

## B) Breast feeding:

- It is feeding directly from mother.
- Feeding starts from few hours of birth.
- Early feeding promotes maternal - infant bonding & decreases dehydration.

### ⇒ Advantages:

- Complete food
- Easily digested
- Protects against infection
- Promotes emotional bonding
- Better brain growth.
- Helps in involution of uterus
- Delay pregnancy
- Lowers risk of breast & ovarian cancer
- Decreases mother's workload.
- Promotes family planning
- Decrease need for hospitalization.

### ⇒ Anatomy & Physiology:

- Breast consists of glandular tissue & supporting tissue & fat.
- Milk is secreted by glands & travels through tubules which drain into lactiferous sinuses
- Sinuses which store small quantities of milk, lie below areola
- They open out on to the nipple through lactiferous ducts.

- Thin layer of muscle (myoepithelium) surrounds each gland.
- contraction of these muscles cause ejection of milk from glands.

### ⇒ Milk production & secretion :

- Milk is produced as a result of interaction between hormones & reflexes.
- Glandular tissue is stimulated to produce milk
- Two reflexes, mediated by 2 different hormones, used during lactation.

#### i) Prolactin reflex :

- Prolactin is produced by anterior pituitary gland which is responsible for milk secretion by mammary gland cells.
- when the baby sucks, the nerve ending in nipple carry message to anterior pituitary which in turns release prolactin.
- This hormone passes through the blood to glands in breast promoting milk secretion.
- This cycle is called prolactin reflex or milk secretion reflex.
- The greater the demand for milk, larger it is produced.

#### ii) Oxytocin Reflex :

- Oxytocin is hormone produced by posterior pituitary gland.
- It is responsible for contraction of myoepithelium around the glands leading to ejection of milk from glands into lacteal sinuses & lacteal ducts.
- This hormone is produced in response to stimulation to nerve ending at nipple by sucking
- This reflex is affected by mother's emotions, milk ejection reflex.

## → Types of Breast Milk:

### i) Colostrum:

- It is the milk secreted during 1st week after delivery.
- It is yellow, thick & contains antibodies & WBCs.
- It has high protein content.

### ii) Transitional Milk:

- It is the milk secreted during following 2 weeks.
- Immunoglobulin & protein content decreases
- fat & sugar content increases.

### iii) Mature Milk:

- Follows transitional milk
- It is thinner & watery but contains all nutrients for growth of baby.

### iv) Pre-term milk:

- It is breast milk of a mother who delivers premature baby.
- It contains higher quantities of proteins, sodium, iron, immunoglobins that is needed by preterm baby

### v) Fore milk:

- It is secreted at start of feed.
- It is watery & is rich in proteins, sugar, vitamins, minerals & water.
- It satisfies the baby's thirst.

### vi) Hind milk:

- It comes later towards the end of feed
- It is richer in fat content
- It provides more energy & satisfies baby's hunger.

- For optimum growth the baby needs both fore & hind milk.
- Baby should be allowed to empty the breast.
- Second breast should be offered should be offered after emptying the first.

### → Exclusive breastfeeding:

- It is given for initial 6 months.
- Additional water is not necessary even in summer.
- The mother can continue breastfeeding as long she wishes.
- To promote exclusive breastfeeding:
  - Put baby to feed at breast as soon after birth. This is important for production of milk
  - On the 1st day, breast milk is thick & yellowish. Feeding this milk provides nutrition & prevent infections.
  - keep baby close to mother.
  - Mother may lie down, sit on bed to breast feed
  - Breast feed during day & at night at least 8 times
  - Allow the baby to feed until he leaves the nipple.
  - Don't give any other food to drink or eat for 6 months
  - Never use bottles or pacifier.

### → Positioning & Attachment:

- Mother should be in comfortable position.  
she may sit on chair, bed etc.

proper position :- supporting whole of baby's body

- Ensure baby's head, neck & back in same plane
- Baby's should face mother.

- Baby's abdomen touches mother's abdomen.

### → Attachment of Baby on Mother's Breast:

#### → Signs of good attachment:

- Baby's mouth wide open
- Lower Lip turned outwards.
- Baby's chin touches mother's breast
- Areola inside baby's mouth.

#### → Causes of poor attachment:

- Lack of support & experience
- Inverted nipples.

#### → Poor attachment result in:

- Pain or damage to nipple or sore nipple
- Breast engorgement
- Poor milk supply
- Refusal to suck

### \* Problems in Breastfeeding:

#### i) Inverted / Flat nipples:

- This may be diagnosed in Antenatal period.
- Nipples is manually stretched & rolled out.
- A plastic syringe is used to draw out the nipple & baby is then put on breast.

#### ii) Breast engorgement:

- Milk production increases during the 2nd & 3rd day after delivery.

- If feeding delays, milk accumulates in alveoli.
- Such a breast becomes swollen, hard, warm & painful & is termed as an engorged breast.

### iii) Breast Abscess:

- If conditions like engorged breast, cracked nipple, blocked duct or mastitis are not treated early.
- Mother have fever & pain.

### iv) Not enough Milk:

- ~~the~~ adequacy of milk is true.

## \* Contra-indications to Breastfeedings:

### i) HIV Infection:

- Breast feeding in such situation increases the risk of transmission of HIV infection to baby.

### ii) Mother on Drug:

- Mother can resume lactation after a certain period of cessation of medication.

## \* Complementary feeding / supplementary feeding / weaning:

- Breast feeding upto 6 months.
- Necessary to introduce more concentrated energy
- It is process of gradual & progressive transfer of baby from breast-feeding to usual family diet.

## → Qualities of complementary foods:

- liquid → semi-solid → solids.
- clean, fresh & hygienic
- easy digestible, high density, low viscosity
- Based on cultural practices
- well balanced, nourishing & suitable for infants.

## \* Complementary feeding at Different Age:

→ At 6 months:

- Initiated with fruit juice.
- within 1-2 wk., new food introduced with soup & mash fruits.
- Each food given 1-2 teaspoons for 3-6 times per day.
- Breastfeeding continued.

→ 6-9 months:

- This period include soft mixture of dal & rice, mashed & boiled potato
- Egg yolk can be given at 6-7 months onwards
- Curd & kheer at 7-8 month onwards.
- Infant can have food 5-6 times per day.

→ 9-12 months:

- Household foods can be started.
- Non-vegetarian can be introduced.
- Feed need to be mashed.
- Breast feed continued

→ 12-18 months:

- can take food cooked for family.
- No. of feeds 4-5 times or as child demand.

## \* Artificial Feedings :

- It is feed other than breast milk.
- It involves milk substitutes.
- It is also a form of supplementary feeding.

### → Indication of Artificial Feeding :

- Death of mother
- Absence of mother
- Failure of breast milk.

## \* Baby Friendly Hospital Initiative : (BFHI)

- BFHI was launched in 1992, in India as part of 'Innocent declaration on breast feeding.'
- WHO/UNICEF meeting held on breast feeding in 1990s, held at Spedale degli Innocenti, Florence, Italy on July 30 - Aug 1, 1990.
- The goals of declaration included to act & create an environment for exclusive breast feeding till 6 months.
- GOI have made significant efforts to protect & promote breast feeding
- 'The Infant Milk substitutes, feeding bottles & Infant Food Act, 1992'