

Breast Feeding/24-25



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Objectives

- Define breast feeding(BF) and related terminology**
- Ascertain the composition of breast milk**
- Recognize the main advantages of BF**
- identify the barriers to BF**
- Outline ten steps of successful BF**
- Define the complementary feeding and list the principles for appropriate complementary feeding**

- ❑ Every infant and child has the right to good nutrition according to the "Convention on the Rights of the Child".**
- ❑ Infant and young child feeding is a key area to improve child survival and promote healthy growth and development.**
- ❑ The first 2 years of a child's life are particularly important, as optimal nutrition during this period lowers morbidity and mortality, reduces the risk of chronic disease, and fosters better development overall.**

Breastfeeding and complementary feeding terms and definitions

- ❖ **Breastfeeding**, also called nursing, is the process of feeding a mother's breast milk to her infant, either directly from the breast or by expressing (pumping out) the milk from the breast and bottle-feeding it to the infant.
- ❖ **Exclusive breast feeding** : the infant takes only breast milk and no additional food, water, or other fluids with the exception of medicines and vitamin or mineral drops.

- ❖ **Bottle –Feeding** : the infant is feeding from a bottle, regardless of its contents, including expressed breast milk.
- ❖ **Partial breast feeding or Mixed Feeding** : the infant is given some breast feeds and some artificial feeds, either milk or cereal, or other food or water
- ❖ **Artificial Feeding** :the infant is given breastmilk substitutes and not breastfeeding at all.

❖ **Breast Feeding on Demand:**

Breast feeding whenever the baby or mother wants, with no restrictions on the length or frequency of feeds.

On demand, unrestricted breastfeeding Why?

- **Earlier passage of meconium**
- **Lower maximal weight loss**
- **Breast-milk flow established sooner**
- **Larger volume of milk intake on day 3**
- **Less incidence of jaundice**

WHO's infant and young child feeding recommendations

- **Initiate breastfeeding within one hour of birth.**
- **Breastfeed exclusively for the first six months of age (180 days).**
- **There after give nutritionally adequate and safe complementary foods to all children.**
- **Continue breastfeeding for up to two years of age or beyond.**

Importance and Promotion of Breast feeding



Initiation of **Breast feeding**
within **1 hour** of birth



Exclusive breast feeding for
6 months

Timely initiation of appropriate
complementary feeding at **6 months**
along with continued **breast feeding** for **2 years**



Support from community towards
breast feeding

- 😊 **Breastmilk is the ideal food for infants.**
- 😊 **It is safe, clean and contains antibodies which help protect against many common childhood illnesses.**
- 😊 **Breastmilk provides all the energy and nutrients that the infant needs for the first months of life**
- 😊 **It continues to provide up to half or more of a child's nutritional needs during the second half of the first year, and up to one third during the second year of life.**

Types and Composition of Human Breast Milk

■ **Types of Breast Milk:**

- **Colostrum or Early Milk**
- **Transitional Milk**
- **Mature Milk**

- **Colostrum or Early Milk** is produced in the late stage of pregnancy till 4 days after delivery; and is rich in antibodies.

During the first days after birth, breasts produce a thick and yellowish fluid called colostrum. It's high in protein, low in sugar, and loaded with beneficial compounds. It's truly a wonder food and not replaceable by formula.

Immunologic specificity

- **Colostrum = Baby's first vaccination**

Colostrum



Colostrum

Property

- **Antibody-rich**
- **Purgative**
- **Growth factors**
- **Vitamin-A rich**

Importance

- **Protects against infection and allergy**
- **Clears meconium; helps prevent jaundice**

Transitional Milk produced from day 4 – 10 is lower in protein in comparison to Colostrum.

- **Mature milk** is produced from approximately ten days after delivery up until the termination of the breastfeeding.

Mature milk is lower in protein but higher in fat and carbohydrates.

Mature milk contains about 90% water to meet baby's fluid needs.

The composition of breast milk changes depending on how long the baby nurses at each session, as well as on the age of the child.



Breast milk it is often described as having two parts, **foremilk and hind milk. Foremilk is the milk released at the start of a feeding; hind milk is the milk released at the end.**

Foremilk is thin, watery, and lower in fat, calories, and vitamins A and E than hind milk.

The hind milk providing up to two or three times more fat than the foremilk.



Breast milk is like a biological clock, literally changing by the hour. For instance, breast milk contains low levels of an amino acid called tryptophan (the precursor to the "sleep" hormone melatonin) in the morning and much higher levels at night

Breast Milk Composition

- 😊 **Fat** (4% concentration provides up to 50% of caloric needs, cholesterol levels constant, lipolytic enzymes aid in fat digestion)
- 😊 **Carbohydrates** (lactose = milk sugar predominantly in human milk, 7% concentration provides up to 40% caloric needs, essential for development of CNS, enhances calcium & iron absorption).

Bifidus factor = growth factor present only in human milk required for establishing an acidic environment in the gut to inhibit growth of bacteria, fungi and parasites)

Protein

- **Lactoferrin => Isolates external iron**
- **Secretory IGA => Most important immunoglobulin, breast milk is only source for first 6 weeks**

What is in 1 L of Human Milk?



70 g carbohydrate

46 g fat

13 g protein

300 mg calcium

2 mg iron

480 µg (micrograms) vitamin A

750 calories

0.2 mg thiamine

0.4 mg riboflavin

40 mg vitamin C

2 mg niacin



LA LECHE LEAGUE
CANADA

Benefits of breastfeeding



Promotes infant immunity

Nurtures mother-baby bond



Cost-effective

Environment-friendly



Works as a contraceptive

Induces oxytocin production



These benefits include health, nutritional, immunologic, developmental, psychological, social, economic, and environmental benefits

- **Environmental**

- **Saves resources**
- **Less waste**
- **No refrigeration**
- **No manufacturing**
- **No bottles, cans**
- **No trucking**
- **No handling**

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Breastfeeding

No water
No waste
No energy
No pollution
No irrigation
No transport
No packaging

Totally
environmentally friendly

Photo by Karen Maurer

 www.breastfeeding.asn.au



- **To Families**

- Less illness**
- Less trips to doctors, hospitals**
- Less medical prescriptions**
- Less stress**
- More bonding**
- Inexpensive**

In low-income communities, the cost of cow's milk or powdered milk, plus bottles, teats, and fuel for boiling water, can consume 25 to 50% of a family's income.

Benefits to Infant

- **There is well documented evidence that skin to skin contact between infant and mother helps to maintain the body temperatures, reduce risk of hypoglycemia, enhance oxytocin release and beneficial nutrition with intake of colostrum**
- **Helps in Gastrointestinal development and function**
- **Helps in development of the immune system**
- **Helps in cognitive development of the infant**
- **Breastfeeding improves IQ, school attendance, and is associated with higher income in adult life.**

- **It may reduce baby's risk for many illnesses and diseases.**
 - **Exclusively breastfed infants have at least 2½times fewer illness episodes than infants fed breast-milk substitutes.**
 - **Middle ear infections. Breastfeeding, particularly exclusively and as long as possible, may protect against middle ear, throat, and sinus infections. 2.4 times**
 - **Respiratory tract infections. Breastfeeding can protect against respiratory and gastrointestinal acute illnesses. 1.7 to 5 times.**

- **Intestinal tissue damage. Feeding preterm babies' breast milk is linked with a reduction in the incidence of necrotizing enterocolitis.**
- **Sudden infant death syndrome (SIDS). Breastfeeding is linked to a reduced risk of SIDS, especially when breastfeeding exclusively. 2.0 times**
- **Allergic diseases. Breastfeeding is linked to a reduced risk of asthma, atopic dermatitis, and eczema.**
- **Bowel diseases. Babies who are breastfed may be less likely to develop Crohn's disease and ulcerative colitis.**
- **Diabetes. Breastfeeding is linked to a reduced risk of developing type 1 diabetes and non-insulin-dependent (type 2) diabetes.**
- **Childhood leukemia. Breastfeeding is linked to a reduction in the risk for childhood leukemia.**
- **Reduce hospitalization 3 times**

➤ **Breast milk promotes baby's healthy weight**

Breastfeeding promotes healthy weight gain and helps prevent childhood obesity.

One study showed that breastfeeding for longer than 4 months had a significant reduction in the chances of a baby developing overweight and obesity.

This may be due to the development of different gut bacteria.

Breastfed babies have higher amounts of beneficial gut bacteria, which may affect fat storage.

Babies fed breast milk also have more leptin in their systems than formula-fed babies. Leptin is a key hormone for regulating appetite and fat storage.

Also, breastfed babies also self-regulate their milk intake. They're better at eating only until they've satisfied their hunger, which helps them develop healthy eating patterns.

Benefits of breastfeeding



WORLD HEALTH
ORGANIZATION



2025 imperative: Increase global rate of exclusive breastfeeding to (at least) 50%

Benefits of Breastfeeding to Mothers

- **Enhance early maternal – infant bond.**
- **Helps involution of the uterus.**
- **Long term breastfeeding helps in loss of the excess weight acquired during pregnancy.**
- **Prolonged Breastfeeding prolongs anovulation.**

Breastfeeding contributes to natural birth spacing, providing 30% more protection against pregnancy than all the organized family planning programs in the developing world.

- **Mothers who breastfeed have a lower risk for depression**
Postpartum depression (PPD) is a type of depression that can develop shortly after childbirth.

- Documented long term effect of breastfeeding include reduced risk of breast, ovarian and endometrial cancers.

It is estimated that increased breastfeeding could avert 20 000 maternal deaths each year due to breast cancer.

BENEFITS OF BREASTFEEDING

For Mom



Mothers who are breastfeeding burn extra calories each day, helping them return to their pre-pregnancy weight quicker.



Women who breastfeed have lower rates of developing breast and ovarian cancer.



Reduces the risk of postpartum depression and creates a unique bonding experience for mom and baby.



For Baby

Breast milk is rich in nutrients and the perfect natural food for babies. Breastfed babies are also less likely to become obese.



Antibodies in breast milk help babies fight off viruses and bacteria, while protecting them from various infections.



Children who were breastfed as babies have lower risks of developing ear infections, respiratory infections, allergies, and diabetes.



How Achieving Optimal Breastfeeding

- **Activities, attitudes and procedures during the delivery and post partum period have an impact on breastfeeding**
- **Breastfeeding should be started and fully established before discharge from the hospital**
- **Physicians and health care professionals should observe at least one feeding and ensure this is done properly and breast milk is produced**
- **Lactation specialist should also work with parents that are having difficulty with breast feeding.**
- **Early follow up after leaving the hospital is required.**

Signs of Effective Breastfeeding

1-Frequent feedings 8-12 times daily.

2-Intermittent episodes of rhythmic sucking with audible swallows should be heard while the infant is nursing.

3-Infant should have about 6-8 wet diapers in a 24 hour period once breast feeding is established.

4-Infant should have minimum of 3-4 bowel movements every 24 hours.

5-Stools should be about one tablespoon or larger and should be soft and yellow after day 3.

6- Average daily weight gain of 15 -30g.


7-Infant has regained birth weight by day 10 of life.





BREASTFEEDING

VS



FORMULA FEEDING

Most mothers know that breast milk is the more healthier choice, then why do a large number chose to formula feed?

Why some mothers choose formula vs. breast milk?

Barriers To Effective Breastfeeding

- **Lack of confidence in mother**
- **Belief that breast milk is not sufficient**
- **Lack of adequate support system**
- **History of previous breast surgery**
- **Breast engorgement, cracked and sore nipples**
- **Retractable nipples**

- **Distressed by physical discomfort of early breastfeeding problems.**
- **Convenience issues**
- **Pressures of employment/school**
- **Worries that breast shape will change**
- **Formula manufacturers manipulate people through their ads**
- **Doctors and nurses need more lactation training**

- **Mothers given very little time to adjust to changes of new life and needs of newborn baby.**
- **Family demands**
- **Non-supportive family/health professionals**
- **Embarrassment**

Reason for Supplementation

There are rare exceptions during which the infant may require other fluids or food in addition to, or in place of, breast milk.

The feeding programme of these babies should be determined by qualified health professionals on an individual basis.



Acceptable medical reasons for supplementation or replacement



Infant conditions:

- ❖ **Infants who cannot be BF but can receive BM(breast milk) include those who are very weak, have sucking difficulties or oral abnormalities or are separated from their mothers.**
- ❖ **Infants who may need other nutrition in addition to BM include very low birth weight or preterm infants, infants at risk of hypoglycemia, or those who are dehydrated or malnourished, when BM alone is not enough.**

- ❖ **Infants with galactosemia should not receive BM or the usual BMS. They will need a galactose free formula.**
- ❖ **Infants with phenylketonuria should receive phenylalanine free formula.**
- ❖ **Hyperbilirubinemia related to poor intake**
- ❖ **Delayed bowel movement or dark stools at day 5**
- ❖ **Delayed milk production**



Maternal conditions:

- ☐ **BF should stop during therapy if a mother is taking anti-metabolites, radioactive iodine, or some anti-thyroid medications.**
- ☐ **Some medications may cause drowsiness or other side effects in infants and should be substituted during BF.**
- ☐ **BF remains the feeding choice for the majority of infants even with tobacco, alcohol and drug use.**
- ☐ **If the mother is an intravenous drug user BF is not indicated.**
- ☐ **Mothers should temporarily not breastfeed or feed expressed breast milk to their infants if they are infected with untreated brucellosis.**

- ☐ **Recommendations have been renewed to also address the needs for infants born to HIV-infected mothers. Antiretroviral drugs now allow these children to exclusively breastfeed until they are 6 months old and continue breastfeeding until at least 12 months of age with a significantly reduced risk of HIV transmission. Mixed feeding is not recommended.**
- ☐ **BF is not recommended when a mother has a breast abscess, but BM should be expressed and BF restarted once the breast is drained and antibiotics have started. BF can continue on the unaffected breast.**
- ☐ **Mother have an active herpes simplex virus (HSV) infection with lesions (sores) present on the breast. Mothers can breastfeed directly from the unaffected breast if lesions on the affected breast are covered completely to avoid transmission).**

- ❑ **BF can be continued when mothers have hepatitis B, TB and mastitis, with appropriate treatments undertaken.**

Mothers should temporarily not breastfeed, but can feed expressed breast milk if:

- **They have untreated, active tuberculosis.**

Note: The mother may resume breastfeeding once she has been treated appropriately for 2 weeks. In addition, a doctor must document that she is no longer contagious.

- **Mother have an active varicella (chicken pox) infection that developed between 5 days before delivery and 2 days following delivery.**

Other Options If Breastfeeding is Not Possible

Mother can still use her milk, even if she decides not to breastfeed:

- **Use a breast pump (electric/manual)**
- **Cup or bowl feeding**
- **Spoon feeding**
- **Eyedropper or feeding syringe**
- **Nursing supplementary**
- **Get milk from donation bank???**





Promotion of breast feeding

Breastfeeding promotion refers to coordinated activities and policies to promote health among women, newborns and infants through breastfeeding

WHO and UNICEF launched the Baby-friendly Hospital Initiative (BFHI) to help motivate facilities providing maternity and newborn services worldwide to implement the Ten Steps to Successful Breastfeeding.

WHO actively promotes breastfeeding as the best source of nourishment for infants and young children, and is working to increase the rate of exclusive breastfeeding for the first 6 months up to at least 50% by 2025.

Ten Steps summarize a package of policies and procedures that facilities providing maternity and newborn services should implement to support breastfeeding.

WHO has called upon all facilities providing maternity and newborn services worldwide to implement the **Ten Steps.**

The Ten Steps to Successful Breastfeeding

1-Have a written breastfeeding policy that is routinely communicated to all health care staff.

2-Train all health care staff in the skills necessary to implement this policy.

3-Inform all pregnant women about the benefits and management of Breast feeding .

4-Help mothers initiate breastfeeding within one hour of birth.

5-Show mothers how to breastfeed and how to maintain lactation, even if they are separated from their infants.

6-Give infants no food or drink other than breast-milk, unless medically indicated.

7-Practice rooming in - allow mothers and infants to remain together 24 hours a day.

8-Encourage breastfeeding on demand.

9-Give no pacifiers or artificial nipples to breastfeeding infants.

10-Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or birth center.

Complementary feeding

Around the age of 6 months, an infant's need for energy and nutrients starts to exceed what is provided by breast milk, and complementary foods are necessary to meet those needs.

Complementary feeding, defined as the process of providing foods in addition to milk when breast milk or milk formula alone are no longer adequate to meet nutritional requirements, generally starts at age 6 months and continues until 23 months of age.

This is a developmental period when it is critical for children to learn to accept healthy foods and beverages and establish long-term dietary patterns.

It also coincides with the peak period for risk of growth faltering and nutrient deficiencies.

Guiding principles for appropriate complementary feeding are:

- **Continue frequent, on-demand breast feeding until 2 years of age or beyond**
- **Practice responsive feeding (for example, feed infants directly and assists older children. Feed slowly and patiently, encourage them to eat but do not force them, talk to the child and maintain eye contact)**
- **Practice good hygiene and proper food handling**
- **Start at 6 months with small amounts of food and increase gradually as the child gets older**

- **Gradually increase food consistency and variety**
- **Increase the number of times that the child is fed: 2–3 meals per day for infants 6–8 months of age and 3–4 meals per day for infants 9–23 months of age, with 1–2 additional snacks as required**
- **Use fortified complementary foods or vitamin-mineral supplements as needed**
- **During illness, increase fluid intake including more breastfeeding, and offer soft, favorites foods.**



Any Question ?