

Nutrition in pregnancy:

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Introduction:

Nutrition is an important health topic, especially for pregnant women. This means eating a well-balanced meal which includes both macronutrients (which provide calories for energy-these are proteins, carbohydrates and fats) and micronutrients (vitamins and minerals which help chemical reactions in the body). Protein builds and maintains muscles while carbohydrates and fats provide energy. Carbohydrates are broken down into glucose, fructose and galactose, but it is glucose that forms the basis of energy. It is essential to obtain the correct amount of glucose since excess amounts are stored as fat and this might set the stage for obesity.

Sources of:

Protein: *cereals, meat, beans, fish and nuts*

Carbohydrates: *fruit, vegetables, cereals*

Fats: *nuts, seeds, canola and olive oil, fish*

Also note that a healthy pre-pregnancy diet is beneficial to mom and baby, since an adequate intake of folic acid preconceptually reduces the risk of having a baby born with Down's syndrome. Obese women will be advised to lose weight before pregnancy due to more complications during pregnancy and underweight patients with <22% body fat might have ovulation problems and might experience problems with conceiving.

To appreciate how important optimum weight and nutrition is for every individual you need to be familiar with the Barker Hypothesis.

What is the Barker Hypothesis?

About 20 years ago Dr David JP Barker, a physician at the university of Southampton (UK) showed that people who had low birth weights were at

greater risk at developing coronary heart disease, suggesting that the intra-uterine metabolic environment is vital to optimum adult health. Fetuses deprived of essential nutrients are then predisposed to developing heart disease, diabetes and hypertension in their adult life. In 2010 TIME magazine referred to this theory as the 'new science'.

What is body mass index (BMI)?

It is an estimate of healthy body weight. It is calculated using your height and weight (see useful links-BMI calculator). Current values are as follows:

BMI < 20- underweight

BMI - 20-25-optimal weight

BMI - 25-30-overweight

BMI - 30- 40- obese

BMI > 40-morbidly obese

Why is nutrition particularly important in pregnancy?

There is a clear relationship between weight gain during pregnancy and fetal outcomes such as miscarriages, preterm birth, low birth weight, reduced amniotic fluid etc. The risk of these complications are generally higher in obese pregnant women.

What is adequate weight gain in pregnancy?

The average weight of all the products of conception such as the increase in blood volume, breasts and fat is approximately 13kg.

- For normal women-11.5-16kg
- For underweight women-12.5-18kg
- Overweight women-7-11.5kg
- Severely obese-6kg

What should I eat?

- Plenty of fresh fruits and vegetables- 5 a day generally recommended
- Bread, rice, potatoes, pasta
- Chicken, fish (2 portions per week of which one should be oily fish such as fresh tuna, mackerel and salmon), pulses (beans, peas and lentils), red meat (lean cuts)
- Dairy such as milk, cheese and yoghurt- important source of calcium.
- Fibre from wholegrain cereals, wholegrain bread, pasta, rice, fruit and vegetables- help with constipation
- Avoid peanuts if you are allergic to peanuts.
- Limit amounts of caffeine (found in tea, coffee and chocolate)-so less than 2 mugs of instant tea and coffee and 4 bars of plain chocolate (50gms each).

What should I avoid eating?

- Certain cheeses e.g. Camembert, brie or Chevre. Cheddar, parmesan and cottage are generally ok.
- Pâté-including vegetable
- Any uncooked or undercooked ready meals
- Avoid eating raw eggs-to avoid salmonella food poisoning

Always wash hands thoroughly after washing meat, make sure meat is well-done. Always wear gloves when gardening and handling cat litter, and wash hands afterwards. This is to avoid toxoplasmosis which is a parasite that is found in soil, cat faeces and meat, as toxoplasmosis can affect a developing baby.

Sources of Iron?

Your obstetrician will do a full blood count and advise you accordingly. If it is low, you might require iron supplements.

Good sources of iron include: Red meat (lean cuts)

: Green leafy vegetables

: Dried fruit

: Pulses

What are important vitamins and minerals that I need?

- Calcium-500-1000mg/day (elemental)
- Folic acid-400ug/day at least until the 12th week of pregnancy-prevents neural tube defects. In obese women 5mg is essential.
- Vit A- < 700mcg/day-higher doses can cause fetal abnormalities
- Vit B supplementation: B6-reduce nausea and vomiting/ decrease homocysteine levels
- Vit C- < 200mcg/d-important for collagen synthesis/ wound healing/ prevents anaemia and is a good antioxidant
- Vit D- 10 mcg/day-important especially where exposure to sunshine is limited
- Vit K1- 10MG/day important for blood clotting

What about dieting in pregnancy?

This is a commonly expressed concern, particularly if women are obese. It is generally thought that there is little evidence of harm in the first trimester, but not a generally advised from the second trimester onwards since caloric restriction might affect both mom and fetus.

Weight loss after pregnancy?

If you had a healthy lifestyle before falling pregnant, it is easier to shed most of the weight after birth. Generally most women will lose about 10kg when giving birth, and 0.5-1kg per month of breastfeeding. So if you breastfeed for 4 months you can lose up to 4kg.

Discuss restarting your exercise routine after your postpartum check with your obstetrician.

Other healthy foods recommended for general health:

Antioxidants

Foods rich in antioxidants are good for health since they prevent the formation of free radicals which cause cellular damage. Oxidative damage can contribute to a wide variety of diseases such as diabetes, cardiovascular disease, Rheumatoid arthritis, Alzheimer's and Parkinson's. Antioxidants can be vitamins, minerals or phytochemicals (plant chemicals). Although exercise strengthens the body's antioxidant defenses, you need to eat the correct foods with antioxidant properties.

- Vitamins A, C and E (fruits, vegetables and eggs) e.g. blueberries, strawberries, raspberries, prunes, apples, carrots etc
- Selenium (dates, bananas, mango's, brazil nuts, button mushrooms, salmon)
- Zinc (dates, avocado's, black berries, pine nuts, pecan nuts, cashew nuts, shellfish)
- Copper (dates, avocado's, guava's, mango's)

See: <http://www.healthalternatives2000.com/minerals>

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