

INFANCY

- **What is infancy?**

The first year of life is termed as infancy (i.e. 0-1 yr. old baby)

- **Why is infancy a critical stage of lifespan?**

Infancy is a period of rapid growth. During this period infant grows and develops at a rate much higher than at any stage of the life.

- **When should breastfeeding be started?**

Breastfeeding should be started immediately after birth, preferably within one hour.

- **Should the first milk be discarded?**

The first milk is thick, sticky and yellowish in colour, known as the colostrum. It should not be discarded away; indeed the child should be fed with colostrum as it is rich both in nutrients and antibodies. Thus, helps in strengthening the immunity of the baby. Colostrum is basically the first immunisation a child receives from the mother.

- **What should be the frequency of breastfeeding?**

Baby is breastfed very frequently in small amounts. A small baby has difficulty sucking at the breast and easily gets tired. In case the baby suckles extremely slowly at the breast, mother can express her breast milk into a clean container and feed the baby with a spoon and katori. Breastfeed as often as the child wants, day and night, at least eight times in 24 hours (0-3 years)

- **Why is breastfeeding so important?**

Breast feeding is nature's way of nurturing the child, creating a strong bond between the mother and the child. It provides development and learning opportunities to the infant, stimulating all five senses of the child- sight, smell, hearing, taste and touch. Breastfeeding fosters emotional security and affection, with lifelong impact on psychosocial development.

- **Why is human milk best food for infants? Or what are the nutritional qualities of breast milk?**

Exceptional nutritional quality of human milk has been recognised for a long time.

- Mother's milk is designed for easy digestion and assimilation.
- Protein in mother's milk is in a more soluble form which is easily digested and absorbed by the baby.
- Fat and calcium in human milk is also easily digestible
- The milk sugar- lactose in mother's milk provide ready energy (a part of it is converted into lactic acid in the intestines which destroys harmful bacteria present and helps in absorption of calcium and other minerals)

- **What are the health benefits of exclusive breastfeeding?**

Exclusive breastfeeding helps to prevent infections particularly diarrhoeal infections and pneumonia in the child. It reduces the risk of ear infections, asthma and

allergies. It also helps in preventing anaemia in child as breast milk has the best bioavailable iron.

- **How does a mother benefit from breastfeeding her baby?**

Early initiation of breastfeeding lowers the mother's risk for excess post-partum bleeding and anaemia. Exclusive breastfeeding boosts mother's immune system, delays next pregnancy and reduces the insulin needs of diabetic mothers. Breastfeeding can also help protect a mother from breast and ovarian cancers and osteoporosis (brittle bones).

- **What are the advantages of breastfeeding?**

- Breast milk is the best natural food for babies.
- Breast milk is always clean.
- Breast milk protects the baby from diseases.
- Breast milk makes the child more intelligent.
- Breast milk is available 24 hours a day and requires no special preparation.
- Breast milk is nature's gift to the infant and does not need to be purchased.
- Breastfeeding makes a special relationship between mother and baby.
- Breastfeeding helps parents to space their children.
- Breastfeeding helps a mother to shed extra weight gained during pregnancy.

- **Why we should not give water to babies' being exclusively breastfed?**

Infants exclusively breastfed for first six months grow well and need nothing else. If water is also given along with breastfeeding it leads to less desire for the baby to suckle and thereby decline in the production of breast milk and that is also likely to be contaminated.

- **Can artificial feeds be given to infants?**

Using cow's milk and/or powdered formula milk for artificial feeding has many disadvantages:

- Artificial milk is not ideally suited for the human baby and does not contain appropriate amounts of protein, fats, vitamins and minerals for the adequate growth of the baby.
- Artificial feeding exposes the infant to infections through contamination and does not give protection from various infections due to absence of antibodies.
- Babies fed on animal milk have a higher incidence of loose motions and respiratory infections.
- Artificial feeding increases the infant's risk of developing some chronic conditions like diabetes, heart diseases and allergic conditions later in life.
- Artificial feeding may cause suckling difficulties as the child gets confused between mother's nipple and artificial nipple.
- Giving artificial feed to the baby is time consuming as it needs preparation every time.
- It is expensive and less nutritious.

Hence, it is inferior to breast milk in all respects.

- **For how long should breastfeeding be continued?**
 Exclusive breastfeeding should be continued for the first six months, i.e. the infant receives only breast milk and nothing else, no other milk, food, drink or even water for the first six months. Later breastfeeding should be continued for up to 2 years along with complementary feeding.
- **What is Complementary Feeding?**
 Complementary Feeding is the process of gradually introducing foods other than breast milk in the child's feeding schedule. This process starts when any food besides mother's milk is introduced in the child's diet. The process of weaning is completed only when the child has been entirely put off the breast.
- **When complementary feeding should be initiated in infants?**
 After 6 months of age, the mother's milk is not sufficient enough to provide complete nutrition for the rapid growth and development of the child. Hence, complementary foods or top feed needs to be initiated.
- **How does introduction of complementary feeds before 6 months, (Exclusive breast feeding) affect infant's health?**
 Introduction of early complementary feeds can lead to malnutrition and other problems. If given too early:

 - Infant may not be equipped to digest the food properly.
 - It may reduce the intake of breast milk, thereby losing out on appropriate energy intake for growth.
 - It increases the risk of infections.
- **What are the consequences of late introduction of complementary feeds?**
 Introduction of complementary foods too late results in an inadequate intake of energy and protein leading to poor growth, and stunting as well as iron and other nutrient deficiency.
- **What are the benefits of supplementary /complementary foods?**
 The introduction of supplementary foods ensures the fulfilment of nutritional requirements of the infant. Also it introduces the child gradually to the normal family eating patterns. By the time a child is a year old, he should get used to eating the normal family diet.
- **Should breast feed be continued after introduction of complementary foods?**
 Yes, the breastfeeding should be continued along with introduction of the complementary foods, to facilitate complete nutrition for the growing child.

- What should be the timeline for introduction of the supplementary foods?

Infant's age	Foodstuff	Form in which given	Amount to be given	Type of supplement	Frequency
6-8 months	Fruit juices	Juices mixed with a little sugar	Start with 1 to 2 spoons and increase to about 30ml to 50ml	Liquid	Half katori 2-3 times/ day
	Cereals	Cooked in water or milk	Cook about 2tsp of cereal in a cup of milk or water. Add sugar and oil for increasing nutrient density.	Semisolid	
9-11 months	Egg yolk	Half boiled egg yolk	Start with ½ tsp. and increase to 1 yolk	Semisolid	Half katori 3-4 times/ day
	Starchy vegetables and fruits	Boiled and mashed potato with butter or milk, mashed banana with milk	Start with small amount and gradually increase to 40g to 50g	Semisolid	
	Vegetables and pulses	Well cooked vegetables, thin khichri	Starting with small amounts, increase amount gradually	Semisolid	
12-23 months	Whole egg including the egg white	Soft boiled egg, scrambled egg, custard	One egg	Semisolid	Half katori 4-5 times/ day
	Meat, vegetables, fruits	Well cooked, raw or cooked (chopped)	Start with small quantities and then gradually increase the amount	Solid	

- Can the food prepared at home for other family members are given to the baby as complementary food?

Yes, food prepared for the other family members can be easily given to the infants by making the following modifications:

- Separate a small amount of prepared dal or vegetable for the baby before adding spices to it.

- Small pieces of chapatti could be soaked in half a *katori* of dal and some vegetables.
- Mix and mash the above foods well – give to baby as it is or pass through a sieve to get a semisolid paste (depending on the age of the baby).

- **Is it possible to make Instant Infants Foods at home?**

Infant foods mixes can be made at home from food grains available in the household.

To **prepare** the mixture at home follow the procedure:

- Take one part of cereal (rice/wheat/ragi/bajra/jowar)
 - +
 - One part of any pulse (moong/channa/arhar)
 - +
 - Half part of groundnuts or til
- Roast the ingredients separately.
- Grind and mix them together.
- Sieve and store in airtight containers.

For **feeding**

- Take two tablespoons of prepared mixture.
- Add boiled water or milk, sugar or jiggery.
- Add 1 tsp. of oil/ghee, mix well and feed the baby.

- **For how long can the Instant Infants Foods prepared at home be stored?**

The mixes can be stored at least for a month's time.

- **How to increase energy density of Infant Foods?**

Energy density of foods given to infants can be increased in four ways:

- **Adding oil/ghee:** Fat is a concentrated source of energy and substantially increases energy content of food without increasing the bulk.
- **Adding sugar/jaggery:**
- **Giving malted foods:** malting reduces viscosity of the foods and hence child can eat more at a time.
- **Feeding thick mixtures:** thin gruels do not provide enough energy. A young infant particularly during 6-12 months requires thick but smooth mixtures (hard pieces may be difficult to swallow).

- **What is Amylase Rich Flour (ARF)?**

Amylase Rich Flour (ARF) is the scientific name given to the flours of malted foods and can be utilised in infant foods. ARF can be prepared by Malting, i.e.

germinating the whole grain cereal or pulse, drying it after germination and grinding.

PREPARATION OF AMYLASE RICH FOOD (ARF)



- **What are the considerations while preparing infant foods?**

Some of the considerations while preparing foods for infants are:

- ✓ Hands should be washed with soap and water before handling the food as germs that cannot be seen in dirty hands can be passed on to the food.
- ✓ Utensils used should be scrubbed, washed well, dried and kept covered.
- ✓ Cooking kills most germs. The foods prepared for infants should be cooked properly so as to destroy harmful bacteria present, if any.
- ✓ After cooking, handle the food as little as possible and keep it in a covered container protected from dust and flies.
- ✓ Cooked foods should not be kept for more than one to two hours in hot climate unless there is a facility to store them at refrigeration temperature.
- ✓ The hands of both mother and child should be washed before feeding the child.

- **How to take care of infant's nutritional requirement after the illness?**

After the illness when a child is recovering, a nutritious diet with sufficient energy, protein and other nutrients is necessary to enable the baby to catch up growth and replacement of nutrients stores. The nutrient intake of child after illness can be

easily increased by increasing one or two meals in the daily diet for a period of a month or so.

- **Should breastfeeding be continued if the baby has diarrhoea?**

Yes, the breastfeeding needs to be continued even if the baby has diarrhoea. Breast milk is best suited for the baby at this time, as it is easily digestible and also it prevents the chances of further infections from outside feeds.

- **How to ensure proper nutrition care for malnourished children?**

To prevent recurrence and to overcome the effects of chronic malnutrition, these children need extra attention both during early rehabilitation phase and over the longer term.

- Continued breastfeeding and re-lactation (when necessary) is an important preventive step, since malnutrition often has its origin in inadequate or disrupted breastfeeding.
- Dietary supplements may be required.
- ICDS programme for receiving ration for roasted cereal-pulse mixes with instructions.

- **What should be the feeding practices for preterm or low birth weight babies?**

Breast milk is very important for the preterm infants and babies with low birth weight as they are at increased risk of infection, long term illness and death.

Kangaroo care should be provided to the baby as it provides intrauterine environment and growth. This enables the baby to suck the mother's breast as and when required. Such babies may need to suck more often for shorter duration.

- **What should be done if a preterm infant or LBW baby is unable to suck the breast?**

If the baby is not able to suck, expressed breast milk may be fed with katori or tube.

- **Is the breast milk of the mother of a preterm baby appropriate for feeding or other substitute should be fed?**

The composition of preterm milk is unique. It has a high concentration of protective substances and makes it particularly suited for preterm babies.

- **What feeding pattern should be followed for a preterm infant?**

Preterm baby should be fed every two hours during day and night.

Source:

- National Guidelines on Infant and Young Child Feeding. Ministry Of Women and Child Development (Food and Nutrition Board) GOI, 2006.
- Question & Answers sheet on Exclusive Breastfeeding and Complementary Feeding of Infant and Young Children. Breastfeeding Promotion Network of India (BPNI) *Information Sheet-7 (2004)*.
- Textbook of nutrition and dietetics Khanna *et al*.
- Breast feeding and complimentary feeding – *A guide for the parents*. Breastfeeding Promotion Network of India (BPNI), 2002.