

# PART 3

## FEEDING INFANTS, YOUNG CHILDREN AND ADOLESCENTS

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## FEEDING THE NEWBORN AND INFANTS

### BREASTFEEDING: SOME BASIC FACTS

1. Your milk is the ideal milk for your baby. All substitutes are not only inferior, but can be harmful.
2. Women of all ages with small or big breasts can breastfeed their babies. Breastfeeding does not spoil a woman's figure. Women employed outside the home can also conveniently breastfeed.
3. Colostrum, the first milk, is vital for the baby. So breastfeeding should start in the delivery room itself, soon after your baby is born. Colostrum, in the first few days, and the milk produced in your breasts later on is all that your baby needs for first 6 months. No water is required even on a very hot day.
4. From 6 months onwards, fruits and homemade soft foods are to be **added** to breastfeeding.
5. Breastfeeding should be continued into the second year of life.
6. A 1-year-old requires almost half the amount of food an adult normally consumes. The child should have home-cooked food.
7. In view of their small stomach capacities, most young children need to be fed more often than adults. The diet should include fruits, vegetables and sprouts.

8. To reduce the bulk, oil or ghee may be added to the food.
9. Do not let your child get used to much salt, sugar, fried foods, maida (refined flour) preparations and aerated drinks.
10. Basically, the Indian diet (including vegetarian) is well balanced. Imbalances occur because certain families may be poor or due to misconceptions prevalent in several sections of our society. For example, some families wrongly starve the pregnant mother so the foetus remains small to facilitate an easier delivery; others overfeed her. Some families ignorantly start supplementing breastfeeding before the desired age of 6 months, others delay it till the child completes one year. All these issues need to be addressed.

### **The Secret Of Successful Breastfeeding**

I am convinced that all modern mothers want to breastfeed their babies. However, to ensure that breastfeeding is joyful, please keep the following points in mind:

- **Conviction:** You must be convinced that breastfeeding is not only vital for your baby, but is also good for your own health. The advantages of breastfeeding enumerated in this chapter will help convince you.

- **Right information:** You need to educate yourself on breastfeeding to be able to confidently oppose relatives and even health workers who may harbour outdated notions about breastfeeding, and may suggest a bottle feed to 'top' up the breastfeeding.

### **ADVANTAGES OF BREASTFEEDING TO THE MOTHER**

#### **Loving Bond With Your Baby**

Breastfeeding facilitates a close, loving bond between you and your baby. This may also help your child to form good

relationships with other people. In the case of bottle-feeding, the baby might be fed by someone else, and is likely to get less stimulation.

### **Lowered Risk Of Bleeding After Delivery**

Breastfeeding the baby soon after birth helps to stop bleeding from the uterus (womb) after delivery, and assists in the expulsion of the placenta.

Iron deficiency is very common in Indian mothers. Exclusive breastfeeding reduces this risk as it delays the return of menstruation, and thereby prevents iron loss through menstrual flow.

### **Delayed Risk Of Conception**

As long as a woman does not have her periods and exclusively breastfeeds, she gets 98% protection from pregnancy in the first 6 months after delivery. However, the couple is also advised to use other family planning methods suitable to them.

### **Reduced Risk Of Cancer**

The risk of cancer of the breast and the ovaries is reduced in breastfeeding mothers.

### **Quicker Regaining Of The Figure**

Contrary to popular belief, a woman who breastfeeds regains her figure faster compared to a woman who does not. This is because a breastfeeding mother utilises the fat that is normally accumulated during pregnancy in different parts of her body for production of breast milk. Moreover, as the baby suckles, the mother's system generates hormones that make her enlarged uterus contract. As the uterus goes back to its normal position, the abdomen of a breastfeeding mother regains its shape faster than the abdomen of one who does not.

As far as the breasts are concerned, having a baby alters the breasts — whether or not a woman breastfeeds. Most changes, however, that are seen in older women are partly due to age. Wearing a well-fitting brassiere will ensure that the breasts have a good shape.

### **Convenience**

Breast milk is always ready to be given to the baby; it does not need any preparation. It does not get spoilt in the breast even if the mother is not able to feed her baby for a number of days.

Then there is the economics of it; a mother has to spend about Rs. 1,000 a month to feed her child with powder milk. This amount does not include the time costs of preparing an infant formula.

Artificially fed children are also more prone to illnesses like diarrhoea and pneumonia. The family may have to spend a lot for the treatment of such diseases.

### **Calming Effect**

For many women, breastfeeding confers a sense of calm and satisfaction, which is probably related to the helpful hormonal changes while breastfeeding.

## **ADVANTAGES TO YOUR BABY**

### **Complete Nutrition**

The human brain has to grow very fast in the first years of life. Breast milk is ideally suited to fuel this growth. It provides complete nutrition for your baby in the first 6 months. Quickly and easily digested, it contains the most suitable protein and fat for your baby and in the right quantities; more lactose (milk sugar) which a human baby needs; enough vitamins and iron; enough water for your baby even in an extremely hot climate; the correct amount

of salt, calcium and phosphate and a special enzyme which digests fat.

The absorption of zinc and iron from breast milk is unsurpassed by any other source in early infancy. This protects the baby against early zinc deficiency and iron deficiency anaemia.

In later infancy, the ideal balance of amino acids provided by breast milk adds to the quality of protein in the total diet, which is frequently deficient in other sources of protein. That is why breastfeeding is recommended well into the second year of your baby's life. Being a rich source of Vitamin A, breast milk reduces the risk of Vitamin A deficiency and blindness.

Breastfed babies do not need multivitamins and Vitamin C drops. Take these vitamins yourself if you are not taking enough fruits, vegetables and sprouts in your diet. Your breastfed baby also does not need digestive enzyme preparations, carminative mixtures and gripe water. Moreover, some of these preparations contain alcohol, which is not good for your child's health. If the baby does get colic, see *Crying* in the chapter on THE A-Z OF CHILDHOOD ILLNESSES.

### **Protection Against Infections**

Research has shown that, in developing countries, a non-breastfed infant is 14 times more likely to die from diarrhoea, 4 times more likely to die from respiratory diseases, and 2.5 times more from other infections when compared to an exclusively breastfed infant. Breastfed babies also have less risk of cholera, newborn sepsis and meningitis, amoebiasis, giardiasis, ear infections and appendicitis. Breast milk also enhances the infant's immune response to certain vaccines.

Breastfeeding during diarrhoea and other infections helps a baby to recover much more quickly. This protection against

infections is provided by a host of substances present in your milk, like antibodies, white blood cells, bifidus factor, lactoferrin and several others. They protect the baby against many bacterial and viral infections.

### **Fewer Allergic Disorders**

Allergic diseases like asthma and eczema are less common in breastfed babies. If you have a family history of allergy on your or your husband's side, it is important to avoid adding on artificial milk, egg, cocoa and wheat and peanut preparations to your baby's diet until she completes 6 months.

### **Reduced Risks Of Cancer**

There is evidence to show that the risk of certain cancers (like lymphoma) is reduced in breastfed babies.

### **Better Teeth**

Other factors being equal, your breastfed baby is likely to have a better configuration of the face and alignment of teeth. Caries in the teeth are also less in breastfed children.

### **Lowered Risk Of Diabetes**

There is a reduced risk of insulin-dependent diabetes mellitus among breastfed children.

### **Protection Against Sudden Infant Death Syndrome (SIDS)**

Sudden Infant Death Syndrome (SIDS), also called cot death, is ascribed to deaths that take place suddenly in healthy infants without any obvious cause. The risk of this tragic condition is probably reduced in breastfed babies and babies put to sleep on their backs.

### **Enhanced Intelligence**

Recent research appears to suggest that babies who are breastfed attain their milestones of development earlier and turn out to be more intelligent than those who are not.

## **Catering To Unique Needs**

Recent research has shown that the milk of mothers who deliver prematurely (before the expected time) has a different composition compared to that of mothers who deliver at the expected time. Nevertheless, in both cases, the milk is ideally suited to their babies, as if matched for each other.

## **FREQUENTLY ASKED QUESTIONS**

### **When Should My Baby Get Her First Breastfeed?**

As soon as the baby is born, the doctor will hand her to you. Hold the naked baby against your chest for direct skin-to-skin contact. Depending upon the temperature in the delivery room, both of you will be covered lightly with a sheet, with or without a blanket. Most babies, especially those whose mothers have not been doped, are alert for about 40 minutes to an hour after delivery. Take advantage of this period. Try to see if she might be interested in breastfeeding right away. You will find that some babies turn their heads to one side and start looking for the nipple. Some succeed in getting hold of the nipple and start suckling. You will be thrilled to see this happening. If she does not attempt this on her own, you can gently bring her mouth nearer one breast and see if she wants to suckle. Do not force her if she is not interested.

This early contact with your baby is important for bonding with her and for giving her the valuable colostrum.

It has been observed that the suckling reflex of a newborn is at its height 20 to 30 minutes after birth. If the infant is not fed at this time, the reflex diminishes rapidly to reappear adequately 40 hours later. It may be further delayed if the mother is 'overdoped'. On the other hand, if the baby is put to the breast within half an hour after birth, she takes the breast properly and early weight loss, which is so common in newborn babies, is minimised.

Nursing soon after delivery also has a laxative effect on the meconium. The early evacuation of meconium tends to decrease the reabsorption of bilirubin (the yellow pigment responsible for jaundice). This pigment is liberated by the breakdown of cast-off red blood cells present in the intestines. Decreased reabsorption of bilirubin reduces the appearance of jaundice. Even if the jaundice does appear, effective evacuation of meconium reduces its severity.

### **What Is Rooming-In?**

The practice of rooming-in means that the baby is kept in the mother's room throughout the hospital stay. Contrary to popular belief, the mother who has her baby beside her feels less anxious about her and sleeps better. Even if she is sharing a room with another mother or mothers, she is not unduly disturbed.

The risk of your baby picking up infections from other babies in the nursery is very high. If one baby has acquired an infection, she is infectious even before she manifests any symptoms of it. At that time, she can pass on the infection to other babies kept together in a crowded nursery.

Even if the nursery is not crowded, the nurse may not always have the time to take each baby to her mother every time she cries; this may interfere with breastfeeding. Babies who do not get adequate amount of the antibodies-rich colostrum in the first few days are at great risk of getting infection. Moreover, the nurse herself may be carrying germs that she may pass on to the babies under her care in the nursery. Each time a baby is to be touched, it is essential that the nursing staff wash their hands properly. But it could be that this is not done properly.

It is true that a mother may also have germs that she may pass on to her baby. But the point worth noting here is that the mother makes antibodies against such germs in her breast

milk, which she then passes on to her baby to protect her against getting infected. Even when other mothers share a room with their babies, the distance between two babies is much more than in the nursery.

Rooming-in, more than anything else, helps in proper initiation and maintenance of the breastfeeding that provides the baby with all the anti-infective factors, and this protects her from catching an infection.

What about visitors infecting the baby? My experience of working and teaching in a public hospital which caters to the poorer socio-economic stratum, as well as in a private hospital, indicates that poor exclusively breastfed babies kept exposed to visitors have less risk of getting infections compared to babies kept in the nursery of a private hospital away from visitors. However, to play it safe, you may put a notice outside the room or on the cot, requesting people not to visit the baby if they have a cold or a cough or any other illness, and to avoid touching the baby.

Rooming-in facilities reduce the workload of the hospital staff who then have more time for the babies whose mothers are ill. It gives you a chance to respond to your baby right from the beginning. You can feed her or hold her when you want to. It increases your chances of successful breastfeeding. A study has shown that mothers who had the rooming-in experience were more self-confident with their babies. By the time they were discharged, they could understand indications given by their babies' crying better than mothers who did not have this facility.

### **What About Breastfeeding?**

After a normal delivery, you and your baby will be taken to your room. If you are not heavily sedated, keep your baby next to you in your bed. You may like to cuddle her if she is still awake. In private hospitals, a baby cot is provided next to your bed. You

can decide if you want to keep the baby all the time in your bed or partly in the cot and in the bed according to convenience.

If you delivered by a Caesarean section under general anaesthesia, you may be on a drip. Even then, the baby should be given to you for breastfeeding after about 4 hours of the operation, when you recover from the effects of anaesthesia. You will need the assistance of a hospital attendant or a close relative to give your child the first breastfeed. As you lie on your back, the nurse may place the baby on a pillow raised to the level of your breast, so that she can conveniently reach it.

Here it must be mentioned that if your first child was delivered by a Caesarean section, it is not mandatory that the subsequent delivery has to be Caesarean. You may raise this issue with your doctor. But leave the final decision about whether an operation is needed again or not to him.

Also a word about episiotomy. This is a cut made on your skin just outside the birth canal for easy delivery of the baby. It is possible that you needed it and you should accept it if it was inevitable. However, you could mention to your doctor that as far as possible, you would like to avoid episiotomy. Episiotomy may be needed with a first delivery and can often be avoided in subsequent deliveries.

I touched on this subject because following a Caesarean or an episiotomy, your doctor may give you sedatives or pain-killers which can adversely affect your close interaction with your baby and proper initiation of breastfeeding.

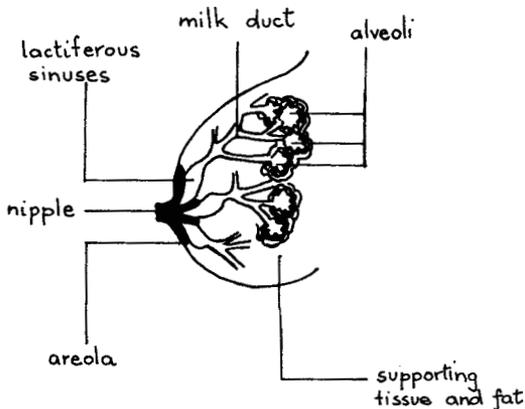
In case your doctor decides to do the episiotomy, he may prescribe drugs to relieve the pain of the stitches. Doctors have found that if the baby is given to the mother soon after delivery for skin-to-skin contact, the mother gets so engrossed in her baby that stitching is often done without taking recourse to drugs for suppressing pain.

A word about the duration of the first breastfeed. The first feed could be given in the labour room or after you come to your room. This feed might last from 10 to 45 minutes and may be from one or both breasts.

### **Please Explain About The Production Of Milk.**

The ability to breastfeed does not depend upon the size of your breasts. Milk is produced in the milk-producing gland tissue (alveoli) inside the breast. The size of the breast depends upon the supporting tissue or fat in the breast. (Fig. 3).

As the baby suckles at the breast, the mother produces a hormone that helps milk production. This hormone is called prolactin. As the baby continues to suckle, the mother produces another hormone that helps the milk to come down from the alveoli to the dilated milk ducts (lactiferous sinuses which lie under the areola — the circular dark skin around the nipple). This second hormone is oxytocin, and the mechanism by which the milk comes down from the alveoli is called the let-down reflex. Breastfeeding immediately after birth stimulates the production of these hormones and of breast milk.



*Anatomy of the breast*

*Fig. 3*

Small swellings are present on the areola. These are glands that produce an oily material to keep the nipple soft.

The breasts of most mothers, especially first-time mothers, often feel soft and empty for 2 to 3 days as if there is no milk. These breasts secrete a small amount of colostrum — the yellowish first milk. After 2 to 3 days or even after a week, the breasts may suddenly start producing too much milk. They now feel full and sometimes hard. After a week or so, the breasts feel soft again. The mother starts wondering whether milk production is reduced. This is not true. The mother is producing enough milk as per the requirement of her baby; the supply and demand are now well adjusted.

The milk produced in the alveoli flows into the milk ducts and collects under the dark portion of the breast called the areola. To get enough milk, the baby must therefore take enough of the breast into her mouth so as to empty the lactiferous sinuses with her tongue.

Therefore, baby should breastfeed and not nipple-feed.

### **How Does The Mother Position The Baby Correctly At The Breast?**

Positioning your baby correctly will ensure that she is breastfeeding and not nipple-feeding. This means that the baby should be taking not only the nipple into her mouth, but part of the breast as well.

For effective transfer of milk from the breast to the baby's mouth, you can choose a sitting or lying down position. The important thing is that you should feel comfortable. If you are sitting, you will find it more comfortable if your back is supported.

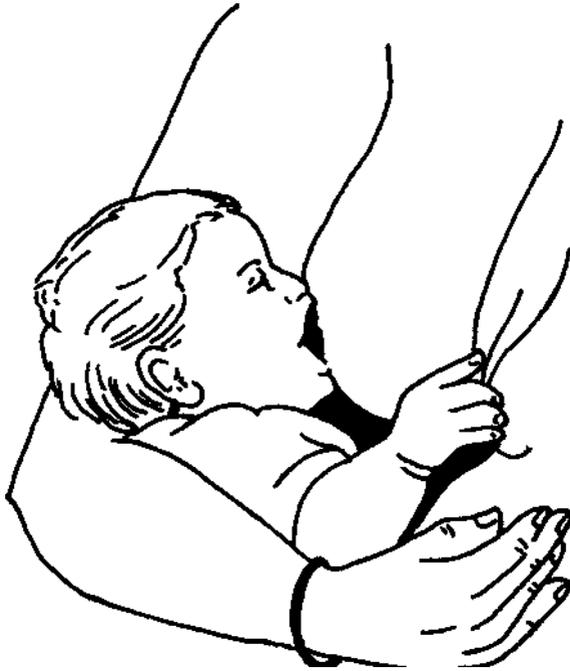
Lift your breast with your palm and offer the nipple as well as the breast to the baby. Do not pinch the nipple or the

breast or try to push the nipple into the baby's mouth. Touch the baby's lips, preferably the upper lip, with your nipple. If the baby opens her mouth a little, do not offer the breast and the nipple. Again touch her lips with your nipple. As soon as she opens her mouth wide and shows interest in feeding, quickly move her on to the breast. Let the baby's lower lip be well below the nipple. This helps to get the baby's chin close to the breast so that her tongue is right under the lactiferous sinuses containing milk. Then the nipple is positioned above the centre of the baby's mouth, so that it points towards the palate. As soon as the nipple touches the palate, the baby starts suckling and when her mouth fills with milk, she swallows it.

To make sure that your baby is positioned properly at the breast, check the following points: (*Fig. 4*).

- Your baby's entire body, including her neck, shoulder and abdomen, should be facing you and close to your body. Her chin should touch the breast.
- Her mouth should be wide open with her lips curled outwards.
- More of the areola should be visible above the baby's upper lip and less below the lower lip. But if the areola is big, more of it may be visible, even if the baby is positioned properly.
- The baby should be taking slow, deep sucks.
- After the feed, the baby should appear relaxed and satisfied.
- You should not feel any nipple pain.
- You should be able to hear your baby swallow, but this is not essential.

After offering the breast to the baby, keep your other hand free to stroke her hair or play with her fingers. Do not put a



*Suckling in a good position*

*Fig. 4*

finger on the breast near the baby's nose to prevent any difficulty in breathing; this is unnecessary and may interfere with proper milk transfer to the baby.

### **What Is Comfort Suckling?**

Some babies like to suckle more than others even if their hunger is satisfied. Your baby may be one of those who may continue to suckle for comfort. For the same reason, she may start sucking her finger or put her hand in her mouth. You may then think that she is hungry; if you are not sure, offer her your breast. You do not have to worry about overfeeding your breastfed child.

## **How Long Should A Breastfeed Last In The First Week Or Two?**

Some doctors wrongly advise that the baby should not be fed for longer than 10 minutes at each breast. They fear that a more prolonged feed may result in the mother developing sore nipples. This is not true. Do not time a feed. Let your baby suckle in the proper position for as long as she wants. The first breastfeed - given in the delivery room or after you come to your room - may last from 10 to 45 minutes and may be from one or both breasts.

In the first day or two, the baby may suckle for a prolonged period but may demand a feed after 4 to 6 hours and sleep in-between. After 2 days, she may want the feed very often but may suckle for a shorter period. Towards the end of the week, she may settle down to 2 to 4-hourly feeds.

As the days pass, the feeds are likely to become shorter. But if your baby is taking more than 45 minutes for a total breastfeed after the first week, you should check whether you are positioning her properly.

## **Some Friends Tell Me That I Will Not Have Enough Milk In The First 2 To 3 Days. What Should I Give To The Baby Till Then?**

Your newborn baby does not require anything other than colostrum — the milk that the breasts make in the first few days after delivery.

Do not let anyone squeeze the breasts for milk. Simply let the baby be put to the breast when hungry. Elderly relatives sometimes feel that colostrum is harmful to the newborn. Try to explain to them that colostrum is essential for the baby and, though secreted in small amounts, is enough to meet all the needs of your baby. It is rich in Vitamins A and K and zinc. It contains large amounts of antibodies and other factors that protect the child against life-threatening infections. It also has

an immunoglobulin that coats the lining of the baby's immature intestine and prevents large protein molecules from entering the newborn's blood system. This reduces the risk of her getting allergic diseases like asthma and eczema later in life.

### **What Is The Harm In Giving Water, Honey, Glucose Water Or Artificial Milk In The First Few Days?**

Such feeds given to newborns before the free flow of milk from the breasts are called, prelacteal feeds. These can be harmful for you as well as your baby and should be avoided.

If prelacteal feeds are given, the baby may not suckle adequately at the breast as her stomach is already full. Consequently, she will not get colostrum. Such feeds may also be contaminated and result in serious infections. Allergies are more common in babies given animal milk (including powder milk) in the first months of life. If these feeds are given through a bottle, the baby may not make the required effort to suckle and empty the breast. This either results in breastfeeding failure or may cause engorgement and infection of the breasts.

Some health workers give prelacteal feeds to otherwise normal babies who happen to be rather big in size or are small. They fear that these babies may get hypoglycaemia (less sugar in blood). This fear is unjustified. Colostrum is enough for these babies.

Some health workers give water or glucose water, fearing that the baby may get dehydrated. Babies are born with a store of water and such feeds are therefore unnecessary.

Sometimes, a prelacteal feed is given as a 'test feed' to safeguard aspiration into the lungs in a rare condition called tracheoesophageal fistula. In this condition, the trachea (the windpipe) is connected to the oesophagus (the food pipe).

These health workers do not realise that colostrum is a physiological secretion. Even if it is aspirated into the lungs, it is not irritating and gets readily absorbed. On the other hand, sugar, water and artificial milk are quite irritating if aspirated.

Being aware of these facts, if your doctor still feels that the baby needs any feed other than colostrum, he may prescribe it accordingly as an exception.

**What Is Exclusive Breastfeeding? How Long Should My Baby Be Exclusively Breastfed? What About Supplementing Breast Milk With Water, Fruit Juice, Soup, Other Milk, Gripe Water, Etc?**

The term 'exclusive' breastfeeding has gained importance because babies thus breastfed are far more healthy than those partially breastfed. It means that your baby is given only breast milk from the moment of birth upto the age of 6 months. This is all she needs. I therefore recommend that all infants be exclusively breastfed for 6 months, but at least until the completion of 4 months of age. Breastfeeding should then be continued up to 2 years of age or beyond with the addition of adequate complementary foods from 6 months of age.

Some doctors have a habit of prescribing fruit juice or soup from the age of 6 weeks. This is harmful. I do not recommend this.

Even in very hot, dry weather, breast milk contains sufficient water for your baby's needs. Additional water or sugary drinks are not needed to quench the baby's thirst. In fact, they pose a definite risk of contamination and of causing infection. Also, if you satisfy the baby's thirst with liquids other than breast milk, she may not suckle vigorously at the breast and this may lead to less production of breast milk. Gripe water may contain alcohol and extra sugar, and is not advised.

## **Do Breastfed Babies Need Multivitamins And Vitamin C Drops?**

Some hospitals routinely recommend these vitamins. They are not needed. In any case, multivitamin drops also contain enough Vitamin C to prevent any possible Vitamin C deficiency in a baby. So it is irrational to prescribe both.

Breast milk in malnourished women can be deficient in Vitamin K, the B group of vitamins and Vitamins C and D. I have not yet come across a single case of deficiency of Vitamins K, B (except Vitamin B12) and C in the breastfed babies under my care. It is possible that these babies get enough colostrum, which is rich in Vitamin K. I also advise mothers to take seasonal fruits, vegetables (leafy as well as raw), milk or milk products and sprouts, as these provide an adequate amount of these vitamins in their breast milk. However, if a mother follows a diet that does not include such foods, I would prescribe multivitamins for her rather than for the baby, whereby both would benefit.

Vitamin B12 deficiency can cause anaemia and brain and nerve damage. I have seen severe anaemia and serious effects on the mental faculties of 2 breastfed infants whose mothers were on a strict vegan diet.

Regarding Vitamin D, I have come across 4 cases of rickets among the thousands of breastfed babies that I have seen. It is interesting that in each of these cases, my advice to expose the babies to the morning sunlight for 10 minutes or so was ignored by the parents or by the maid who felt that the child's skin would become dark if exposed to the sun. Our skin has a pro-Vitamin D, which needs to be exposed to light for conversion into Vitamin D.

In these cases, we are referring to normal newborns, born at the expected time. Premature babies may need extra vitamins and certain minerals like calcium and iron. However, it may be worthwhile to note that rickets occurs in a growing

child. Around the age of 9 months, I like to make sure that the child does not have rickets, so that treatment can be given if required.

### **Do I Have To Give Calcium And Iron To My Breastfed Baby?**

Breast milk has enough calcium to meet the normal requirements of the baby. Even if your baby is teething, you need not give her calcium. Your milk also has one of the best forms of iron that is absorbed into the baby's system remarkably well. Till the child triples her birth weight, all her iron requirements are met by your milk alone.

In one study reported in the *Journal of Pediatrics*, none of the infants receiving human milk as the only milk in the first 12 months of life, without other foods containing iron, were anaemic at 7 months, compared with 43% of those breastfed for a shorter period. Good iron status was found at 12 and 24 months of age. However, we recommend addition of foods other than your milk after the baby completes 6 months of age. That provides her extra iron from other sources as well. I have seen iron-deficiency anaemia in breastfed children where introduction of other foods was delayed much beyond 6 months. Such children can become irritable and develop loss of appetite and may need more breast milk, iron-containing foods and, at times, iron in medicinal form.

### **Does My Child Need Extra Calcium For Healthy Teeth?**

No extra calcium is needed in breastfed children born at the expected time. Caries of teeth are common in bottle-fed children. Breastfed children can also get caries, but this is extremely rare. It is generally seen in children who have an inherent tendency to get caries and who, even after they have started teething, have a tendency to go to sleep on the breast after feeding.

It is important to note that breastfed children can also get diseases seen in bottle-fed babies. But it must be appreciated that the incidence of these diseases is much higher in artificially fed children. Don't stop breastfeeding if a dentist tells you that prolonged breastfeeding causes caries of teeth; follow his advice regarding ways of preventing caries (see *Teething And Care Of Teeth* in the chapter on THE A-Z OF CHILDHOOD ILLNESSES).

### **Should I Breastfeed My Child At Night Or Not?**

Yes, you must do so as long as you want to. You can breastfeed in a lying-down position. Breastfeeding at night increases your milk supply because more prolactin is secreted at night than during the day. This also plays an important role in preventing another pregnancy.

### **What Is Demand Feeding? How Frequently Should My Baby Be Breastfed?**

You must breastfeed whenever the baby wants to. This is called demand feeding or unrestricted breastfeeding. The more the suckling, the more breast milk will be produced. It also helps to prevent engorgement or undue fullness of your breasts.

Breast milk is digested easily and more rapidly than artificial milk. So your baby may want to feed frequently. She may feed irregularly at first; only a few times in the first day or two, then very often for several days. Every baby is different, but most settle down into some sort of rhythm after a week or two.

However, follow your instincts and recognise when your child's cries are not for a feed. This is termed 'intelligent demand feeding'. For example, if your baby had a proper feed and then starts crying within half an hour or so, the reason is probably not hunger but something else. It could be a wet nappy. The baby may need to be wiped or may want to be picked up for more body contact. She may be feeling hot or

may want to be covered up. After ruling out these possibilities, if the baby continues to cry, try nursing her again. A breastfed baby is not likely to be overfed.

### **What Should I Do If My Baby Does Not Demand Milk Often Enough Or Wants To Be Fed Too Often?**

There are a few babies who are rather quiet and do not cry when hungry. They do not pass urine frequently, nor do they gain weight properly. Such babies may have to be awakened, say at 3-hourly intervals, and breastfed.

Babies who exhaust their mothers by asking too frequently for breastfeeds are often not being breastfed in the proper position. Proper positioning helps such babies. Sometimes, the baby may want to suckle for comfort although she is not hungry.

### **What Should Be The Duration Of A Single Feed In An Older Infant?**

It can vary from less than 5 minutes to 20 or more minutes. Some babies are slow feeders. But they take the same total amount of milk as fast feeders. If we stop a slow feeder before she is ready, she may not take enough milk. Also she may not get the energy-rich hind milk that she needs to grow normally.

Please remember that suckling for a prolonged period does not cause sore nipples.

### **Should I Breastfeed From Both Breasts Each Time I Feed My Baby?**

Take your cue from your baby. She may want to have milk from one or from both breasts at each feed. You can start feeding her from, say the right breast at one feed and from the left at the next.

### **Tell Me A Little About Foremilk And Hind Milk.**

At the beginning of a feed, your milk (the foremilk) normally appears watery and bluish. It is rich in protein, lactose,

vitamins, minerals and water. Towards the end of the feed, the hind milk looks whiter because it is rich in fat. Babies need both foremilk and hind milk. That is why it is important that your baby is allowed to keep suckling from one side till she gets the hind milk and leaves the breast on her own. Only then should she be offered the other breast. If you let your baby do this, suckling from only one side may satisfy her.

While suckling, some babies rest in between taking a few deep sucks. Their eyes may be closed, but they have not yet had their fill. You may wrongly think that the baby has gone to sleep after finishing the feed and remove her from the breast. In this case, the baby will not get the hind milk and may appear dissatisfied.

If, for some reason, the baby has to be removed from the breast before the feed is finished, do not pull her forcefully away. First, break the suction by pressing her chin downwards or by putting your finger between her cheek and your breast and then press the breast gently away from her.

### **How Does One Prevent And Treat Engorgement Of The Breast And Breast Abscess?**

You may get congestion of the breasts after 3 to 4 days of delivery. As soon as you feel that your breasts are becoming taut, remove some of the milk by expressing it with your hands. If you like, you may drink this valuable expressed milk instead of throwing it away. Unrestricted feeding or demand feeding a baby would also help to prevent engorgement.

Even if your breasts develop an infection, it is safe to continue breastfeeding the baby. If you do not want to do so, continue expressing the milk from them. Hot water fomentation is helpful. You must take enough rest. An 8 to 10 days course of antibiotics may be needed.

If an abscess does form, surgical help may be required. You should start breastfeeding from the operated side as soon as possible. This does not delay healing of the wound.

### **Can Engorgement Of Breasts Give Rise To Fever?**

Usually not. Some mothers do get fever, but it is not high. The fever is not accompanied by symptoms like chills, 'a general feeling of being unwell' and body ache, and does not last more than a day or two. If it does, your doctor may consider the possibility of an infection that may need antibiotics.

In the presence of an infection, the mother feels unwell and may also have a chill.

### **What Is A Blocked Or Plugged Duct?**

As mentioned earlier, the milk is produced in the alveoli of the breast. This flows down the milk ducts and collects under the dark portion of the breast called the areola. Sometimes, thickened milk may block a particular duct. The milk starts collecting behind this obstruction and this leads to the formation of a hard lump. In case of only a blocked duct, the mother does not have any fever and looks otherwise well.

A blocked duct must be treated. Otherwise, infection can set in, leading to mastitis and breast abscess. In mastitis, a portion of the breast feels hot, swollen and becomes painful. In an abscess, the swelling, when examined, appears to be full of fluid.

A lump due to a blocked duct should be gently massaged towards the nipple to help empty that part of the breast. The baby should be fed more frequently from that breast. If you have been feeding lying down (which is otherwise correct), try feeding in a sitting position. You can also try holding the baby under your arm, instead of across the front. All this may help to remove milk more efficiently from the blocked segment of the breast.

## **What Causes Soreness Of Nipples?**

Some mothers get sore or cracked nipples in the first week of breastfeeding because of poor positioning of the baby on the breast. The baby does not have enough of the breast in her mouth and she suckles only the nipple, thus hurting it.

Do remember that frequent or prolonged suckling does not cause sore nipples.

Another possible cause of sore nipples is introducing the child to artificial 'nipples' like the teat of a bottle, a pacifier or a nipple shield in the first weeks of life. This can affect proper suckling at the breast, resulting in sore nipples.

Also, if a mother takes the baby off the breast without first breaking the suction (by putting a finger between the breast and the baby's mouth), she may get sore nipples.

Breastfeeding must be continued despite sore or cracked nipples. However, the baby should be positioned properly on the breast with enough of the breast in her mouth.

Expose the nipples to air (and also the sun, if possible) and apply a drop of hind milk to the cracked nipples.

The soreness usually settles down within a few days. If the soreness persists or if it suddenly appears after a week or two of delivery, it is usually due to a fungal infection. The area around the nipple feels itchy and the pain seems to shoot down into the breast. The baby may also have thrush (white curd-like patches inside the mouth that are not easy to remove). Your doctor will prescribe a local application for the nipples as well as the baby's mouth. Sometimes, you may also need to be given an oral medication.

It is important to remember that a little tenderness of the nipples, when you begin to breastfeed, is quite normal in the first 2 or 3 days after delivery.

### **Would Washing The Breast Before And After Each Feed And Application Of Any Cream Or Ointment Help In The Prevention Or Treatment Of Sore Or Cracked Nipples?**

No. It is just the opposite. Daily bathing is enough. Never wash your nipples with soap. Frequent washing or cleaning of the breast is likely to remove the anti-bacterial lubricating oil produced by the Montgomery's glands present in the areola. This can lead to dryness and thus contribute to soreness of nipples. Avoid using creams or ointments sold in the market for the prevention or treatment of sore or cracked nipples. They may actually add to the problem.

### **My Nipples Are Flat. Will I Be Able To Breastfeed?**

Yes. Successful breastfeeding does not depend on the size of the breast or the size of the nipples. Just touch or gently rub your nipple with your fingers. If it becomes slightly more prominent, it is protractile. A flat or a small nipple that becomes prominent (even a little) on being touched is normal. So the size of the 'resting' nipple is not important.

In rare cases, a nipple does not protract. If you try and pull it out, it goes deeper into the breast. This is an inverted or retracted nipple. The baby has even more difficulty suckling from an engorged breast with an inverted nipple. In such a case, the mother should express the milk until the breast feels soft. This helps the baby to take enough of the breast in her mouth. If she finds it difficult to express adequately, the husband can suckle her breasts to help relieve engorgement.

Some mothers with inverted nipples may need the help of a disposable syringe (see Fig. 5). The nozzle end of a 10 ml plastic disposable syringe is cut off (Step one). The piston is introduced from the ragged cut end side (Step two). The mother then applies the smooth end to her breast and pulls on the piston gently and holds it in that position for about a

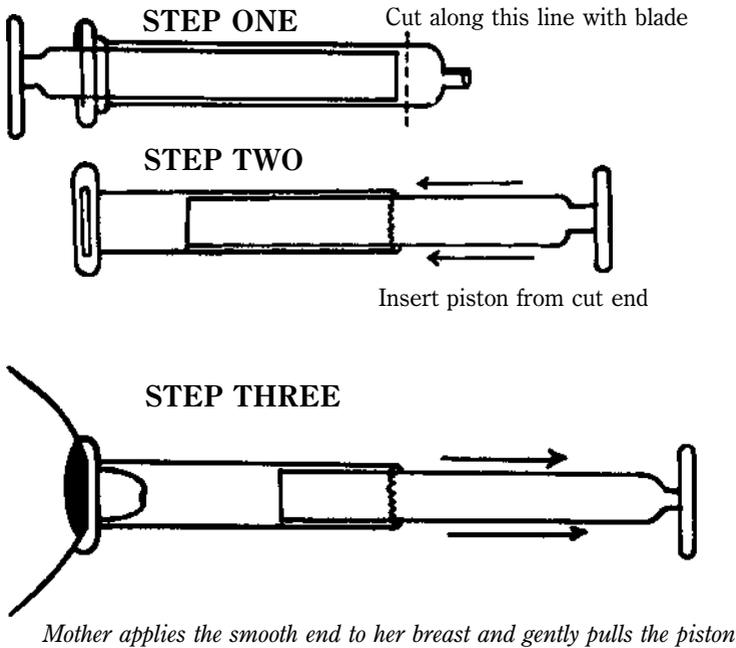


Fig. 5

minute (Step three). The nipple protrudes out into the syringe. The mother reduces the traction while releasing the syringe. The nipple stays protruded for some time; and the baby is immediately put to the breast. As the nipple is easily taken into the mouth, the baby is able to suckle in a proper position. The nipple retracts again after a while, but not to the same extent. The procedure can be repeated several times a day for a couple of days. This corrects the retraction permanently in almost all cases.

**My Baby Is One Month Old And Has Been Exclusively Breastfed. How Do I Know That She Has Been Getting Enough Breast Milk?**

A baby who is having only mother's milk and nothing else and who urinates 6 to 8 times or more in 24 hours is getting enough breast milk.

If you fail to count the number of times she passes urine, look at the colour of her urine. A light-coloured urine most of the time is an indication that she is getting enough breast milk. An occasional passage of dark urine can be ignored. However, in the first few days at the hospital after delivery, the frequency of urine may be less as the colostrum has less amount of water in it. Also, if the baby is kept wrapped up all the time, she may sweat and thus may pass less urine. This urine may also appear dark in colour.

### **But Why Do Most Of My Friends Complain That They Are Not Getting Enough Breast Milk?**

If a child cries more often, many mothers, grandmothers or maidservants start assuming that the baby has been remaining hungry and is not getting enough breast milk. They often forget that crying in a baby is not always due to hunger. She probably wants to be held and cuddled for more body contact. She may need to suckle the breast simply for comfort. She may have a wet nappy or colic or may be feeling hot or cold or just not feeling well.

A large number of mothers also start assuming wrongly that they are not producing enough milk if the child's hand goes to her mouth and she starts sucking her fingers. This sucking is due to the rooting reflex. If anything touches the baby's cheeks, including her own fingers, she tends to turn her mouth in that direction. This is called rooting.

Mothers also worry that the baby is not getting enough if she feeds for a prolonged period or if she finishes her breastfeed fast. Some babies are fast feeders; others are slow. Also, as babies grow older, they may finish the feed in a shorter time compared to the early days when they suckled for a longer period.

Some mothers wrongly start assuming that they are not producing enough milk if the breasts feel soft. 'Congested

breasts' is a phenomenon of only the early days or if frequent suckling is not emptying the breasts. When the supply and demand of breast milk are well adjusted between the mother and the baby, the breasts should and do feel soft.

In any case, the mother should note the colour of the urine and count the number of times the baby passes urine and only then decide if her baby is getting enough milk or not.

### **Does Adequate Weight Gain Also Help To Know Whether The Baby Is Getting Enough Breast Milk?**

Yes, provided the weighing machine is accurate and the baby is weighed on the same weighing scale, either naked or with the same type of clothes on each occasion.

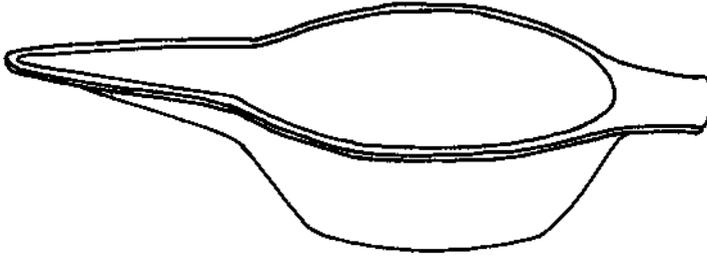
Also, many people wrongly assume that a baby must gain 2 pounds or 1 kilo in weight per month. Some normal babies may gain only half that. And then, a baby may normally lose some weight in the first few days after birth and regain it after that to return to her original weight on the tenth day. The real gain in weight should be calculated after the tenth day.

My personal experience shows that a mother who feeds her baby on demand from the time she is born finds that her baby regains her birth weight even before the tenth day.

### **Do I Need A Drug To Increase Milk Supply?**

Frequent suckling at the breast and not bottle-feeding is more important to ensure adequate supply of breast milk than medicines to increase your milk output. Metoclopramide, given as a 10 mg tablet, 3 times a day, for 10 days or longer, may help to increase the milk supply. But make sure that the baby is not simultaneously fed with a bottle.

If the elders at home want you to take some special diet to increase your milk supply, there is no harm in trying it out.



*A bondla*  
(also called *paladai* or *jhinook*)

### **Why Do Some Babies Suddenly Stop Breastfeeding?**

The cause may be as simple as the mother beginning to smell different; for example, if she eats a lot of garlic, or uses a new kind of soap or perfume.

On the other hand, it may be something serious. For instance, a baby who stops suckling may have developed a serious infection or may have suffered brain damage.

Other cases include a very small baby weighing less than 1800 gms who needs expressed breast milk given with a cup or *bondla* (also called *paladai* or *jhinook*) until she can suckle more strongly; a baby having a blocked nose due to a cold or one having thrush (a fungal infection) in her mouth; a baby who is used to the teat of a bottle, and one who has been separated from the mother for some time.

Sometimes, a mother may have an oversupply of milk and a large amount of milk may pour into the baby's mouth, making her choke. In such cases, we advise the mother to express some milk before each feed. Or the mother could lie on her back, and keep the baby on her chest and then breastfeed. Sometimes, of course, the baby may really not be getting enough milk.

### **What Should A Mother Do If Her Baby Is Really Not Getting Enough Milk?**

In such a case, the mother should stay close to the baby at all times. She should cuddle her as much as possible and make the baby sleep with her. She should offer the breast to the baby whenever she shows an interest in suckling. But she should not force her. Some babies suckle better when they are sleepy. The idea is to stimulate the breasts by frequent suckling.

The mother should also see that the baby is positioned properly on the breast with enough of the areola in her mouth. She should make sure that the child is not given any bottle-feed. Whenever the baby shows interest, she should breastfeed her and, after that, if she is convinced that the baby is still hungry, she should express her breasts and offer that milk to the baby in a cup or a *bondla*. If that is not possible, the baby might be given half strength cow or buffalo milk from a cup or a *bondla* after the breastfeed. Never replace a breastfeed with an artificial feed as far as possible. Diluted feeds leave the baby hungry, so she is more willing to try to suckle.

But do ensure that the baby is not starving. Check the urine output and the weight gain.

### **What About Leaking Breasts?**

Breasts may sometimes leak in the first few weeks after delivery. This usually stops on its own. Meanwhile, small pieces of any towelling material can be kept between the brassiere and the breast.

### **Should A Working Woman Get Her Baby Used To Bottle-Feeding?**

As per Central Government rules, a woman is entitled to 4 months' paid maternity leave. She is also allowed to take any leave due to her after that period. A working mother can

breastfeed the baby when she is at home and breastfeed more often during holidays. When she is at work, expressed breast milk, mashed banana and other fruits, homemade soft foods, and beaten curds or buttermilk can be given to the baby. If essential, artificial milk can also be given.

Expressed breast milk can be stored for at least 4 hours at room temperature without getting spoiled. Avoid bottle-feeding. Babies easily get used to taking milk directly from a small glass or a *bondla*.

A tragic situation arises when the mother introduces the bottle in the first weeks after delivery for the baby 'to get used to the bottle'. As the process of sucking through the artificial nipple of the bottle is different from suckling at the breast, the baby may start preferring the bottle and avoid breastfeeding. This may lead to failure in breastfeeding.

See the section on *Working Women* in the chapter on FAMILY ISSUES.

### **Can Twins Or Premature Babies Also Be Fed Adequately On Breast Milk?**

Frequent suckling can provide enough milk for 2 babies. In short, one breast, when frequently emptied, can provide enough milk for one baby.



*Successfully breastfed twins.*

Premature babies who can swallow but cannot suckle are given expressed breast milk in a cup or a *bondla*. Our experience has convinced us that it is more practical to feed with an ordinary cup, small glass or a *bondla* (also called *paladai*) than with a spoon. There is no risk of aspiration into the breathing passage in feeding with a small glass. The mother holds the baby in her lap, lifts the head higher than the rest of the body and gradually lets her take the glass.

Sometimes, if a baby is too weak to swallow, she is given expressed breast milk through a stomach tube.

It is important for the baby to start suckling at the breast as soon as she is able to do so.

Premature babies need more proteins. It is Nature's wonder that the breast milk of the mother who delivers prematurely has a higher protein content than a mother who delivers at full term.

### **Can A Mother's Milk Be Too Heavy And Can The Baby Get Diarrhoea Or Vomiting With It?**

No, a mother's milk is just right for her baby. At the beginning of the feed, the milk is thin (foremilk). Towards the end of the feed, it becomes thick (hind milk). The foremilk is rich in lactose and the hind milk is rich in fat. The baby needs both. The fat-rich milk is also easily digested by the baby because of a substance present in the mother's milk that helps in the digestion of fat.

The stools of a breastfed child are normally loose. Some exclusively breastfed babies pass frequent watery motions. Sometimes, they are soapy, green, frothy, or mucousy and may even contain reducing substances. Some such babies may vomit curds or milk off and on. But, as long as they are getting only mother's milk, are active, suckle normally and pass urine frequently, this is normal and no medicine or any other treatment is required. Breastfeeding should be continued.

I like to call this condition the 'Physiological diarrhoea of an exclusively breastfed baby'. Drugs given to such babies can be harmful.

If a mother gives her baby only foremilk and switches her to the other breast before she has taken the hind milk, the baby may get only lactose-rich foremilk from both breasts. Some babies may fail to handle this load of lactose and may pass motions too frequently. This needs correction and the mother must allow the child to keep feeding from one side and offer the other breast only after she herself stops suckling from the first side.

On the other hand, some normally thriving breastfed babies pass a motion every 3 or 4 days. But the motions are not hard. This is also normal and no treatment is required. It is true that some such babies appear to be rather uncomfortable, but they settle down after passing a motion.

### **Is It True That Green Motions Mean That The Baby Is Not Getting Enough Milk?**

Not really. If the baby is active and passes urine normally, the green motions are normal. The so-called 'starvation stools' are seen in an emaciated child who passes traces of green mucus in place of normal stools. This baby does not gain weight and looks miserable.

### **Is Allergy To Mother's Milk Common?**

Allergy to cow milk or powder milk is quite common, but not allergy to breast milk. That is why we advise exclusive breastfeeding for 6 months. In the first months of life, the baby's intestines are not fully matured and foreign substances present in cow, buffalo or powder milk may enter the system of the baby through the immature intestine. Such babies are more prone to allergic diseases like allergic milk intolerance with severe vomiting and diarrhoea and allergic rash, asthma or eczema.

### **Can Certain Foods I Take Upset My Baby?**

Small amounts of certain substances present in the mother's diet may pass unchanged into her breast milk. Occasionally, these may upset the baby and make her cry. It is more likely to happen if you have taken cow or buffalo milk or coffee. In general, it is difficult to advise a mother about which food to avoid. If you notice that the baby is definitely upset whenever you eat or drink something, then avoid taking that particular item. For instance, if you are drinking milk, this could be a possible cause of the so-called 3 months colic or evening colic. You can try to stop taking milk and milk products completely, including milk in tea or other foods, for 2 weeks. If milk is the cause of colic, the baby will cry less. In that case, do not take milk until the baby completes 6 months. If the baby continues to cry in spite of the absence of milk from your diet, milk is not the cause of her colic.

Do not stop breastfeeding if you are told that your baby is not tolerating your milk. In case of a strong history of allergy in the family, we recommend that you avoid taking milk and milk products, peanuts, and eggs during pregnancy and breast-feeding. (See the section on *Vegetarian Diet* in the chapter on PREGNANCY.) If someone raises a doubt about how you can produce milk if you do not drink any, give him or her the example of the cow. A cow does not drink any milk and yet produces it!

**Flavours of garlic, onion, asparagus and vanilla eaten by you can enter your breast milk. Surprisingly, most babies seem to like these flavours.**

It must also be remembered that some high-need babies just cry more than usual. They want to be carried or cuddled more often. Even if they are not hungry, they may like to suckle more for comfort. If the mother accepts that her baby is different and she gives her extra body contact, the baby generally settles down and starts behaving better within a matter of 1 to 2 months.

### Should A Mother Stop Breastfeeding If She Is Ill?

We may consider stopping breastfeeding only if a mother has cancer, or is so seriously ill that it is physically impossible for her to breastfeed; if she is on treatment with radioactive compounds or is receiving anti-cancer drugs.

A mother can continue to breastfeed if she has infections like infective hepatitis, typhoid, cholera, diarrhoea, tuberculosis and leprosy. In many cases, the mother makes antibodies against the infective agents that are likely to protect the baby from her mother, even before she knows that she has an infection.

In case of HIV infection (AIDS), most babies are infected before they are born. But some can get AIDS through breast milk. As the general risks of artificial feeding are greater (especially in developing countries) than the smaller risk of getting AIDS from breastfeeding, the general recommendation is to **exclusively** breastfeed the baby for 3 months and then switch over to artificial feeding. However, if a mother can safely give her baby artificial feeds, she may opt not to breastfeed.

Certain drugs taken by the mother may get excreted in breast milk, but they usually cause the baby no harm. Thus most antibiotics, antipyretics (drugs to reduce fever), and most anticoagulants and contraceptives are safe. So are drugs for tuberculosis, leprosy, epilepsy or for psychiatric illness. If in doubt, check with an expert.

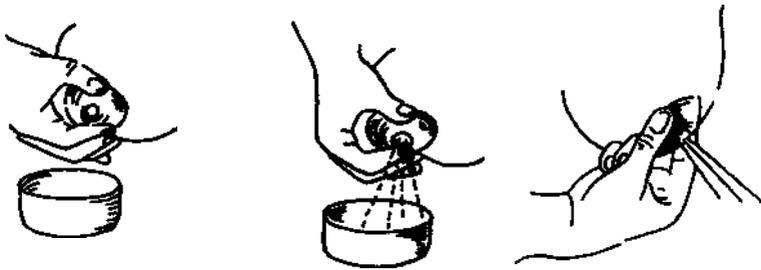
In general, we advise the mother to take the drug soon after breastfeeding the baby and to watch the baby for side effects. When a mother is not well (and also otherwise), she can breastfeed in a lying-down position. She can feed during menstruation and half way through the next pregnancy. If a mother is eating well, she can breastfeed even throughout the pregnancy.

### What Should Be Done If The Baby Is Separated From The Mother Or If The Baby Has To Undergo Major Surgery?

In that case, the mother should keep expressing her breasts every 3 hours to make up feeds for the baby and to prevent engorgement of her breasts. As soon as it is possible, she should start direct breastfeeding. Until that time, expressed breast milk can be given to the baby with the doctor's advice.

### How Do You Express Breast Milk?

To begin with, it is better to get the help of a friend or relative to stimulate the easy flow of milk. For this, massage the breasts gently towards the nipples, sit down, fold your arms on a table in front of you and rest your head on your arms. Let the breasts hang loose. Request the helper to rub your back firmly, up and down, with her knuckles. Let her rub on either side of the spine, from the neck to the shoulder blades, for 2 minutes.



*Expressing breast milk*

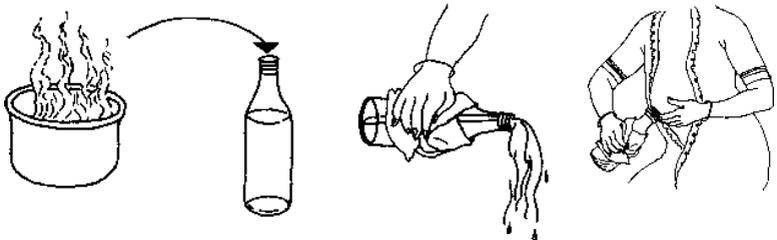
*Fig. 6*

Now take a clean cup. Wash your hands. Hold the cup near the breast. Put your thumb on the areola above the nipple, about an inch or 2.5 cms behind the nipple, and your first finger on the areola below the nipple, opposite the thumb. Push the thumb and finger inwards towards the chest wall. Then press the areola between the finger and thumb and

release. Again push, press and release. No milk will come out for a few moments. But after you press a few times, drops of milk will start to come. Press the areola in the same way from the sides, to make sure that the milk is expressed from all segments of the breast. Express one breast for about 5 minutes. Then express the other side. Repeat again with both sides. You can use either hand for either breast (*Fig. 6*).

### **What About The 'Warm Bottle Method' Of Removing Breast Milk?**

This is a practical method to relieve engorgement, especially when the breast is painful and expression by hand is difficult. Find a large bottle (700 ml to 1 litre) with a wide neck (3 cm in diameter), if possible. Pour a little hot water into the bottle to start warming it. Then fill the bottle almost to the top with hot water. Let it stand for a few minutes to warm the bottle. Wrap the bottle in a cloth and pour the hot water out. Cool the neck of the bottle and put it over the nipple, touching the skin all around to make an airtight seal. Hold the bottle steady. After a few minutes, the bottle will cool and exert gentle suction that pulls the nipple into the neck of the bottle. The milk then starts to flow and collects in the bottle. When the flow of the milk slows, release the suction and remove the bottle. Pour out the milk and repeat the process with the other breast. After some time, the severe pain in the breasts becomes less and hand expression or suckling becomes easier (*Fig. 7*).



*Fig. 7*

It is possible that you may pull away from the bottle because of a sudden feeling of suction. In that case, pour hot water into the bottle again and repeat the whole process.

### **How Long Can Breastfeeding Be Continued?**

That depends on you, the mother.

We do know for sure that breastfeeding beyond the first year benefits both the mother and her baby. An important advantage is the reduced risk of infection and need for hospitalisation. In the second year, the child comes in contact with other children with increased exposure to infection. She also tends to put everything into her mouth and this also increases the risk of infection. A child who gets breast milk along with solids is less likely to pick up such infections. If she does get an infection, she is likely to recover faster than a child who is not getting any breast milk. Also, during an infection, a child's appetite may be so badly affected that she may not even want to drink water. In such a situation, I find that, if the child continues to breastfeed, she gets some nourishment as well as fluids. Such children, when exposed to common infections in childhood under the protective cover of breast milk, are likely to develop a permanent immunity against most such infections. Many people do not realise that even in the second year, the breast milk has the same concentration of protective immune bodies as were present during the first year.

During the second year, a mother's milk can provide one-third or more of the calories and the protein that a child needs.

It is also important to continue breastfeeding in the second year if there is a history of allergy in the family. Extended breastfeeding continues to provide emotional security and reduces the risk of allergic and dental disorders.

The hormones that a breastfeeding mother produces continue to help her feel relaxed. Whenever the child is

injured or upset for any reason, the mother finds it convenient to comfort her by breastfeeding. If solids are added gradually after a period of exclusive breastfeeding, the mother is less likely to menstruate and become pregnant in the second year. However, it is important for the mother to get proper advice on family planning.

Some mothers like to continue breastfeeding even beyond the second year. Doctors support this as long as the mother and the baby are happy about it and the child is growing well. On the other hand, some babies stop breastfeeding on their own when they are around 18 months. This too should be happily accepted.

When a mother decides to stop breastfeeding, we help her to stop gradually. This is good for the child as well as the mother. Drugs to dry up the milk are to be avoided as they may have side effects. To begin with, you must give your child adequate body contact and increase the number of meals. Increase the interval between 2 breastfeeds. At first, stop breastfeeding during the morning. After a week, stop breastfeeding in the afternoon. In the morning or in the afternoon, avoid situations which may make the child think of breastfeeding, such as having her on your lap when you sit down to eat. A toddler can be told lovingly but firmly that she can breastfeed later, but not at that time. It is better to stop the night breastfeed last if your child reacts strongly to the idea of giving up her feed at bedtime.

It may be important for you to know that a mother may normally have some milk in her breasts for many months after she stops breastfeeding.

## **ARTIFICIAL FEEDING AND BOTTLE-FEEDING**

Occasionally, artificial milk may have to be given to adopted babies or those who have lost their mothers, or to infants who have become 'hooked' to bottle-feeding and stopped breastfeeding completely for some time.

Even in such cases, breastfeeding is possible. An adoptive mother who has never given birth to a child can fully or partially breastfeed her adopted baby.

Wet nursing is another alternative, where a breastfeeding mother may also like to breastfeed an adopted baby or a baby who has lost his mother.

Relactation is also possible in mothers who have stopped lactating.

For details of such cases, write to

**Breastfeeding Promotion Network of India (BPNI),**  
BP 33, Pitampura,  
Delhi 400034.

## **LIQUID MILK OR POWDER MILK**

If artificial milk is to be given, I would suggest undiluted cow or buffalo milk for children above 6 months of age. If the milk is very rich in fat, remove the cream. Some companies have started marketing 'follow-up' formula in powder form for children above 6 months of age. Iron is added to some of these preparations. Follow-up formulas add to the cost of bringing up your children and provide no special advantage. I agree with the World Health Organisation (WHO) and do not recommend their use.

Below 6 months, if the choice is between liquid milk and powder milk, I would suggest liquid milk for most poor and lower middle class families. There is less risk of over-dilution with liquid milk than with powder milk. Traditionally, the milk is boiled before it is given to the child. Therefore, the danger of infection is also minimised. The child can be given 2 parts of pure cow milk and 1 part of water until she is 4 months old. Then undiluted milk can be given. In the case of pure buffalo milk, the cream can be removed. A teaspoon of sugar is added to 4 ounces (120 ml) of the feed.

Those who can afford and can safely use milk powder should prepare the formula in the proportion of 1 level measuring spoon (placed in the tin) of infant milk powder to 1 ounce (30 ml.) of water.

Skimmed milk or condensed milk should never be given to infants.

### **Frequency And Amount Of Milk**

Aim at five 4-hourly feeds. Start with an ounce (30 ml.) per kilo of weight per feed. For instance, if the baby weighs 4 kg. give 4 ounces (120 ml) of milk every 4 hours — omitting the midnight feed. This is a rough guide. If the baby finishes all 4 ounces, make 4½ ounces for the next feed. A little milk should always be left behind. The maximum amount per feed is 8 ounces.

### **BOTTLE OR CUP FEEDING**

Cup feeding, feeding with an ordinary glass or a *paladai*, (also called *jhinook*, or *bondla* — a traditional small *katori* with a long spout) is much safer than bottle-feeding and is to be preferred. We have had experience of giving milk with a cup or an ordinary glass to premature babies who have already developed the swallowing reflex — in other words, babies who were ready to swallow. Unnecessary fears have been raised that this may lead to aspiration of milk into the baby's windpipe. It is only recommended that the baby should be propped up a little and offered the milk from these utensils (other than a bottle) very slowly. These utensils are easier to clean. Feeding from them is preferable even to spoon-feeding which consumes more time than cup or glass feeding. With spoon-feeding, wastage of milk and the risk of contracting infection from our fingers are also higher.

Special cups having a spout with a number of holes in it are not recommended, as they are more difficult to clean.

## Special Precautions To Be Taken While Feeding With A Bottle

If you must bottle feed, you should use a bottle that has been boiled for each feed. It is best to have about half a dozen bottles, out of which one is used for giving water or fruit juice. After each feed, the bottle and teat must be cleaned in **cold** water with a soap or detergent. Remove any milk curd from the teat by rubbing it with a little salt. Keep the bottle aside. Keep the teat covered with the cap that comes along with the bottle. After all the 4 or 5 bottles are used, place these washed and cleaned bottles in a big pan containing cold water. Boil for about 10 minutes. After the water is cooled, drain the water. Keep the pan covered. Whenever a bottle is to be used, wash your hands before picking up the bottle and teat.

The bottles can also be sterilised by keeping them soaked for 4 hours in water containing 5 drops of Lugol's iodine to 1 litre of water. A convenient substitute is a solution of sodium hypochlorite (available as milton or substitutes). One teaspoon (5 ml.) of this solution is added to 1 litre of water for sterilisation.

The milk offered to the child should be at the right temperature. Test it by putting a few drops on the back of your hand.

The teat should also have a hole of the proper size. Fill the bottle with milk and invert it. If the milk comes out in drops, the hole is of the right size. If you have to shake it or if it pours out in a stream, the hole is too small or too big respectively. A small hole can be enlarged with a sewing needle. Make it red hot by holding it in the fire with the help of kitchen tongs.

If cow or buffalo milk is used, it must be strained before being put into the bottle because the cream may block the hole.

Once a feed is prepared, it should be consumed as soon as possible. It should not be left for more than 2 hours at room temperature. However, it can be kept in a refrigerator and warmed by keeping it in a bowl of hot water for some time before offering it to the baby.

When you buy a feeding bottle, make sure that you buy one with a wide mouth. Glass bottles are preferable, but they break easily. If you go for unbreakable bottles, see that they are made of thick material, are transparent and that the markings on the bottle are clearly visible.

### **Holding The Bottle While Feeding**

For better bonding, the mother should take the baby in her lap, hold her close to her and then feed her in her loving arms. Ensure that the bottle is propped up so that the teat is kept filled with milk all the time. Otherwise, the baby will swallow air unnecessarily.

Bottle-fed babies swallow more air than breastfed babies. They need to be burped more — half way through the feed and then after the feed is over.

Never give the child a bottle in her sleep; she is likely to feel full when she gets up, and so will never experience hunger and the joy of hunger being satisfied. It also leads to increased incidence of caries of teeth.

As soon as possible, try to get rid of the bottle and let your child get used to taking milk from a glass or a cup. In any case, bottle-feeding should not be continued beyond 12 to 15 months.

Babies given artificial milk (including powder milk) need boiled and cooled water between feeds. They also may not get Vitamin C through the milk. So they should be given fruit juice or Vitamin C drops. Babies on cow and buffalo milk also need vitamin drops. If a preparation of multivitamin drops is

used, there is no need to give extra drops of Vitamin C. 0.6 ml of most such preparations will provide the right amount of Vitamin C as well.

Most powder milk preparations have added vitamins. So babies on these preparations need not be given multivitamins.

### **Restrictions On The Marketing Of Baby Foods And Feeding Bottles**

To protect and promote breastfeeding, the Government of India has passed 'The Infant Milk Substitutes, Feeding Bottles and Infant Foods (Regulation of Production, Supply, and Distribution) Act, 1992', which aims at putting certain restrictions on the marketing of infant formulas, feeding bottles and commercial weaning foods. Accordingly, advertisements of infant formulas and feeding bottles are banned, and inducement of any kind for the purpose of promoting the use of these products is prohibited.

Every container of such products should carry a statement in English and Hindi that 'Mother's milk is best for your baby' and a warning that such a product is not the sole source of nourishment for an infant. No label of infant food may exhibit the words 'Full Protein Food', 'Energy Food', 'Complete Food', or 'Healthy Food' or any other similar expressions.

The law also states that every educational and other material relating to feeding of infants shall include the benefits and superiority of breastfeeding; the harmful effects on breastfeeding due to partial adoption of bottle-feeding; the difficulties in reverting to breastfeeding of infants after a period of feeding by infant milk substitutes; the financial and social implications in making use of infant milk substitutes and feeding bottles; and the health hazards of improper use of infant milk substitutes and feeding bottles.

Any person who contravenes the provisions of the Act is punishable with imprisonment or has to pay a fine, or both.

The public is advised to watch out for any violations of the Act and report them to any of the 4 voluntary organisations that have been notified in the Official Gazette of the Government. One such organisation is the Association for Consumers Action on Safety and Health, Post Box No. 2498, Mumbai 400 002.

## **INTRODUCING SEMI-SOLIDS AND SOLID FOODS**

The first question generally raised is about when solids should be added to a child's diet and why. Your child should receive only milk until 6 months. I recommend that all infants be exclusively breastfed for 6 months, and that adequate complementary foods be added after that. If there is a history of allergy in the family, exclusive breastfeeding must be the norm till the child completes 6 months.

In case of breastfed babies, the addition of other liquids too early interferes with breastfeeding. Early introduction of all foods increases the risk of allergic disorders like diarrhoea and pneumonia, unnecessary load on the kidneys, indigestion, obesity and the later possibility of hypertension and coronary artery disease. Less frequent suckling also increases the possibility of the woman becoming pregnant again soon.

Before 6 months, most babies have the tongue-thrust reflex; they push out with the tongue anything other than liquids. In such babies, it is better to wait till they complete 6 months before offering complementary foods.

In general, we do not recommend delaying the addition of solids beyond 6 months, but if an allergy-prone child is avoiding solids until she is 6 to 9 months, do respect her preference and do not force her to take solids earlier than she is ready for them. But in any case, do not delay the addition of solids beyond 9 months.

Give only one food at a time. Wait for a week before you introduce another food so that you know whether or not the child is allergic to it.

You will also want to know what foods to give first. My favourite first food suggestion is an overripe banana, the skin of which has black dots. Cut it into small pieces, and mash it up with a spoon or fork. Let the baby sit in your lap and give her only a tiny bit after a breastfeed. Most mothers give it with a spoon. Others like to offer it with their fingers and then shift to the spoon. This is perfectly all right as long as the hands are properly washed. Most babies love a banana. Some prefer it if a little milk (preferably breast milk) is added to it. Many people oppose giving banana to a small baby, as it may give her a cold. I am not convinced about this belief, but each mother will know her baby best. If you feel that the child does become unwell whenever you give her a banana, you may stop it and try again after a month or two. Gradually, increase the amount of banana given at each feed to that accepted by the baby. Give her this once or twice a day.

You can try and interchange a banana with an apple or give apple once and banana at another time. Peel an apple and cut it into small bits. Boil and mash them in a mixer or with a spoon and fork. Other seasonal fruits like pears (boiled and mashed), papaya, mango and chikoo can also be given.

If you have to give other foods, rice preparations are good. Mashed, boiled rice (in extra water), mixed with milk, can be tried. If you are breastfeeding, you can add your milk to the rice. Alternatively, *phirni* made from rice powder and milk can be given. (You can use the milk normally consumed in the house.)

You may be wrongly advised to give rice water, *dal* water and soup at this time, but these hardly give the child any nutrition. They may instead fill up her stomach and quench her thirst, and consequently may lead to less suckling at the breast with reduced milk production.

Allergy to citrus fruits is common and so such fruits should be tried after 9 months, and after the age of 1 year in allergy-prone children.

If you have given a food to which the child might be allergic, look for the appearance of a rash, cold, wheezing, restlessness, crying, vomiting or diarrhoea. Stop that food if any of these symptoms is present. If the reaction is not severe or is doubtful, try the same food after a month. If the reaction is severe, avoid it until the child completes 1 year and consult your doctor before trying it again.

As the child starts getting accustomed to foods other than milk, continue with breast milk and fruits and add homemade soft foods like *phirmi*, *suji kheer*, *rava kheer*, (semolina pudding) and porridge made from *ragi* (called *nachni* in Maharashtra) between two breastfeeds. Start with 1 or 2 teaspoons twice a day. Keep increasing the amount every third or fourth day to that accepted by the child.

Once you know that the child is tolerating these different food items, you can make a highly nutritious recipe by roasting, grinding, and mixing equal parts of rice, wheat, *ragi*, and *moong dal*. The mixed powder can be stored in an airtight container. This readymade powder can be used for making thin pudding/*kheer* with milk and sugar or a thin porridge with ghee and sugar (or salt).

In general, I am against readymade cereals for babies. They are quite hygienically prepared and convenient to use, but whole foods made at home are more nutritious and, of course, less expensive. Even if one can afford to buy readymade cereals, they should be avoided, if possible, because they are processed and so are less nutritious. You may be told that they are fortified with iron. This iron is poorly absorbed and may not be of much benefit to the child. Moreover, the smooth consistency of these commercial preparations may make the child get so used to them that she may not like to accept any food offered later on.

Mashed and cooked vegetables with cooking oil or ghee can also be given. Dark green, leafy vegetables, carrots, pumpkin,

potatoes, beans, peas, *dudhi* or *ghia*, marrow and beet can be tried. Begin with 1 or 2 teaspoons and increase progressively. As vegetables are not fully digested by the baby, small bits may be passed along with the stool. This is normal. Also a child having beet may have red-coloured stools or urine.

**Beets and carrots should not be stored. They should be served fresh because storage increases the amount of nitrates in these vegetables. These nitrates can cause anaemia in small children. Raw vegetables can be added after the child is a year old.**

When the child is around 9 months, the food need not be mashed too fine. She can be given food cooked for the family like *chapati* or *paratha* dipped in *dal*; rice and *dal*; *dhokla*, *dosa*, *idli*, curd rice, *upma*, *pongal*, *missi roti*, etc. Milk preparations, like curds, buttermilk and *paneer* (cottage cheese) can also be tried. These preparations are more easily digested than artificial milk. Also, allergy to these foods is less common than with artificial milk.

Tender portions of meat can also be given from the age of 6 months, but vegetarians may rest assured that a vegetarian diet can meet all the requirements of a child. The principles on which this proposition is made are discussed in the section on diet for pregnant mothers.

Children who do not eat enough at a time should be offered food or fruits every 2 to 3 hours. To reduce the bulk, oil or ghee should be added to the food. Some families are unnecessarily wary of ghee or oil, but they do not realise that even breast milk has fat in it. Children do need fat. However, a taste for fried foods should not be inculcated from an early age.

We should also remember that staple foods (rice, wheat, maize, etc.) though required, are all starchy. Starchy foods are bulky. As the child's stomach is small, she fails to eat enough

of the bulky, starchy stuff to get all the calories she needs. Adding fats like oil or ghee, protein-rich foods like pulses, beans, milk and milk products and meat and sweetening agents such as jaggery or sugar can solve this problem. Another good way of reducing the bulk and increasing the energy density of food is by adding Amylase-Rich-Food (ARF). To make ARF, about 100 gms. of any locally available cereal or grain (wheat, *ragi* or *bajra*) is steeped overnight in 2 to 3 times its volume of water, the excess water is drained, and the moist, swollen seeds are germinated in a moist, dark environment for 24 to 48 hours till they sprout. The grains are then sun-dried for 5 to 8 hours and lightly toasted on a flat skillet to remove any surface moisture. The sprouts are removed by hand abrasion and the grains are milled or powdered. This flour (ARF) is stored in an airtight bottle or plastic container. The small amount of ARF, for a cost of 20 to 40 paise, will suffice to give a child nutritious gruel for one month. It need be made only once a month.\*

Addition of vegetables and fruits provides the required minerals and vitamins.

Water can be given to the child once she starts taking foods other than breast milk and fruits. It should be offered from an ordinary glass. Children learn to sip from a glass quite easily.

A child should be given her food an hour or two before the family eats. Let her then also join the family to participate and be given some food that is not too spicy or too rich in fat, sugar and salt.

After the age of 9 months (or even earlier in children who are interested), encourage the child to eat by herself. Do not be upset if she makes a mess. You may help her, but she should get a feeling that she is managing by

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\*Gopaldas T. 'Technology to improve foods in developing countries. *In*: Nutrition in Children. Eds. Sachdev HPS, Choudhury P. New Delhi, Department of Paediatrics, Maulana Azad Medical College; 1994, pp. 130-131.

herself. To begin with, offer her foods which she can pick up with her fingers, like a thin piece of toast or biscuit (preferably wholewheat), cooked peas, scrambled egg, *dhokla*, *idli* (plain or fried), *shreekhand* (sweetened curd cheese), porridge, pumpkin and small pieces of fruits like bananas, chikoos and papayas.

The child may choke a little while learning to eat. Do not be scared, but be with her while she eats, in case she gets into trouble. Let her start getting used to a spoon. Let her dip a teaspoon into a preparation like *shreekhand*. A bit will stick to the spoon and give her the joy of getting something into her mouth on her own.

A child who was eating well at 6 or 7 months may suddenly become disinterested in eating. Do not panic. Try some new preparation. But never force the child to eat more than she wants. Respect her appetite. Even if half a spoon is left in the bowl, stop feeding her if she shows any signs of not wanting to eat any more (keeping her mouth shut, turning her head to the side or pushing the food out).

### **What Are The Foods That Should Be Avoided In The First Year Of Life?**

Foods that are more likely to give rise to allergic reactions should be avoided till the child completes 1 year. These are artificial milk (cow, buffalo or powder milk), eggs, fish and citrus fruits like orange and sweet lime.

In families with a strong history of allergy, besides the above foods, even peanuts, other nuts, chocolate, wheat, corn, onions, tomatoes, cabbage, and all types of berries should be avoided. If any member of the family reacts adversely to a particular food, avoid that as well.

Also avoid fried foods and foods that contain added sugar or artificial sweeteners or are high in salt. Some authorities also do not recommend honey to be given below the age of 1 year,

because it may contain a certain infective agent. Although I have never seen any such adverse effect in my practice, it may be advisable to avoid it, especially in the first few months.

### **Should Other Foods Be Given Before Milk Or After A Milk Feed?**

As the main diet of the child upto the age of 6 months should only be breast milk, other foods, if given between 5 and 6 months of age, must be offered after a breastfeed.

Between 6 months and 1 year, the other foods can be given after or between two milk feeds. Let the baby decide when she wants to have them. In a breastfed child, ideally we would like to meet three-fourths of her nutritional needs between 6 and 12 months with breast milk. Yet, solids are important for additional nutrition and also for the child to start getting used to foods other than milk. Therefore, do not cut down drastically on breastfeeding. However, you should feel free to leave the child behind and for her to be given other foods in your absence.

### **Amount Of Food To Be Given To Infants**

Children vary a lot in their eating habits. In general, I am against prescribing a fixed menu. However, some mothers may offer an adequate amount to the child, but they may not, for instance, realise that a child of one year needs about a 1,000 calories of energy — almost half of what many adults take. So it is advisable to have some idea about how much of different foods a child can be offered. After that, we should leave it to the child to decide how much she wants to consume. A good guide that the child is having an optimum quantity of food is her level of activity and weight gain.

### **Suggested Menu For A One-Year-Old**

The menu on page 202 is adapted from a book by Dr. Shanti Ghosh. Please treat this as a guideline in light of the above

discussion. I would encourage mothers who wish to continue giving breast milk to the child beyond one year. They can give breast milk at 6.00 a.m., 10.00 a.m., 4.00 p.m., and at 10.00 p.m., and avoid other milk.

If you want to give your child a meat preparation, offer it in place of the *dal* mentioned in the menu. However, as mentioned earlier, meat is not essential. The menu can be changed as per your convenience. If your child does not want milk, you can give curds or *paneer*.

You can aim at offering the given amounts of different food items to your child to provide about 1,000 calories per day. About 3 teaspoons of jaggery (or sugar) and the same amount of oil (or other fat) can be used per day. Seasonal fruits should also be offered.



*A good guide that the child is having an optimum quantity of food is her level of activity and weight gain*

## GUIDELINES FOR MENU OF A ONE-YEAR-OLD\*

- Continue breastfeeding in the second year
- *Chapati*, rice, bread and banana can be alternated as given below:

1 <i>katori</i> rice	= 2 <i>chapatis</i>
1 <i>chapati</i>	= $\frac{1}{2}$ <i>katori</i> rice
	= 1 banana
	= 2 small slices of bread
1 <i>katori</i>	= 200 ml.

**Morning** : Milk 125 gms.  
Sugar 1 teaspoon  
Bread slice (preferably whole wheat) – 1

**10 o'clock** : Banana – 1 or *Halwa* –  $\frac{1}{2}$  *katori*

**Noon** : *Khichdi*  $1\frac{1}{2}$  *katori*  
or  
Rice 1 *katori* + *dal*  $\frac{1}{2}$  *katori*  
Vegetables

**2 o'clock** : Bread slice – 1

**4 o'clock** : Milk 125 gms.  
Sugar 1 teaspoon  
Bread slice – 1

**Night** : *Khichdi* 1 *katori*  
or  
Rice  $\frac{1}{2}$  *katori*  
Dal  $\frac{1}{2}$  *katori*  
Vegetables

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\* Ghosh S. The Feeding And Care of Infants and Young Children. New Delhi,

## FEEDING YOUNG CHILDREN

### General Principles

- Your baby grows rapidly in the early months of life. In the second year, however, her growth will generally slow down, and she will be less hungry. Also, her appetite may vary from day to day. She may also be passing through a phase of negativism (15 months to 3 years), when she tends to do the opposite of what you want her to do. If she is unwell, her appetite may suffer even more, though she may continue to accept mother's milk if still breastfed.
- Keeping this in mind, do not force your child to eat. Of course, you must offer her food quite often. Let her eat by herself even if she makes a mess. Let her learn to handle the spoon. You may fill up her spoon off and on or you may offer her some food with a separate spoon, but she should be encouraged to develop independence in her eating habits. Do not get upset if she does not eat 'nourishing' foods for a few days. Children have their moods. For some days, an infant may eat less of certain foods but if left to herself, she may start eating the same again after a gap of few days. Breastfeeding should be continued in the second year or as long as you and your child want. (See chapter on FEEDING THE NEWBORN AND INFANTS.)

- A child must sit while eating — first in your lap and later on her own. She should not be allowed to run around the house while eating.
- I do not believe that you should only feed a child when she asks for her food. Some children get so absorbed in playing that they will never ask for food, though they start becoming irritable because of hunger. Children should be offered food at regular times, but not forced if they eat less or do not eat at all at one particular sitting.
- Too much milk is not recommended. Avoid giving your child more than 500 ml. a day. You can aim at giving  $\frac{1}{2}$  or  $\frac{3}{4}$  this amount as milk and the rest in the form of milk preparations like curd, *paneer*, or milk pudding. Children who hate milk may be offered milk preparations instead. Do not worry if your child does not want anything made from milk; read about vegan diets in the chapter on PREGNANCY. (However, keep in mind that vegan diets, which eschew the intake of even milk and milk products, can lead to severe anaemia and brain and nerve damage due to Vitamin B12 deficiency. **A study in the Netherlands has found that children with low levels of Vitamin B12 in their blood appear less able to reason, solve complex problems and process abstract thoughts. They also have poorer short-term memory. The study detected problems even in children who did not have severe deficiency and found that the effects of low Vitamin B12 intake can apparently appear years later.**)
- I do not suggest addition of flavouring agents to milk. Similarly, the so-called nourishing drinks advertised with the help of sportsmen or sportswomen are not recommended; they offer your children little nourishment. In fact, some children may prove to be allergic to these products and others may never drink plain milk again because they get hooked to a certain taste. Moreover, such

children may miss out on many other nutrients which normal food provides. If your child wants milk soon after getting up in the morning, give it to her, but this is not essential. She can be given milk with her breakfast. In such cases, many mothers give the child just plain water when she gets up. This habit, if continued, is helpful later in life. The person gets some fluid at the beginning of the day so that even if she does not get enough fluids during the day, at least some of her requirements have been fulfilled. Some children and adults also find this fluid intake helpful to move their bowels.

- Dry fruits are good for children, but they must also be rationed — partly because they are expensive — and more so because some of these, like dates, figs and raisins, can remain stuck between the teeth, leading to caries. Foods that may lead to choking in children should be avoided in those below 3 years. Examples of these foods are peanuts, raw carrots, other nuts, popcorn, hard candies, berries and whole grapes.
- Raw eggs can cause infection and should be avoided.
- Do not bribe or threaten your child to eat. You can give her ‘favourite food’ after her meals or in place of her meal.
- Children need to eat about 5 times a day — breakfast, lunch and dinner and snacks during the day — and in the evening.
- Do not satisfy your child’s appetite with only milk, fruit juices and soups. These liquids can form a part of the meal if required.
- Cooked vegetables spoil easily. They should be eaten fresh, as far as possible. If kept in the refrigerator, they should be consumed within a day or two. There is no need for the readymade foods available abroad. Natural, freshly prepared food is preferable. But if you find readymade foods convenient, remember that the saliva of your child

introduced into the jar from your child's finger or the spoon can cause the food to spoil rapidly.

- Do not be too anxious to teach table manners to your child below the age of 3. As a family, avoid eating food while watching television. A family meal is a very important time for the family, for getting together and enjoying each other's company. Moreover, children who are given to the habit of eating while watching television are likely to become fat because they may get so absorbed in the programme that they may eat more than what their system needs. Such habits also cut down on their normal activities.
- It is better to avoid discussing controversial issues at mealtimes. Time for sharing or for discussing disturbing events can be set after dinner.
- There is no need to sterilise the utensils used for older children. Clean, dry utensils are quite safe. Drinking water should be boiled.
- Teach your child about hygiene. Hands should be washed before and after meals and the teeth brushed or rinsed after each meal. The kitchen should be kept free of cockroaches and flies.
- Wholewheat flour *chapatis*, *paratha*, bread or porridge are to be preferred to preparations made from refined flour. This is essential for providing our body with essential vitamins, minerals and fibre. Similarly, unpolished rice is better than polished rice.
- Scrape vegetables, including potatoes, instead of peeling them. Use the water in which rice or vegetables have been boiled in cooking. Do not overcook vegetables. **Let the child get used to the taste of raw vegetables from a young age.** Avoid too much spice, though most children can tolerate a limited amount of spice, used in family cooking.



*Wholewheat flour paratha is to be preferred to white bread*

- Avoid chocolates, sweets, cold drinks, *sherbats*, flavouring agents, tea, coffee, etc. as far as possible. Approach the school authorities to send a circular to all parents not to send sweets to school for distribution on their child's birthday.
- If you are non-vegetarian, remember that fish is to be preferred to other types of non-vegetarian food. Eggs should not be given daily, but on alternate days.
- Children whose diets are based on the above principles generally do not need extra vitamins, calcium or iron. However, I do find that some children need these supplements after the age of about 9 months. Let your doctor decide about this.
- The menu at each main meal (breakfast, lunch, and dinner) or for snacks given between them can vary from day to day. If time permits, more than one item of food can be given at one sitting. But if the child wants to eat more of one preparation and less of another, do not force her to finish

each and every thing. Children should be offered enough of protein-rich foods like pulses, grain, peanuts, peas, beans, egg, meat and fish. But vegetarians should note that non-vegetarian food is not essential. Sprouted gram, *moong* and beans are very nutritious. Green, red, orange and yellow vegetables — cooked or raw — are essential. The cheapest seasonal fruit should be offered in abundance. Many people do not realise that guavas are more nutritious than other more expensive fruits.

- Too much sugar, jaggery or salt should not be added to a young child's food. A sweet tooth attracts more dental decay and can lead to obesity. Children used to more salty food from an early age may continue to take more salt than desired when they grow up. This is not good for our cardiovascular system. I would suggest that no salt be kept on the dining table. If a dish does need additional salt, let it be brought from the kitchen.
- **Avoid sending the child to school on an empty stomach. In a study from Jerusalem, 11 to 13-year-old children were given tests for cognitive functioning. Those given breakfast 30 minutes before the tests scored significantly better than children who ate at home 1½ to 2 hours before testing, and children who did not eat breakfast that day.**

## FOOD FOR ADOLESCENTS

### General Principles

- Too much anxiety about your teenager's diet is likely to cause more problems than help her in inculcating healthy food habits.
- Do have a general discussion about diet with your 'young friend'. She may be more receptive to advice from your family physician or her paediatrician. I purposely used the words 'young friend'. Your teenager is more likely to respond to your suggestions if you treat her with respect.
- I am for regular mealtimes. I am against fast foods or junk foods. But I know that sometimes I too, have such foods. And at 67, I am in good health. We do not have to be fanatical. But we should know, and so should our young friend, that when we go to a fast food restaurant, we are not likely to get food which is ideal for our body. But if, during the day, or even during the course of the week, we remember to also have leafy or raw vegetables, fruits, and any whole grain preparations, we can significantly minimise the harmful effect of such foods.
- **Teenagers should learn (and so should we) that fruits (fresh as well as dry), vegetables (leafy, raw, yellow, red and others), sprouts, whole grain preparations, nuts, *dahi* and *paneer* make better snacks than soft**

**drinks, wafers, biscuits, cake, pastries, candy and chocolates:** The latter mainly supply calories with relatively less essential nutrients. Many teenagers do not realise that cola drinks contain caffeine that can be addictive. Soft drinks also contain extra phosphorus that interferes with absorption of calcium from our diet.

- Fats are essential for our body including our nervous system. Teenagers do need fat for adequate calories. Though polyunsaturated fats and monounsaturated fats are grouped under 'good fats', we also need the saturated or the 'bad' fats. In fact, one-third of our fats can come from the latter. A combination of ghee, peanut oil and mustard oil is used in many Indian homes. I recommend it. The type of fats that should be avoided are the partially hydrogenated fats available as vegetable *vanaspati*. These are also the ones most commonly used by fast food joints. Polyunsaturated fats are found in sunflower oil, fish and almonds; monounsaturated in peanut oil, peanuts, peanut butter and cashew nuts; and saturated fats come from a milk source (butter, ghee, cheese), egg yolk, coconut oil, palm oil, meat, chicken and chocolate. The best thing to do is to use a variety of vegetable cooking oils from mustard seed, sunflower, groundnut, and safflower among others. **Equally important is physical activity, as that too, increases the 'good' cholesterol that protects the heart.**
- While younger children can have 3 eggs a week, teenagers with a family history of premature heart disease should be given egg only once a week.
- Too much fat, especially the saturated type, can lead to problems later in life, including coronary heart disease, and so should be avoided.
- **For energy during sports events or otherwise, 'instant energy' promised by manufacturers of**

**glucose drinks is a bad bargain. Banana, the favourite of tennis champions, should be our choice.** During sports and athletic events, young people can lose a lot of water and salts. Let them have enough liquids before any intense activity and have a small amount of the same throughout the event. A healthy way of replacing potassium salts is by taking potassium-rich fruits like oranges and bananas.

- Teenagers do not need extra vitamins, iron, calcium, and protein preparations for healthy growth. They need to get enough food because of their rapid body growth, including the growth of their endocrine glands, which secrete several kinds of hormones. If the diet contains enough of fruits, vegetables, pulses, sprouts, nuts, whole grain and dairy products, all the requirements of these nutrients can be met.
- In the past, too much stress was given to getting protein and other nutrients, including iron, from meat and eggs. Vegetarians should note that all the essential requirements can be met if our diet includes the so-called 'good foods' mentioned above. In families that eat too much meat, it is recommended to cut down the same and complement the diet with enough fruits, vegetables and whole grains.

## THE FOOD PYRAMID

Five years ago, the US Department of Agriculture issued a guide to daily food choices. It was graphically represented as a pyramid.

The US Department of Health and Human Services was in full agreement with this guide.

It was felt that many Americans were eating much more meat and fat than was good for their health. They were, through this 'food pyramid', advised to include more of fruits, vegetables and grains in their diet.

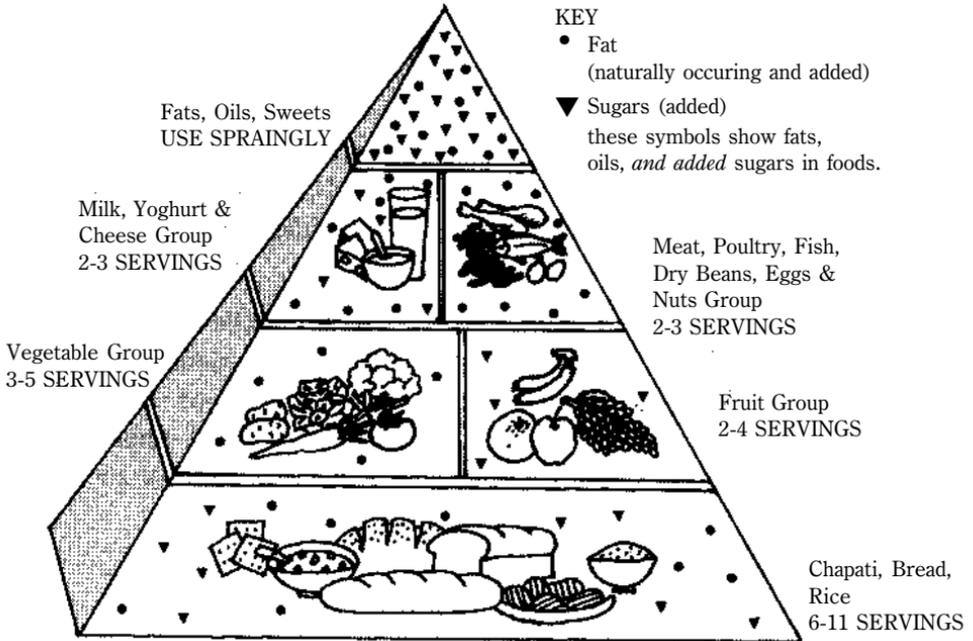
It may be noticed that an Indian diet basically leans more towards this food pyramid.

*Chagati* or rice gives our children a lot of grains. Most people, who can afford to, do buy fruits and vegetables. Meat is mostly served with grains. Beans and pulses provide a good substitute for those who do not eat meat. Milk and milk preparations, especially curds, are common ingredients in our daily diet.

However, it is also true that with the opening of a large number of fast food restaurants, some children are being weaned away from a healthy, balanced diet.

The pyramid also specifies a number of servings. The details about one serving of grains, fruit, vegetable, meat and milk products are given below the pyramid.

## THE FOOD PYRAMID



FOOD GUIDE PYRAMID

Source: U.S. Department of Agriculture.

1 serving of grain could be:

- $\frac{1}{2}$  cup rice,
- 1 slice of bread, or
- 1 ounce of cereal

1 serving of fruit could be:

- 1 whole fruit, or
- $\frac{3}{4}$  cup of fruit juice

1 serving-of vegetable could be:

- 1 cup of raw leafy vegetables, or
- $\frac{1}{2}$  cup of other vegetables (chopped raw or cooked)

1 serving of meat could be:

- 2 ounces of cooked lean meat, poultry or fish
- One egg,  $\frac{1}{2}$  cup of cooked dried peas or beans and  $\frac{1}{3}$  cup of nuts are each equivalent of 1 ounce of meat

1 serving of milk products could be:

- 1 cup of low-fat milk or yoghurt, or
- 1/2 ounces of natural cheese.

The September 1996 issue of *Consumer Reports On Health*, published by the Consumers Union of USA, has rightly pointed out that the pyramid offers no specific guidance on which foods to eat within each group.

This pyramid, according to consumer reports, falls short in 2 areas: Fibre and fat. For instance, it makes no distinction between white rice and white bread (which contains little fibre), and whole grain foods like unpolished rice and whole wheat bread (and whole wheat flour *chapati* in the case of an Indian diet), which have a lot of fibre.

Similarly, the pyramid does not distinguish between high-fat (butter, cream) and low-fat dairy products (low-fat milk or Indian *chaas* made from low-fat *dahi*).

It also does not separate typically lean foods like beans, fish, and skinless poultry breast from fatty items like hot dogs and hamburgers, and does not exclude fatty items like fried rice, creamed spinach and French fries.

In general, the food pyramid is a good guide for the whole family, but do not follow it blindly.

Guest Article – Ms. Karen Anand  
**HEALTHY FOOD HABITS**

*Healthy food need not be boring food, writes Karen Anand, gourmet and chef*

Humans are a difficult lot. We do not like to be told what to eat and when to eat it. This is because we do not eat prescriptively but by taste. Taste ultimately rules everything. We hear of the great benefits of the Mediterranean and Chinese diets with their large intake of fruits, vegetables and fibre and small amounts of dairy and processed (junk) food. But do people in these countries eat their vegetables and pasta, or steamed fish and rice, and proudly shout from the rooftops about how much fibre they've consumed that day? Hell no! They eat their fruit and noodles and stir-fries because they taste good and because that's what they have always eaten. **Our traditional Indian diets have, on the whole, been pretty healthy, with a good amount of vegetables and natural fibre. Prosperity has ruined everything, similar to the case of Europe in the 18th century; we are now eating more refined sugar, oil (in the form of fried foods) and junk. Even the simple *thali* has been transformed to include less fresh vegetables and fruit and more fried, refined cereal-based snacks, spice and sweets.**

If you are exercising for 2 hours a day or walking to work, your body can probably cope with the excesses. Even a fit

person has to change her diet once she gets into a sedentary mode of living, as is the case with pregnancy. You need to be aware of what you take in, and when. Just as important as your diet is also your mental well-being. Most of the time, you can't physically rush around anyway because of nausea. And that is part of the role of nausea. If you are vomiting, toxins are being thrown out of your body. Take sickness as a sign. Eat small amounts of food every 2 hours. This way, it is easy to balance your diet between things that are good for you (fresh fruits, raw vegetables, vegetable juice, dry fruits, sprouts, nuts, seeds, coconut milk-based dishes) and the junk you might crave.

Bringing up healthy babies is another matter. Be calm and be brave. Listen to your convictions and to common sense. Breastfeed as much as you can and add solids at about 6 months, beginning with mashed banana and then graduating to steamed apple, mashed potato and cereals such as *nachni*. I not only followed this but also prevented my boys from having any chocolate, sweets and soft drinks until it was time to go to birthday parties. Then you have very little control. People called me cruel. I am proud to say that I have two big, healthy hunks now who go out and ask for *nimboo pani* instead of cola, because they like it. A soft drink here, a hamburger there surely can't cause irreparable damage, you might say. And you would be right. Anything in moderation usually doesn't. But with kids, junk tends to become a habit that even adults enforce upon them. How often have you heard people say, "The kids can have pizza while we eat dinner"? Let's not underestimate our children. We owe them a healthy start to make their lives richer, more aware and more vital than many of our own. And the first step is to try and change our own eating habits. There is no point depriving children of cola if they see you drinking it every evening.

Feeding children healthy food can be a frustrating experience. So what are concerned, even nutritionally

conscious parents to do? Firstly, don't panic, because you're not alone. Picky eating habits; like many quirks of childhood, usually don't last long. Understanding the origins of finicky behaviour may be helpful. It may be that children are simply not hungry at mealtimes. This usually gets ironed out when you start cutting down their snacking. Or, they may associate mealtimes with parental pressure. Insisting that Johnny cleans his plate or else he'll have the same thing for dinner, almost invariably results in resistance. Food, especially for a child, cannot be forced. Unfortunately, many of us have to learn the hard way. Keep your perspective. It's a lot more important in the long run for your child to regard mealtimes as potentially pleasant than to eat two more *chapatis*.

On the other hand, giving in too much to fussy children by readily offering alternatives may avert an imminent battle, but it won't broaden their food acceptance. Perhaps the best route for parents is to provide a wide variety of wholesome foods and to encourage, but not force, your children to try them. Just because your daughter says she doesn't like peas today doesn't mean she won't like them next week, next month or next year, or in some other dish. I found our little boy lapping up leftover spinach (yes spinach!) soup one day. It may have been that he was genuinely hungry, or maybe the soft leaves appealed to him more than a mashed-up vegetable. I was so overjoyed that I didn't really bother to stop and analyse. Parents of fussy kids — and let's face it, most of them are fussy, at one time or another — have to learn to develop patience, fortitude and creativity.

Bringing children up is hard enough. Feeding them has to be worse. Should you let them be? Should you force them to eat what we eat? How do we, without endless guilt pangs, ensure that they get a 'balanced diet'? Rational verbal persuasion usually gets you nowhere with little monsters. They sit there, listen and then do just the opposite. Sounds familiar? Why not take advantage of a child's natural curiosity



*Even the most reluctant eater may eat something prepared by himself*

by focusing it on food? Many parents I've met have learnt that even the most reluctant eater will eat something prepared by himself — a clear case of pride. Even if they peel their own cucumber or half attempt to roll a *roti*, it's their own achievement. There is nothing quite like watching your formerly disdainful vegetable pusher proudly announce, "I made the salad today".

Although it may seem like a lot of trouble to have your kids participate in this way, it does seem to work. You may even want to go one step further and let your child suggest or even plan a couple of meals each week. This may mean that you have to initially swallow a lot of pizza and macaroni, but it's worth it in the long run. They are much more likely to then accept what you suggest. Conversely, young diners will take in a wide variety of foods and flavours if that is the norm in their homes.

Presentation influences children's receptivity to certain foods. Nicely cut (preferably raw) vegetables, lots of fresh

## HEALTHY FOOD HABITS

fruit, jellies made from fresh juice, animal-shaped breads, dry fruits, nuts and pumpkin seeds made into an alternative TV munch to wafers, all make for good, clean, healthy fun foods. For those foods that remain stubbornly on your child's "yucky" list, try sneaking them into popular dishes. Add finely chopped vegetables to the tomato sauce in pizzas, or blend a little bean curd or *paneer* into cheese spreads. The more you cook for kids, the more you'll come up with your own little nutrient-packed "secret weapons".

But the best ingredient of all may be your own sense of adventure, mixed with liberal doses of tolerance and humour. No matter how guilt-ridden we may be, remember children are great imitators. They may not eat what you do initially, but they will soon learn. I remember being tapped on the back (for a change) by another mother outside my son's school one day, with the words, "My son tells me that you give yours brown bread sandwiches and he eats them. You're so lucky.I", I smiled but didn't tell her that he had no choice. If your children see you tucking into unhealthy, soft white bread all day long, why should he or she be expected to eat brown? However if they see you enthusiastically preparing and eating everyday meals, and enjoying the experience, rather than rushing through the whole thing like a dreaded chore, don't be surprised to find future healthy gourmets in your midst.