

BREAST FEEDING



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Objectives

- 1-advantages of breast feeding*
- 2-Factor influence milk production and secretion*
- 3-Criteria for under and over feeding*
- 4- proper technique for breast feeding*
- 5-Difficulties of breast feeding*
- 6- any contraindications ?*
- 7- short notes about colostrum*



Human milk is the most appropriate of all available milk for the human infant because it is uniquely adapted to his or her needs.

breast feeding has short and long term medical and neurodevelopment advantages

The decision to breastfeed should be considered as public health issue and not only a lifestyle choice

AAP and WHO recommend that infants 🧒

-should exclusively breastfed or given breast milk for 6 m,

-should be continued with introduction of complementary foods for 12 months or longer

Breast feeding should begin as soon after delivery as the condition of the mother and of the baby permits preferably within first hours.

Advantages:

- 1-always readily available at the proper temperature and need no time for preparation.
- 2-fresh and free of contaminating bacteria which reduces the chance of gastrointestinal disturbance.
- 3-allergy and intolerance to cow milk create significant disturbance and feeding difficulties that are not seen in breast feed infants.
- 4-Psychological advantage of breast feeding for both mother and infant.
- 5-decreased incidence of otitis media in the first year of life in infant's breast feed exclusively for at least 4m.
- 6-human milk contains bacterial and viral antibodies.

* Relatively high concentration of **secretory IgA antibody**.

*growth of(mump, influenza, Rota virus), can be inhibited by substance in human milk.

*these ingested antibodies from human colostrums and milk may provide local gastrointestinal immunity against organism entering the body via this route.

****macrophage** normally present in human colostrums and milk may be able to synthesize complements, lysozyme, lactoferrin. Interferon, against viral infection.

breast milk also source of **lactoferrin, the iron binding whey protein that normally 1/3rd saturated with iron, has inhibitory effect on the growth of E.coli in the intestine.

***stool of the breast fed infants has a PH lower than that of the infant fed cow's milk.

****human milk iron is well absorbed by the infant but at 4-6M of age the diet should be supplemented with the addition of iron fortified cereals and baby foods or by one of the ferrous iron preparation.

Conditions for Which Human Milk May Have a Protective Effect

Diarrhea
Otitis media
Urinary tract infection
Necrotizing enterocolitis
Septicemia
Infant botulism
Insulin-dependent diabetes mellitus
Celiac disease
Crohn disease
Childhood cancer
Lymphoma
Leukemia
Recurrent otitis media
Allergy
Hospitalizations
Infant mortality



Factor influence milk production and secretion:

- ***Endocrine factor:** prolactin, oxytocin, thyroxin.
- ***Anatomical factor:** nipple retraction, herpes zoster infection.
- ***Mechanical factor:** should be fully evacuated to enhance the process of milk production and secretion.
- ***Psychological factor:** stress, fear, happiness, relaxation.
- ***Maternal factor:** nutrition, Fatigue, hygiene.
- ***Drugs:** chlorpromazine, anti epileptic.

Physiology of breast-feeding

1. **Baby** uses rooting, sucking and swallowing reflexes to locate nipple and feed

2. **Tactile receptors** in nipple activated

3. **Hypothalamus** sends efferent impulses to anterior and posterior pituitary

4. **Anterior pituitary**
Prolactin secretion stimulates milk secretion by cuboidal cells in the acini of the breast

5. **Posterior pituitary**
Oxytocin secretion results in contraction of myoepithelial cells in the alveoli, forcing milk into larger ducts – the so-called 'let-down' reflex

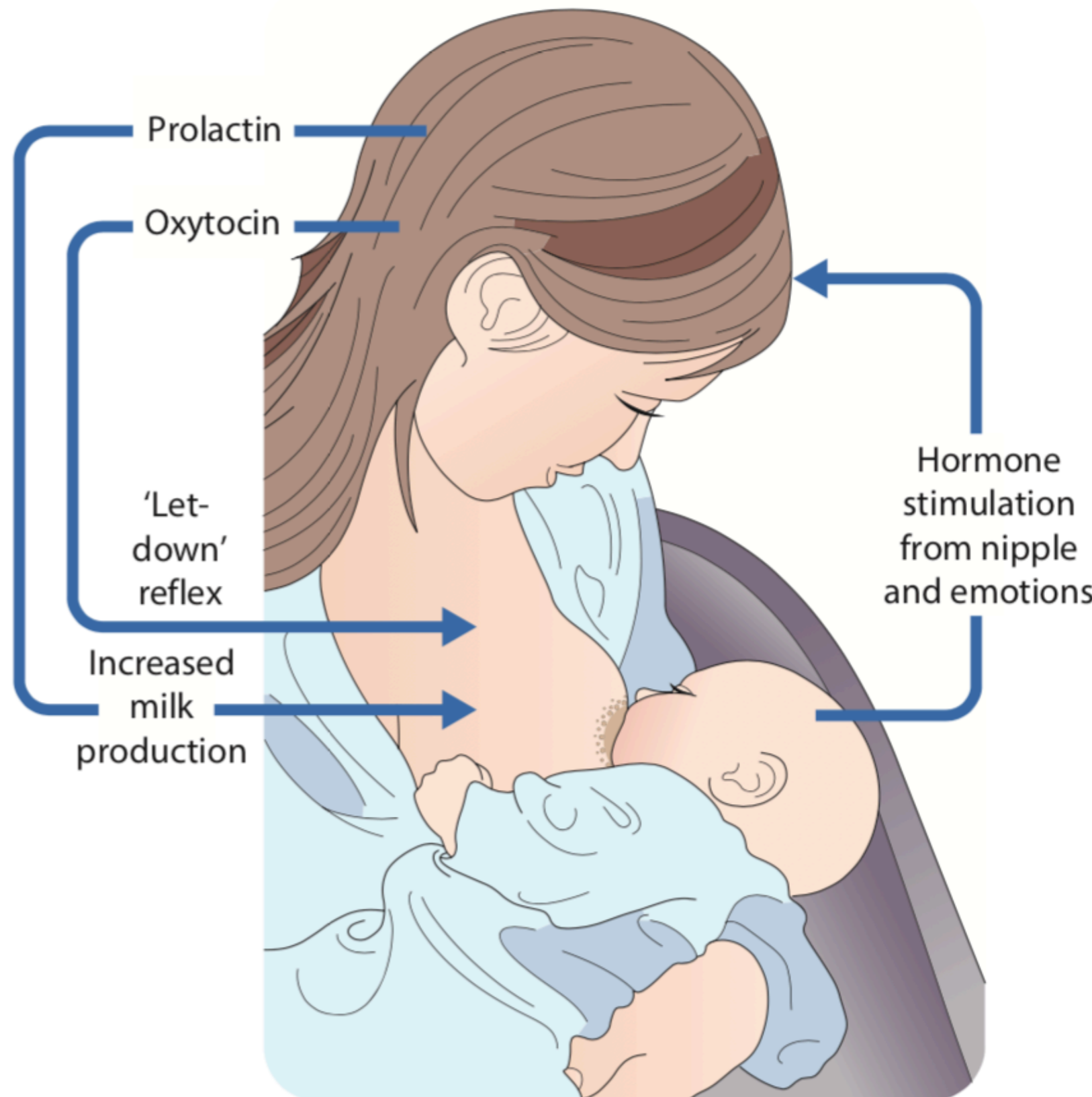


Figure 12.6 Physiology of breast-feeding.

TECHNIQUE:

***both hands and nipple should be clean.**

****the infant should be hungry , dry ,neither cold or too warm and held in a comfortable semi sitting position for his or her enjoyment and for ease of eructation with out vomiting.**

****mother too must be comfortable and completely at ease.**

****the infant will empty breast in 5-20 minute as range.**

****the infant should be permitted to suck until satisfied unless the mother has sore nipples.**

****after feed, the infant should be erect over the mother shoulder.**

****then should be placed in the crib on the back or on the right side to facilities emptying of the stomach.**

****both breasts should be used at each feeding.**



Is there any complications ?

Yes 😲 😲 😲 😲

Unknown intake

Volume of milk intake not known

Transmission of infection

Maternal CMV, hepatitis B and HIV – increases risk of transmission to the baby

Breast-milk jaundice

Mild, self-limiting, unconjugated hyperbilirubinaemia; continue breast-feeding

Transmission of drugs

Antimetabolites and some other drugs contra-indicated. Check formulary

Nutrient inadequacies

Breast-feeding beyond 6 months without timely introduction of appropriate solids may lead to poor weight gain and rickets

Vitamin K deficiency

Insufficient vitamin K in breast milk to prevent haemorrhagic disease of the newborn. Supplementation is required

Potential transmission of environmental contaminants

Nicotine, alcohol, caffeine, etc.

Less flexible

Other family members cannot help or take part. More difficult in public places

Emotional upset

If difficulties or lack of success can be upsetting

Difficulties of breast feeding

*acute breast engorgement:

- In the 2nd stage of lactogenesis physiological fullness of breast occurs.
- Breast may become engorged: firm, overfilled and painful as the pattern of breast milk production adjusts to the infant's feeding schedule
- incomplete removal of milk as a result of poor breast feeding technique or infant illness can cause engorgement.
- breastfeeding immediately at sign of infant hunger will eventually prevent this from occurring.
- To reduce engorgement breast should be softened before infant feeding with combination of hot compresses and expression of milk, to reduce inflammation and pain, between feedings a supportive bra should be worn, cold compresses applied and oral NSAIDs administered

* nipple pain :

one of the most common complains of breastfeeding mother occur in the immediate postpartum period.

Poor infant position and improper latch are the most common causes of nipple pain beyond the the mild discomfort felt early in breast feeding .



If the condition persist and infant 🧒 refuse to feed evaluation for nipple candidiasis is warranted and if candidiasis is presented anti fungal cream that wiped off the breast just before feeding and infant treated with oral anti fungal medication

*Mastitis:

- Occurs in 2-3% of lactating mothers, usually unilateral
- Manifesting with(warmth, tenderness, edema, erythema) after 2nd post delivery week
- Sudden onset of breast pain , myalgia, fever🤒 , nausea , vomiting 🤢 headache 🤕 ,
- organisms(s.aureus,Ecoli,..)
- Dx confirm by physical examination
- R/ oral antibiotics, analgesics, promote breast feeding or emptying the breast

For the infant:

- * nasal obstruction (catarrhal), due to URTI, treated by normal saline drops.
- * thrush stomatitis: treated by gentian violet or nystatin.
- * tie tongue.
- * cleft lips and cleft palate.
- * poor sucker: extreme premature.
- * hypotonia, CNS disorders.
- * other structural congenital anomalies.

Inadequate milk intake

insufficient milk intake ,dehydration and jaundice in infant can occur within the first week of life

Signs :

- lethargy
- Delayed stooling
- Decreased urine output
- Wt loss >7-10% of birth wt
- Hypernatremic dehydration
- Inconsolable crying
- Increased hunger

Causes

insufficient milk production

failure of established breastfeeding

Health conditions in the infant that prevents proper breast stimulation



parents should be counseled that breastfed neonates feed 8-12 times per day with minimum 8 times per day

dx:

- 1-Careful prenatal hx can identify maternal factors associated with this problem (failure of the breast to enlarge during pregnancy 🧑 or within 1st few days following delivery)
- 2- direct observations of breastfeeding 🧑 can identify improper techniques
- 3- if a large volume of milk expressed manually after breastfeeding, the infant might not be extracting enough milk, eventually leading to decreased milk output
- 4- late preterm infants (34-36 wks) are at risk for insufficient milk syndrome because of poor suck and swallow patterns or medical issues.

Criteria for under feeding:

- *baby cry all the time.**
- *long meal time.**
- *sleeplessness or very short sleeping time.**
- *colic due to air swallowing, restless and screaming.**
- *constipation/unusual hunger**
- diarrhea,**
- *oliguria.**
- *loss of weight.**
- *test of weight and feeding is below normal.**

Criteria for over feeding:

- *regurgitation.**
- *vomiting.**
- *large bulky stool.**
- *abdominal distension.**
- *colic.**
- *polyuria.**
- *sweating.**
- *overweight.**

CONTRAINDICATIONS:

NO disadvantages to breast feeding except few:

- **markedly inverted nipples.**
- **acute infection in the mother.**
- ** Drug: cytotoxic drugs and anticoagulants like warfarin**
 - *antithyroid, lithium, anticancer, isoniazid, are C.I**
 - *temporary cessation of nursing if diagnostic radio pharmaceuticals, chloramphenicol, metronidazol, sulfonamide, laxative**

- **septicemia, nephritis, eclampsia, profuse hemorrhage, active T.B, typhoid fever, breast cancer, malaria.**
- **poor nutrition, substance abuse, severs neurosis, postpartum psychosis.**
- **breast milk allergy, very rare.**
- **inborn error of metabolism.**
- **sever congenital abnormalities, cleft lip and palate.**



Absolute and Relative Contraindications to Breastfeeding Because of Maternal Health Conditions

MATERNAL HEALTH CONDITION	DEGREE OF RISK
HIV and HTLV infection	In the United States, breastfeeding is contraindicated. In other settings, health risks of not breastfeeding must be weighed against the risk of transmitting virus to the infant.
Tuberculosis infection	Breastfeeding is contraindicated until completion of approximately 2 wk of appropriate maternal therapy.
Varicella-zoster infection	Infant should not have direct contact to active lesions. Infant should receive immune globulin.
Herpes simplex infection	Breastfeeding is contraindicated with active herpetic lesions of the breast.
CMV infection	May be found in milk of mothers who are CMV seropositive. Transmission through human milk causing symptomatic illness in term infants is uncommon.
Hepatitis B infection	Infants routinely receive hepatitis B immune globulin and hepatitis B vaccine if mother is HBsAg positive. No delay in initiation of breastfeeding is required.
Hepatitis C infection	Breastfeeding is not contraindicated.
Alcohol intake	Limit maternal alcohol intake to <0.5 g/kg/day (for a woman of average weight, this is the equivalent of 2 cans of beer, 2 glasses of wine, or 2 oz of liquor).
Cigarette smoking	Discourage cigarette smoking, but smoking is not a contraindication to breastfeeding.
Chemotherapy, radiopharmaceuticals	Breastfeeding is generally contraindicated.

Breast milk collection

- The pumping of breast milk is common practice when the mother and the baby are separated
- Good hand washing and hygiene should be emphasized .
- electric breast pumps are generally more efficient and better tolerated by mothers than mechanical pumps or manual expression.
- Collection kits should be cleaned with hot soapy water, rinsed and air dried after each use .glass or plastic containers should be used to collect the milk
- Refrigerated breast milk can be used within 48hrs.
- Frozen breast milk can be used for up to 6 mo.
- Milk should thawed rapidly by holding the containers under running tepid water and used completely within 24 hrs after thawing ,it should never be microwaved



COLOSTRUM:

It is the first milk produced immediately after delivery at 3rd to 10th days of the infants life then transforms in to transitional milk and finally to mature milk.

The amount of colostrums is 15-50ml/day.

It is bright lemon in color, more alkaline than milk, and has more specific gravity ,anti-infective and laxative effects so it is beneficial to get rid of meconium.

Contents of colostrums:

**protein: 2.7gm/100ml (1.2 casein+1.5 globulin).

**fat: 2.9.

**lactose: 5.3

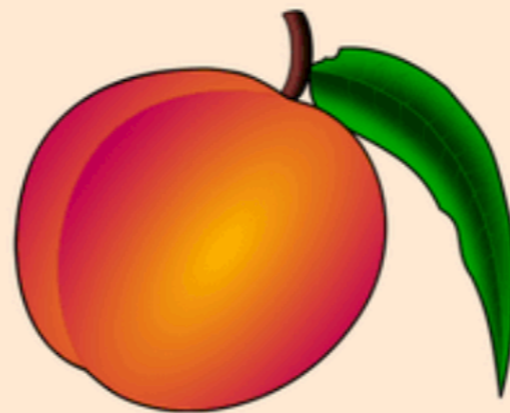
**minerals: 0.5



Colostrum differ from mature milk in that it contain more protein and immunoglobulins ,volumes are low but water or formula supplement are not required

NEWBORN STOMACH SIZE & VOLUME GUIDE

DAY 1	DAY 3	1 WEEK	ONE MONTH
Size of a cherry	Size of a walnut	Size of an apricot	Size of an egg
5-7ml	22-27ml	45-60ml	80-150ml
1-1.4tsp	0.75-1oz	1.5-2oz	2.5-5oz



THANK YOU

