

# NUTRITION GUIDE DURING PREGNANCY



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## Pregnancy, a wonderful experience!

Pregnancy is a unique, exciting and a joyous time in a woman's life. It enhances the woman's nurturing powers, providing a bridge to the future. Pregnancy is a wonderful time for most women, but many women are puzzled with questions as they want to do all the right things for their growing baby.

During this period, nutrition plays an important part all through conception and continuing until after the baby is born. The growing fetus depends entirely on its mother's healthy body for all its needs. So eating healthy and balanced diet throughout pregnancy is very important. And when it comes to the first trimester of your pregnancy, you need to be extra careful and cautious in adapting healthy lifestyle.

### A. Nutrition during First Trimester of Pregnancy

#### ♥ CALORIES

The calorie requirement during pregnancy increases by 350 kcal/day. The additional energy is required for:

- The physical growth of the fetus
- The growth of the placenta
- The normal increase in the maternal body weight
- The slow but steady rise in the basal metabolic rate during pregnancy

#### ♥ FAT

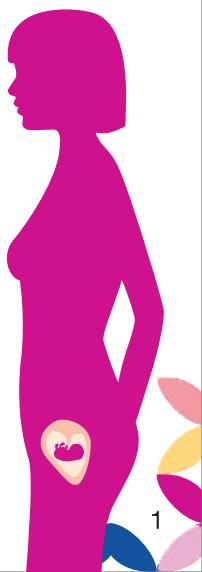
Intake of polyunsaturated fatty acids appears to have a positive effect on neuro development, while trans-fatty acids may have adverse effects on the fetal development. Use refined oils, instead of saturated fats like ghee, butter, margarine, etc.

#### ♥ PROTEIN

Getting enough protein is essential during pregnancy. Protein requirement increases to 78 g/day during this period.

#### ♥ IRON

Iron requirement increases to 35 mg/day. A single large dose of iron at the beginning of the pregnancy is an effective way to build up iron stores and protect against depletion of the reserves.



## **FOLIC ACID**

Folic Acid intake during the first trimester can significantly reduce the likelihood of congenital malformation involving the spine and the brain. It plays a role in preventing neural tube defects, such as spine bifida. Foods like dark green leafy vegetable, legumes, orange juice, soy products, wheat germs, almonds and peanuts are good sources of Folic Acid. In addition, women planning pregnancy should begin preconception supplementation with folic acid.

## **SODIUM**

During pregnancy there is an increase in the extra cellular fluid which calls for an 80 percent increase in the body sodium. Restriction in the diet can cause a severe hormonal and biochemical changes. When blood sodium level drops, kidney produces a hormone called renin, as a result of which the sodium that is needed for use by the body is retained.

## **BETA CAROTENE**

Beta carotene is vital to promote fetal growth, healthy skin and eyes as well as supports bone growth and boost immunity. Carotenoids are found in fruits and vegetables like carrots, sweet potatoes and tomatoes.

## **VITAMIN C**

Recommendation of Vitamin C during pregnancy is 60 mg. The Vitamin C content of fetal blood is thrice as much as maternal blood. Low maternal intake of Vitamin C is associated with premature rupture of fetal membranes and increases neonatal death rates. A few studies have suggested an association between low plasma levels of Vitamin C and preeclampsia. Also Vitamin C is important to help you and your baby have healthy skin, gums, teeth and bones, but it also helps you absorb iron and fight infection. Best source of Vitamin C are all citrus fruits, juices and vegetables.

## **VITAMIN B12**

Deficiencies of Vitamin B12 has been shown to reduce the ability to conceive as well as cause birth defects. The capacity of a woman to absorb B12 is increased during pregnancy and a large amount is transferred to the fetus. Vegetarian mothers have more chances of getting B12 deficiency. B12 typically comes from meat, fish, poultry, and milk and milk products.

## ♥ VITAMIN B6

Vitamin B6 helps to form red blood cells as well as helps the body better utilize the proteins, fats and carbohydrates. Vitamin B6 is said to control nausea during pregnancy.

## ♥ ZINC

Zinc deficiency during the antenatal period leads to adverse effects on the newborn including fetal mortality, fetal malformations, such as reduced intra uterine growth rate. Low zinc during Foods high in protein often have lots of zinc. Consume milk and milk products, vegetables, beef, turkey, crabmeat, chicken and salmon for this mineral that helps the baby develop strong organs, nervous, skeletal and circulatory systems.

## ♥ POTASSIUM

Potassium helps maintain fluid and balance electrolytes during the pregnancy. Fulfill the daily potassium requirements from foods such as bananas, lemon, all citrus fruits, coconut water, avocados, baked potato, mushrooms and salmon.





## B. Tips for First Trimester of Pregnancy

- ♥ Before you get pregnant, get in the habit of eating a balanced, nutritious diet
  - ♥ Try eating small, frequent meals throughout the day
  - ♥ Eating healthy snacks throughout the day to ensure you are getting enough nourishment
  - ♥ Whole grains are excellent source of nutrition and can be easily prepared
  - ♥ Getting plenty of water each day is very important all through pregnancy
  - ♥ Water facilitates blood flow, flushes out your system, and replenishes the amniotic fluid. If you aren't getting enough water, dehydration can lead to contractions and premature labor
  - ♥ Constipation can be a problem during pregnancy as progesterone slows the digestion of food. Increasing your fiber intake can help combat this problem
  - ♥ Foods containing ginger, such as ginger snaps, ginger ale, crystallized ginger and ginger tea have been used by many pregnant women to fight off morning sickness
  - ♥ Choose baked foods over fried foods to reduce any indigestion you may be experiencing. Baked is a healthier choice, too
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## C. Food to avoid during pregnancy

### ❖ MERCURY

It is found in certain varieties of fish. Pregnant women should avoid eating shark, swordfish, and other fish, high in mercury. Shrimp, salmon, and tuna are low-mercury fish and also contain healthy fats; these can be consumed twice per week.

### ❖ CAFFEINE

The amount of caffeine varies among brands of soda, coffee, tea and chocolate. Coffee has approximately 100-250 mg, soda has about 50 mg, and tea about 35 mg. Caffeine content in chocolate can be quite variable, but only up to 25 mg/serving is recommended.

### ❖ RAW FOOD

Food like seafood, undercooked meat and unwashed fruits may be contaminated with bacteria causing infection and food posing, thus, posing harm to your health and of the baby.



## D. Nutrition during Second Trimester of Pregnancy

As you enter the second trimester of pregnancy you need to be highly careful with your diet because this is an important phase. In this period, there is a lot of tissue formation as well as enlargement of breasts and uterus. There is also an increase in the blood volume. With so many vital activities taking place during this phase, you need to maintain a healthy and balanced diet.

### ♥ CALORIE

The calorie requirement of pregnancy gets a boost in the second trimester. Calorie should be taken in the form of cereals, fruits, sweet potato, brown rice refined flours and brown rice.

### ♥ PROTEIN

Getting enough protein is essential in the second trimester as your baby's organs finish their development. The recommendation is 1 g/kg/day, which is slightly higher than that of the non-pregnant woman. Additional protein is essential for:

- To promote fetal growth
  - Formation of amniotic fluid and reserves for labor, delivery and lactation
- If protein requirements are not met during pregnancy there is increased risk of pregnancy
- The fetus may grow at the expense of mother
  - Maximum growth of the baby cannot be obtained
  - Number of cells in the tissue particularly in brain may be less

Through small serving of protein rich food like milk, lean meat, egg, cheese are complete proteins and of high biological value additional protein may be obtained from legumes and whole grains, nut and oil seeds.

### ♥ IRON

The actual increase in the requirement of iron is only in second and third trimester. To avoid iron deficiency a woman should enter pregnancy with a store of at least 300 mg of iron. Iron plays an important role in the supply of oxygenated blood to your baby. During pregnancy, your need for iron doubles as your blood volume expands to accommodate you and your baby's need for blood to carry oxygen as well as the blood needs for your baby's entire system. In addition to supplements, one can get iron from red meat poultry and green leafy vegetables, whole grain bread, dry fruits spinach and fortified cereals.



It is also required for the formation of hemoglobin as there is 40-50 percent increase in maternal blood volume. Rich sources of iron are liver, dried beans, dried fruits, green leafy vegetable, egg; enriched cereals and iron fortified salt provide additional sources of iron.

## ♥ **VITAMIN D**

Vitamin D is highly essential as it enhances the maternal calcium absorption. Maternal deficiency of Vitamin D results in neonatal hypocalcaemia and hypoplasia. Vitamin D also helps build your baby's bone and teeth—600 IU a day is needed. It's found in fatty fish, such as salmon, tuna, fortified milk and orange juice.

## ♥ **CALCIUM**

Increased intake of calcium by the mother is essential, not only for the calcification of fetal bones and teeth but also for the protection of calcium resources of the mother to meet the high demands during lactation. Calcium is needed to build healthy teeth and bones. If you don't consume enough calcium, the baby will take what is needed from you, leaving you with a calcium deficit. Fulfill your calcium from dairy products, leafy vegetable, spinach and fortified juice and cereal. Take milk which is fortified with vitamin D to enhance calcium absorption. Soymilk is another good option, for the first trimester of pregnancy.

## ♥ **OMEGA 3 FATTY ACIDS**

Omega 3 fatty acids help to develop the nervous system and retina of the baby. Fatty acid is found in flaxseeds, almond, walnut, and fatty fish like salmon and tuna.

## ♥ **FRESH VEGETABLES AND FRUITS**

Fresh vegetables and fruits are an important part of the second trimester diet. Make sure that you include 3-5 servings of fresh dark green leafy vegetables along with yellow and orange vegetables and fruits. Always try to keep sweet fruits with you when you are out.

## ♥ **FIBER RICH DIET**

Generally, it is observed that during second trimester pregnant woman suffers from constipation. You need to include lots of fiber in your second trimester pregnancy diet plan. Fiber rich diet ensures smooth bowel movement, relieving you from constipation. Lot of fruits, vegetable, whole wheat, soup, missy chapatti and oatmeal should be consumed.

## **MANGANESE**

Manganese helps process fat and carbohydrates and also helps promote healthy development of bones and the pancreas. Brown rice, whole-oat oatmeal and black beans are excellent sources of manganese.

## **DAIRY PRODUCTS**

Dairy products like milk, yogurt, cheese, cottage cheese, etc. are essential during second trimester of pregnancy. Try to consume one glass of milk daily but make sure that you take skimmed milk. Dairy products are rich source of calcium and are essential for healthy growth of your child.

### **E. Food which are not included**

## **LIMIT YOUR SUGAR**

Be careful while consuming any sugary product. Try to limit your sugar consumption as they add on to your weight. Excess weight gain is unhealthy during the pregnancy. Look for sugar-free options and avoid adding sugar in your juices or other beverages.

## **FATTY FOODS**

Excess of fat in your diet will increase your weight which might be risky for your pregnancy. Try to cut down all your junk food, such as cakes, pastry, bakery biscuits, ghee, butter and margarine. But keep in mind that some fatty acids are essential for fetal growth, so make sure you are eating foods high in essential fatty acid, such as salmon, tuna, walnuts, flax seed oil, soya oils, sunflower oil, egg yolks and lean meats.

## F. Nutrition during Third Trimester during Pregnancy

A woman's diet during the third trimester of pregnancy should be extremely healthy and all junk food should be avoided. You must continue taking prenatal vitamins and also ensure that your diet is inclusive of important nutrients, such as folic acid, iron, calcium and fiber.

### ◆ **CALCIUM**

Calcium is also important component of one's diet during the last trimester of pregnancy. It is important for bone and teeth development and management. By the time you are in the third trimester of your pregnancy, your calcium needs will increase. Milk and milk products, figs, almonds and calcium supplements, makhana and leafy vegetables should be included in your diet.

### ◆ **IRON**

Iron rich foods should form part of your diet right from the onset of your pregnancy. During the last trimester of pregnancy it becomes even more important as your body will increase the supply of blood to the placenta; an iron deficiency in the body can lead to anemia. Make sure that you include dates, broccoli, leafy green vegetables, whole-grain breads, potatoes, raisins and jaggery in your diet

### ◆ **FIBER**

Constipation is a crippling problem that plagues many pregnant women in their third trimester. Therefore, you need to incorporate fiber-rich foods, such as beans, pulses, brown rice, nuts and peas, vegetables, salads soups, fruits, etc. in your diet.

### ◆ **WATER**

It is very important to remain well-hydrated in the final stages of your pregnancy. Dehydration can lead to cramping and even premature labor. You can also drink fresh juices, chach, lassi, coconut water, lemon water, shakes and smoothies to keep the fluid content in your system high.

### ◆ **PROTEINS**

The needs of the body increase during pregnancy. Therefore, you need to fortify your body with enough protein necessary to sustain you. Fish, meat, peas, dairy product and eggs are good sources of protein. However, you need to regulate your intake of these items as they contain fat too.



## **VITAMIN C, B6 AND B12**

Vitamins are essential for the healthy growth of the placenta as well as for breaking down other dietary nutrients such as proteins and finally for developing the unborn baby's muscular system. Include citrus fruits, bananas, prune juice, carrot juice, chickpeas and wholegrain cereals in your diet especially during the last trimester of your pregnancy.

## **G. Food to Avoid During Third Trimester**

-  Avoid eating raw egg
-  Avoid shark, oyster, and sword fish
-  Avoid processed food, & canned food
-  Avoid liver & liver products
-  Avoid alcoholic drinks
-  Avoid too much tea or coffee
-  Avoid artificial sweeteners

## **H. General dietary problems**

### **NAUSEA & VOMITING**

Morning sickness of early pregnancy can be improved by small and frequent meals. Fairly dry and consisting chiefly of easily digested energy foods, such as carbohydrates are more readily tolerated. Liquid may best be taken between meals instead of with food. Skim milk is better tolerated than whole milk. Fruits and vegetables can be given. Fatty rich foods, fried foods, excessive seasoning, coffee in large amounts and strongly flavored vegetables may be restricted or eliminated if nausea persists or if the patient complain of heartburn or gastric distress.

### **CONSTIPATION**

Constipation is also common issue during pregnancy. Increased fluid intake and use of naturally laxative foods, such as whole grain, dried fruits and other fruits, vegetable rich fiber, juices usually induce regularity.

## **EDEMA & LEG CRAMPS**

Mild, physiologic edema is usually present in the third trimester. Increase your water level and decrease your salt intake as it helps in reducing this problem.

## **HEART BURN**

This can be usually be relieved by limiting the amount of food consumed at one time and drinking fluid between the meals.

## **BELIEFS, AVOIDANCES, CRAVINGS**

Consumption of non-food items like ice cubes or clay is called pica. It occurs more often during pregnancy than at any time. It has also been hypothesized that deficiency of essential nutrient, such as calcium or iron results in the consumption of non-food substances that contain these nutrients.

## **WEIGHT GAIN DURING PREGNANCY**

Optimal weight gain during pregnancy is about 11 to 13 kg. About 900 to 1800 g is an average gain during the first trimester. Sharp sudden increase in weight after the 20th week of pregnancy. To avoid overweight in pregnancy avoid oily deep fried, extra sweets and dessert in your diet.





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