

FEEDING OF THE INFANT

Infant's food is the subject that is most important after his birth.

Type of food, hygiene, method of feeding etc. all these things require special attention because these are the basis for his health and complete development. The physical and mental development during the first year of life is at the fastest rate as compared to other periods of development. Therefore, the infant's food gains great importance during first year of life and should be able to provide him essential nutrients for growth and development.



BREAST FEEDING

Nature has produced mother's milk as an infant's food which is an ideal food for him. A healthy mother can produce 600 to 800 ml of milk but its secretion increases gradually as the baby suckles her milk. If she does not feed the baby, the production of milk is reduced. Mother's milk can meet the baby's requirements for first six months. After that, its secretion decreases while the baby's requirements increase with age therefore, some supplementary foods need to be given.



ADVANTAGES OF BREAST FEEDING

1. Easy digestibility: The protein present in mother's milk is 100% digestible because it forms soft curds in his stomach.

2. Complete food: Mother's milk contains all the nutrients required by the baby in appropriate amounts.

3. Clean and free from infection: Mother's milk is free from infections while the milk obtained from other sources may contain germs of various diseases which can cause stomach ailments and indigestion in babies.



4. At required temperature: Mother's milk is available at optimum temperature. There is no need to prepare a formula and then bring it down to right temperature.

5. Available at any time: Mother's milk is always ready for the baby such as even at the time of a journey.

6. Source of antibodies: Some antibodies known as immunoglobulins, which provide immunity to the baby to fight against diseases are passed on from the mother to the baby through milk.

7. Mental satisfaction: The baby has a natural suckling instinct and breast feeding is the best way to satisfy it. It also gives satisfaction to the mother as she is close to the baby. The baby also feels warm, safe and protected.

8.Exercise of the cheek muscles: Suckling is a form of exercise for the baby's mouth, jaws, throat and cheek muscles. This results in strengthening of these parts for chewing hard and tough foods.

9.Contraction of uterus to normal: Breast feeding helps in contraction of uterine muscles which come to their normal position and the abdomen does not bulge out.

10.Delayed pregnancy: Modern research has proved that menstruation is delayed by breast feeding because hormones responsible for this are not produced in sufficient amounts till the breast feeding is continued. As a result, chances of next pregnancy become dim. Thus, it is a natural way of family planning.

DISADVANTAGES OF BREAST FEEDING

1.Binding for the mother: A mother who breast feeds her child has to stay at home most of the time. Thus, it becomes a problem for her to move out.



2.Weakness to the mother: Mother's milk fulfils the nutritional requirements of the baby. If her own diet is inadequate to provide enough nutrients for milk production, then these are depleted from her body stores which makes the mother very weak and she suffers from protein, mineral and vitamin deficiencies.

3.Amount of milk produced not known: It is not possible to judge whether the milk being produced is in sufficient quantity to satisfy baby's hunger or not.

4.Some private place required for feeding: It becomes difficult for the mother to feed her baby when out of the house.

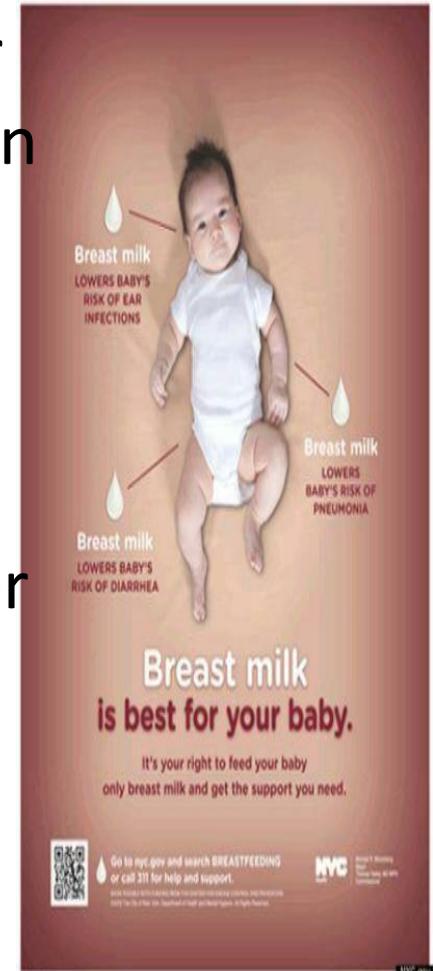
5.Breast abscess or cracks: If the flow of milk is more than that can be fed, it flows out causing breast abscess or cracking of the skin around the nipples which is very painful and requires great care to heal.

6.Vacating the breasts: Sometimes the mother is unable to feed the baby or she has to stop the feeding temporarily. In such cases, she has to vacate the breast with breast pump.

POINTS TO BE KEPT IN MIND WHILE BREAST FEEDING

1. Care of breasts during pregnancy: Mother should look after her breasts for any infection or abscesses during pregnancy. The breasts should be cleaned with warm water, dried and vaseline or some cold cream should be applied on the area around the nipples.

2. Cleanliness while feeding: Before and after feeding the baby, the breasts should be washed with warm water and dried with a soft cloth. She should not apply anything on her breast that is harmful to the baby.



3.To sit in a comfortable position: The mother should never feed the baby in lying position. The best way is to sit straight in a chair, hold the baby in the lap, his head slightly raised near the breast and then feed him. She should not be in a hurry while feeding the baby and expressions of worry and anxiety should not be visible on her face as these emotions are conveyed to the child during feeding.

4.Feeding for a fixed time: The ideal duration for feeding on an average is fifteen minutes. The baby can suckle the required amount of milk within this time and feel satisfied.

5.Feeding regularly: Once the breast feeding is started, the baby should be fed at regular intervals. If the feeding time is not fixed or the breast is not completely emptied, then the milk production decreases.

6.Burping: The baby swallows large amounts of air while suckling the milk which may obstruct the digestion and cause colic. Therefore, he should be carried to the shoulder or made to lie on the knees with abdomen downwards and patted at the back so that he burps out the air swallowed in the digestive tract through the mouth.

7.Nutritious food for the mother: Mother's milk contains all the required nutrients in sufficient amounts. Its nutritional quality remains unaffected even if her diet is lacking nutritionally but to maintain the composition of the milk, the nutrients stored in her body start depleting and a weak mother cannot produce the required amount of milk. So, to keep her body fit, she should take care of her own diet also.

CONTRA-INDICATIONS TO BREAST FEEDING

Mother can't give her own feed to the baby under following conditions:

1.Chronic disease: Such as T.B, Cancer, Heart diseases, Anaemia, Diabetes, Kidney diseases, Pneumonia, Epilepsy etc.

2.Natural deformities in the nipple

3.Some disease of the nipple or breast

4.Next pregnancy

5.Cessation of milk secretion due to worry or psychological problem



6.Acute fever: Under such conditions, mother is unable to feed her baby for a specific period. So, breast should be vacated from time-to-time.

7.Not feeding the baby regularly: If the mother does not feed her baby at regular intervals, the milk secretion stops gradually.

8.Going out for job

Due to these reasons, the mother is sometimes unable to feed the baby so she prefers to shift him to the bottle milk. Thus, the mother should never be blamed for discontinuing the breast feeding.

BOTTLE FEEDING

Under such conditions when mother is unable to feed her own milk to the baby and after the fourth month when baby's own requirements increase, bottle milk needs to be supplemented. For bottle feeding, the formula is prepared according to the requirements of the baby. For this purpose, cow's milk or tinned powdered milk are used.



COW'S MILK: Cow's milk is the best substitute for mother's milk. Buffalo's milk or goat's milk can also be given but the fat content of buffalo's milk is high and it is difficult for the baby to digest it. Therefore, its fat content is to be reduced before feeding it to the baby. Cow's milk is considered nearest to the mother's milk in its composition for various nutrients. The protein content of cow's milk is three times as that of human milk, the amount of casein is high while that of lactalbumin is low. Due to this reason, cow's milk forms hard curds in baby's stomach and takes longer time for digestion. The fat content is also somewhat high and the milk is to be diluted by adding some water before feeding it to the baby.

COMPARISON OF BREAST FEEDING **AND BOTTLE FEEDING**

BREAST FEEDING

Advantages for the baby:

- 1.It contains all the nutrients in correct proportions.
- 2.It is easily digestible.
- 3.It is germ-free.
- 4.It is at optimum temperature.

BOTTLE FEEDING

Disadvantages for the baby:

- 1.It contains nutrients in excess amounts, so it has to be diluted.
- 2.It is not easily digestible.
- 3.Germs can enter at any stage, so it needs to be boiled.
- 4.It is to be brought at optimum temperature.

COMPARISON (CONTD.)

BREAST FEEDING

5. It is always available to the baby.
6. It provides the child antibodies required to fight against infections.
7. The baby feels secure as he remains in contact with the mother for more time.

BOTTLE FEEDING

5. It is difficult to feed the child outside the home, where milk and sterilized bottles are not easily available.
6. It does not provide the baby any such immunity.
7. A bottle fed baby does not depend only upon his mother for feed therefore, he is deprived of full attention of the mother.

COMPARISON (CONTD.)

BREAST FEEDING

8. The natural suckling instinct of the baby is satisfied with breast feeding.
9. Suckling helps in strengthening of muscles of mouth, cheeks, throat and jaws.

BOTTLE FEEDING

8. The suckling instinct of the baby does not get satisfied with bottle feeding.
9. Bottle fed babies remain deprived of this advantage.

COMPARISON (CONTD.)

BREAST FEEDING

Advantages for the mother:

1. Mother gets satisfaction as she passes on her emotions of love and affection to him.
2. Suckling process contracts the uterine muscles which come to their original place and abdomen does not bulge out.
3. Chances of next pregnancy are minimum.
4. It helps in maintaining the mother's body also as she does not become obese.

BOTTLE FEEDING

Disadvantages for the mother:

1. Mother can't get such satisfaction in case of bottle feeding.
2. The uterine muscles become distended after child birth resulting in bulged out abdomen.
3. Sometimes next pregnancy starts too early.
4. Mothers gain excess weight when they do not feed their babies on breast.

COMPARISON (CONTD.)

BREAST FEEDING

Disadvantages for the baby:

1. Sometimes milk is not produced in appropriate amounts, so the baby remains hungry.
2. If the mother goes out for work, the baby may not get his feed in time.
3. If the mother is suffering from some disease, then she may be unable to feed the baby.
4. If the nutritional status of the mother is poor, it is definitely going to affect baby's health.

BOTTLE FEEDING

Advantages for the baby:

1. The baby takes the feed to his full satisfaction and the mother knows about it.
2. The baby does not depend only upon his mother for the feed.
3. Bottle milk is the best alternative in situations when the mother is unable to feed the baby.
4. The diet and health of the mother do not affect baby's health.

COMPARISON (CONTD.)

BREAST FEEDING

Disadvantages for the mother:

1. It is a binding for a woman who has to go out for work.
2. In case the mother's diet is nutritionally inadequate, she may suffer from deficiencies of protein, minerals and vitamins.
3. It is difficult for the mother to breast feed her child when out of house, especially while travelling.
4. Sometimes it is not advisable to feed the baby his mother's milk especially if she is suffering from some disease.

BOTTLE FEEDING

Advantages for the mother:

1. It is the best substitute for her own milk in case she is working.
2. There is no stress on mother's health.
3. It is not a problem to feed the baby even while travelling or at a public place.
4. It is advisable to feed the baby with bottle, if the mother is sick or suffering from a chronic disease.

WEANING



Weaning is a process of gradually shifting the baby's diet from milk to the cooked liquid or solid foods. The process of weaning is completed in the following four steps:

First step: Reducing the breast feed and shifting the baby to the bottle milk. Also to start the orange juice or soup of leafy vegetables to fulfil the requirement for iron and vitamin C.

Second step: Shifting the baby completely from breast to bottle and introduce some soft semi-solid foods.

Third step: Shifting the baby from bottle to cup for milk and starting some mashed fruits, cooked and mashed vegetables and cooked cereals.

Fourth step: Starting some solid foods such as biscuits, bread etc. and then completely shifting to the mixed diet.

POINTS TO BE KEPT IN MIND WHILE WEANING

1. The process of weaning should be slow and Step-wise.
2. The new food should be given in small amounts In the beginning and only one food should be introduced at a time.
3. The amount of breast feed should be gradually reduced along with the number of feeds so that the mother does not feel any discomfort on weaning.
4. In any case, the weaning should not be delayed beyond 18 months because at this age the baby takes more time to adapt himself to the new foods and mother's health is also affected.
5. If the baby repeatedly refuses to accept a particular food, he should not be forced to eat it. It can be tried again after a gap of a few days.



POINTS (CONTD.)

6. The baby should be given liquid food in the beginning then semi-solid. When he is able to tolerate them properly only then the solid foods should be started.
7. While preparing and feeding the supplementary foods, special attention should be paid to food hygiene.
8. Spices should be strictly avoided and food should be given at room temperature.
9. Boiled and cooled water should also be given along with other foods because the requirement for water increases as the baby starts taking semi-solid or solid foods.
10. Stomach ailments should be particularly taken care of. If the baby has diarrhoea or colic after the incorporation of a new food, then it must be discontinued and the baby should be fed on mother's milk or diluted bottle milk.

ADVANTAGES OF WEANING

1. The nutrients that are deficient in milk can be easily compensated from other foods.
2. As the baby grows in age, his requirements for various nutrients increase but secretion of mother's milk gradually decreases. Therefore, it becomes necessary to shift the baby to other foods.
3. Introduction of new food stimulates the production of digestive juices and the digestive tract becomes capable of digesting a variety of foods.
4. The baby does not depend totally upon the mother for his feed. So, there is no binding for the mother now.
5. Weaning is good for mother's health also. If her own diet is not nutritionally well balanced, then prolonged breast feeding can make her vulnerable to many deficiency diseases.
6. The baby develops interest in new foods and he does not find it difficult to shift on a complete mixed diet.



SUPPLEMENTARY FEEDING TILL ONE YEAR

The supplementary foods that can be given to the baby are divided into three categories:

1. Liquid supplementary foods
2. Soft, mashed supplementary foods
3. Solid foods cut into very small pieces



1. LIQUID SUPPLEMENTARY FOODS:

- **MILK:** At four to six months of age, a breast fed baby should also be given the bottle feed simultaneously. To start with, fresh cow's or buffalo's milk (with cream removed) should be given once or twice.
- **FRUIT JUICES:** The baby can be introduced orange, tomato and grape juice at the age of three months. To start with, it should not be more than 10 ml or 1-2 teaspoons.
- **VEGETABLE SOUP:** Soup of green leafy vegetables and other vegetables strained through a muslin cloth can be given to the baby. Gruel prepared by boiling whole pulses in water can be given after adding salt to it.
- **FISH LIVER OIL:** In fourth or fifth month, two drops of fish liver oil every day can be mixed in the baby's feed. Gradually, it can be increased to half teaspoon.

2.SOFT, MASHED SUPPLEMENTARY FOODS:

➤ **VEGETABLES:** Starchy vegetables such as potatoes etc. are the baby's first soft food that is started at sixth or seventh month. Potatoes are boiled and mashed for feeding to the baby.

➤ **FRUITS:** Soft fruits such as banana, mango, chiku can be mashed and easily given to the baby. They should be fully ripe.

➤ **CEREALS:** Baby foods that are available in the market under many commercial brands, can be started at the age of four or five months. Later, some other foods such as sago porridge, suji kheer in skimmed milk, bread soaked in milk etc. can be given to the baby.

➤ **EGG YOLK:** Egg yolk is an excellent source of iron for the baby, which can be started at fourth or fifth month.

➤ **MEAT:** Meat should first be introduced in the form of soup. Soft portions of meat or fish should be cooked and given to the baby on every alternate day.

➤ **HOME-MADE WEANING FOODS:** Cereals and pulses can be roasted, ground finely, mixed in the ratio of 4:1 and stored for use. Jaggery or sugar and milk are added as required at the time of preparation. Some other foods such as khichri etc. can also be mashed and given to the baby.

3.SOLID FOODS CUT INTO VERY SMALL PIECES:

Starchy vegetables such as potatoes, sweet potato etc. can be boiled and cut into small pieces. Egg can also be boiled and cut into pieces. Similarly, green leafy vegetables and other vegetables can be simply boiled and made soft. Soft portions of meat can be given as such after cooking. Rice, chapati and dal etc. can also be fed to the baby. Soft fruits can be given in the form of small pieces instead of juice.



POINTS TO BE KEPT IN MIND WHILE STARTING SUPPLEMENTARY FOODS



1. One type of food should be started at a time. When the baby accepts it well, only then the next food should be introduced.
2. To start with, only a small quantity of a food should be fed. If the baby is able to digest it without any discomfort, then its quantity should be increased gradually.
3. Sometimes the baby does not accept a particular food even after repeated efforts, it should then be discontinued for a few days and introduced again in a different form.

- 4.**Some foods are likely to cause allergies in babies e.g. egg. Those foods should be discontinued immediately.
- 5.**In the beginning, soft foods should be given in liquid form. Milk or water can be used as liquid for making them thinner.
- 6.**Soft form of foods should be introduced first. If in the beginning, the vegetables are given in the form of soup and fruits are given in the form of juice, then the baby readily accepts them in solid form.
- 7.**The baby should never be forced to eat a particular food otherwise, he tends to dislike that food.
- 8.**He should be given a particular food singly rather than mixing it in some other food so that he is able to know its taste.
- 9.**If the baby does not like a food, then it can be mixed in other foods such as egg can be mixed in vegetables or milk.
- 10.**The person who is feeding the baby should not show his dislike for a particular food in front of him.
- 11.**No other spices should be added to the baby food except salt.

12.When the baby starts cutting teeth, he should be given hard foods which require cutting such as biscuits. It is an exercise for the gum and helps to strengthen them.

13.The baby may dislike a food which is given to him very frequently. So, the foods should be given in different forms.

14.If the baby is unable to digest a food due to some digestive disorder such as diarrhoea or vomiting etc., then it must be discontinued and he should be treated for the problem first.

15.Sometimes the baby loses his appetite during teething, due to cold or some other problem. The mother should find out the reason without any delay and should modify his diet accordingly.

16.Sometimes the baby eats more quantity of food than normal. The mother should not stop him neither she should be very particular about the quantity of food because sometimes the baby likes a particular food very much or he is hungry and may take more food than he normally takes.