NUTRITION DURING PREGNANCY

Leading up to and throughout pregnancy it is vital that women eat a healthy diet for the proper growth and development of baby as well as optimising their own health. This is a time when it is especially important that women eat a wide variety of foods in accordance with dietary guidelines, such as those issued by the Australian National Health and Medical Research Council. Some nutritional requirements are increased during pregnancy, such as folic acid and iron, and it is recommended that women take these as supplements, in addition to a nutritious balanced diet.

FOLIC ACID TO PREVENT NEURAL TUBE DEFECTS

It is vital that a woman's folate levels are adequate during the initial stages of pregnancy, in particular for the development of the baby's brain and spinal cord. It is recommended that all women take a supplemental form of folic acid for at least one month before and for three months after conception. Folate is essential for DNA synthesis and the rapid growth of the foetus requires a high level of this vitamin, particularly during brain and spinal development in the first six weeks after conception.

Research shows that the synthetic form of folic acid (the active form of the vitamin), rather than the natural form, is of more benefit for baby's development. Maximal protection against neural tube defects(NTD) results from a daily dose of 5mg of supplemental folic acid. The NHMRC currently recommend that women with a family history of neural tube defects take 5mg daily to aim to prevent these debilitating disorders of which the majority are spina bifida or anencephalus. Approximately 400 children are born in Australia each year with neural tube defects.

For women who have no family history of this disorder the current recommendation is 0.4mg daily of supplemental folic acid in addition to consuming food folate from a varied diet. Australia has introduced mandatory folic acid fortification of bread flour, except for organic products, (to be compulsory after September 2009) which is expected to reduce the number of NTD affected pregnancies by up to 14% each year. Many breakfast cereals and some orange juices in Australia are also fortified with folic acid, whilst green, leafy vegetables are a good source of natural folate.

CALCIUM

The NHMRC currently recommend that pregnant women have a daily calcium intake of 1000mg. For teenage pregnancies the recommendation is 1300mg to support the continuing development of the mother's bones. Calcium is essential for bone and teeth development as well as proper nervous system and heart function.

Achieving daily requirements in pregnancy can be as easy as having 3 serves of low fat dairy products or other calcium fortified foods, such as soymilk, as part of a healthy and varied diet. As a general guide one serve is equivalent to 300mL of milk or calcium fortified soymilk, two slices (40g) of cheese or a 200g tub of yoghurt. Check the labels on dairy products or substitutes to see how much of this essential mineral you are consuming on a daily basis.

The calcium in dairy foods is the most easily absorbed and dairy products have many other health benefits as well. Low fat dairy is always recommended for adolescents and adults. For pregnant women a smoothie made with fresh fruit, skim milk and some yoghurt is an ideal snack to meet some of your extra nutritional and energy needs. Other foods that are worthwhile contributors to calcium intake are canned fish with bones, leafy vegetables, tofu, dried fruits, almonds and fortified fruit juices although a woman would need to eat almost one cup of almonds or 107 Brussels sprouts to get the same amount of calcium as is in one glass of milk. Where dietary intake is inadequate a calcium supplement is recommended.

IRON

Iron deficiency is a significant health problem in Australia, particularly during pregnancy, when daily requirements increase by over 30% to meet the needs of the placenta, baby and the mother's increased red blood cell mass. Adequate iron levels are essential to prevent anaemia, which

compromises oxygen delivery to baby and adversely affects the health of the mother, particularly if there are complications during the birth.

It is recommended that pregnant women take an iron supplement throughout their pregnancy as their iron needs are not likely to be met through diet alone. Before taking an iron supplement women should speak with their doctor as there is a hereditary medical condition called haemochromatosis, which generally is not detected until middle age, but for which taking supplemental iron is not advisable. Supplementation with 20mg of iron daily has been found to be effective in preventing iron deficiency without significant side effects. The recommended dietary intake is 27mg daily.

The best dietary sources of iron are red meats, such as beef and lamb and it is ideal to have several meals per week containing these meats. The iron in these meats is in the form of haem-iron, which is more readily absorbed by the body. Chicken, game and fish also contain haem-iron but in smaller amounts. Non-haem iron; such as that found in legumes, whole grains, fortified breakfast cereals, dried fruits, nuts and green leafy vegetables; also plays an important role. The absorption of this non-haem iron may be optimised by having vitamin C rich foods in the same meal. Reduced iron absorption from non-haem iron may result if tea, coffee or red wine are consumed with the meal, whilst other mineral supplements such as calcium or magnesium should be separated from the iron supplement by at least two hours, as they compete for absorption in the digestive tract.

IODINE

Iodine is an essential component of the thyroid hormones required for normal growth and development of babies, including that of the central nervous system. Even mild iodine deficiency may result in mental impairment and reduced IQ. There is concern that iodine intake is inadequate in Australia, particularly following studies revealing that residents in Sydney and Tasmania may have mild iodine deficiency due to inadequate levels of iodine in our food supplies.

Major food sources of iodine are fish (one serve can provide approximately 20% of RDI), other seafoods and kelp, as well as iodised table salt. Unfortunately salt added to processed foods is generally not iodised. If taking a multivitamin and mineral supplement be sure that it contains adequate iodine. The recommended level in pregnancy is 220mcg daily.

OMEGA 3 FATTY ACIDS

The essential omega-3 fatty acids (EPA and DHA) are required for brain and visual development of the foetus. Studies are currently underway into the importance of the ratio of these fatty acids. The best sources of EPA and DHA are fish oils and deep sea, oily fish such as salmon (canned or fresh), fresh tuna, mackerel, sardines and herring.

Flaxseed, canola oil and walnuts are indirect dietary sources that contain the precursor to these long chain fatty acids. The conversion rate to EPA and DHA from these plant sources is inefficient at around 5% so it may prove quite difficult to achieve optimal levels of omega 3 fatty acids without fish or fish oil.

Three meals of fish per week are recommended, with emphasis on deep-sea fish. Mercury toxicity is of concern in pregnancy and consumption of the flesh of large, predatory species such as shark (flake), tuna, marlin and swordfish should be limited to one serve once to twice a fortnight.

CEREALS AND BREADS

During pregnancy most women will require 4 to 6 serves of breads, rice, noodles, pasta, etc, with increased amounts eaten to meet energy requirements of the individual. One serve is equivalent to 2 slices of bread or 1 cup of cereal, rice, pasta or noodles. Always try to eat wholegrain cereals as it is the outer layer which contains much of the nutritional benefits.

FRUIT AND VEGETABLES

The need for these food groups increases during pregnancy and it is recommended that women eat 4 serves of fruit each day and at least 5 to 6 serves of vegetables daily. One serve of vegetables is equivalent to ½ a cup of cooked or 1 cup of raw (eg salad). Dietitians recommend a couple of extra pieces of fruit or some raw vegetables to snack on during the day; rather than high fat, high sugar or high salt foods.

PROTEIN FOODS

On average women should be aiming for 1.5 serves of protein rich foods each day to support the growth of the growing baby and associated tissues. This is easily achieved for most Australians through the consumption of lean meats, fish, poultry, nuts and/or legumes at one to two meals per day. One serve is equal to 65 to 100g of cooked meat, 2 small eggs or 1/3 of a cup of beans or legumes. Having a vegetarian day once weekly using legumes or beans, as a meat substitute, has many health benefits.

EXTRA FOODS

These are the treat foods like cakes, biscuits, ice cream and chocolates as well as fats and oils. The consumption of these high kilojoule, low nutrient foods should be limited. Depending on your individual energy requirements consumption of up to 2.5 serves a day in pregnancy is considered acceptable. One serve of these foods is generally quite a small amount for most people with one chocolate bar or one slice of pizza being equivalent to 2 serves.

ALCOHOL, CAFFEINE AND OTHER DRUGS

Smoking, alcohol, excess caffeine, illicit drugs, as well as many prescribed and over the counter medications, including natural therapies, may be harmful to babies during this vital developmental stage of life.

Smoking during pregnancy has detrimental effects on the baby and mother and should be completely avoided. Alcohol and caffeine may be consumed in small amounts. Alcohol in excess causes permanent physical and intellectual disabilities (foetal alcohol syndrome) and even a moderate intake increases the likelihood of miscarriage. Many women chose to avoid alcohol completely during pregnancy. Caffeine has been found to be safe in amounts of up to 3 to 4 cups of instant coffee per day.

ENJOY EATING A NUTRITIOUS DIET DURING PREGNANCY
KNOWING YOU ARE DOING YOUR BEST FOR YOUR DEVELOPING BABY!!

REFERENCES

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