

FEEDING OF NORMAL AND LOW BIRTH WEIGHT BABIES

The module is designed to complement in-service and pre-service education and orientation of nursing personnel involved in care of newborns.

LEARNING OBJECTIVES

The participants will learn about:

- **Enteral feeding of normal birth weight and low birth weight babies**
- **Breastfeeding counseling and support**
- **Managing common problems encountered during breastfeeding**
- **Feeding by *paladai* and intra-gastric tube**

MODULE CONTENTS

The module includes following elements:

- **Text material:** Easy to read format for quick reproduction and essential reference material for the participants. Key messages are highlighted in the boxes.
- **Demonstration:** Observing steps involved in successful breast feeding in a hospital setting.
- **Role play:** There will be a role play on "initiation of breastfeeding".
- **Video film:** Learning positioning, attachment, and effective sucking by baby on breast.
- **Self-evaluation:** At the end of text, self evaluation based on what has been learnt is included. Feel free to consult your text material if you need assistance in recapitulating.

I. FEEDING OF NORMAL BIRTH WEIGHT BABIES

1. INTRODUCTION

The best milk for a newborn baby is unquestionably the breast milk. All healthy normal weight babies ($\geq 2500\text{g}$) must be exclusively breastfed till the age of 6 months. Health professionals must have adequate knowledge and skills in order to support and help mothers in establishing breastfeeding successfully.

2. BREASTFEEDING

It is essential to help the mothers of healthy newborn babies to establish breastfeeding as soon as possible after delivery. Health workers should know about the advantages of breast milk, the anatomy of breast and physiology of lactation so that they can teach and counsel the mothers with confidence. All newborns without any complications should be kept in skin to skin contact with their mothers during the first hour after birth to promote breast feeding & to prevent hypothermia.

Exclusive breastfeeding should be given for the first six months of life; complementary food should be started after six months of age.

2.1 Advantages of breastfeeding

Exclusively breast fed babies are at decreased risk of

- Diarrhea
- Pneumonia
- Ear infection and
- Death in first year of life

The advantages of breast feeding are summarized in Figure 1.

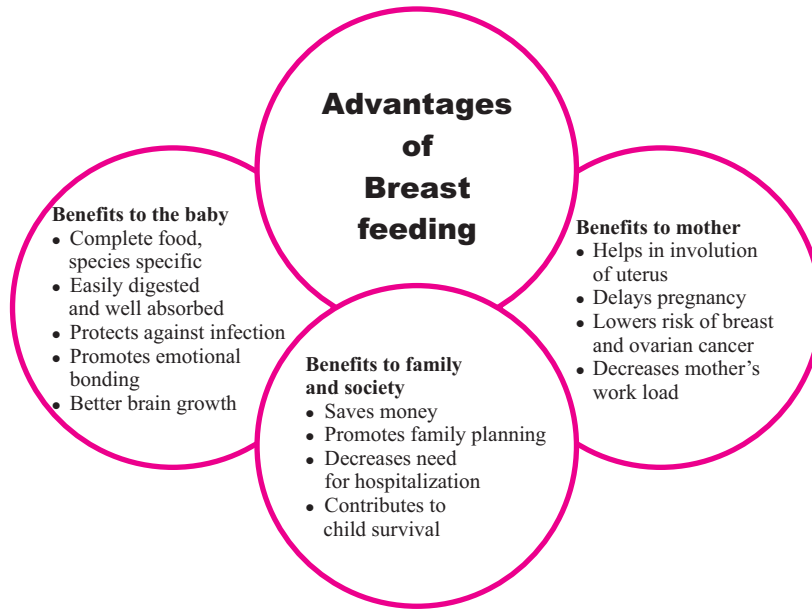


Figure 1: Advantages of breast feeding

2.2 Anatomy and physiology

The breast consists of glandular tissue, supporting tissue and fat. Milk is secreted by the glands and travels through tubules which drain into lactiferous sinuses. The sinuses, which store small quantities of milk, lie beneath the areola. They open out on to the nipple through lactiferous ducts. A thin layer of muscle (myo-epithelium) surrounds each gland. The contraction of these muscles causes ejection of milk from the glands (see Figure 2).

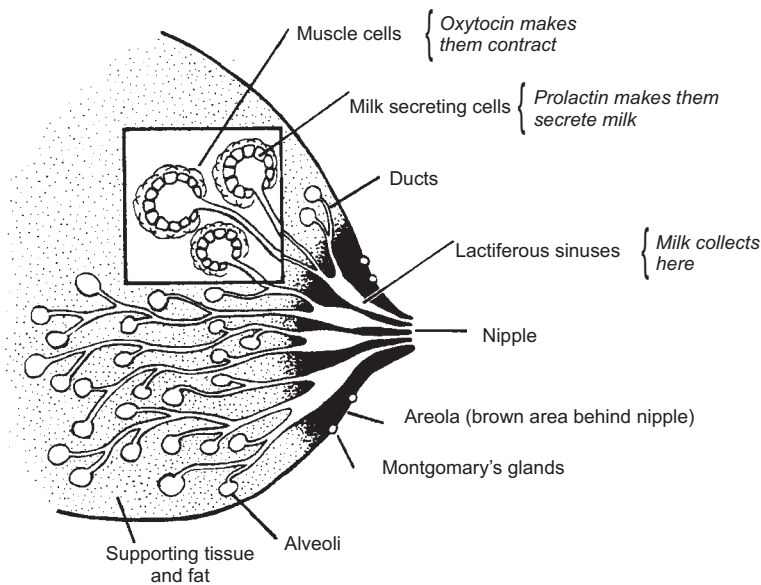


Figure 2: Anatomy of breast

2.3 Milk secretion and ejection

Milk is produced as a result of the interaction between hormones and reflexes. During pregnancy, the glandular tissue is stimulated to produce milk due to various hormonal influences. Two reflexes, mediated by two different hormones, come into play during lactation.

a. Prolactin reflex

Prolactin is produced by the anterior pituitary gland which is responsible for milk secretion by the mammary gland cells. When the baby sucks, the nerve endings in the nipple carry information to the anterior pituitary gland which in turn releases prolactin. This hormone passes through the blood to the glands in the breast promoting milk secretion.

This cycle from stimulation to secretion is called the prolactin reflex or the "milk secretion reflex". The earlier the baby is put on the breast, the sooner the reflex is initiated. The more the baby sucks at the breast, the greater is the stimulus for milk production. The greater is the demand for milk, larger is the volume of milk produced. It is therefore important for mothers to feed baby early and frequently and ensure complete emptying of the breasts at each feed. Since prolactin reflex is active at night, night feeding (or expression of milk) helps to improve milk production.

Prolactin "milk secretion" reflex

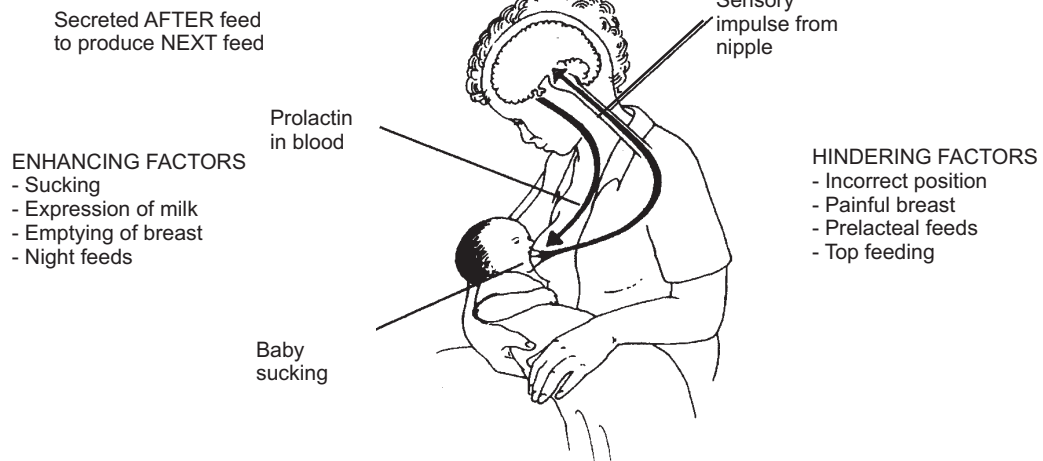


Figure 3: Prolactin reflex

b. Oxytocin reflex

Oxytocin is a hormone produced by the posterior pituitary gland. It is responsible for contraction of the myo-epithelium around the glands leading to ejection of the milk from the glands into the lactiferous sinuses and the lacteal ducts.

This hormone is produced in response to stimulation of the nerve endings in the nipple by sucking as well as by the thought, sight or sound of the baby. Since this reflex is affected by the mother's emotions, a relaxed, confident attitude helps this "milk ejection reflex". On the other hand, tension, pain and lack of confidence hinders the milk flow. This stresses the importance of a kind and supportive person - professional health worker or a relative - to reassure the mother and help gain confidence so that she can successfully breastfeed.

Oxytocin “milk ejection” reflex

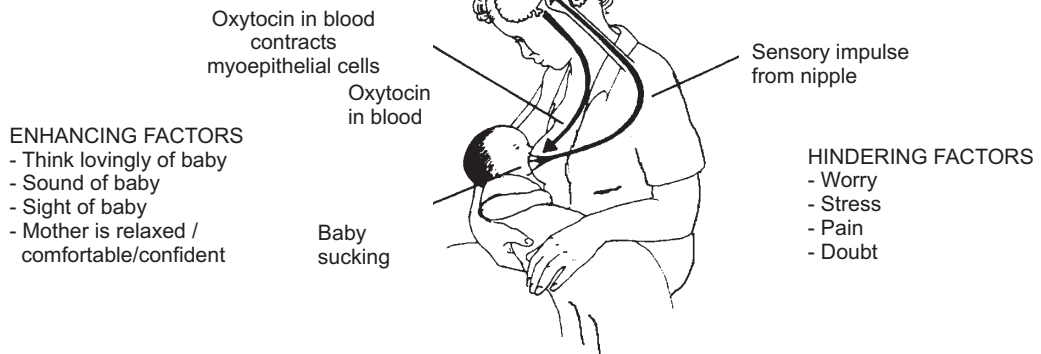


Figure 4: Oxytocin reflex

Sucking by the baby is the most important stimulus for production and secretion of milk in the mother



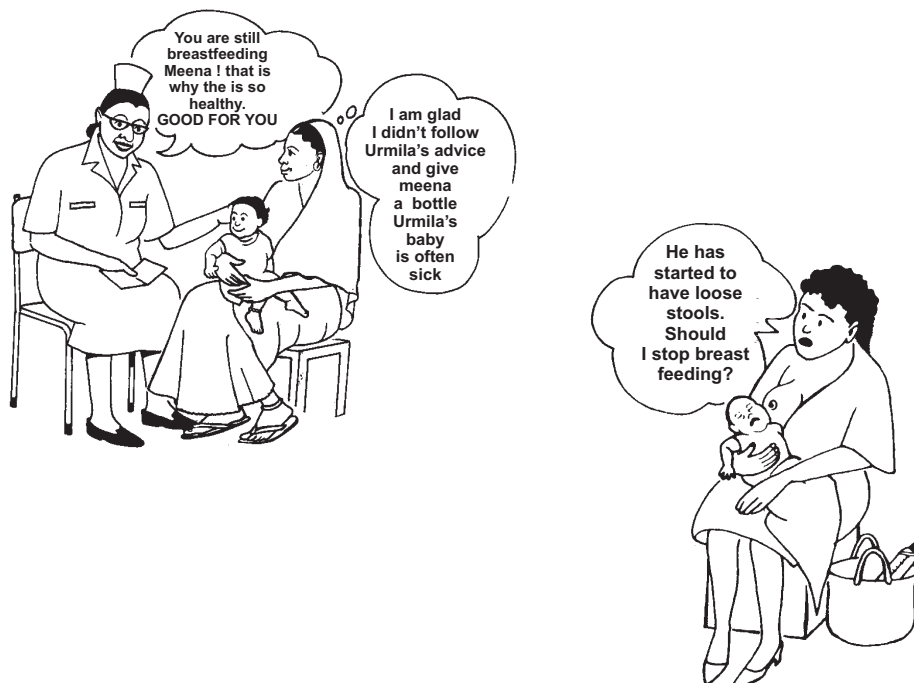
DEMONSTRATION

There will be demonstration using Wall Charts by the facilitators on 'Anatomy of breast and physiology of lactation'.

2.4 Types of breast milk

The composition of breast milk varies at different stages after birth to suit the needs of the baby. Milk of a mother who had delivered a preterm baby is different from the milk of a mother who has delivered a full term baby.

- 1. Colostrum** is the milk secreted during the first week after delivery. It is yellow, thick and contains more antibodies and white blood cells. Though secreted only in small quantities, it has higher protein content and is most suited for the needs of the baby; it should NEVER be discarded.
- 2. Transitional milk** is the milk secreted during the following two weeks. The immunoglobulin and protein content decreases while the fat and sugar content increases.
- 3. Mature milk** follows transitional milk. It is thinner and watery but contains all the nutrients essential for optimal growth of the baby.
- 4. Preterm milk** is the breast milk of a mother who delivers prematurely. It contains higher quantities of proteins, sodium, iron, and immunoglobulins that are needed by her preterm baby.
- 5. Fore milk** is the milk secreted at the start of a feed. It is watery and is rich in proteins, sugar, vitamins, minerals, and water and satisfies the baby's thirst.
- 6. Hind milk** comes later towards the end of a feed and is richer in fat content, provides more energy, and satisfies the baby's hunger. For optimum growth the baby needs both fore and hind milk. The baby should therefore be allowed to empty one breast fully before offering the other one. Baby receiving predominant foremilk may cry excessively.



Breast feeding should be continued during diarrhea as well as other illnesses. It helps the baby to get optimal nutrition and recover from the illness faster.



SELF EVALUATION

1. Benefits of breast feeding for baby and mother are:

Benefits to baby

Benefits to mother

_____	_____
_____	_____
_____	_____

2. How long should exclusive breastfeeding be continued for babies?

3. Milk secretion is caused by _____ hormone, while milk ejection (let down) is by _____ hormone.

4. Enumerate factors which enhance "milk secretion reflex" by increasing prolactin production

5. Oxytocin reflex is stimulated by:

6. Look at the picture. Is Malti doing the right thing? Yes/No



How many times she should breast feed in a day? _____ times.

***You will be given individual feedback after you have evaluated yourself.**

3. HELPING A MOTHER TO BREASTFEED

All mothers, particularly the first-time mothers would require some help to initiate breastfeeding. Hence it is important for the health care providers to help them to breastfeed their babies. The steps are summarized below.

Step 1: Preparing the infant and the mother

- Ensure that the infant is clinically stable
- Ensure that the infant is alert
- Make sure that the mother is comfortable and relaxed
- Make her sit down in a comfortable and convenient position

Step 2: Demonstrate various positions for breastfeeding a baby



Underarm position



Using the opposite arm



Mother in lying down position

A mother can feed the infant in various positions as shown above. Whatever the position, it is important to remember that the baby has to be fully **supported** with her forearm and the hands.

Step 3: Demonstrate the four key points in position

The **four key points** in proper **positioning**:

- Baby's head in line with the body
- Whole body well supported
- Baby turned towards the mother
- Baby's abdomen touching mother's abdomen

Step 4: Show the mother how to support her breast with the other hand

Explain the mother that she should

- put her fingers below her breast
- use her first finger to support the breast
- put her thumb above the areola helping to shape the breast
- not keep her fingers near the nipple

Step 5: Showing the mother how to help the baby to attach

Ask the mother to

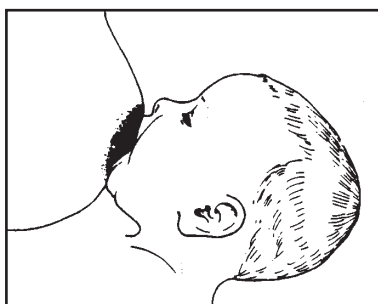
- express a little milk on to her nipple
- touch the baby's lips with her nipple
- wait until the baby's mouth is opening wide, and the tongue is down and forward
- move the baby quickly onto her breast, aiming the nipple towards the baby's palate and his lower lip well below the nipple

Step 6: Look for signs of good attachment

The four key signs of good attachment are:

- More areola is visible above the baby's mouth than below it
- Baby's mouth is wide open
- Baby's lower lip is turned outwards
- Baby's chin is touching the breast

Examples of good and poor attachment are shown in Figure 5



Good attachment



Poor attachment

Figure 5: A well attached and poorly attached infant

The causes of poor attachment include:

- Use of feeding bottles
- Inexperienced mother
- Lack of skilled support
- Inverted nipples

Hence it is very important NOT TO INTRODUCE BOTTLE FEEDS at any point of time. Poor attachment usually leads to problems such as:

- Pain or damage to nipple or sore nipple
- Breast engorgement as milk is not removed effectively
- Hungry and irritable baby because of poor milk supply
- Poor weight gain of the baby

Correct positioning and attachment will ensure effective sucking and prevent sore nipples and breast engorgement

For an infant who shows signs of good attachment, the next step would be to assess if he/she suckles and swallows effectively:

Step 7: Assess if the infant is suckling and swallowing effectively

Effective sucking

Infant takes several slow deep sucks followed by swallowing, and then pauses

Ineffective sucking

Infant suckles for a short time but tires out and is unable to continue for long enough.

If an infant is not able to attach and suckle effectively at the breast, or is not able to suckle for long enough to complete a feed, he or she will need to be fed with a spoon or paladai until effective feeding ability develops.

4. HELP MOTHER RECOGNIZE WHEN THE BABY IS READY TO BREASTFEED

A normal newborn baby will show one or more of the following signs when he is ready to breastfeed:

- Opens eyes
- Seeks breast
- Head back slightly
- Tongue down and forward
- Mouth wide open
- Licks and saliva drips

5. HOW FREQUENTLY A MOTHER HAS TO BREASTFEED HER BABY?

A healthy newborn baby can be breastfed ON DEMAND i.e. whenever the baby cries for feeds. The usual time interval between each feed is about 2 to 3 hours. Mothers should be advised that they should feed their babies AT LEAST 8-10 times in 24 hours and importantly they should not omit any night feeds.

6. ASSESSING THE ADEQUACY OF BREASTFEEDING

After the mother has been counseled and helped in establishing breastfeeding successfully, ensure that the infant is getting enough breast milk. Often, mothers would be worried about the amount of milk secreted and whether it is sufficient for their babies. It is the duty of health personnel to assess and then reassure about the adequacy of breastfeeding.

Breastfeeding is considered adequate if it results in softening of breast after feeding and the baby

1. Sleeps well in between feeds
2. Passes urine at least 6-8 times in a day
3. Crosses birth weight by 2 weeks
4. Gains weight at least @ 25-30 g/day after initial 7-10 days

Breastfeeding is considered adequate if the infant passes urine 6-8 times in 24 hours, sleeps for 2-3 hrs after feeds, and gains weight adequately

7. EXTRA NUTRITION FOR MOTHER

The energy requirements of women are increased by pregnancy (+350 Kcal) and lactation (+600Kcal daily during first 6 months and +520Kcal during next 6 months) over and above their normal requirements. This is to provide for the extra energy needs associated with the deposition of tissues or the secretion of milk with good health.

8. PROMOTING EXCLUSIVE BREASTFEEDING

It is the duty of the health personnel to ensure exclusive breastfeeding in the postnatal wards and nurseries. All mothers should be helped and supported in establishing breastfeeding. If there are any problems, they must be attended to. Mothers should also be counseled regarding exclusive breastfeeding at the time of discharge.

9. EARLY BREASTFEEDING

- Helps establish successful and exclusive breastfeeding
- Helps the uterus contract to decrease bleeding after birth
- Encourages maternal-baby bonding

To encourage early breastfeeding, position the baby near the mother's breasts, where the baby can attach when ready to feed. Though a baby may not feed successfully during the first hour after birth, it is important to encourage breastfeeding during this time. To encourage early breastfeeding, keep mother and baby together unless a problem separates them. Babies are often alert immediately after birth and will move and turn toward the mother's breast .

Key messages to promote exclusive breast feeding

1. Promote skin to skin contact at birth and put baby to breast as soon as possible after birth. This is important for the mother, baby, and for milk production
2. On the first day, breast milk is thick and yellowish (known as colostrum). Feeding this milk provides nutrition and prevents infections. Some babies will not latch during first feeding session. Give no liquids other than breast milk (or colostrum) even if the baby does not feed. **DO NOT DISCARD COLOSTRUM**
3. Keep baby close to mother. It is safe for baby to sleep with mother
4. Mother may lie down, sit on a bed, chair or floor to breast feed her baby
5. Breast feed during day and at night for at least eight to ten times and whenever baby cries with hunger
6. The more the baby sucks at breast, more milk the breast will produce and healthier the baby becomes
7. Allow baby to feed at one breast until he leaves the nipple on his own. Then feed him at the other breast if he continues to be hungry
8. Give baby only breast milk for the first six months
9. Don't give baby ghutti water, gripe water, honey, animal or powdered milk
10. **NEVER** use bottles or pacifier



VIDEO

In this video you will learn correct positioning of mother and baby, signs of good attachment and effective sucking.

1. Following aspects of breast feeding were shown:

i. _____

ii. _____

iii. _____

2. Comments on video

Good aspects

Need improvement

3. Video covered

i. Preparing the baby and mother for breast feeding: Yes/No

i. Four signs of good attachment: Yes/No

ii. Four signs of good positioning: Yes/No

iii. Signs of effective sucking: Yes/No

7. ISSUES IN BREAST FEEDING

7.1 Inverted / flat nipples

Flat or short nipples which protrude well (become prominent or pull out easily) do not cause difficulty in breast feeding. Only inverted or retracted nipples make attachment to the breast difficult. They should be diagnosed in the antenatal period. These mothers need additional support to feed their babies.

Treatment is started after birth of the baby. Nipple is manually stretched and rolled out several times a day. To improve attachment in inverted nipple stimulate nipple before feeding and shaping breast by supporting underneath with the fingers and pressing above with the thumb. A plastic syringe is used to draw out the nipple and the baby is then put to the breast.

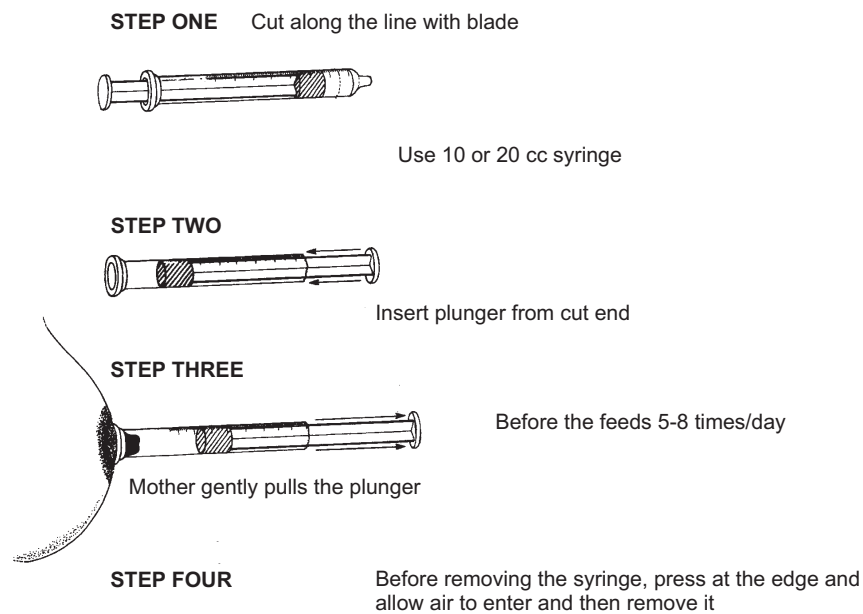


Figure 6: Management of inverted nipple using syringe

7.2 Sore nipples

A sore nipple is caused by incorrect attachment of the baby to the breast. A baby who sucks only at the nipple does not get enough milk so he sucks more vigorously resulting in a sore nipple. This results in pain during feeding and fissures or cracks on nipple. Frequent washing with soap and water and pulling the baby off the breast while he is still sucking may also result in sore nipple. Fungal infection may cause sore nipple after the first few weeks.

Treatment consists of ensuring correct positioning and attachment of the baby to the breast. Hind milk should be applied to the nipple after a feed and the nipples should be allowed to heal in between feeds.

SORE NIPPLES

Causes

- Incorrect attachment: Nipple sucking
- Frequent use of soap and water
- Fungal infection of nipple (especially after the first week of life)

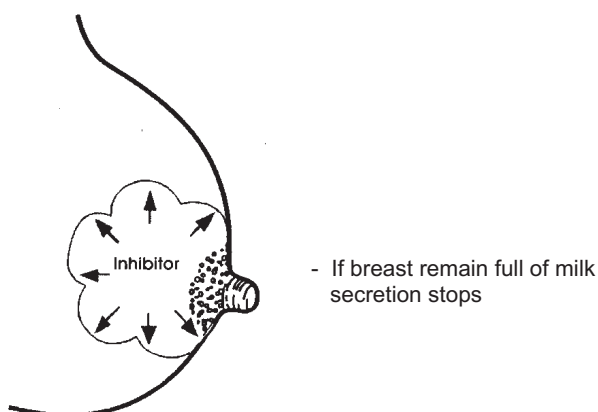
Treatment

- Continue breast feeding and change position. Attach baby to the areola while feeding
- Apply hind milk to the nipple after breast feed
- Expose the nipple to air between feeds. Do not wash each time before and after feed
- Use local antifungal medication when indicated

7.3 Breast engorgement

Milk production increases during the second and third day after delivery. If feeding is delayed, infrequent or the baby is not well positioned at the breast, the milk accumulates in the alveoli. As milk production increases, the amount of milk in the breast exceeds the capacity of the alveoli to store it comfortably. Such a breast becomes swollen, hard, warm, and painful often mother feels ill and is termed as an engorged breast.

Inhibitor of Breast milk



Treatment: Breast engorgement can be prevented by early and frequent breast feeds and correct attachment of the baby to the breast. Treatment consists of local warm water packs for not more than 15 minutes. Paracetamol can be given to the mother to relieve pain. Gently express the milk to soften the breast and then help the mother to correctly latch the baby to the breast.

7.4 Breast abscess

If conditions like engorged breast, cracked nipple, blocked duct or mastitis are not treated early, then breast abscess may develop. The mother may have high grade fever and pain in breast.

Treatment: Mother must be treated with analgesics and antibiotics. The abscess must be incised and drained. Breast feeding must be continued from the other breast.

7.5 Not enough milk

Mothers often complain that they do not have enough milk. One has to make sure that her perception about adequacy of milk is true. Only reassurance is needed if baby is gaining weight and passing adequate amount of urine.

Common causes of not enough milk include - not breastfeeding frequently, too short or hurried breastfeeds, poor position, breast engorgement or mastitis.

Treatment: If baby is not gaining weight adequately, ask mother to feed the baby more frequently especially during night. Make sure that attachment is proper. Any painful condition in mother such as sore nipple and mastitis should be taken care of. Mother should increase her fluid intake and often massaging breast may help. Back massages are especially useful for stimulating lactation; metoclopramide or domperidone may also help in some cases.

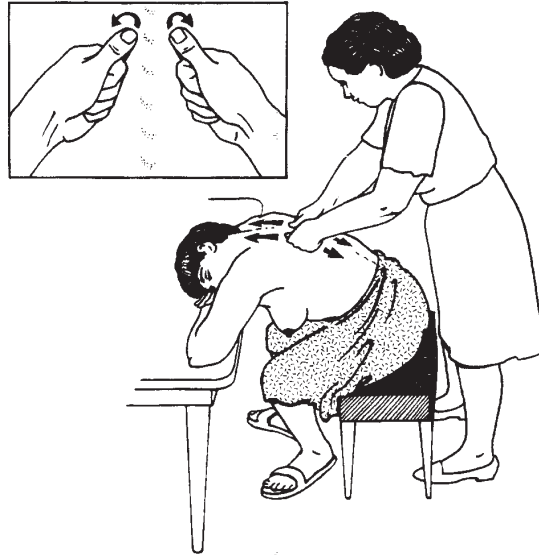


Figure 7: A helper rubbing a mother's back to release her stress

Back massages are helpful in relaxation of mother which stimulates hormone production. You should demonstrate the technique of massage to the relative who can provide it to the mother. Massage should be provided for 15-30 minutes, three-four times a day

8. CONTRAINDICATIONS TO BREAST FEEDING

Mother can feed their babies in nearly all situations. There are indeed very few contraindications to breastfeeding as mentioned below:

- 1. Mother on antimetabolite/anticancer/radioactive drug:** In these situations, breastfeeding should be withheld for the period the mother is on the drug. Meanwhile she can express and discard the milk so as to maintain lactation. Mother can resume breast feeding after a certain period of cessation of the medication.
- 2. Inborn error of metabolism:** Inborn errors of metabolism like galactosemia and phenylketonuria. Infants with some IEM should not be breast fed. It is ideal to consult an expert in Genetics before deciding to stop breastfeeding.
- 3. HIV :** Exposed infants <6 months of age, exclusive breastfeeding is the preferred feeding option. If breastfeeding may not be possible, for example in situations of maternal death and severe maternal illness replacement Exclusive feeding should be done only when AFASS (Available, Feasible, Affordable, Safe, Sustainable) criteria are fulfilled. More details on module on 'Care of Normal Newborn'



EXPRESSION OF BREAST MILK



1

Wash your hands well with soap and water

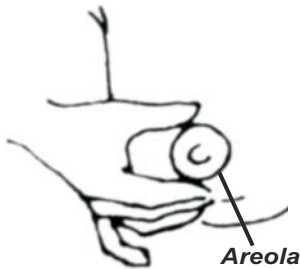


2

Place a clean container below your breast to collect milk

3

Massage the breast gently towards the nipple

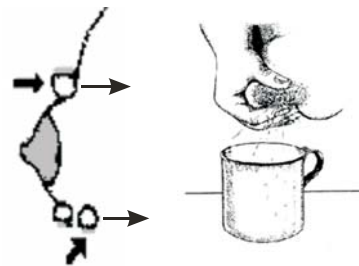


4

Place your thumb and index finger opposite each other just outside the areola
(Areola is the dark soft circle around the nipple)

5

Now press back towards your chest, then gently squeeze to express milk



6

Repeat step 5 at different positions around the areola

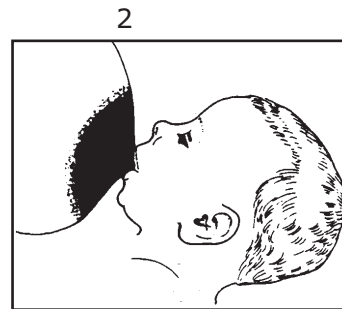
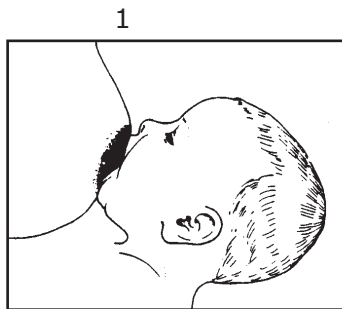


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SELF-EVALUATION

1. Can a mother feed baby in lying position? Yes/No
2. Enumerate the four key points of positioning of baby for breast feeding:
 - i. _____
 - ii. _____
 - iii. _____
 - iv. _____
3. Signs of good attachment are
 - i. _____
 - ii. _____
 - iii. _____
 - iv. _____
4. What differences do you see?
 Baby sucking on _____ Baby sucking on _____



6. Enumerate the problems caused by poor attachment:

7. How will you assess the adequacy of breastfeeding?

8. How many times should a baby be breastfed in a day?

9. Can mother skip one or two night feeds? Yes/No
10. What advice will you give to a mother who develops heaviness and pain in breast on third day after delivery?

11. How you will manage a mother with sore nipple?

***You will be given individual feedback after you have evaluated yourself.**



ROLE PLAY

Issues: Not enough breast milk

A common complaint of mothers in the postnatal ward is "Not enough milk". We shall perform a role play to address this problem.

Checklist for demonstration role-play

A (Ask)

L (Listen)

P (Praise)

A (Advise)

C (Check understanding)

Checklist for role play by participants

A (Ask)

L (Listen)

P (Praise)

A (Advise)

C (Check understanding)

II. FEEDING OF HEALTHY LOW BIRTH WEIGHT BABIES

1. INTRODUCTION

Feeding of low birth weight (LBW <2500gms) babies differs from that of normal birth weight babies. These babies (especially those <1800 gm) often have difficulty in taking milk directly from breast and may require more help and ongoing monitoring. They also require more calories and protein.

2. METHODS OF FEEDING

LBW babies are often born prematurely (before 37 weeks). Unlike term normal birth weight babies, these preterm LBW babies have some limitations that would make breastfeeding difficult. The limitations include:

- Inability to suck effectively
- Inability to co-ordinate sucking and swallowing
- Inability to co-ordinate swallowing and breathing

Because of these limitations, some LBW babies cannot be given any oral feeds, while some might require gavage feeding.

After birth, all low birth weight babies gradually develop the ability to breastfeed directly. Till that time, they have to be fed by some alternative methods such as orogastric tube feeding or by using spoon, cup or paladai.

The best way to determine the correct method of feeding for each baby is by observing the infant during feeding. Depending upon the ability and behavior of the baby while breastfeeding or spoon/paladai feeding, one can decide the most appropriate method of feeding.

Though this is the 'ideal' method, we can also use **birth weight** as a guide to decide the method of feeding. This is only a rough guide, since not all babies with a particular birth weight would behave in the same way. Preferred methods of feeding for different birth weight categories are given below:

Birth weight	Preferred method of feeding
<1200 gm	Baby may need IV fluids initially. Then initiate oro-gastric tube (gavage) feeding gradually.
1201-1500 gm	Most would need spoon/paladai feeds, while some need oro-gastric tube (gavage) feeding initially.
1501-2000 gm	Most babies would accept breastfeeding while some might need paladai feeds.
>2000 gm	Breastfeed as normal birth weight babies but with monitoring.

For babies who are less than 1200 gm, intravenous (IV) fluids might be needed initially. Once they are stable, gavage feeding can be introduced slowly.

Most babies who are less than 1500 gm and stable can be fed by spoon/paladai. Some might require feeding by oro-gastric tube. Give ONLY expressed breast milk by either spoon or by tube. For babies on intra gastric tube feeds, one can try cup or spoon feeds once or twice a day. If he accepts well, one can reduce the number of tube feeds. The mother can also let baby suck on her breast after she expresses milk to stimulate her lactation.

Babies between 1500-2000 gm are usually able to accept breastfeeding while some may require feeds by paladai. Mother should be involved in the care of baby and should be trained and supervised for paladai feeding.

Babies more than 1800-2000 gms are usually able to feed on the breast. Let the mother put her baby to breast as soon as she is well enough. Continue to follow-up and weigh them regularly to make sure that they are getting enough breast milk .

3. WHAT TO FEED?

LBW babies who are not able to breastfeed directly have to be given **EXPRESSED BREAST MILK** either by orogastric tube or by spoon/paladai.

Expression of breast milk

The method of expression is explained in the module on 'Common procedures'.

4. HOW TO FEED?

4.1 Paladai feeding

A paladai is a small bowl with a long pointed tip traditionally used for feeding LBW infants in some cultures.

The advantages of this feeding method are that it is usually faster than spoon or cup feeding and that there is less spillage. The disadvantage is that the caregiver has to be very careful to avoid pouring large amounts of milk into the infant's mouth.



Figure 8: Paladai/spoon feeding

Steps of paladia/spoon feeding

1. The infant should be awake and held sitting semi-upright on the caregiver's lap, and wrapped to provide support and to keep the arms out of the way
2. Put a measured amount of milk in the paladai
3. Hold the paladai so that the pointed tip rests lightly on the infant's lower lip
4. Tilt the paladai to pour a small amount of milk into the infant's mouth
5. Feed the infant slowly
6. Make sure that the infant has swallowed the milk already taken before giving any more
7. When the infant has had enough, he or she will close his or her mouth and will not take any more. Do not force-feed the infant
8. To estimate the amount of milk taken, subtract the milk left in the cup from the original amount. Also subtract the estimated spillage, if any
9. Wash the spoon /paladai with soap and water .Then put in boiling water for 20 minutes to sterilize before next use

4.2 Oro-gastric tube feeding

Intra-gastric tube feeding is appropriate for an infant who is clinically stable but cannot accept oral feeds fully.

Intra-gastric tube feeding can be given by two routes, **naso-gastric or oro-gastric:**

1. Naso-gastric tubes have the advantage that they are more easily fixed in place.
2. Oro-gastric tubes are useful for very preterm babies, particularly those with respiratory distress.

Naso-gastric tubes, by blocking one nostril, might increase the airway resistance and the work of breathing in preterm infants. This may lead to increased incidence of desaturation and apnea.

Intra-gastric tube feeding can be given by two routes: naso-gastric or oro-gastric; Oro-gastric tube feeding is preferred in very preterm infants

The procedure of insertion of oro-gastric tube and giving a gastric tube feed are explained in the module on "Common Procedures".



DEMONSTRATION

Facilitator will conduct a demonstration on 'Intra-gastric tube feeding' and "Expression of breast milk" using a breast model.



VIDEO

Video on Expression of breast milk , intragastric & paladai feeding

There will be video demonstration on expression of breast milk intra-gastric feeding, paladai feeding. The video demonstration will be followed by discussion.



स्तन से दूध निकालने की विधि



1 अपने हाथों को साबुन और पानी से अच्छी तरह धोएं



दूध इकट्ठा करने के लिए अपने स्तन के नीचे एक साफ व चोड़े मुँह का बर्तन रखें

2

3 स्तन की हल्के हाथ से निपल की तरफ मालिश करें



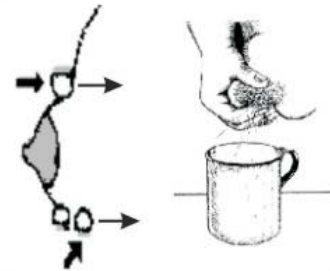
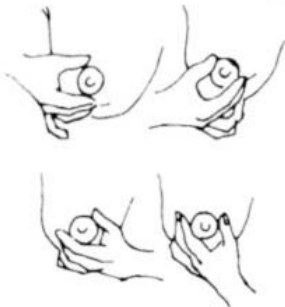
Areola



अपने अंगूठे और तर्जनी अंगुली को एक-दूसरे के विपरीत स्तन के काले भाग के बाहर लगाएं

4

5 अब स्तन को पसलियों की ओर दबाते हुए अंगूठे और अंगुली से दूध निकालें



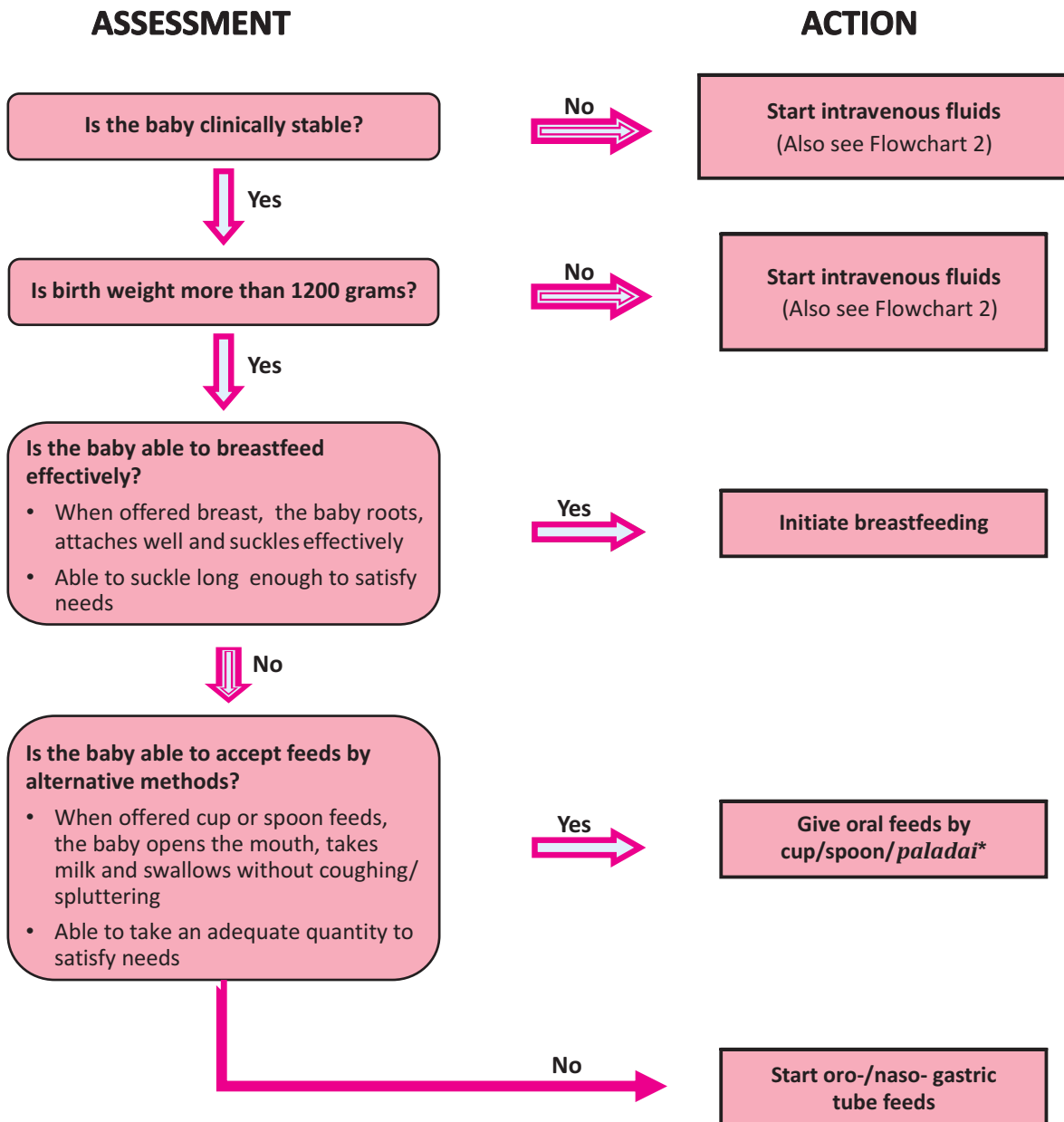
इस प्रक्रिया को स्तन के काले भाग के चारों तरफ दोहराएं

6

नवजातविज्ञान प्रभाग, बालचिकित्सा विज्ञान विभाग, अखिल भारतीय आयुर्विज्ञान संस्थान, नई दिल्ली

Feeding of low birth weight and sick newborns

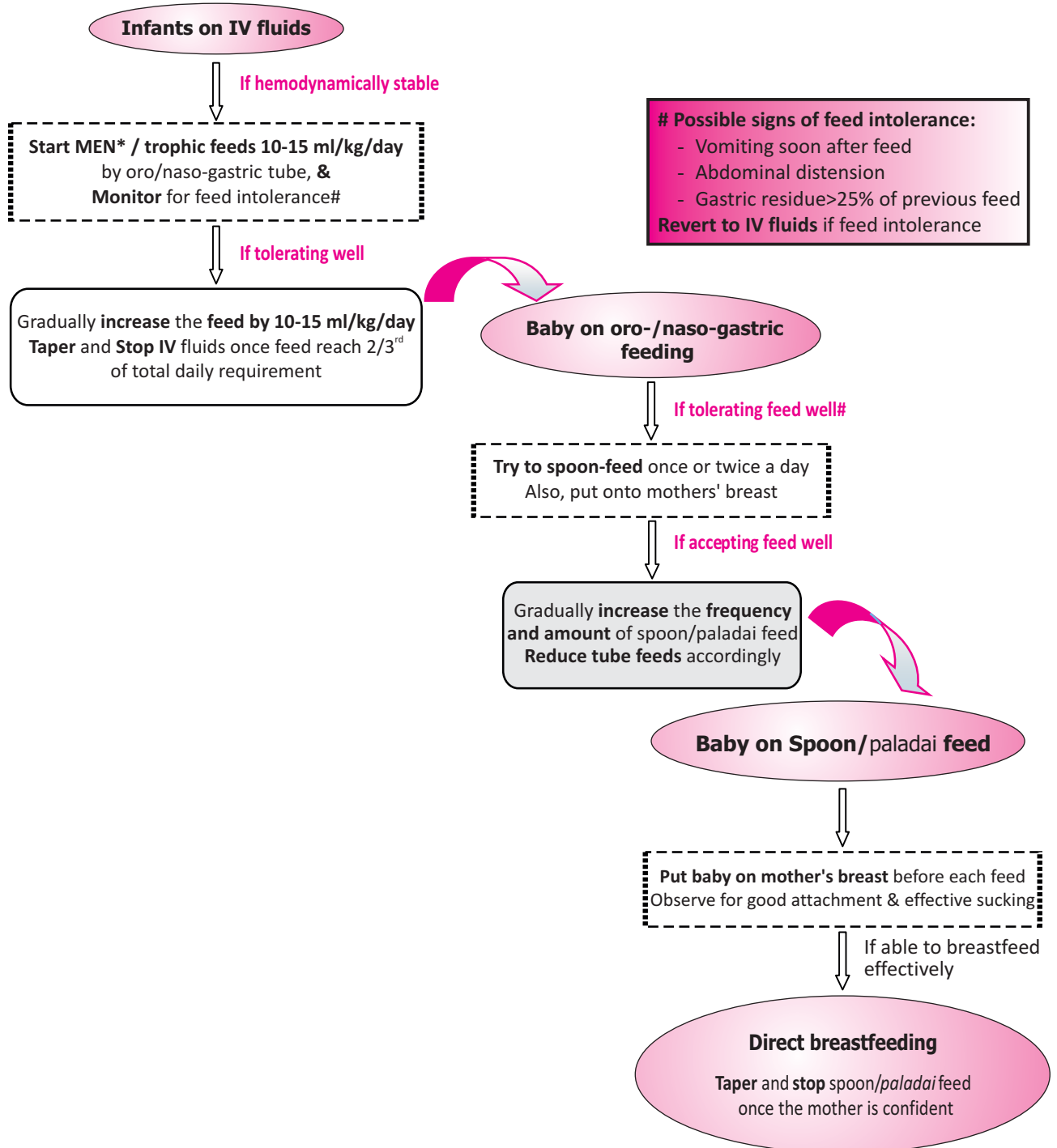
Flowchart 1 : Deciding the initial feeding method



Module 4 : Feeding of Normal and Low Birth Weight Babies

Paladai is a small cup with a beak

Flowchart 2 : Babies on IV fluids: Progression to oral feeds



* Minimal Enteral Nutrition



SELF EVALUATION

Let me check what I have learnt

- Describe the best method of feeding in following babies.

1080 gm: _____

1460 gm: _____

1996 gm: _____

- When should we start feeds in a baby who is born with birth weight of 1180 gm?

- The best milk to be given by oro-gastric tube feeding is

- Advantages of paladai feeding include

- Preterm LBW babies often are not able to breastfeed. The reason (limitations) include

- Two criteria which decide initial method of feeding are

- Minimal enteral nutrition using expressed breast milk is initiated in a stable LBW baby at rate of _____ ml/kg/day.

- A baby weighs 1350 grams and she is stable . What next step you will assess to decide choice of feeding method ?

***You will be given individual feedback after you have evaluated yourself.**

Module 4 : Feeding of Normal and Low Birth Weight Babies