understand food and nutrition, the better they can care for their health and well-being.

For that reason, we support the advancement of research, sharing practical insights and important discoveries for the benefits for all.

We also support the Government's efforts in promoting healthy nutrition in the society to combat nutrient deficiencies as well as diet-related chronic diseases in the country (e.g. obesity, diabetes, hypertension and coronary heart disease).

In caring for the community, we continuously disseminate practical nutrition information to the young and old alike, guiding them to discover the benefits of good nutrition and a healthy lifestyle.

We are committed to improve lives through nutrition. It's our way of serving Malaysians.

For more information, visit our website:
www.nutriweb.org.my

Our Activities

- Annual scientific conferences
- Scientific update sessions
- Malaysian Journal of Nutrition
- Berita NSM
- Consultation with health, regulatory & scientific bodies
- Roadshows & exhibitions with nutrition screening & dietary advice for the public
- Public talks & workshops
- A comprehensive and authoritative website on nutrition for Malaysians - <http://www.nutriweb.org.my>
- Nutrition promotion programmes in collaboration with other professional bodies and private sector (eg Nutrition Month Malaysia, Healthy Kids Programme, Positive Parenting)
- Conduct research on specific community groups

Our Major Publications

- Malaysian Journal of Nutrition
- Nutritionists' Choice Cookbook (Vol 1: Healthy Recipes for Your Little Ones)
- Resipi Sihat, Pilihan Bijak (Vol 1 & 2)
- Women@Heart *Wanita & Pemakanan* manual for professionals and leaflets for public
- Malaysian Dietary Guidelines leaflets
- NMM booklets on healthy eating and active living



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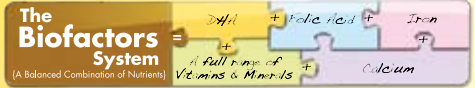
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Reference : 1. Nutrient Composition of Malaysian Foods, 4th Edition, 1997.