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Breastfeeding in Normal Newborn: Basic Concepts

Jayashree Purkayastha

Abstract

Breastfeeding is a complete nutrition for the baby and beneficial to the baby and the mother. Mothers should be prepared for breastfeeding and motivated antenatally. Breastfeeding should be initiated within 1 h of normal delivery and 4 h of Caesarean section. In the first 2 days, colostrum is secreted which is highly immunogenic to the baby. Mature milk comes by day 10 of life. Foremilk is rich in protein and vitamins, while hindmilk is rich in fat. Proper technique should be followed for successful breastfeeding. Reflexes in the mother while breastfeeding are prolactin and oxytocin reflexes, while reflexes in the baby are rooting, sucking and swallowing. In case of early discharge from the hospital, adequacy of breastfeeding should be checked at 3–5 days of life. Breastfeeding develops bonding between the baby and the mother and promotes brain growth of the baby. Human milk is suitable for the baby and contains less protein and minerals than cow's milk and has less solute load for immature kidneys of the baby. Breastfeeding should be on demand, minimum eight times per day. The common feeding problems in the mother are flat or inverted nipple, sore nipple, engorgement of breasts, and mastitis which should be prevented.

Keywords: breastfeeding, breastmilk, benefits, term baby, mother

1. Introduction

Breastfeeding is a birthright of every baby, and also it is the right of every mother to breastfeed her baby. Breastfeeding is a complete nutrition for the baby and has several advantages to the baby and the mother. Breastfeeding (colostrum) has so much benefit for the baby especially immunologically that it is called the first vaccine for the baby. Breastfeeding is hypoallergenic and safe to the baby. It is sterile, hygienic and also economical. Breastfeeding is the saviour of the infant from respiratory and diarrhoeal morbidity and mortality especially in the developing and underdeveloped countries. It relieves a lot of economic burden for the poor countries [1]. In low-income and middle-income countries, only 37% of the babies less than 6 months are exclusively breastfed [2]. Breastfeeding helps in brain growth and improves the intelligence quotient (IQ) of the children and thus benefits the country as a whole [3]. Breastfeeding reduces mortality and morbidity of children under 5 years of age especially in developing and underdeveloped countries. Breastfeeding enhances the bond between the mother and the child, provides tender loving care to the child and keeps the mother happy.

2. Physiology of lactation

Stage 1: The mammary gland is developed to produce milk as colostrum 12 weeks prior to parturition, but colostrum secretion is inhibited by the raised progesterone levels.

Stage 2: Milk production occurs after delivery due to the decrease in progesterone and the increase in prolactin levels. By the second or third day, milk production depends on suckling of the baby.

Stage 3: Mature milk production starts after 10 days of delivery and is the third stage of lactogenesis. The lactogenic effect of prolactin is modulated by the complex interplay of pituitary, thyroid, ovarian, adrenal and pancreatic hormones [4].

2.1 Preparing mothers for breastfeeding

During the last trimester of antenatal care, the mother's nipples should be checked. In case of flat nipple or retracted nipple, oil massage and manipulation to make the nipples conducive to breastfeeding should be done. The mother should be given healthy diet, green leafy vegetables, fruits, eggs, fish (omega 3 fatty acid) and plenty of fluids. She should take extra 300 cal and 15 g of protein during the antenatal period and extra 500 cal and 25 g of protein during the lactation period [5].

2.2 Initiation of breastfeeding

Breastfeeding should be initiated as early as possible after delivery preferably within 1 h after normal delivery and 4 h after Caesarean section [5]. The baby is biologically active immediately after delivery after which the baby goes into sleep and there is difficulty in establishment of breastfeeding; hence breastfeeding should be initiated early. Immediately after delivery, he/she should be put on the mother's abdomen, crawl to the breast and suckle at the breast; this method helps in early initiation of breastfeeding. Early skin-to-skin contact, putting the baby in mother's abdomen helps in early initiation of breastfeeding [6]. Keeping the baby with the mother in the same room is called 'rooming in', keeping him/her in the same bed with his/her mother is called 'bedding in' and keeping him/her in his/her mother's abdomen is called 'mothering in' [5].

2.3 Types of breastmilk

In the first 2 days, colostrum is secreted which is rich in lymphocytes, IgA and antibodies; the colostrum secreted is 10–40 ml/day which is sufficient for a term baby and does not require any supplementation. No prelacteal feeds should be given because these can cause infection and delay in establishment of breastfeeding. The baby should be well supported while breastfeeding, and the mother may require help in the first few days. Both the mother and the baby should be comfortable while breastfeeding. A healthy baby will empty the breast within 20 min, and alternating the breasts used for each feed is advised. The baby should completely empty the breast on the one side in order to get adequate hindmilk. Foremilk is the initial milk which is rich in vitamins, proteins, sugar, mineral and fluid, while hindmilk contains fat. Hence foremilk only satisfies the thirst, and the baby needs to get adequate hindmilk to get adequate calories and to satisfy hunger. If a baby does not empty the breast each feed, he/she does not get hindmilk and hence does not get nutritional requirement and feels hungry very fast and does not gain adequate

weight. Transitional milk is secreted in the first 10 days followed by mature milk. Milk production increases for the first 6 months and then plateaus off. Average milk secreted is 500–800 ml/day [5].

2.4 Technique of breastfeeding

The correct technique should be followed for successful breastfeeding. The mother should touch the angle of the baby's mouth with the nipple; rooting reflex causes the baby to open the mouth and take in the nipple and the areola into the mouth.

Good attachment: Signs of good attachment are as follows: the baby's chin should be touching the breast, the mouth should be wide open, the lower lip should be turned outwards, the upper areola should be visible and the lower areola covered (**Figure 1**). He/she should suckle at the areola and not at the nipple so that the tongue is under the lactiferous sinuses and the nipple against the palate. He/she should form an adequate seal around the nipple and areola to eject the milk from lactiferous sinuses [5].

Good positioning: The baby should be turned towards the mother; his/her head, body and buttocks should be well supported and in straight line; his/her abdomen should be against his/her mother's abdomen [7].

Burping: When the baby sucks the breast, air goes in which causes colic, regurgitation and abdominal distension; hence burping is necessary. Burping is done by putting the baby on the left shoulder and gently patting his/her back or by making him/her sit on his/her mother's lap with support and gently patting the back [7].



Figure 1.
Correct technique of breastfeeding (cradle hold).

2.5 Various positions of breastfeeding

Cradle hold: Mother positions the infant’s head at or near the antecubital space at the level of her nipple with her arm supporting the infant’s body and her other hand is free to hold the breast (**Figure 2**).

Cross cradle hold: Useful in preterm and babies with fractured clavicle. Mother holds the head with the hand opposite the side on which the infant will feed and supports the infant’s body across her lap with her arm. The other hand is free to hold the breast.

Football hold: This method avoids pressure on Caesarean incision and helps in heavy breasts. Mother supports the infant’s head and neck with her hand with the infant’s body resting on pillows alongside her hip.

Side lying position: This position avoids pressure on episiotomy or abdominal incision and helps the mother to rest while feeding. She lies on her side and her upper hand is used to position her breast. Pillows can be put behind her back and between her legs to provide comfort. A small blanket or towel can be placed over the abdominal incision to protect from the infants’ movement (**Table 1**) [8].

2.5.1 Reflexes in the mother while breastfeeding

Prolactin reflex: This is the milk production reflex; when the baby suckles at the breast, it causes sensory nerves to be stimulated which stimulates the anterior pituitary to secrete prolactin which helps in the production of milk for the next feed.

Oxytocin reflex: When the baby suckles at the breast, stimulation of posterior pituitary secretes oxytocin which contracts the myoepithelial cells and helps in the ejection of milk; this reflex is also called **let down reflex** because when the mother feeds the baby from one breast and this reflex is acting, then there will be breastmilk secretion from the other breast also, which is called drip milk. This

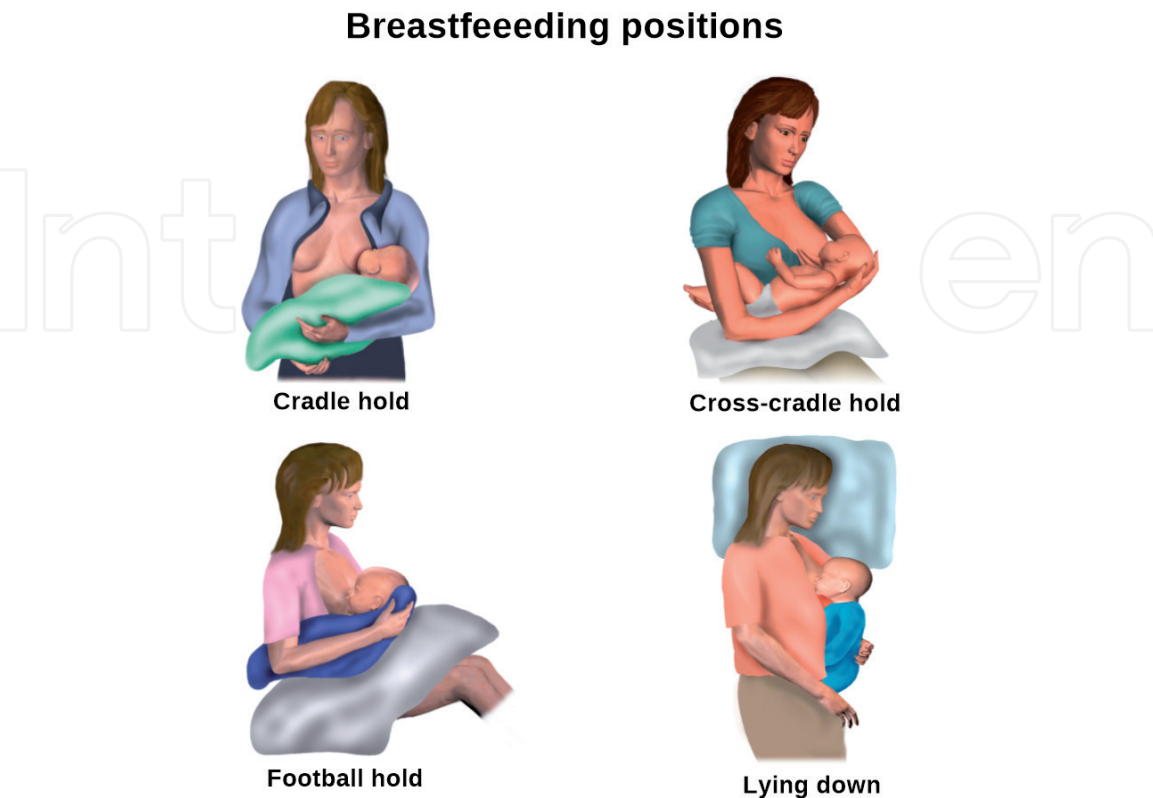


Figure 2.
Various positions of breastfeeding (taken from toko.semuada.com).

Positions	Elements positive	Elements negative
Cradle hold	Classic position	Head tends to wobble
Cross cradle hold	Provides good head control	Least familiar
Football or clutch hold	For LBW, minimum head control, avoids Caesarean incision	Teaching required
Side lying	Minimises fatigue	Chances of smothering

Table 1.
Various positions for breastfeeding.

reflex if present tells us that mother’s milk is adequate. Oxytocin reflex is usually affected by the mother’s mental status; if she is relaxed, calm and happy, oxytocin reflex is augmented on the other hand; if she is depressed and sad, oxytocin reflex is inhibited; for successful breastfeeding, the mother should be relaxed, calm and happy [5].

2.5.2 *Reflexes in the baby*

Rooting reflex: When the mother’s nipple touches the angle of the mouth and then the baby opens the mouth and tries to latch at the breast, this is called rooting reflex.

Sucking reflex: The baby suckles at the areola when the nipple and the areola are put inside the mouth.

Swallowing reflex: The baby sucks and then swallows. The synchrony of respiration with sucking and swallowing takes place at 34 weeks of gestation. Babies born at or after 34 weeks of gestation can only successfully breastfeed. The rhythm is usually suck, suck, suck, pause and then swallow [5].

2.6 **Adequacy of breastmilk**

How to know if breastmilk is sufficient or not? In the first week of life, there will be weight loss; in an exclusively breastfed term baby, about 5–7% of birthweight is lost in the first week especially by 48–72 h of birth [9]. A term baby usually regains birthweight, on average, by 8.3 days of life [9] and starts gaining minimum ½ ounce/day for the first 3 months [10]. Hence after the first week of life, we know that breastmilk is adequate by observing adequate weight gain, five to six times, pale-coloured urine per day and golden yellow colour stools, and then baby should sleep after each feed. Also when the mother is breastfeeding from one breast, if milk drips from the other breast, it is suggestive of adequacy of milk, and the milk that drips from the other breast is called drip milk. Drip milk is low in energy and fat content. If the baby is not gaining adequate weight and urine output is less after the third day of life, it is suggestive of inadequate breastmilk; the baby needs to attend a paediatrician to prevent complications like hypernatraemic dehydration [10]. However it should be remembered that in the first 2 days of life, only colostrum is secreted which is less in amount; hence urine output may be very less so much so that we can wait for 48 h for the first passage of urine. There is no need to give any complementary feeds to the baby in the first 2–3 days when colostrum is less because whatever colostrum is there, it is enough to meet the nutritional needs of a term baby, and a term baby also contains enough stores of glycogen. In case of early discharge from the hospital exclusively, breastfed babies should be seen by a paediatrician on the third to fifth day of life to check the adequacy of breastmilk and establishment of lactation [10].

2.7 Benefits of breastmilk

2.7.1 Benefits to the baby

1. It is a complete nutrition for the baby till 6 months of age. It is easily digestible due to the presence of lipase and whey proteins.
2. Breastmilk contains anti-infective properties, antibodies, IgA and lactobacilli which protect the baby from diarrhoea, respiratory tract infection, otitis media and necrotizing enterocolitis.
3. Breastmilk is hypoallergenic and reduces disorders like asthma and eczema in breastfed babies.
4. **Biochemical benefits:** Protein is predominantly whey protein which contains alpha lactalbumin and lactoferrin. Lactalbumin is rich in tryptophan which is a precursor of serotonin and plays an important role as neurotransmitter. Lactoferrin helps in the absorption of iron and zinc and is bacteriostatic. Calcium phosphorus ratio is more than 2 and helps in calcium absorption. Protein content is less which provides less solute load to the baby's kidneys.
5. **Microbiological benefits:** It is sterile and there is less chance of contamination. Lactoferrin is bacteriostatic and inhibits *E. coli* growth in gut; lactoferrin binds with iron and makes it unavailable to *E. coli*. Peroxidases and lipases kill bacteria. The bifidus factor promotes the growth of lactobacilli. Bile salt-stimulated lipase (BSSL) kills amoeba and Giardia. Deficiency of para-aminobenzoic acid (PABA) in breastmilk prevents the growth of malarial parasite.
6. **Immunological benefits:** Breastmilk supplies passive immunity to the baby. It contains macrophages, lysozymes and complements, T lymphocytes and B lymphocytes. Secretory IgA provides surface immunity to GI tract and respiratory tract.
7. **Psychological benefits:** Breastfeeding promotes bonding between the mother and the baby. Breastfeeding provides maternal warmth, closeness and comfort to the baby.
8. **Better IQ:** Breastfed babies have higher intelligence quotient than formula-fed babies and have enhanced visual development. Breastmilk contains long-chain fatty acids like arachidonic acid (AHA) and docosahexaenoic acid (DHA), lactose and sialic acid which promote brain growth. Breastmilk contains choline, taurine and iodine which promote brain growth.
9. Breastfed babies have less risk of developing diabetes mellitus, high blood pressure, obesity, heart attack and certain cancers in adult life [5, 11–13].

2.7.2 Benefits to the mother

1. Breastfeeding releases oxytocin which helps in involution of the uterus which leads to less chance of postpartum haemorrhage.

2. Mothers who breastfeed have lactational amenorrhoea and have less chance of conception during that period. Night feeds especially help in preventing conception during lactational amenorrhea.
3. Breastfeeding is convenient, economical and readily available at the desired temperature.
4. Mothers develop a close bond with the baby; they feel relaxed and happy to take care of their baby.
5. Mothers regain their prepregnancy weight earlier than in those mothers who formula feed their babies because the energy stored during pregnancy is lost during lactation.
6. Mothers who breastfeed their babies have less chance of developing breast cancer and ovarian cancer [5, 11–13].

2.8 Breastmilk and brain growth

Breastmilk contains arachidonic acid (AHA), docosahexaenoic acid (DHA), high contents of amino acids like cysteine and taurine, choline, iodine, zinc, lactose and oligosaccharides which promotes maturation, myelination and synaptogenesis of the human brain [3].

2.9 Composition of breastmilk and cow's milk

Breastmilk contains less protein and solute load which are suitable for the baby and their immature kidneys. Cow's milk protein is predominantly casein, whereas breastmilk contains whey protein which is easily digestible. It is mainly lactalbumin and lactoferrin. Casein to whey protein ratio is 40:60 in human milk and 80:20 in cow's milk. Cow's milk contains lactoglobulin which is the cause of intolerance to cow's milk. Lactobacilli and lactic acid are probiotics which help in digestion in human milk. Nonprotein nitrogen in human milk like urea, amino acids, choline, creatinine, uric acid, ammonia and N-acetylglutamine are bioactive factors which are not present in cow's milk. Breastmilk is rich in long-chain polyunsaturated fatty acid (PUFA) like eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA). Cow's milk is rich in saturated fats. The polyunsaturated/saturated fat ratio is 1.2:1 in breastmilk compared to 1:2 in cow's milk. Carbohydrate in breastmilk is lactose which is double in content in breastmilk than in cow's milk and is suitable for brain growth and for the development of normal GI flora in babies. Vitamins like K and D are deficient in breastmilk. Especially in vitamin D-deficient mothers, breastmilk contains less vitamin D, and hence vitamin D supplementation in normal newborn exclusively breastfed babies is essential. Vitamin K is given to all babies after birth to prevent haemorrhagic disease of newborn. Minerals are less in breastmilk, but bioavailability is better in breastmilk than in cow's milk. Cow's milk contains high levels of electrolytes and hence high solute load and is not suitable for immature kidneys of babies [5, 12] (Table 2).

2.10 Breastfeeding schedule

In a normal term baby, breastfeeding should be done as and when baby demands. Usually after every 2–3 h, the baby will wake up and cry for feeds; this is called demand feeding. Some babies might sleep for a long duration usually in the first few

Nutrition	Human milk	Cow's milk
Calories	65	67
Protein	1.1 g	3.5 g
Lactose	7.4 g	4.5 g
Fat	3.5 g	3.5 g
Calcium	35 mg	140 mg
Phosphorus	15 mg	90 mg
Magnesium	4 mg	12 mg
Electrolytes (meq/L)		
Sodium	6.5	25
Chloride	12	29
Potassium	14	35
Osmolality (mosm/L)	290	350
Vitamins		
Vitamin A (µg)	53	34
Vitamin D (IU)	0.4–10	0.3–4
Vitamin E (mg)	0.2	
Vitamin K1 (µg)	0.3	0.7
Vitamin C (mg)	4.3	1.8
Thiamine (B1) (µg)	16	42
Riboflavin (B2) (µg)	43	157
Niacin (µg)	172	85
Vitamin B6 (µg)	11	58
Folic acid (µg)	0.18	0.23
Vitamin B12 (µg)	0.18	0.4
Biotin (µg)	2	22
Choline (mg)	1.3	1.2
Taurine (mg)	5	0.5
Carnitine (mg)	0.8	1
Iron (mg)	0.05–0.2	0.1–0.3
Iodine (mg)	7	21
Copper (mg)	0.04	0.03
Zinc (mg)	0.53	0.38

Table 2.
Human milk versus cow's milk composition per 100 ml [5, 12].

days after birth; these babies should be awakened and fed if the gap exceeds more than 3 h. Some babies sleep off after few minutes of suckling; they should be aroused by tickling at the ears and flicking the sole, or the mother should try to withdraw the nipple and then the baby starts suckling again [12]. Usually a normal term baby requires 15–20 min to empty one breast; he/she should be allowed to completely empty one breast so that he/she gets both foremilk and the hindmilk, which is required for the satiety of hunger and weight gain. If the baby sleeps off after a few mins, he/she should be aroused and then start suckling again and complete the feed [12]. Breastfeeding should be continued till 2 years of age because the maximum growth

and myelination of the brain take place in the first 2 years of life [5]. After 6 months of age, weaning should be started which is done by introducing semisolids or complementary feeds to the diet along with breastfeeding. After 6 months of life, the baby becomes interested in his/her surroundings and shows interest when adults take food; breastmilk output of the mother is not sufficient to meet the needs of the baby, and hence semisolid diet according to the regional availability may be introduced. If weaning is not started by 6 months of age, it might lead to malnutrition. An exclusively breastfed term baby does not require multivitamin supplementation; however the baby may be given vitamin D supplementation for a period of 6 months [10].

2.11 Immunobiology of breastmilk

Colostrum is very rich in secretory IgA (sIgA) which protects the mucosal lining of GI tract and respiratory tract and contains lymphocytes and macrophages. After 2–3 days, colostrum is replaced by transitional breastmilk which contains less amount of sIgA than colostrum. SIgA are produced in the mammary gland by the plasma cells that are derived from gut-associated lymphoid tissue (GALT) and bronchus-associated lymphoid tissue (BALT) [5]. Breastmilk contains sIgA and also IgM antibodies. IgM antibodies are transmitted from the mother to the baby by breastmilk; IgM antibodies usually do not cross the placenta and are not transferred from the mother to the baby via the placenta [12]. Breastmilk also contains IgG antibodies, lymphocytes, polymorph, macrophages and plasma cells and nonspecific humoral factors like lysozyme, oligosaccharides, lactoferrin and lactoperoxidase. Probiotics in breastmilk protects the gut from enteric pathogens. It also contains antiviral and anti-staphylococcal factors [12].

2.12 Common feeding problems in the mother

2.12.1 Flat or inverted nipple

If the nipple is flat, the areola and the nipple should be brought out to form the teat; otherwise the baby cannot latch a flat nipple. Occasionally while trying to pull out the nipple, it goes deeper into the breast and this is called inverted nipple; in this case the baby finds difficulty in latching. Nipple protractility test (nipple should be capable of being pulled out) should be done in the last trimester of pregnancy [14]. The nipple might get corrected as the baby sucks. In case of problem, syringe technique should be tried (**Figure 3**). Supple cups or silicone nipple can be used over flat or inverted nipple to form a teat so that the baby can suckle.

2.12.2 Prevention of engorgement of breasts

Usually by days 2–3, milk production increases, and if the baby is not put for suckling, the breasts get engorged. If the breasts get engorged, then the nipple and areola becomes hard and baby does not suck at the breast. To relieve breast engorgement, breasts have to be emptied; this can be done by putting the baby for frequent suckling at the breast or by emptying the breast using breast pump. Warm packs applied to breasts or a warm shower before feeding combined with massage helps to relieve the congestion [8].

2.12.3 Prevention of sore nipples

This may occur from strong sucking action of the baby if his/her position is not correct, i.e. if he/she sucks at the nipple instead of the areola; correct breastfeeding

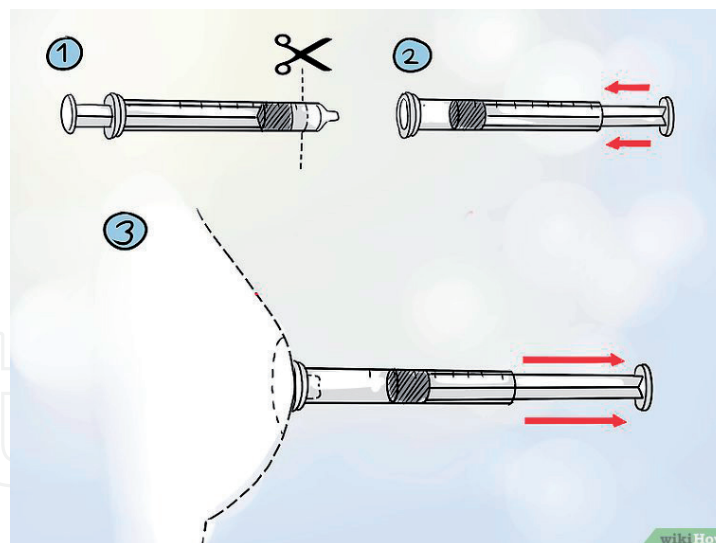


Figure 3.
Syringe technique for flat and inverted nipple (taken from Wikihow.com).

technique can prevent sore nipples. The baby should not be forcefully removed from sucking at the breast, but instead a finger can be introduced to break the suction and then remove him/her; he/she should not be allowed to suck for a long time after the breast is emptied; the nipple should not be allowed to remain wet from leaking milk. The mother can keep the nipple exposed to air for 10–15 min after breastfeeding or apply vitamin E lotion, coconut oil and lanolin to prevent soreness. While cleaning the nipples, she should avoid using soap and use only warm water. In case of sore nipple or cracked nipple, nipple shells or nipple shields can be used to allow the baby to suckle and to prevent the mother from pain [7].

2.12.4 Blocked ducts

Sometimes a segment of the breast becomes hard due to blocked ducts; in this case proper massage and warm packs with emptying of the breast helps, and if blocked ducts are not treated, it leads to mastitis [5]. Sometimes due to incorrect technique and engorgement of breasts if not treated, the mother may develop mastitis (non-infective); in this condition mothers should be given analgesia (paracetamol) prior to feeds, and the baby should be put for suckling; if baby cannot be put for suckling at the breast due to pain, breasts must be emptied by using breast pump; the mother should take bed rest and plenty of fluids orally. In case the mother develops breast abscess, antibiotics should be given for 10–14 days. Breastfeeding can be continued from the affected breast if there is no pus discharge from the nipple [15]. Breast abscess might require drainage. Candidal infection: sometimes mothers may experience excruciating pain while feeding the baby; if the baby has oral thrush, 1% gentian violet clotrimazole mouth paint may be applied over the nipple and inside the baby's mouth. Mothers may require systemic antifungal like fluconazole in severe cases [16]. Psychological counselling for the mother is necessary in these cases of feeding problems. A mother needs constant support and guidance in these cases [5].

2.13 Breastfeeding when the mother is ill

A mother can breastfeed her baby in case of fever, rhinitis, respiratory tract infection, diarrheal diseases and asthma provided she is not very sick and unable to breastfeed. In case of respiratory tract infections, she should wear mask while breastfeeding. If the mother is unable to breastfeed, expressed breastmilk (EBM) can

be given through cup and spoon. Breastmilk can be expressed using manual or electric breast pump. Bottle feeds should not be used because it creates nipple confusion in the baby and the baby will refuse to take breastfeeding. Bottle feeding is easier and needs less energy, and henceforth the baby becomes lazy and refuses breastfeeding [12]. If the mother has mastitis, she can breastfeed from the unaffected breast and also from the affected breast if there is no pus discharge from the nipple of affected site [15]. In case of UTI and tuberculosis (if sputum is negative), breastfeeding can be given. In case of hepatitis B-positive mother, the baby should be given hepatitis B immunoglobulin and hepatitis B vaccine after birth, and breastfeeding can be continued [5]. In case of HIV-positive mother, the **WHO** recommends to continue breastfeeding in developing countries because in developing countries morbidity and mortality is high if the baby is not breastfed due to other infections like respiratory and diarrhoeal diseases. However in the case of higher socioeconomic status, breastfeeding can be stopped and formula feeds may be given in HIV-positive mothers. **CDC** recommends to stop breastfeeding in HIV-positive mothers [17]. In postpartum psychosis, breastfeeding may be allowed under supervision.

2.14 Contraindications to breastfeeding

Galactosemia, congenital lactose intolerance, chemotherapy, antithyroid drugs except propylthiouracil and antipsychotic drugs like lithium are contraindications for breastfeeding [5].

2.15 Breastfeeding-associated problems

2.15.1 Regurgitation of feeds

Some babies regurgitate some curdy milk precipitates (fermented milk from the stomach) after each feed; the mother should be advised to burp the baby properly to eructate the swallowed air and to make the baby lie in right lateral position with slight elevation of the head.

2.15.2 Gastrocolic reflex

Some breastfed babies may pass stool after each feed; this is not diarrhoea, and if urine output is good, then there is no dehydration and no treatment required; it is a phenomenon due to gastrocolic reflex. If the urine output is good then it is normal.

2.15.3 Evening colic

Some breastfed babies cry during the evening hours due to aerophagia. These babies can be put prone, and burping can be done which will help the air to come out and relieve the colic [12].

2.16 Breastfeeding in working mothers

Usually working mothers get 6 months of maternity leave. In the first 6 months, exclusive breastfeeding can be given and then complementary feeds should be started along with breastfeeding.

Ideally there should be a crèche near the working place for the mother to go and feed in between. There should be a private place in the working area for the mother to express her milk and give to her baby in the crèche. Expressed breastmilk can be given to the baby if the mother is away by cup and spoon [5].

2.17 Breastmilk storage

Expressed breastmilk (EBM) should be stored in a stainless steel, food grade hard plastic or glass container having a tight fitting lid. EBM can be stored at room temperature for 6 h and in the refrigerator for 24 h and in the freezer compartment of the refrigerator for 2 weeks. EBM should be thawed before feeding by running tap or lukewarm water over the container; never use boiling or hot water to thaw the milk. EBM should never be heated or microwaved because the antibodies get destroyed [18].

2.18 Medications to the lactating mothers

All drugs taken by the mother will be excreted in the milk, but the concentration of drugs in the breastmilk is less, usually less than 1%. Propylthiouracil and warfarin are safe and can be taken during breastfeeding. Antibiotics taken by the mother may cause increased stooling of the baby. Laxatives taken by the mother can cause diarrhoea in the baby; however milk of magnesia, liquid paraffin and glycerine suppositories are safe. Oral contraceptives, pyridoxine, nicotine and bromocriptine suppress lactation [5].

2.19 Delayed lactation

Some mothers with obesity, diabetes mellitus, stress, polycystic ovarian disease, postpartum haemorrhage and retained placenta may have delayed lactation. In these cases galactogogues can be given like domperidone and metoclopramide tablets. However it should be kept in mind that these drugs can cause extra pyramidal symptoms (EPS) in the mother. Domperidone has less chance of EPS and is well tolerated and can be given for 7–10 days at length [5].

2.20 Baby-friendly hospital initiative (BFHI)

The Baby-friendly Hospital Initiative (BFHI) was started in the year 1992 organised by the UNICEF and WHO. The World Alliance for Breastfeeding Action (WABA) is the global agency for the promotion of breastfeeding. The 10 steps of BFHI are as follows [5]:

1. Every hospital should have a written breastfeeding policy that is routinely communicated to all healthcare staff.
2. Train all healthcare staff in skills necessary to implement this policy.
3. Inform all pregnant women about the benefits and management of breastfeeding.
4. Help mothers to initiate breastfeeding within an hour of birth.
5. Show mothers how to breastfeed and how to maintain lactation even if they are separated from their infants.
6. Give newborn infants no food or drink other than breastmilk, unless medically indicated.

7. Practise rooming-in and allow mothers and infants to remain together 24 h a day.
8. Encourage breastfeeding on demand.
9. Give no artificial teats or pacifiers (also called dummies or soothers) to breast-feeding infants.
10. Foster the establishment of breastfeeding support groups, and refer mothers to them on discharge from the hospital or clinic.

2.21 Breastfeeding week celebration

Every year breastfeeding week is celebrated from August 1 to August 7. It commemorates the Innocenti Declaration in August 1990 when the WHO, UNICEF and several other organisations came together to protect, promote and support breastfeeding. Every year there is a theme based on which it is celebrated. Breastfeeding week celebrations are organised by the WABA, UNICEF, WHO and several government and non-government organisations [19].

3. Conclusion

All mothers should be antenatally motivated for breastfeeding. Breastfeeding should be initiated within 1 h of birth. Early skin-to-skin contact helps in early initiation of breastfeeding. Correct technique of breastfeeding should be taught to the mother. Exclusive breastfeeding should be given for 6 months of age and then complementary feeds should be introduced. In low- and middle-income countries, breastfeeding not only benefits the mother and the baby but also reduces economic burden of the country. Hence we should protect, promote and support breastfeeding not only in low- and middle-income countries but also in developed countries.

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Conflict of interest

The author declares no conflict of interest.

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