

Nutrition During Pregnancy

Introduction

There are numerous changes in nutritional needs for a pregnant woman. Such changes are partly due to the nourishment demands of the foetus and partly to other physiological variations that affect absorption and metabolism of nutrients. These changes help insure normal development of the baby and fill the subsequent demands of lactation, or breastfeeding.

Changes in nutritional needs in pregnancy appear to be related to the body's adaptation to pregnancy because the changes occur too early to be responding solely to foetal needs. Such changes include a reduction of **electrolytes** , **proteins** , **glucose** , **vitamin B-12** , **folate** , **vitamin B-6** , and a rise in **lipids** , **triglycerides** , and **cholesterol** in blood. Pregnant women require different amounts of iron, folic acid, sodium, and sugar intake (see below).

The consequences of maternal malnourishment may include health problems for the mother and an infant of low birth weight who may have nutritional and other deficiencies. The *Food and Nutrition Board of the National Academy of Sciences* specifies certain increases in the Recommended Daily Dietary Allowances (RDAs) for pregnant and lactating women.

Extra Nutritional Needs in Pregnancy

According to the *American College of Obstetricians and Gynecologists*, pregnant women should increase their usual servings of a variety of foods from the four basic food groups to include a total of four or more servings of fruits and vegetables, four or more servings of whole-grain or enriched bread and cereal, four or more servings of milk and milk products, and three or more servings of meat, poultry, fish, eggs, nuts, and dried beans and peas.

Often, **nutritional supplements** are provided for pregnant women, but according to a June 1990 report released by the *Institute of Medicine* (IOM) studies found these supplements to be of little or no value. Most physicians agree that RDAs, except those for iron, can be obtained through a proper diet.

Iron is needed in larger doses, especially in the later stages of pregnancy, and cannot be met by diet alone, according to the *National Research Council* . More iron is needed not only because of foetus demands, but also because the mother's blood volume may be increased as much as 30 percent. This mineral is essential to the formation of healthy red blood cells, and it is difficult for a woman to consume enough of it from foods to maintain an adequate supply for herself and her foetus. Without enough iron, the foetus will draw its supply from the mother, often leaving her **anaemic** and exhausted. An iron supplement can alleviate this condition.

Folic Acid . Pregnancy doubles a woman's need for folate (folic acid or folacin). However, there is not universal agreement on the necessity of folate supplements for all pregnant women. In certain studies, the vitamin folic acid has been shown to be important in preventing **neural tube defects** , such as spina bifida. The need for folic acid is essential to the formation of red blood cells. However, the IOM panel found insufficient evidence to recommend that all women take supplements containing folate, which can be found in liver, kidneys, leafy green vegetables, and dried beans and peas.

While research continues, the IOM recommends supplements only for pregnant women who are **smokers** , **drug users** , **alcohol drinkers** , or strict vegetarians. Obstetricians will continue to make the decision to recommend supplements based on individual requirements and will not recommend multivitamin supplements without a specific medical reason. See also: **folic acid anaemia** .



Salt . There is considerable medical opinion that pregnancy is a "salt-wasting" condition, that is, one in which the body can use more salt than usual. Further, sodium deprivation may be harmful to the foetus. The sodium intake usually recommended in pregnancy is 2,000 to 8,000 milligrams a day, compared to the normally recommended 1,100 to 3,300 milligrams per day.

Sugar is also an occasional concern in pregnancy. Virtually all women excrete more glucose (a form of sugar) in their urine when they are pregnant. Diabetic women should be closely monitored to make sure their blood sugar values are at or near normal.

Eating for 2

If a woman's calorie intake is restricted in pregnancy, she may not get enough protein, vitamins and minerals to adequately nourish her unborn child. Low-calorie intake can result in a breakdown of stored fat in the mother, leading to the production of substances called **ketones** in her blood and urine. The production of ketones is a sign of starvation of a starvation-like state. Chronic production of ketones can result in a mentally retarded child.

For these reasons, the *National Academy of Sciences* recommends that pregnant women eat an average of 150 calories more per day in the first trimester and 350 calories more per day in the two subsequent trimesters than they did before becoming pregnant. A total weight gain of about 25 to 30 pounds is usually recommended, with the actual pattern of gain considered more important than the number of pounds. Weight gain should be at its lowest during the first trimester, and should steadily increase, with the mother-to-be gaining the most weight in her third trimester, when the foetus and placenta are growing the most.

Extra weight in Pregnancy

Thirty years ago, the National Research Council's Food and Nutrition Board advised women to gain 20 to 25 pounds during pregnancy. Studies have since shown that underweight women, or those who gain fewer than 20 pounds during pregnancy, are at an increased risk of delivering low-birth-weight babies. Based on a 1990 study, IOM now recommends a weight gain of 25 to 35 pounds during a normal pregnancy to decrease this risk. Adolescents and black women, who often have smaller babies, are now strongly advised to gain a greater amount. Check with your physician for latest information.

The recommended increase in weight gain does not give a green light for mothers-to-be to overeat. Although the extra nutrients are required, an increase of only 300 calories per day is recommended. Weight gain during pregnancy should be gradual. The American College of Obstetricians and Gynaecologists recommends 3 to 4 pounds in the first three months and 3 to 4 pounds per month during the rest of the pregnancy. Approximately 6 to 8 pounds of the total weight is the baby, and the remaining weight consists of an increased fluid volume, larger breasts and uterus, amniotic fluid, and placenta.

During pregnancy, fat deposits may increase by more than a third the total amount a woman had before she became pregnant. Most women lose this extra weight in the birth process or within several weeks thereafter. Breast-feeding helps to deplete the fat deposited during pregnancy. A woman who breastfeeds expends 600 to 800 more calories than one who doesn't. The woman who breastfeeds her baby also has increased needs for specific nutrients.

