



Nutritional requirements during pregnancy and lactation

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Abstract: *Pregnancy is an important period in the life span of woman. This is the time when a baby grows inside her body. To grow properly in the womb of the mother, this unborn child needs a healthy and well-nourished mother. The mother's tissues grow with the baby. All the nutrients needed by the unborn baby, must be supplied by the mother.*

In lactation, the nutrients present in breast milk come from the mother. This puts a heavy strain on the body of mother, in addition to recovering from the physiological stress caused by pregnancy and delivery. So, if enough food is not provided, the lactating woman can become malnourished. Once the pregnant woman delivers a child, the lactation period starts. A common practice observed is to neglect the care of the mother, once the child is born. This is due to the belief that breast feeding does not increase food needs, compared to the growing fetus.

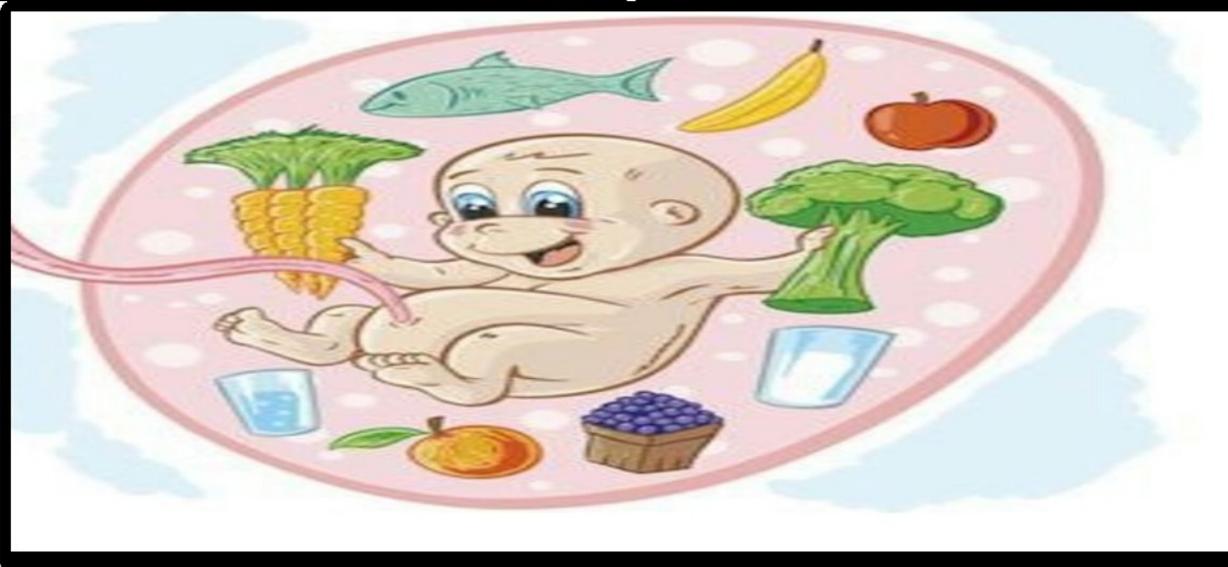
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Importance of weight gain in pregnancy: A mother needs to gain weight during pregnancy to nourish her growing baby. Woman who do not gain enough weight, often have babies that weight too little. A baby that weighs less than 2.5 kg is more likely to have both physical and mental problems. It may not grow normally. It may suffer more from infections and malnutrition than babies of normal weight.

A woman should gain at least 11 kg during pregnancy. The baby accounts for only part of the weight gain. Her own body must add blood, muscle, fluids and tissue, which are needed for the baby's development. If she gains less than 11 kg, the baby's chances for health and survival might get affected. If a mother is overweight, she still needs to gain weight for the baby's health. She should not try to lose weight, while she is pregnant but should wait after the baby is born and after breast feeding.

When and how fast the woman gains weight, is just as important as the amount which she gains. A pregnant woman should gain weight smoothly and steadily. If her weight jumps suddenly, she should see the doctor. During the first three months, she should expect to gain about 1-2 kg. During the last six months, she needs to gain about ½ kg, each week. If she has already gained 11 kg after six or seven months of pregnancy, she should continue to gain moderately until delivery.

Food in pregnancy: For this growth to be steady and normal, the pregnant woman needs to eat more food than before-especially energy, bodybuilding and protective foods. She also needs foods which are good sources of iron.



Good sources of iron: Extra iron is needed for the growth of the fetus and placenta, and for the increased red cell mass of the mother. She should eat a well-balanced diet, containing a mixture of foods. She does not need to buy any special or costly foods for good nutrition. She can get the extra foods she needs, by eating a little more, if her ordinary meals are good and well balanced. The extra food does not have to be eaten at every meal during the day. She can increase the amount of nourishment she gets, at one or two meals. The best way, however, is to eat substantial snacks during midmorning or midafternoon.

Factors influencing food intake: Food intake of a pregnant woman may be affected by food availability, economics, and acceptability, psychological and personal factors. Any combination of these factors might adversely affect the choice of foods, and in turn the food intake of the pregnant woman. Women belonging to the low income group will have less choice of foods due to economic reasons. A woman, who can afford to have a better diet, also may have less choice of foods due to a value system i.e. having less value towards food, compared to other things like gold, property etc. Amongst many families, certain foods like egg, banana, sesame seeds etc. are being restricted during pregnancy due to cultural factors. In most of the Indian families, social practices like woman eating leftover foods after everybody eats are still prevalent.

In addition to these factors, certain physiological factors also restrict the intake of food. For example, the pregnant mother suffers from nausea and vomiting during early pregnancy and thus she cannot eat enough food.

Pregnant woman and anaemia: Some women feel weak and tired when they are pregnant. They are unable to perform the daily activities. This is an early indicator of anaemia. Poor weight gain can also be taken as another indicator.

If the pregnant woman is anaemic, the consequences are:

- They may have difficulty in pregnancy and child birth.
- Babies of anaemic mothers may be born without the 3 to 6 months supply of iron that a normal, healthy, full-term baby should have.
- Small for date and weaker babies may be born.
- Mother's breast milk may not have enough iron.

Prevention of iron deficiency anaemia: A pregnant woman should have enough iron to keep herself and her baby healthy. She should eat foods that have plenty of iron every day. Citrus fruits with a meal help the body to utilize the iron well.

Symptoms of anaemia:

It is hard to be really sure, unless the blood is checked. If you look at the inside of the lips or lower eye-lids, they may be pale, light pink or white. These parts should normally look bright pink. The finger nails also normally look pink, but not pale or white. With the help of any one or two of these indicators, you can diagnose iron deficiency anaemia. Tiredness and exhaustion are important indicators. Anaemia can be corrected or prevented through consuming iron-rich foods and supplements of iron in the form of tablets/capsules/syrups.

Advice about iron tablets: Close monitoring of health and growth is essential during pregnancy. Pregnant women should visit the doctor clinic at least once a month. At the clinic, the pregnant woman's blood will be checked. She will be given iron tablets or tablets which contain both iron and folic acid to build "strong blood" for her and her baby. It is a good idea for her to take the tablets, right a main meal.

She should not take the iron tablets with tea or coffee. This prevents the body from using the iron properly. Milk provides good nourishment for a pregnant or breast feeding woman; so it is a good drink. But, ironically Indian Women consider milk as food for the children. There is a need to change this attitude in the interest of their health during pregnancy and lactation, in particular.

Sometimes pregnant woman complain about iron tablets. They upset her or cause side effects. Give her another type of iron. Advise her not to stop taking the iron as her body needs it especially during pregnancy.

Pregnant woman and risk:

- Women from poor families who are unemployed with no land etc.
 - Women who are widows or have been deserted by their parents and don't have any type of family support.
 - Mothers who have given birth to many babies over a short time.
 - Women who are ill from diseases like tuberculosis.
 - Women who look thin and depressed.
 - Mother whose previous babies have been small and malnourished.
 - Teenagers who are pregnant.
 - Women with babies dying in their first year of life.
 - Mother who are overburdened with work inside and/or outside the home.
 - Women who are very worried about becoming a mother, particularly for the first time.
- All these women need extra help.
- Encourage them to eat as good a mixture of foods as they can.
 - Let them be the first ones to receive iron or food supplements when available.

- Help them to get immunized against tetanus.
- Let them check their weight regularly.
- Encourage them to be clean and tidy.
- Encourage other members of the household to do some of the house and field work and lessen the burden of work on the pregnant women.

As you are aware, the new-born baby depends solely on breast milk for its nourishment during lactation. Hence, whether the baby is outside or inside the womb of the mother, it gets its nourishment from the mother. Hence, the lactation woman also needs extra food like the pregnant woman. For proper breast feeding in terms of quality and quantity, lactating mothers need to eat more foods- especially energy, body building and protective foods. They need foods which are good sources of Vitamin A and calcium.

Lactation:

Dietary care is being neglected after the baby is born and many foods are restricted because of the belief that child's health will be affected e.g. foods causing diarrhea, cough. Thus, multiple factors influence the food intake of women drastically and result in nutritional deficiencies. This, in turn affects the secretion of breast milk and then the low production of breast milk, affects the health of the baby.



Breast feeding is the best: Milk comes from the breast even before the baby is born. When baby suckles at the nipple, this causes the milk to come into the breast and continue to flow.

If all babies are to be healthy and grow well, they must be fed with breast milk. Breast milk contains all the nourishment a healthy baby needs. It is a food produced by the mother especially for the baby. It also has substances which protect the baby from getting running belly or other infections which make the baby sick.

When the mother breastfeeds and holds her baby close, she gives warmth and security as well as food. This makes mother and baby to get close and loving. Breast feeding often and without giving baby any other kind of milk can prevent a woman from getting pregnant. To be fully protected, the couple should use family planning methods, which do not affect breast-feeding.

In addition, breast milk goes straight from the mother breast to the baby and never gets too hot or too cold. If a mother breast-feeds, she loses the weight put on during pregnancy more quickly than if she does not. The womb will get small faster when a mother breastfeeds.

The mother, who breast feeds, will not have to use a feeding bottle or buy artificial milk formulae. It costs much less for the mother, to eat a little more than to buy special foods for the baby. Eating extra foods gives her energy to produce adequate breast milk. Breast feeding also saves her time, as the mother will not have to mix baby feeds and to sterile the utensils.

Successful breast feeding: Breast feeding is the natural way for a mother to feed her baby. She must be relaxed, contented and well prepared to feed her baby.

Before baby is born: When the mother is pregnant her breasts get bigger. She should support them with a well fitting, sturdy bra made of cotton.

Taking care of the breasts: She should wash her breasts every day and make sure she dries them well. She should rub the nipples gently to keep them soft. She should also pull the nipples out a few times, so that they stand out. If the mother does this every day, her nipples will not become sore when she is breast feeding the baby. A good time to do this is, when she is taking her daily bath.

Colostrum: A pregnant woman may notice a thin yellowish fluid coming from the nipples. This is called colostrum. At about six weeks before the baby is due, she should squeeze some of this from her breasts every day. This will help her milk flow more easily after the baby is born.

When baby is born: A new born baby should be put to the mother's breast as soon as possible. Baby should suck on each breast for 3-4 minutes. The baby will swallow some of the colostrum and this will nourish the baby until the mature milk comes in. The colostrum will also protect the baby from infections. Colostrum is the baby's first food; that is all the new born baby needs.

How to breast feed baby: When the mother is breast feeding she should comfortable. The baby's head and back should be supported with her arm. The nipple, and as much as possible of the dark area around it, should be put into the baby's mouth. If the baby sucks on the nipple alone, he will not get enough milk and the nipple may become sore.

The breast must be held from the baby's nose with the second or third finger of his/her mother's hand. If the breast rests on the baby's nose, he/she will not be able to breathe properly. Baby should feed for 10-15 minutes on each breast.

If the baby falls asleep before; he/she has finished feeding, the mother should flick the soles of his/her feet or tap his/her chin so that he/she sucks again. The more the baby, sucks, the more milk is produced. After baby has finished breast feeding, both breasts should be empty. If they still feel full after feeding, the mother should squeeze some milk from the breasts.

When the baby has finished feeding, she should press the breast away from the baby's mouth and gently remove the baby from the breast. The baby can now be 'burped' by rubbing him gently on the back. A baby should be fed, whenever he is hungry. All babies should settle down into their own feeding times.

A mother, who is relaxed and contented, will be able to breast feed her baby better than one who is worried and tense. Any kind of worry can slow down the flow of milk. Family members can help in household work or in caring for younger children, so that she can relax and the baby can get plenty of milk from the breast.

Specific problems in lactation: There are different situations, where mother needs special attention to maintain her health and the health of the baby.

First Pregnancy: The women who is pregnant for the first time needs special counseling. She needs help to breast feed successfully and to enjoy it. Experienced mother, health workers and family members can all help.

Undernourished Mother: Most mothers who are poorly nourished produce rich breast milk to feed the baby. They may produce slightly less milk than well nourished mothers; but the milk will be just as

nourishing and good. This milk will help to ensure that, the baby develops and keeps healthy during the first few months of life. She should eat local foods that she knows well, that are nourishing, easy to get and not too expensive.

There are different ways of helping the mother and family to get extra food. One way is to help them to work together, raising small kitchen gardens with vegetable plants and fruit trees, and maintaining dairy animals on a very small scale. This does not require much extra money and does help to provide extra food and income to the family. If the mother does less work, particularly during pregnancy and breast feeding, she will be able to save energy to maintain her and her child's health properly.

Mothers who have a difficult delivery: After a difficult long labour, the mother may be too tired to breast feed, right away. But remember, the sooner the baby suckles her breast after birth, the sooner the milk will flow and breast feeding begins. Breast feeding should begin within the first half an hour or as soon as possible after delivery.

Babies that have difficulty in sucking: Some babies find it difficult to feed from the breast at first. Such babies are those who are tiny at birth, those born before they are due or those who have deformed lips or mouth. Whatever the baby's condition, breast feeding is to be tried. If not possible, breast milk can be expressed into a clean cup initially and the baby can be fed with a clean spoon. The breast milk should be given to the baby right away, and should not be stored for more than two hours.

Breast problems: When the mother suffers from any problem related to the breast, she can consult the doctor or health worker immediately and get the appropriate help. Problems should never be neglected and the child should not be deprived of breast milk.

Mothers who do not have enough milk: Too little milk is a common reason mothers give for not breast feeding or stopping breast feeding early. In fact, the milk the mother produces is usually enough for the baby during the first 6 months of life. She needs to be counseled that she can produce enough milk. Also the mother who thinks that she is not producing enough milk, during the first week also needs strong encouragement to feed the baby very often. Frequent sucking at the breast, will help to stimulate the flow of milk. It will also help the mother to gain confidence and get used to breast feeding.

Conclusion: The normal physiological processes of the body are greatly altered during pregnancy and lactation, and additional demands imposed on the maternal organism during each period. Digestion and absorption from the intestinal tract are frequently impaired, especially during the early months of pregnancy, and nutritional requirements are considerably elevated during the latter half of pregnancy and during lactation. It is not strange, therefore, that evidences of nutritional deficiencies are more likely to appear at these times, and it is obvious that the diets of pregnant and lactating women deserve special consideration.

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