MINISTRY OF HEALTH

INFANT AND YOUNG CHILD FEEDING

Manuals for Health Workers
on maternal and child health care at all levels

(TRAINEE'S HANDBOOK)

Hanoi - January, 2015

Editorial Guidance

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MINISTRY OF HEALTH

No. 5063/QĐ-BYT

SOCIALIST REPUBLIC OF VIETNAM
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Hanoi, December 5, 2014

DECISION

On the approval of the "Infant and Young Child Feeding" Training Program and Materials

MINISTER OF HEALTH

Pursuant to the Decree No.63/2012/NĐ-CP dated 31 August 2012 by the Government stipulating functions, tasks, powers, and organizational structure of the Ministry of Health;

Pursuant to the Circular No.22/2013/TT-BKH dated 9 August 2013 regarding the Guidance for continuous training for health workers;

Taking into consideration the meeting minutes of the Professional Certification Committee of the *"Infant and Young Child Feeding"* training program and manuals on November 3, 2014;

Taking into consideration the request of the Director of the Science, Technology and Training Department, Director of the Maternal and Child Health Department;

DECIDES:

Article 1. The *"Infant and Young Child Feeding"* training program and manuals is approved with the designed agenda of 40 training sessions attached to this Decision.

Article 2. The *"Infant and Young Child Feeding"* training program and manuals is designed for use in continuous training for health workers in materal and child health care and nutrition counseling at all levels.

Article 3. This decision takes effect from the date of signing and issuance.

Article 4. The Chief of Ministry Secretariat and Directors of Science, Technology and Training Department, Maternal and Child Health Department, continuous training facilities and relevant stakeholders are responsible for implementing this Decision./.

PP. MINISTER
VICE MINISTER

Nguyen Viet Tien

To:
- *As in Article 4;*
- *Minister (For reporting);*
- *Vice Ministers (For coordination);*
- *Website of the Ministry of Health;*
- *Archive: Clerical Section, STT Dept., MCH Dept.*

INTRODUCTION

The United Nations Children's Fund (UNICEF) and the World Health Organization (WHO) jointly developed the Global Strategy for Infant and Young Child Feeding in 2002 in order to emphasize the significant impacts of optimal feeding practices on the nutritional status, growth and development, and survival of infants and young children. Contents of this training course are developed based on conclusions and recommendations of leading nutritional experts, aiming at protecting, promoting and supporting exclusive breastfeeding (EBF) in the first six months of life, appropriate complementary feeding (CF) and continued breastfeeding (BF) up to two years of age or beyond.

In reality, many infants and young children are nourished inappropriately. Many mothers, though making a good BF start, still introduce CF to their children too early, or stop breastfeeding after a few weeks of delivery or breastfeed their children improperly. Some other children grow well in their first six months as they are breastfed, but after that, complementary feeding is introduced too late or inappropriately. Consequently, they become malnourished, especially stunted, which affects both the physical and intellectual development of children. This has become an increasing concern in many countries.

The main reason for children malnutrition is not the lack of foods but the lack of knowledge on optimal BF and CF practices. People's knowledge on infant and young child feeding is strongly affected by their common beliefs, community norms and health workers' advices. Sometimes, advertisements by children food manufacturers are also an influential factor to the public and health worker's nutrition practices. Health workers encounter many challenges in persuading mothers to change their nutrition practices and behaviors because the recommendations they provide are contrary to common practices and knowledge of the public. Therefore, it is important to provide training and updates on infant and young child feeding (IYCF) knowledge and skills for health workers to help them attain fundemental skills on BF and appropriate CF counseling and support. This will contribute to achiving the stunting reduction goal for children under five years in the national nutrition stratergy for the period of 2011 – 2020, with a vision toward 2030.

The IYCF training program and materials are issued by the Ministry of Health to meet the training needs of health workers in maternal and child care at all levels. At the completion of this training course, health workers will be able to provide counseling and support to mothers, caregivers, families and community on optimal feeding practices for children aged 0-24 months.

The training program is developed based on the IYCF training materials designed by WHO, UNICEF, the Alive & Thrive (A&T) project, and adapted to the Viet Nam's context. The training contents include 40 sessions, including 25 theory sessions, and 15 are practical sessions; and are organized in a five-day training course. Training contents focus on the two main IYCF components, i.e. BF and CF, as recommended by WHO.

Training manuals attached to the training program include a Trainee's Handbook, a Trainer's Manual and a set of VCDs. These manuals provide IYCF knowledge and skills according to WHO's recommendations and Vietnam's context. Appendices include information for reference, illustrations and existing documents related to IYCF.

During the development of the training program and manuals, the author group reviewed, received, edited, added and finalized them based on valuable comments and feedback from the Professional Certification Committee, the National Institute of Nutrition (NIN), obstetrics and pediatrics experts, specialists from WHO, UNICEF, representatives of health workers in maternal and child health care at all levels across the nation, and with technical and financial support from A&T.

The IYCF training program and manuals were certified and approved by the Ministry of Health (MOH) for the first time on December 05th, 2014 in the Decree No.5063/QĐ-BYT for the unified use in training for health staff working in maternal and child health care at all levels. MOH welcome ideas from organizations and individuals to further improve the documents.

On this occasion, the Maternal and Child Health Department, MOH would like to express our gratitude to A&T, WHO, and UNICEF for their close collaboration in protecting, caring and improving the health and nutritional status of mothers and children in general, and for their technical and financial support to finalize the IYCF training program and manuals.

Thank you.

ACRONYMS

A&T	Alive & Thrive
ARV	Antiretrovirals
BF	Breastfeeding
BFHI	Baby-Friendly Hospital Initiative
BMI	Body Mass Index
CF	Complementary Feeding
EBF	Exclusive Breastfeeding
H/A	Height/Age
HIV	Human Immunodeficiency Virus
IYCF	Infant and Young Child Feeding
MCH	Maternal and Child Health
MOH	Ministry of Health
MUAC	Mid-Upper Arm Circumference
NIN	National Institute of Nutrition
ORS	Oral rehydration salts
SL	Slide
UNICEF	United Nations Children's Fund
VCD	Video Compact Disc
W/A	Weight/Age
W/H	Weight/Height
WHO	World Health Organization

CONTENTS

SESSION 1. OVERVIEW OF INFANT AND YOUNG CHILD FEEDING

Objectives of the session

1. *To be able to point out the significance of IYCF*
2. *To be able to point out the objectives and main contents of the Global Strategy for IYCF*

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1. The importance of IYCF

1.1. IYCF plays an important role in the health and development of children

INFANT AND YOUNG CHILD FEEDING IS NUTRITION CARE FOR CHILDREN 0-24 MONTHS OF AGE	
Optimal IYCF	**Sub-optimal IYCF**
Children develop to their potential, both physically and mentally.	Children's development, both physically and mentally, is retarded.
Children achieve their standard height and weight.	Children are malnourished, stunted or obese.
Children are more healthy, less likely to get sick and recover more quickly after sickness.	Children are more likely to get sick, have more severe sickness and higher risk of mortality.
Children have better intellectual development and are more intelligent.	Children have reduced intellectual development *(impaired cognitive development and learning capacity)*

- Important findings on mother and child nutrition released by the Lancet *(a well-recognised medical journal)* in 2013 show that maternal and child nutrition status is one of the causes of dealth for 3.1 million out of 6.9 million children under 5 years old and of stunting for 165 million children under 5 years old *(2011)*. These stunted children have been and will be affected in both mental and physical development. More than two-thirds of deaths among children under five years old occur in the first year of life and are often associated with inappropriate feeding practices. Malnutrition in children under five years old indirectly affects the achievement of Millennium Development Goals No. 1, 4, and 5 on reducing the rates of mortality and morbidity in children under five years old. It is estimated that poor nutrition tends to reduce the economic growth of a nation by at least 8% *(causing direct impacts on labour productivity, impaired cognitive development and learning capacity)*.

- According to the Global Strategy for IYCF released by WHO, the health and nutritional status of mothers and children are intimately linked together. Poor nutrition in the first 1000 days *(from pregnancy to 24 months of age)* is a major cause of stunting, obesity, and non-communicable diseases in the adulthood. Therefore, the first 1000 days is considered the *"window of opportunity"* to prevent stunting and physical and mental illness due to sub-optimal feeding practices.
- Research shows that the height of children at three years reflects their height at the age of 18. By adding 77-80 cm to three year old children's height, it is possible to predict their height when they become adults. Well-nourished children will get their optimal height in their adulthood but those who are severely stunted in their childhood will not be likely to reach a desirable height as normal children. Hence, in order to prevent stunting and long-term effects to children's health later in life, it is essential to improve IYCF practices for from the time of pregnancy until 24 months of age.

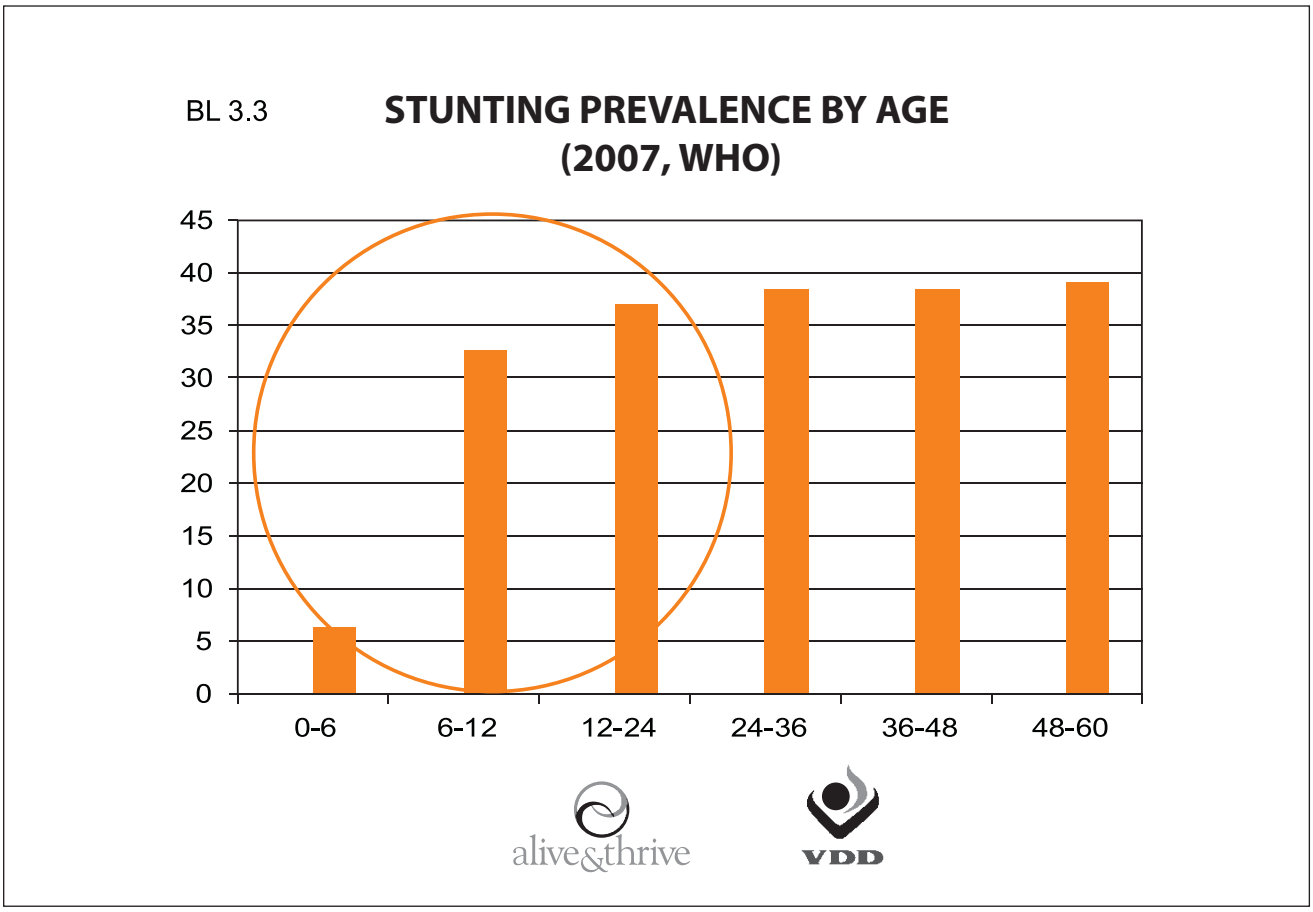

Figure 1. Stunting prevalence by age

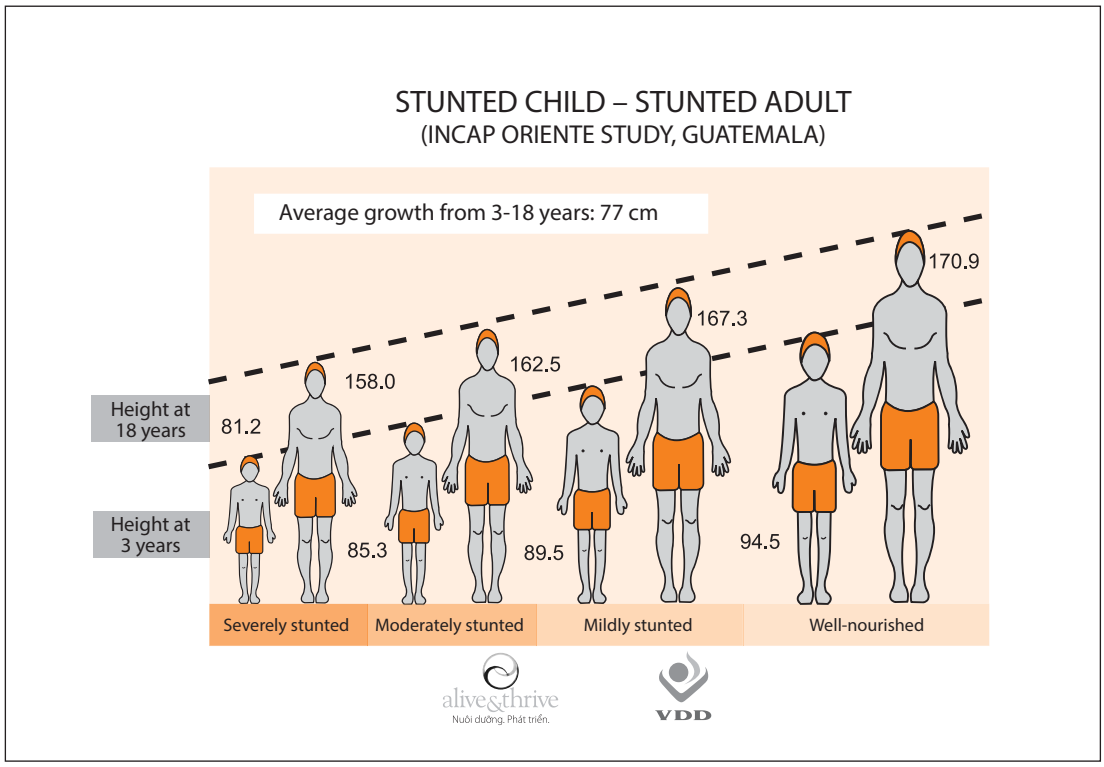

Figure 2. Stunted child – Stunted adult

1.2. The "Window of Opportunity" and appropriate times for the most effective IYCF interventions

- The "Window of opportunity" is the period from pregnancy, delivery to 24 months of age.
- The "Window of opportunity" is an important period to implement appropriate activities to prevent child malnutrition most effectively.
- The "Window of opportunity" is divided into three significant stages for interventions and communication messages as follows:

Pregnancy (280 days)	**0-6 months of age (180 days)**	**6-24 months of age (540 days)**
Mothers receive good antenatal and appropriate nutrition care	Infants are breastfed with colostrum and early breastfed after delivery	Children are given age-appropriate complementary feeding
Mothers are provided with breast-feeding knowledge in the last trimester to create a good start for their breastfeeding practices later	Infants are exclusively breastfed in the first 6 months of life	Children continue to be breastfed up to 24 months of age

1.3. Ideal IYCF practices

- Poor BF and CF practices and infections are leading reasons for child malnutrition during the first two years of life. Therefore, IYCF plays a critical role in improving a child's health and survival.
- ***Optimal infant and young child feeding practices are:***

1. All infants are breastfed for the first time within the first hour after birth;
2. No infants are given prelacteals before BF;
3. All infants and young children are breastfed on demand, during the day and night;
4. All infants are exclusively breastfed for the first 6 months;
5. Children are not fed with a bottle and pacifiers;
6. No children are weaned before 24 months of age;
7. All infants are fed complementary food after the first six months (180 days);
8. All infants and young children are fed the recommended number of meals daily;
9. All infants and young children meet their recommended daily energy requirements;
10. All infants and young children are fed nutrient- and energy-dense food;
11. Children are given diverse food with at least four out of eight food groups as recommended daily;
12. Children are given iron-rich food or an iron supplement daily.
13. All infants and young children are fed meat, fish, or poultry daily.
14. All the children are supported and motivated to eat to satiety during meal times.

2. Global Strategy for IYCF

2.1. Objective:

To emphasize the impact that IYCF practices have on the nutritional status, growth and development, and the survival of infants and young children.

2.2. Contents

2.2.1. The Global Strategy for IYCF was developed in 2002 based on the existing documents: such as the International Code on the marketing of breast milk substitutes (1981); the Innocenti Declaration (1990) and the Baby-Friendly Hospital Initiative (1991).

2.2.2. Ensuring health facilities to perform their roles in protecting, promoting and supporting EBF in the first six months, continued BF up to 2 years of age or beyond, and referring mothers to health facilities for the support they need.

- Most mothers are able to breastfeed their children exclusively in the first six month if they are equipped with adequate knowledge and supported by their families and communities.
- Mothers need to approached to health workers for counseling on BF in order to build their confidence, improve their practices, prevent or deal with difficulties in BF.

2.2.3. Ensuring that complementary foods are given to children in a timely, adequate, safe and proper manners along with continued BF

- After six months of age, infants should be given complementary foods along with continued BF up to two years of age or beyond.
- Infants are particularly vulnerable during the transition period from BF to CF. In order to provide enough nutrients that meet the needs of children, complementary foods are required to be:
  - **Timely:** When breast milk no longer meets the nutritional requirement of a child;
  - **Adequate:** Provide enough energy, protein and micronutrients to meet the nutritional needs for the development of a child;
  - **Safe:** Foods must be hygienically stored and well prepared. Use cups, spoons, and other utensils to feed a child. Do not use bottles and teats to feed a child. Clean hands before feeding a child;
  - **Properly-fed:** Feed a child when there are signs of hunger and the child asks for foods. The number of meals and feeding technique should be appropriate to the child's age.

2.2.4. Providing guidance on feeding infants and young children in exceptionally difficult circumstances

- Emergency situation
- Malnourished children
- Low birth weight babies
- Children with HIV-infected mothers

SUMMARY OF OPERATIONAL TARGETS
OF THE GLOBAL STRATEGIES FOR INFANT AND YOUNG CHILD FEEDING

All nations in the world should be urged to implement the following key activities:

A. Following up with the previous targets from the Innocenti Declaration

1. Appointing a national BF coordinator with appropriate authority, and establishing a multisectoral national BF committee composed of representatives from relevant departments;
2. Ensuring that every facility providing maternity services fully practices all the "Ten steps for successful BF" set out by WHO and UNICEF;
3. Adopting the International Code on the marketing and use of breast milk substitutes;
4. Enacting legislation protecting the BF rights of working women and creating favorable conditions for them to BF their children;

B. Proposing five new activities:

1. Developing, implementing, monitoring and evaluating a comprehensive policy on IYCF;
2. Ensuring health and other relevant facilities protect, promote and support EBF in the first six months, continued BF up to 2 years of age or beyond and refer mothers to health facilities for the support they need
3. Promoting timely, adequate, safe and appropriate CF for children along with continued BF;
4. Providing guidance on feeding infants and young children in the exceptional difficulty circumstances;
5. Taking into consideration the development of new legislation or measures to adopt the International Code on the marketing and use of breast milk substitutes and other relevant resolutions.

PRE- AND POST-TEST

• Give brief answers for questions from 1 to 4 by filling in the blank spaces with appropriate words or phrases:

Question 1. The "Window of opportunity" is the period from (A)..... to (B) .....

Question 2. The "Window of opportunity" is an important period to implement appropriate activities to (A) ..... most effectively.

Question 3. The "Window of opportunity" is divided into three significant stages for interventions and communication messages as follows:

A .....

B .....

C .....

Question 4. The objective of the global strategy for IYCF is to emphasize the role of IYCF practices in (A)....., the development and growth, and (B) .....

• Distinguish True/False for questions 5 and 6 by marking with (x) in column A for the true sentence and in column B for the false sentence

	A	B
Question 5. The "Window of Opportunity" is divided into 4 key stages, each of which requires appropriate interventions and communication messages		
Question 6. The height of a child at 3 years refects his/her height at 18 years		

• Choose the best answer for questions from 7 to 9 by putting a circle around the letter at the beginning of the selected sentence

Question 7. It is possible to predict the height of an adult using the following formula:

A. Height of the child at 3 years + approximately 70 - 73 cm

B. Height of the child at 3 years + approximately 73 - 75 cm

C. Height of the child at 3 years + approximately 75 - 77 cm

D. Height of the child at 3 years + approximately 77 - 80 cm

Question 8. Sub-optimal nutrition in the first 1000 days from pregnancy is the main reason for:

A. Child malnutrition

B. Stunting in children

C. Stunting and obesity in children

D. Stunting, obesity and non-communicable diseases in adulthood

Question 9. The global strategy for nutrition was developed in:

A. 1981

B. 1990

C. 1991

D. 2002

● Give a summarized answer, analysis and practical application for questions 10 and 11

Question 10. List out 14 ideal IYCF practices

Question 11. Present briefly about 9 operational targets of the Global strategy for IYCF

SESSION 2. IMPORTANCE OF BREASTFEEDING

Objectives of the session:

1. *To be able to point out six benefits of BF*
2. *To be able to explain BF recommendations*
3. *To be able to list out 10 disadvantages of feeding children with breast milk substitutes*

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1. Benefits of BF

1.1. Promoting the harmonized growth and development of infants and preventing malnutrition

- Breast milk is a perfect nutritional source which is easy to digest and absorb for infants.
- Human's milk contains less proteins than animal milk, which is suitable for the excretion function of the immature kidney of infants. In addition, proteins in breast milk are mainly soluble liquid proteins (whey protein), which is suitable for the digestive and absorptive abilities of infants; while proteins in cow's milk is mostly casein (85%), which will form thick, indigestible curds in a baby's stomach, so it is difficult for infants to digest and absorb and often causes digestive problems. The whey proteins contain anti-infective proteins, which help to protect infants against infections.

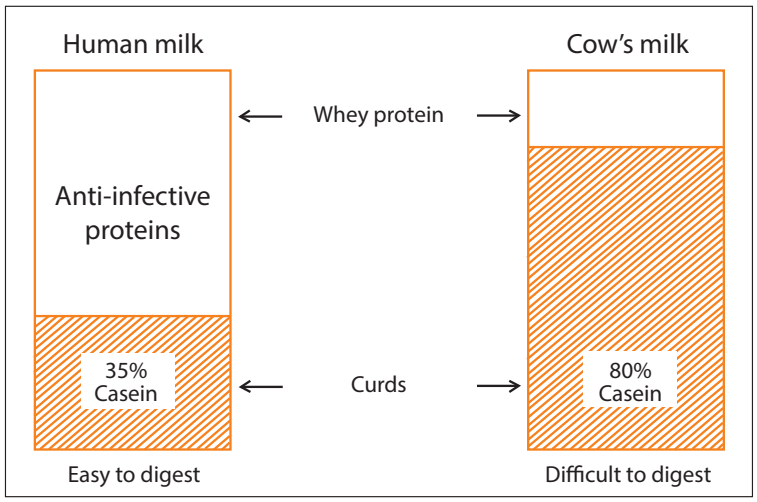


Figure 3. Differences in the quality of proteins in different milks

- Lipid (fat) in breast milk accounts for 50% of the energy with more unsaturated fatty acids than saturated fatty acids. Human milk also contains essential fatty acids that are needed for a baby's growing brain and eyes, and for healthy blood vessels such as monounsatu-

rated fatty acids (e.g. oleic acid), polyunsaturated fatty acids (e.g. α-linoleic acid, linoleic acid), and precursors to DHA (Decosahexaenoic acid) and ARA (Arachidonic acid). Animal milk does not contain these fatty acids.

- Breast milk contains more carbohydrate (glucide and lactose) than cow's milk, serving as a source of energy; 85% of which is lactose, increasing calcium absorption and 15% is oligosaccharide, supporting the growth of useful bacteria.
- Breast milk contains adequate vitamins (e.g. vitamin A, B1, B2, C, etc.), minerals (e.g. calcium, phosphorus, etc.) and micro-elements (e.g. iron, zinc, copper, selenium, etc.) which meet a baby's demands, protecting him/her from micronutrient deficiency and oxidation.

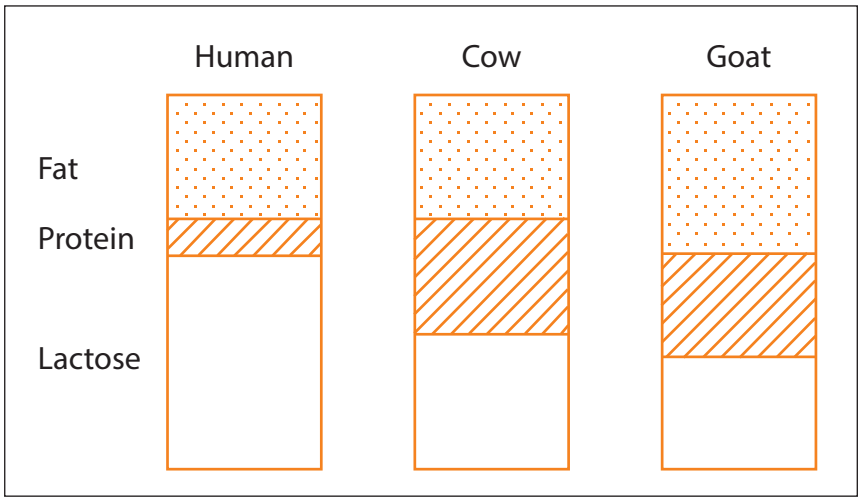


Figure 4. Nutrients in human and animal milks

1.2. Protecting infants from infections

- Breast milk contains white blood cells (e.g. lymphocytes, macrophage), immunoglobulins (e.g. IgA, IgG, IgM) and some factors stimulating the growth of Lactobacillus Bifidus (e.g. Lactose, Oligosaccharid, Bifidus factor), which help to protect a baby against infectious diseases such as diarrhea, respiratory infection, otitis, meningitis, and urinary infection.
- Breast milk also contains antibodies against infectious diseases that the mother has been infected.
- When a mother is infected (1), white blood cells become active and produce antibodies to protect her (2), some white blood cells go to the breasts and produce antibodies there (3), and these antibodies are secreted into breast milk to protect her infant against infection (4). Therefore, when the mother is infected, she can still breastfeed her infant. Separation of the mother and baby is not recommended.

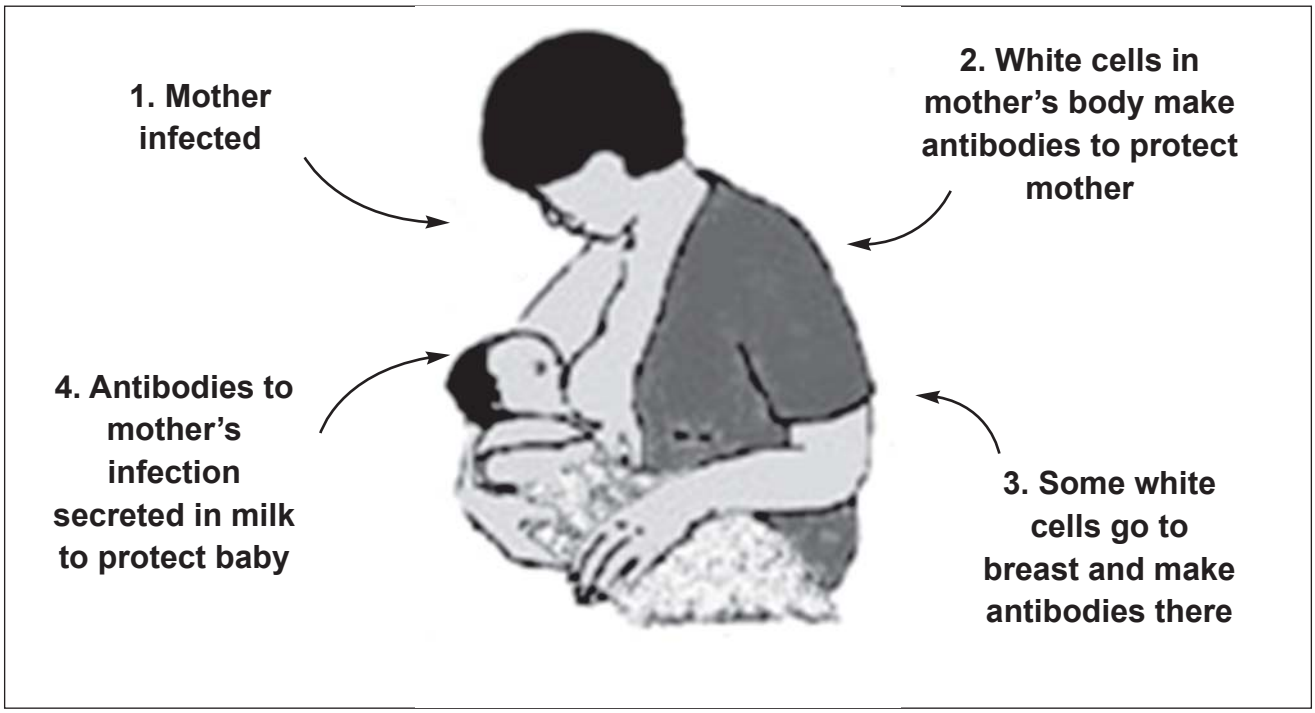


Figure 5. BF helps to protect a baby against infections

- According to WHO data (2002), a number of studies in developed and developing countries have proved that the rate of infants who are breastfed exclusively in the first 7 months infected with diarrhea, respiratory infection, tympanitis and allergies, etc. are lower than that of mix-fed infants.
- A&T's baseline survey results in 2010 in 15 provinces of Vietnam also show that: Exclusively breastfed children in the first 6 months are less likely to develop diarrhea (5.7%) than those who are both breastfed and given other foods and drinks.

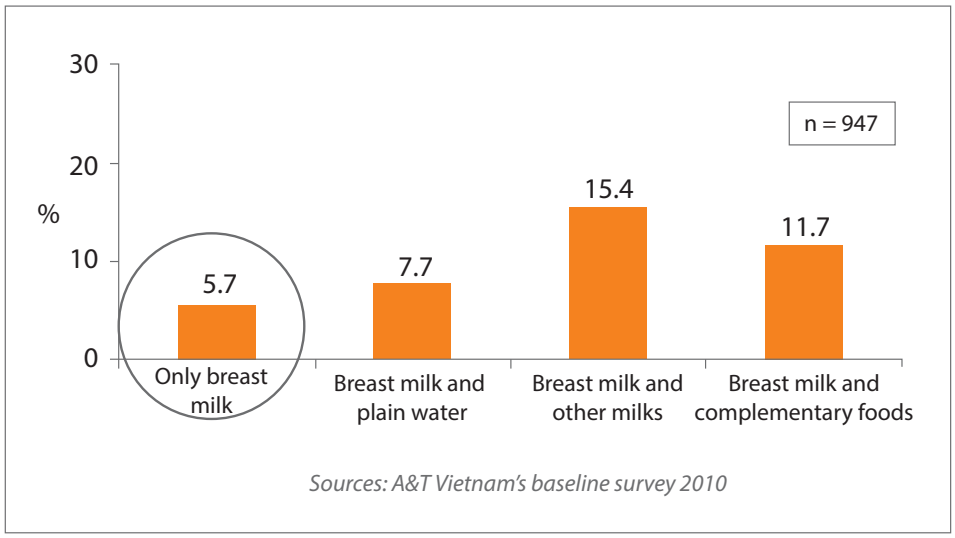


Figure 6. Relationship between diarrhea and IYCF practices in Vietnam

1.3. Having important psychological benefits to both mothers and babies

- Regular and close contact helps the mother and baby to bond, and helps the mother to feel emotionally satisfied and reduced anxiety and depression after delivery.
- A baby in close contact with the mother and cuddled by the mother tends to cry less, be more emotionally secure and have better mental and intellectual development.

1.4. Protecting mothers' health

BF helps the mother

- Reduce risk of bleeding and anemia after birth;
- Reduce risk of breast cancer and ovarian cancer;
- Delay a new pregnancy (especially EBF in the first 6 months is the most effective method to prevent pregnancy);
- Lose weight and get back in shape.

1.5. Costing less than artificial feeding

BF is more cost-effective than artificial feeding, helping to reduce expenses for families, communities and the national budget.

1.6. Protecting the children's health during their growth

BF protects children against gaining too much weight (overweight, obesity), especially in their first 2 years of life and reduces the risks of being infected with chronic diseases in adulthood (e.g. diabetes, cardiovascular disease, high blood pressure, etc.) because breast milk contains such hormones as Leptin, Ghrelin, and IGF-1 (Insulin Growth Factor 1), participating in regulating their diet to achieve energy balance.

Breast milk

- Perfect nutrients
- Easily digested; efficiently used
- Protects against infection

BF

- Helps bonding and development
- Helps delay a new pregnancy
- Protects mother's health
- Costs less than artificial feeding

Figure 7. Advantages of BF

2. Composition of breast milk

2.1. Differences between colostrum and mature milk

- Colostrum is the special breastmilk that is available in the mother's breast from the 14th to 16th week of pregnancy and is produced in the first one to three days after delivery. Colostrum is thick and yellowish or clear in color.
- After 3-5 days, colostrum changes into mature milk. Mature milk contains foremilk and hindmilk.
- The mature milk produced early in a feed (foremilk) is greenish and provides plenty of water and other nutrients. Therefore, it is necessary for babies to get foremilk.
- The mature milk produced later in a feed (hindmilk) is the whiter milk and contains a lot of fat which provides much of the energy of a breastfeed. Therefore, it is important to let babies finish hindmilk.

It is important for a baby to have both foremilk and hindmilk to get a complete meal, which includes all the nutrients and water that s/he needs.

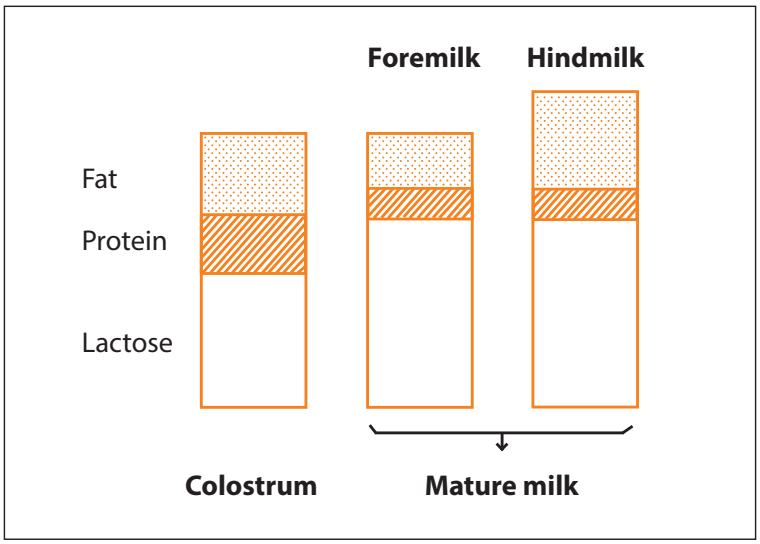


Figure 8. Differences between colostrum and mature milk

2.2. Importance of colostrum

- Colostrum is produced in a small amount but with high consistency and density
- Colostrum contains more antibodies and other anti-infective proteins, as well as more white blood cells than mature milk, helping to prevent a baby from infections and allergies and providing the first immunization against many of the diseases that a baby may meet after delivery.
- Colostrum has a mild purgative effect, helping to clear meconium and clear bilirubin from the gut, which helps to prevent jaundice from becoming severe.

- Colostrum contains many growth factors which help a baby's immature intestine to develop all of its functions and to prevent babies from developing allergies and intolerance to other foods
- Colostrum is rich in Vitamin A which helps to reduce the severity of any infections that the baby might have; it is rich in sodium, potassium, vitamin E and zinc.

Hence, it is important for babies to be breastfed early within 1 hour after birth to get colostrum. No pre-lacteals should be given to infants before their first breastfeed.

COLOSTRUM	
Property	**Importance**
1. Antibody rich	a. Protectsagainst allergy and infection
2. Many white blood cells	b. Protects against infection
3. Mild purgative effect	c. Clears meconium d. Reduces severity of jaundice
4. Growth factors	e. Helps intestine to mature f. Prevents allergy and intolerance to other foods
5. Rich in Vitamin A	g. Reduces severity of infection

3. Breastfeeding in the first week after delivery

3.1. Skin-to-skin contact and initiation of breastfeeding within 1 hour after birth

Right after delivery, babies should be put in skin-to-skin contact with mothers in order to create a natural condition for them to seek the breast and start the first feed. Physiologically, the duration from the moment when the baby is placed on his/her mother's chest to the moment when s/he can find the mother's breast and start suckling is around 1 hour. This is considered an instinctive behaviour for survival of babies.

3.2. Breastfeeding in the first 7 days after birth

- Colostrum gradually turns into transitional milk and mature milk. In the first 3 days, milk is not produced much (or has not come in yet). Thus many mothers often give formula milk to their infants since they think that they don't have enough milk to breastfeed them.
- In order to know whether a baby get enough breast milk or not, it is necessary to understand the stomach capacity of infants in the first week after birth:
  - In day 1, a baby' stomach can only contain 5 - 7 ml of milk at maximum and will digest it within 1 hour. That's why the mother's body only produces an adequate amount of

colostrum that the newborn's stomach is able to contain. The stomach capacity and the amount of colostrum perfectly match, and the normal frequency of breastfeeding is from 10 to 12 feeds per day.

- Stomach capacity of newborn babies in the first 7 days:

DAY	HOUR	STOMACH CAPACITY/FEED
Day 1	0 - 24 hours	5 - 7 ml
Day 2	24 - 48 hours	10 - 13 ml
Day 3	48 - 72 hours	22 - 27 ml
Day 4	72 - 96 hours	36 - 46 ml
Day 5 - 7	96 - 120 hours	43 - 57 ml

(Stomach capacity of infants is equal to that of a marble in day 1, of a ping-pong ball in day 3, and of a chicken egg in day 5 - 7).

➢ With such capacity, it is not necessary for mothers to feed their infants with formula milk, especially in the first day after delivery. At that time, infants' stomach wall is hard and tends to expel the excessive amount of milk, rather than to expand to contain more milk. Giving babies small, frequent feeds will create their good eating habits later. Bottle-feeding will make babies too full in each feed. Frequent feeds beyond satiety will lead to the behavior of eating too much, which results in high risks of obesity in childhood and adulthood. Newborns need to be breastfed frequently and whenever they show feeding cues.

Breastfeeding in the first 7 days after deliveryh

❖ Put the baby in skin-to-skin contact with mother and initiate BF within 1 hour of birth.

❖ Understand the capacity of an infant's stomach in the first 7 days after delivery.

❖ Do not feed an infant with formula milk and any other liquids, especially in the first day of birth.

❖ Newborns need to be breastfed frequently and whenever they show feeding cue.

4. How breast milk can meet nutritional demands in the second year

- From 6 months onwards, breast milk still plays an important role in providing energy and nutrients for babies. From 6 months to 12 months of age, breast milk provides more than ½ energy needs of infants. However, breast milk no longer meets all nutritional demands that increase by the child's age. Therefore, infants should be given complementary foods in addition to breast milk.
- In the second year, breast milk is able to provide about 30% of babies' energy requirement, 50% of protein requirement and 45% - 75% of vitamin A requirement. It also provides anti-infective factors that protect infants against many diseases. In addition, breast milk continues to support babies' intellectual and cognitive development. Therefore, infants should be breastfed up to 2 years of age along with appropriate CF.

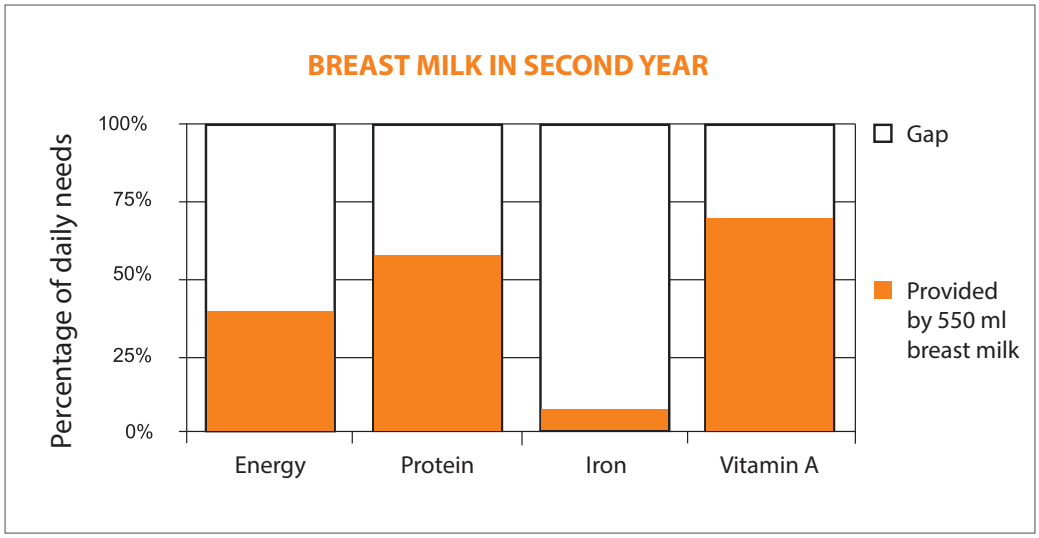


Figure 9. Quality of breast milk in the second year

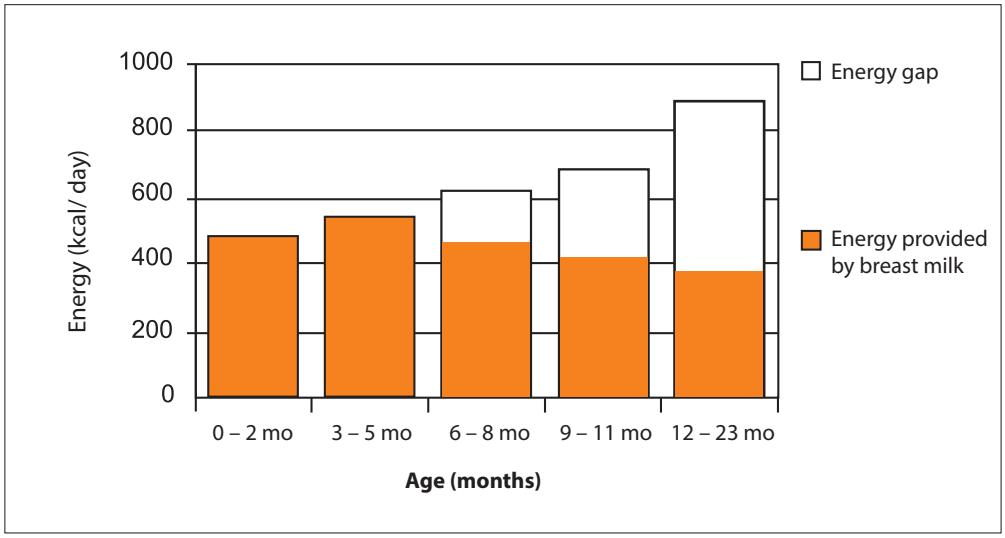


Figure 10. Energy required by age and amount provided by breast milk

BF RECOMMENDATIONS

❖ **Early initiation of BF within 1 hour of birth**

- Give no liquids to an infant before the first breastfeed, including liquorice, honey, sugar water or formula milk, to avoid affects to mother's milk production.

❖ **Exclusive BF for the first 6 months**

- Give a baby only breastmilk, and no other liquids or solids, not even water, except for cases when drops or syrups consisting of vitamins, mineral supplements, or medicines are needed.
- Breast milk contains 88% of water so an infant who are exclusively breastfed should not be given additional water. The mother should breastfeed him/her more frequently if the baby is thirsty.

❖ **Continued BF up to 24 months or beyond**

- From 6 months onwards to 24 months, breast milk is still an important source of energy and nutrients needed for the full development of a child. However, breast milk no longer meets the growing nutritional demand of the child. Hence, it is necessary for a child to be breastfed up to 24 months or beyond along with appropriate CF.

5. Disadvantages of artificial feeding, bottle-feeding and teats

Breast milk substitutes are made from different milks (animal milk, soya bean milk and vegetable oil). These types of milk, despite being modified and processed to be alike with breast milk's composition, could not be as perfect as breast milk. Thus, feeding a child with breast milk substitutes, bottle-feeding and teats has a lot of disadvantages.

5.1. Disadvantages of feeding children with breast milk substitutes

- Interferes with bonding between mothers and babies;
- More diarrhea and persistent diarrhea as animal milk's proteins are not appropriate for a baby to digest and absorb;
- More infections, especially respiratory infections as artificial food does not contain anti-infective factors;
- More allergies such as eczema and asthma and milk intolerance;

- More malnutrition and micronutrient deficiency, especially Vitamin A deficiency as the baby eats too little or the milk is too thin;
- Overweight and obesity if the baby are fed with too much formula milk;
- Increased risk of some chronic diseases in adulthood (diabetes, cardiovascular disease, etc.);
- Lower IQ than breastfed infants;
- Mothers who do not breastfeed their infants may become pregnant sooner; have an increased risk of anemia, breast cancer, and ovarian cancer later in life.

5.2. Disadvantages of bottle-feeding and teats

- Feeding bottles and teats are easily contaminated because they are difficult to clean, which easily causes digestive infections for children;
- Children get familiar with teats and pacifiers so may refuse to breastfeed. They will breastfeed less, which will reduce the mother's breast milk production and lead to insufficient milk.

PRE- AND POST- TEST

● Give brief answers for questions from 1 to 7 by filling in the blank spaces with appropriate words or phrases:

Question 1. List six benefits of BF to babies and mothers:

A .....

B. Protects against infection

C .....

D .....

E. Costs less than artificial feeding

G. Protects the child's health during his/her growth

Question 2. Colostrum is available in the mother's breasts from (A).....weeks of pregnany and produced in (B).....days after delivery, (C).....or clear in color and thick.

Question 3. Mature milk which is produced early in a feed is greenish and contains a lot of (A) ..... and (B) .....

Question 4. Mature milk which is produced later in a feed is whiter milk and contain a lot of (A) ..... and provides a lot of (B) .....

Question 5. Three BF recommendations are:

A .....

B .....

C .....

Question 6. Complete the following contents describing properties and importance of colostrum in the table:

COLOSTRUM	
Property	**Importance**
1. Antibody rich	A. .....
2.	B. Protects against infection
3. Mild purgative effect	C. Clears meconium D. .....
4. Growth factors	E. Helps intestine to mature F. .....
5.	G. Reduces severity of infection

Question 7. Complete the following table with information on the capacity of an infant's stomach in the first 5 days after birth:

DAY	HOUR	STOMACH CAPACITY/FEED
Day 1	0 - 24 hours	A.....ml
Day 2	24 - 48 hours	B. 10 - 13 ml
Day 3	48 - 72 hours	C..... ml
Day 4	72 - 96 hours	A. 36 - 46 ml
Day 5 - 7	96 - 120 hours	E..... ml

• Distinguish True/False for questions from 8 to 17 by marking with (x) in column A for the true sentence and in column B for the false sentence

	A	B
Question 8. It is essential to put a child in skin-to-skin contact with mother and itinitate BF early within 1 hour of birth		
Question 9. In the first 3 days, breast milk is not produced much; therefore, mothers should feed their babies with formula milk to ensure adequate nutrients		
Question 10. . Infants should be breastfed exclusively in the first 4 – 6 months		
Question 11. CF should be introduced to infants at the age of 6 months		
Question 12. Children should continue to be breastfed from 18 to 24 months		
Question 13. Mothers should discard the first few drops of milk before breastfeeding their children		
Question 14. Breast milk protects children from being overweight and obese, especially in the first two years of life		
Question 15. Children who receive both breast milk and complementary food or additional water have a higher risk of diarrhea than children who are fed artificially		

	A	B
Question 16. It is important that a child gets both foremilk and hindmilk in order to get a completed meal with all nutrients and water needed		
Question 17. . Frequent feeds beyond satiety will lead to obesity in childhood and adulthood		

● Choose the best answer for questions from 18 to 20 by put a circle around the letter at the beginning of the selected sentence

Question 18. Breast milk in the second year meets the energy requirements for children by:

A. 30%

B. 40%

C. 50%

D. 60%

Question 19. Breast milk in the second year meets the protein requirements for children by:

A. 40%

B. 50%

C. 60%

D. 70%

Question 20. Breast milk in the second year meets the vitamin A requirements for children by:

A. 15-45%

B. 25-55%

C. 35-65%

D. 45-75%

● Give a summarized answer, analysis and practical application for questions 21 and 22

Question 21. Presents what to be noted when feeding infants in the first 7 days after delivery.

Question 22. Present 11 disadvantages of feeding infants with breast milk substitutes, bottle-feeding and teats (artificial feeding).

SESSION 3. BREAST MILK PRODUCTION

Objectives of the session:

1. *To be able to describe the anatomy and functions of the breast.*
2. *To be able to describe hormonal control of breast milk production and ejection.*
3. *To be able to explain the meanings of factors affecting breast milk production.*

---

1. Anatomy and functions of the breast:

1.1. Anatomy of the breast from the outside

The breast, nipple and the dark skin called the areola which surrounds it. In the areola are small glands called Montgomery's glands which secrete an oily fluid to keep the skin healthy.

1.2. Anatomy of the breast from the inside and its functions

- Inside the breast are the alveoli, which are very small sacs made of milk-secreting cells. There are millions of alveoli (figure 11 shows only a few, three of which are enlarged for a clearer view of milk-secreting cells). A hormone called prolactin makes these cells produce milk.
- Around the alveoli are muscle cells, which contract and squeeze out the milk. A hormone called oxytocin makes the muscle cells contract
- Small tubes, or ducts, carry milk from the alveoli to larger ducts (also called lactiferous sinuses) located under the areola. Milk is stored in the alveoli and small ducts between feeds. The lactiferous sinuses beneath the areola dilate during feeding and hold the breast milk temporarily during the feed.

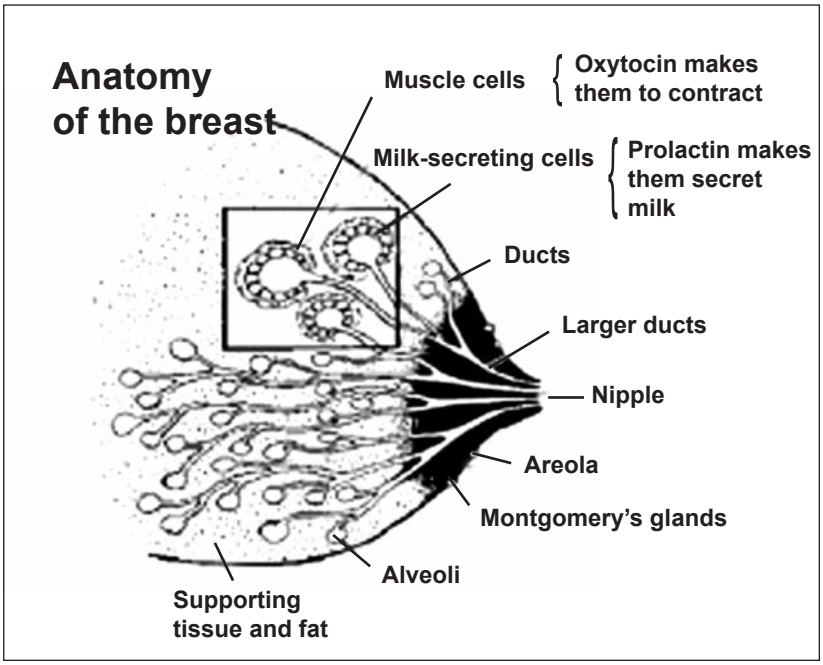


Figure 11. Anatomy of the breast

- The secretory alveoli and ducts are surrounded by supporting tissue, and fat. Supporting tissues, fat and other structures form the shape of the breast, resulting in diferences in mothers' breast shape (e.g. big, small, round, oval, etc.). Both small and large breasts in any shapes contain about the same amount of alveoli, so they can both make plenty of milk.

2. Breast milk production – Prolactin Reflex

- When a baby suckles at the breast, sensory impulses go from the nipple to the brain, which stimulate the pituitary gland to secrete prolactin. Prolactin goes in the blood to the breast, and stimulating the milk-secreting cells produce milk. Therefore, the more the baby breastfeeds, the more milk is produced.
- Most of the prolactin is in the blood about 30 minutes after the feed, which helps the breast produce milk for the next feed. For this feed, the baby takes the milk which is already in the breast.
- In addition to its important role of a milk production hormone, Prolactin also helps to suppress the ovulation; more prolactin is produced at night; so breastfeeding at night is especially helpful for keeping up the milk supply and delaying a new pregnancy.
- In order to increase the milk supply and produce more milk for breastfeeding, a mother should eat, drink, and rest well and breastfeed her baby more frequently and properly.
- Figure 12 illustrates some special characteristics of Prolactin

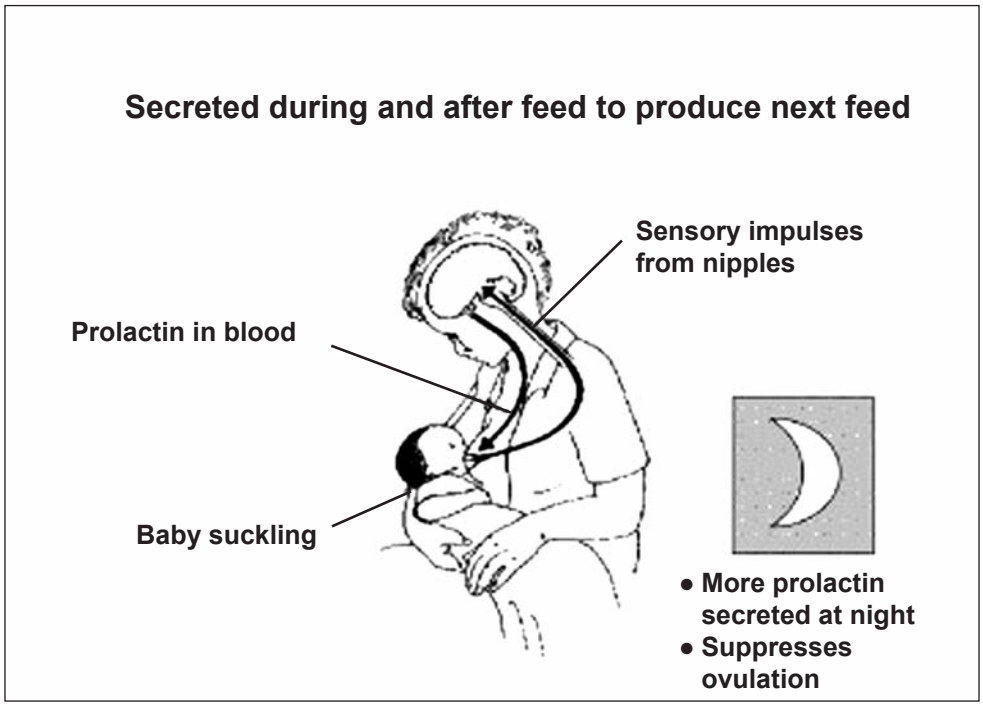


Figure 12. Prolactin Reflex

3. Milk ejection reflex (or let-down reflex) – Oxytocin Reflex

- When a baby suckles, sensory impulses go from the nipple to the brain, which stimulates the pituitary gland at the base of the brain to secrete the hormone oxytocin.
- Oxytocin goes in the blood to the breast, and makes the muscle cells around the alveoli contract.
- Contracted alveoli make the milk available in the alveoli flow along the ducts to the larger ducts (called lactiferous sinus) beneath the areola. This is the oxytocin reflex, also called the milk ejection reflex or the let-down reflex.
- Oxytocin is produced more quickly than prolactin. It makes the milk in the breast flow for this feed. Oxytocin can start working before a baby suckles, when a mother learns to expect a feed.
- If the oxytocin reflex does not work well, the baby may have difficulty in getting the milk. The alveoli are producing milk, but it is not flowing out.
- Another important point about oxytocin is that it makes a mother's uterus contract after delivery. This helps to reduce bleeding, but it sometimes causes uterine pain and mother feels a rush of blood during a feed for the first few days.

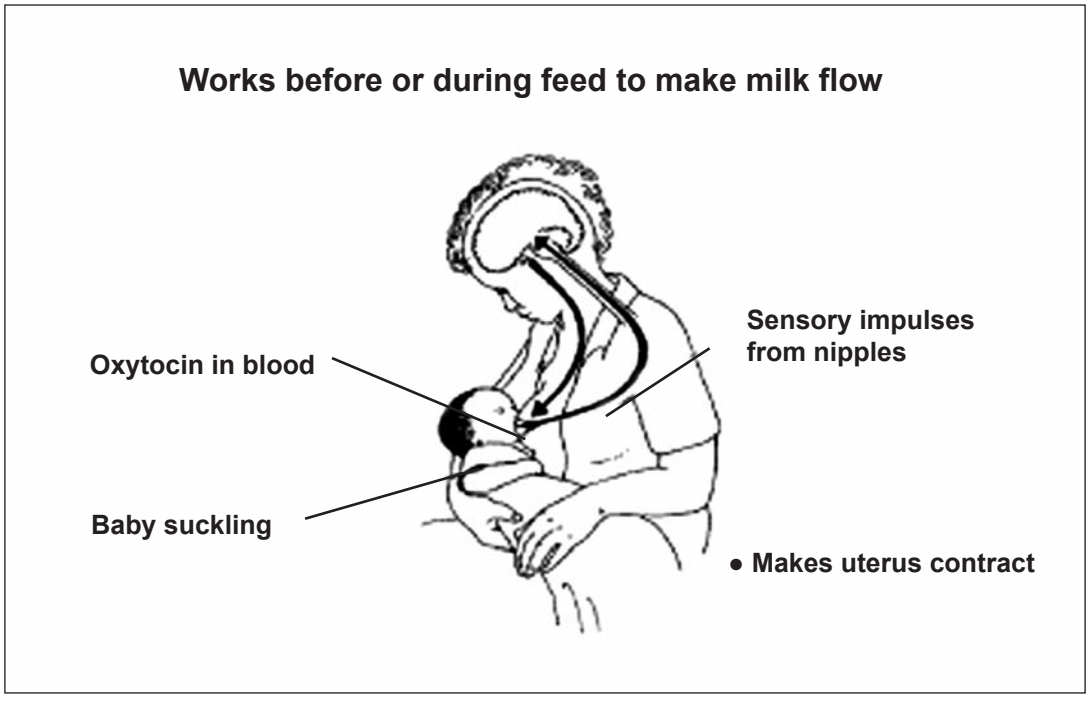


Figure 13. Oxytocin Reflex

4. Signs and sensations of an active Oxytocin Reflex

Mothers are often aware of their oxytocin reflex. There are several signs of an active oxytocin reflex that mothers, or others, may notice.

- A mother may notice a squeezing or tingling sensation in her breasts just before or during a feed.
- Milk flowing from her breasts when she thinks of her baby, or hears him/her crying.
- Milk flowing from one breast, when the baby is suckling the other.
- Milk flowing from the breasts in fine streams, if the baby comes off the breast during a feed.
- A mother may feel pain from uterine contractions, sometimes with a rush of blood, during feeds in the first week.
- Slow, deep sucks and swallowing by the baby, which show that breast milk is flowing into his/her mouth.

5. Factors affecting the breast milk production

5.1. Helping and hindering Oxytocin Reflex

- Good feelings of a mother such as feeling pleased with the baby, thinking lovingly of the baby, and feeling confident that her milk is the best for him, can help the oxytocin reflex to work well.
- Sensations such as touching or seeing her baby, or hearing him cry, can also support the reflex.
- But such feelings as pain, or worry, or doubt that she has enough milk, can hinder the reflex and stop her milk from flowing. Fortunately, this effect is usually temporary.
- If a mother stays near her baby all the time, so that she can see, touch and respond to him, this can help the Oxytocin reflex to work well. If a mother is separated from her baby between feeds, her oxytocin reflex may not work so easily. Therefore, either in hospital or at home, a mother should be close to her baby.

Ways to help the ejection of milk (the Oxytocin reflex) to work well

- Let the mother and her baby stay together all the time,
- Enable the mother to feel comfortable all the time,
- Always build the mother's confidence,
- Do not mention anything that makes the mother doubt about her breast milk supply

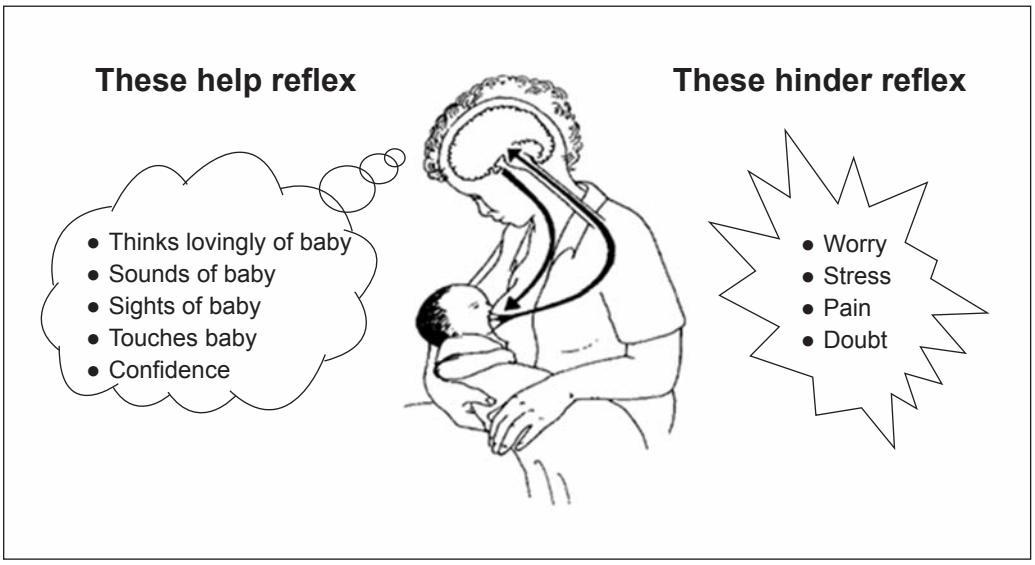


Figure 14. Helping and hindering the Oxytocin reflex

5.2. Inhibitor in breast milk

There is a substance in breast milk which can reduce or inhibit milk production. The inhibitor in breast milk will become active as soon as the breast is full of milk. This helps to protect the breast from the harmful effects of being too full. It is obviously necessary if a baby dies or stops breastfeeding for some other reasons. If breast milk is removed, by suckling or expression, the inhibitor is also removed. Then the breast makes more milk. The more the breast is empty, the more milk is produced. Hence, if a baby stops suckling from one breast, that breast stops making milk; and if a baby suckles more from one breast, that breast makes more milk and becomes larger than the other.

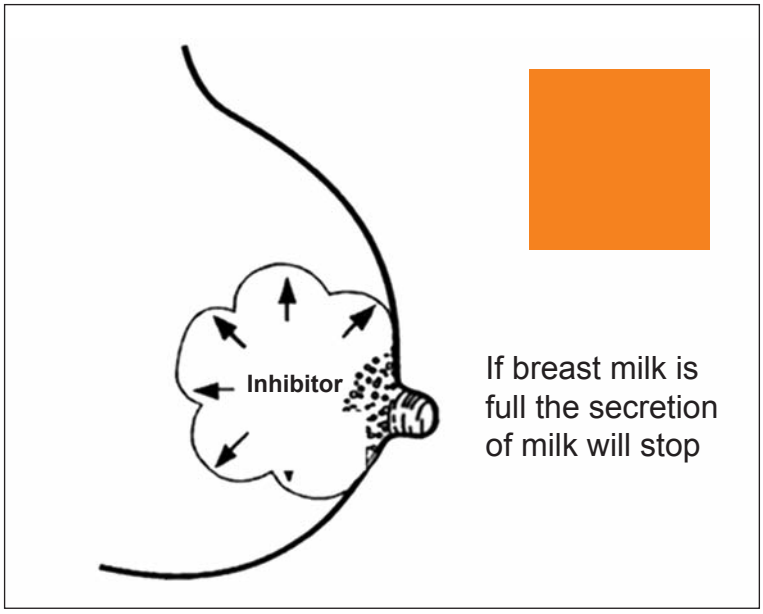


Figure 15. The inhibiting factor in human milk

Therefore, in order to increase breast milk supply, a mother should note that:

- For a breast to continue making milk, the milk must be removed by breastfeeding or expressing breast milk.
- If a baby cannot suckle from one or both breasts, the breast milk must be removed by expression to enable production to continue.

- There is no difference in breast milk production and ejection between cases of vaginal delivery and C-section.

6. Reflexes in the baby

Three natural reflexes of a child include rooting, sucking and swallowing. These reflexes occur instinctively and do not require learning.

- ***Rooting:*** is the reflex when something touches a baby's lips or cheek and s/he opens his/ther mouth and even turns his/her head to find it. The baby puts his/her tongue down and forward, and normally looks for the breast.
- ***Sucking:*** is the reflex when somehing touches the baby's palate, s/he begins to suck it. This is the sucking reflex.
- ***Swallowing:*** is the reflex when the baby's mouth is full of milk, s/he swallows.

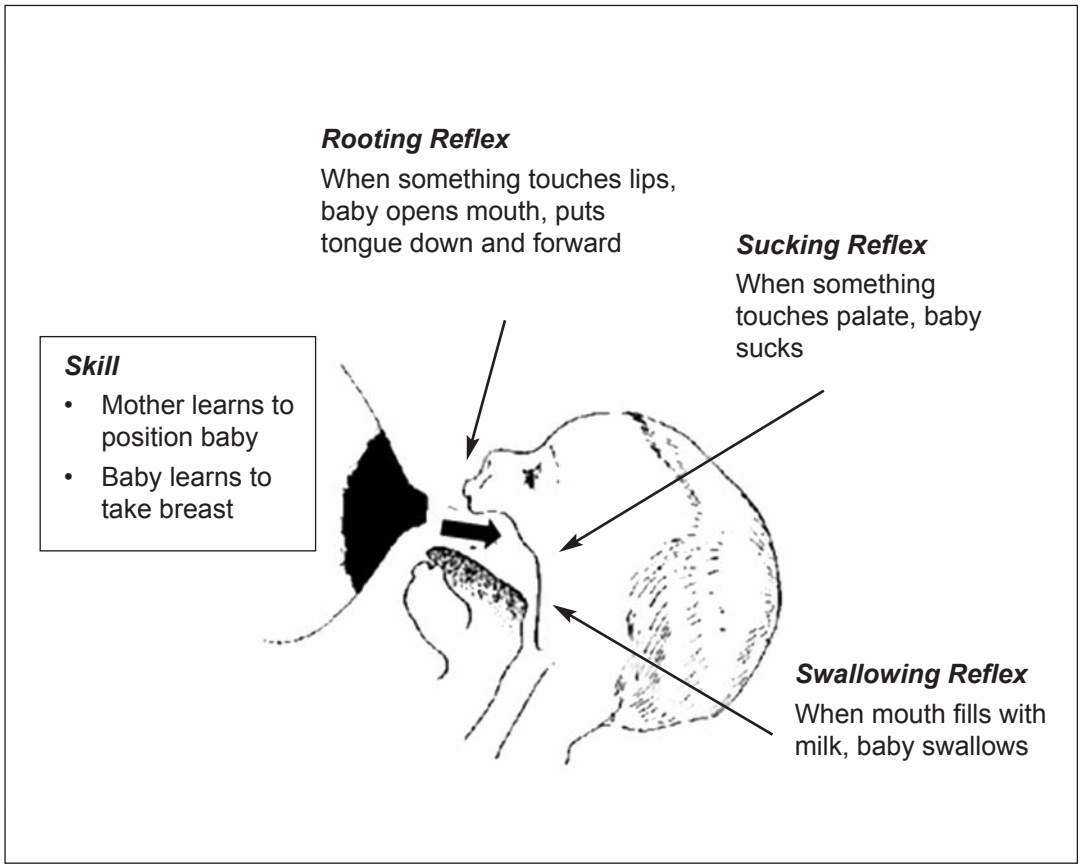


Figure 16. Reflexes in the baby

PRE- AND POST-TEST

● Give brief answers for questions from 1 to 6 by filling in the blank spaces with appropriate words or phrases:

Question 1. Anatomy of the breast from the outside includes three following parts:

A .....

B .....

C .....

Question 2. Anatomy of the breast from the inside includes four following parts:

A .....

B .....

C .....

D .....

Question 3. Six signs and sensations of an active Oxytocin reflex

A. A mother may notice a squeezing or tingling sensation in her breasts just before or during a feed.

B. .....

C. Milk flowing from one breast, when the baby is suckling the other.

D. Milk flowing from the breasts in fine streams, if the baby comes off the breast during a feed.

E. .....

F. .....

Question 4. In addition to its important role of a (A)..... hormone, Prolactin also helps to (B).....

Question 5. Oxytocin is important to (A)....., and it also makes (B).....

Question 6. Three natural reflexes in a child include:

A. .....

B. .....

C. .....

• Distinguish True/False for questions from 7 to 16 by marking with (x) in column A for the true sentence and in column B for the false sentence

	A	B
Question 7. Big breasts will produce more milk than small breasts		
Question 8. Breastfeeding at night helps the mother to produce more milk and delay a new pregnancy		
Question 9. In order to increase the milk supply, mother should eat, drink and rest well		
Question 10. There is a substance in breast milk that reduces or inhibits milk production		
Question 11. Breast milk production will stop if the baby stops breast-feeding		
Question 12. In order to for breast milk production to continue, milk should be removed by breastfeeding or expression		
Question 13. Mothers having C-section will produce less milk than mothers with vaginal deliveries		
Question 14. Milk is stored in the alveoli and ducts between feeds		
Question15. The number of alveoli depends on the size and shape of the breast		
Question 16. Size and shape of the breast affects the milk production		

• Choose the best answer for the following question by putting a circle around the letter at the beginning of the selected sentence

Question 17. Prolactin is in the blood after a breastfeed for about:

A. 10 minutes

B. 20 minutes

C. 30 minutes

D. 40 minutes

● Give a summarized answer, analysis and practical application for questions 18 to 20

Question 18. Describe the signs and sensations of an active Oxytocin reflex.

Question *19.* Present ways to deal with factors hindering the milk ejection (Oxytocin reflex).

Question *20.* Describe what mothers can do to produce more milk.

SESSION 4. POSITIONING AND ATTACHMENT

Objectives of the session:

1. *To be able to describe good positioning and attachment*
2. *To be able to use the Breastfeed Observation Job Aid to observe and assess a breastfeed*
3. *To practice helping a mother breastfeed her baby properly based on real situations*

---

1. Good positioning

1.1. How to hold a baby

1.1.1. Four key points of holding a baby in a breastfeed (positioning a baby to the breast)

- The baby's head and body are in a line;
- The baby's whole body is held close to the mother's, the baby's belly close to the mother's;
- The baby approaches the breast, nose to nipple;
- For infants, not only the head, shoulders, but also bottom should be supported.

1.1.2. Positionining a baby to the breast in different positions

A mother can breast feed her baby in many different positions, depending on her situations. No matter what position she uses, it is very important for her to position and hold the baby properly and for the baby to attach well at the breast in order to ensure effective breastfeeding.

- ***The mother holds the baby in a normal position:***
  - The mother sits comfortably, holds the baby close to her body with the baby's face approaching the breast and the baby's whole body being supported. The mother looks at the baby and shows her love.
  - The mother should avoid sitting in an uncomfortable position, holding the baby not closely, letting the baby's neck twisted and the baby's whole body unsupported.

Figure 17. How to hold a baby when breastfeeding

➢ ***The mother holds the baby in the underarm position***

This position is useful for:

- Twins
- Blocked ducts
- Baby's difficulty in attaching the breast

Figure 18A. The mother holds the baby in the underarm position

➢ ***The mother holds the baby with the arm opposite the breast***

This position is useful for:

- Very small babies
- Sick babies

Figure 18B. The mother holds the baby with the arm opposite the breast

➢ ***The mother lies down to breastfeed***

- The mother can lie down for breastfeeding in the following cases:
  - ✓ The mother wants to sleeps, she can still breastfeed her baby without getting up;
  - ✓ After C-section, lying down on her back or on her side can help the mother be more comfortable in BF.
- How to position a baby at the breast in a lying-down position:
  - ✓ To be relaxed, the mother needs to lie down on her side in a position in which she can sleep. Being propped on one elbow is not relaxing for most mothers;
  - ✓ If she has pillows, put a pillow under her head and another under her arm;

- ✓ Doing exactly the four key points on positioning is important for a mother who is lying down to breastfeed her baby;
- ✓ She can support her baby with her lower arm. She can support her breast if necessary with her upper arm;
- ✓ If she does not support her breast, she can hold her baby with her upper arm;
- ✓ A common reason for difficult attaching when lying down is that the baby is placed too high above the mother's shoulders, and his head has to bend forward to reach the breast.

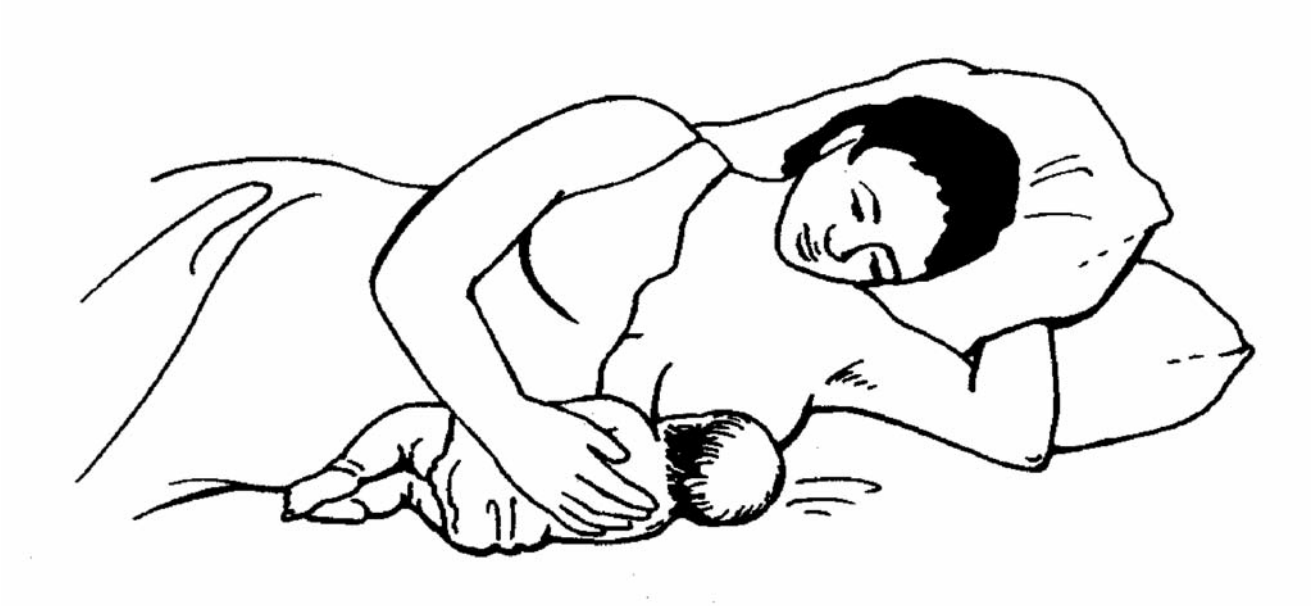


Figure 19. The mother lies down to breastfeed

1.2. Good attachment

1.2.1. How to attach a baby at the breast

- ➢ The mother touches her baby's lips with her nipple; waits until the baby's mouth is wide open, moves the baby quickly onto her breast, aiming the baby's lower lip below the nipple;
- ➢ Notice how the mother responds and ask her how she feels when her baby's suckling. Look for signs of good attachment. If the attachment is not good, the mother should try again.

Figure 20. How to attach a baby at the breast

1.2.2. Signs of good attachment

- The baby's mouth is wide open and takes a mouthful of the breast and all under-lying tissues, since all the larger ducts (or lactating sinuses) are all located in the tissues underneath the areola. The baby has to stretch the breast tissues out to form "a long nipple" so s/he is suckling from the breast, not the nipple;
- The baby's chin is touching the mother's breast;
- The baby's lower lip is curled outwards;
- More of the areola is visible above the baby's top lip than below the lower lip;
- The baby's tongue is forward, over his lower gums, and beneath the larger ducts and is cupped round the 'teat' of breast tissue. In this position, the tongue presses milk out of the larger ducts into the baby's mouth (this is visible when observing a breastfeed);
- Once the baby is properly attached, his/her mouth and tongue will not scratch and hurt the mother's breast skin and nipple, causing skin and nipple problems. The baby will easily get more milk and breastfeed effectively.

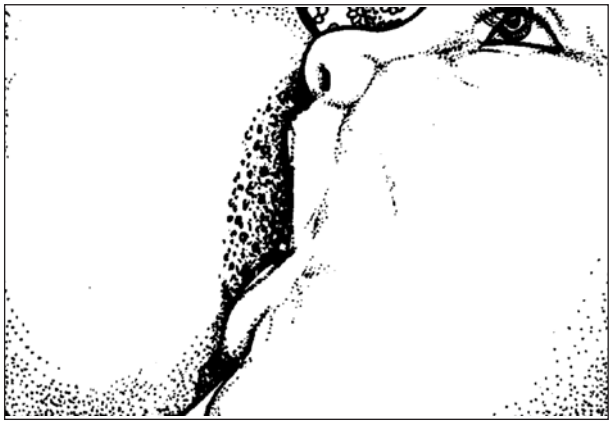


Figure 21. Good attachment (from the outside)

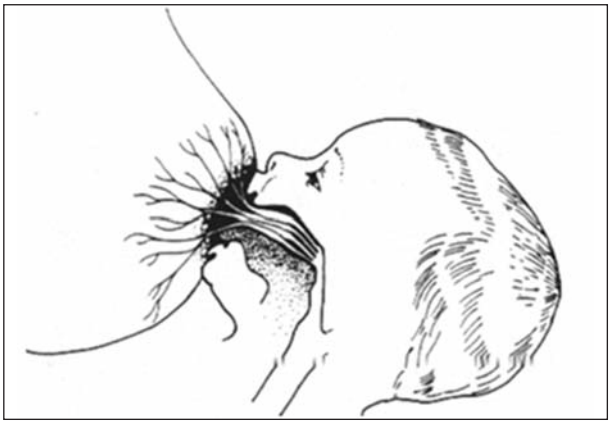


Figure 22. Good attachment (from the inside)

1.2.3. Signs of poor attachment

- The baby takes only the nipple, not the underlying tissues;
- The larger ducts are outside the baby's mouth, where the baby's tongue can not reach them;
- The baby's tongue is back inside his/her mouth, not pressing the larger ducts.

Differences between good and poor attachment

Attachment (from the outside)

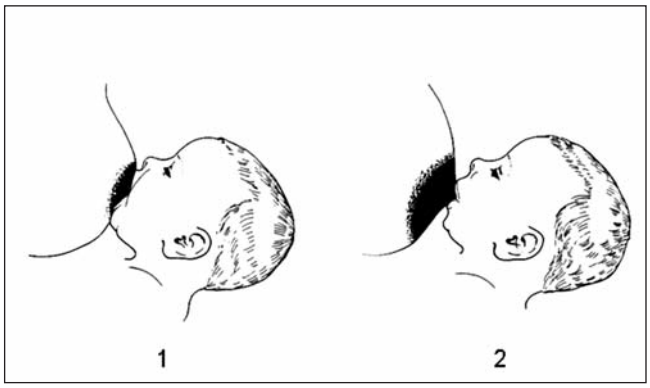


Figure 23. Good attachment (1); Wrong attachment (2)

Attachment (from the inside)

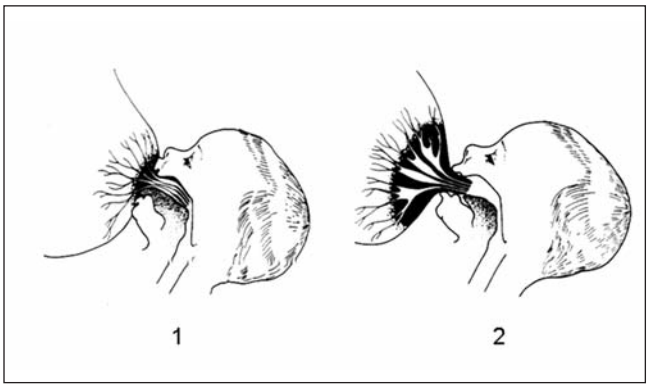


Figure 24. Good attachment (1); Wrong attachment (2)

1.2.4. Consequences of poor attachment

- If a baby is poorly attached, and s/he nipple-sucks, it is painful for his mother. Poor attachment is the most important cause of sore nipples.
- As the baby sucks hard to try to get milk s/he pulls the nipple in and out. This makes the nipple skin rub against his mouth. If the baby continues to suck in this way, s/he can damage the nipple skin and cause cracks.
- As the baby does not remove breast milk effectively the breasts may become engorged.
- If breast milk is not removed, the breasts may produce less milk.
- The baby does not get enough breast milk, s/he may be unsatisfied and cry a lot. He may want to be fed often or for a very long time at each feed.
- The baby may fail to gain weight and the mother may feel that she does not have enough breast milk and feel unconfident or feel that she is a BF failure. Such thought will affect her milk production and ejection.

1.2.5. How to prevent consequences of poor attachment

- The mother needs help to position and attach her baby
- Also babies should not be given feeding bottles. If a baby feeds from a bottle before breastfeeding is established, he may have difficulty suckling effectively. Even babies who start bottle feeds after a few weeks may also begin to suckle ineffectively.

Consequences of poor attachment

- ❖ Painful nipples
- ❖ Damaged nipples
- ❖ Engorgement
- ❖ The child does not get enough milk, cries a lot
- ❖ The child feeds frequently, for a longer time
- ❖ Decreased milk production
- ❖ The child fails to gain weight

1.3. Show the mother how to support her breast

- ➢ The mother puts her four fingers against her chest wall below her breast
- ➢ Her index finger supports the breast
- ➢ Her thumb is placed above
- ➢ Her fingers should not be placed too near the nipple.
- ➢ Notes: The mother's fingers should not form a scissor shape when holding the breast as this will block the milk flow.

Figure 25. How to hold the breast when BF

2. Observing and assessing a breastfeed

2.1. Introduction of the BF Observation Job Aid

- ➢ The "Breastfeed Observation Job Aid" is a tool for health workers to record information when observing and interviewing a lactating mother. The form has five parts:
  - General conditions of the mother and baby.
  - Mother's breast condition.
  - Baby's position during a breastfeed.
  - Baby's attachment.
  - Baby's suckling.

➢ These parts include various signs stated on the left and right columns of the form:

- The signs on the left show good breastfeeding while the signs on the right indicate that the baby has difficulties in breastfeeding. There is a square next to each sign for the health worker to tick (√) as appropriate when observing.
- When observing a breastfeed, the health worker will tick (√) a sign only when recognising it. Otherwise, leave it blank.
- When the "Breastfeed Observation Job Aid" is completed, if all the ticks are on the left, breastfeeding is successful. If there are many ticks (√) on the right side, the mother may be encountering difficulties in breastfeeding and in need of help.

BREASTFEED OBSERVATION JOB AID		
Mother's name..... Date..... Baby's name..... Baby's age.....		
	Signs of successful breastfeeding	**Signs of possible difficulty**
General condition		
Mother	□ Relaxed and comfortable □ Signs of bonding between mother and baby	□ Tense and uncomfortable □ No eye contact between mother and baby
Baby	□ Healthy □ Calm and relaxed □ Reaches or roots for breast when hungry	□ Ill or sleepy □ Restless or crying □ Does not reach or root for breast
Mother's breast condition		
	□ Healthy □ No pain or discomfort □ Fingers placed away from nipples to support breast	□ Breasts look swollen, red or sore □ Breasts or nipples are sore □ Breasts held with fingers on areola
Baby's position		
	□ Baby's head and body aligned straight □ Baby held close to mother's body	□ Baby's head and neck twisted to feed □ Baby not close to mother's body □ Baby not supported

	Signs of successful breastfeeding	Signs of possible difficulty
	□ Baby's head and neck supported; infant's back also supported □ Baby's face approaching breast, nose to nipple	□ Baby's face not approaching breasts, nose not to nipple
Baby's attachment		
	□ More areola seen above baby's upper lip □ Baby's mouth wide open □ Lower lip turned outward □ Baby's chin touching breast	□ More areola seen below baby's lower lip □ Baby's mouth not wide open □ Lips pointing forward or turned in □ Baby's chin not touching breast
Baby's suckling		
	□ Slow, deep sucks with pauses □ Cheeks round when suckling □ Baby releasing breast when finished □ Mother noticing signs of oxytocin reflex	□ Rapid, shallow sucks □ Cheecks pulled in when suckling □ Mother taking baby off the breast □ No signs of oxytocin reflex noticed

2.2. Observing and assessing a breastfeed

2.2.1. Observing and assessing the general conditions of the mother and baby

- ***Mother's gestures and facial expressions:*** Does the mother look healthy? Do she look relaxed? If the mother feels confident while breastfeeding, it is easier for her baby to suckle and her milk to flow. If the mother is worried and unconfident, which is reflected in her shaking her head or urging the baby to feed, this can upset the baby, affecting his suckling and thus the milk flow.
- ***Mother and baby's communication while BF:*** According to the milk ejection reflex - the oxytocin reflex, if the mother is confident in breastfeeding her baby, if the mother looks at the baby affectionately, this will help the oxytocin reflex to work well and the milk to flow; if the mother does not look at the baby but looks away, not having eye contact with her baby, the oxytocin reflex will not work properly.
- The health worker may ask (interview) the mother how she feels when breastfeeding. If the mother is happy and pleased, her baby will be attached better and more easily.

- ***Baby:*** Observe the baby's general health condition, nutrition and alertness. Look for signs which may interfere with breastfeeding such as a stuffy nose or difficult breathing, etc.

2.2.2. Observing how the mother holds the baby

- *Observe if the mother hold the baby properly:*
  - She holds baby close, facing her breast, and she supports his whole body. She looks at her baby, and fondles or touches him lovingly.
  - The baby's head and body are in line.
  - The mother holds the baby close, the baby's whole body approaching the mother's, belly to belly.
  - The baby approaches the mother's breast, nose to nipple or the mother holds the baby loosely or looks away, the baby's neck is twisted, which will make the baby breastfeed ineffectively.
  - Are the baby's head, neck and shoulders supported? In case of infants, observe if the mother holds the baby's bottom and body or not (or just holds the baby's head and shoulders).

2.2.3. Observing the mother's breasts

- Observe the mother's breasts to see if they look normal or abnormal.
- Look for signs of cracks or mastitis (refer to the session on Breast Conditions)

2.2.4. Observing how the mother holds her breast while BF

- It is not good if the mother leans forward and tryiesto push the nipple into the baby's mouth; or if she brings her baby to the breast, supporting her whole breast with her hand.
- If the mother holds the breast close to the areola, it is more difficult for the baby to suckle as it may block the milk ducts.
- It is not necessary for the mother to hold her breast back from her baby's nose with her finger so that the baby's nose is not covered.
- If the mother uses the 'scissor' hold (she holds the nipple and areola between her index finger above and middle finger below), it can make it more difficult for the baby to get breast milk into his mouth.

2.2.5. Observing how the baby is attached to the breast

- Look and listen for the baby taking slow deep sucks, then he is probably well attached and suckles effectively. If the baby is taking quick shallow sucks or the baby is making smacking sounds as he sucks, these are signs that the baby is not attached well at the breast.

- If the baby releases the breast himself after the feed, and looks sleepy and satisfied, this means he gets enough breast milk. If a mother takes the baby off the breast before he has finished, he may not get enough hindmilk (which has a lot of fat providing much energy for him).

3. Instructing and helping the mother to breastfeed her baby properly

- Greet the mother, introduce yourself and ask the mother's name and the baby's.
- Ask the mother 1 to 2 open-ended questions to learn about the mother's BF practices, and identify difficulties that the mother faces and needs help.
- Explain to make the mother believe that you are willing to help her to breastfeed her baby properly.
- Observe and assess the breastfeed:
  - Ask the mother to position and breastfeed her baby as she normally does so that you can observe how she positions her baby at the breast.
  - If the mother breastfeeds her baby properly, encourage her to continue to do so. You should only help her if she faces any difficulties.
- Show the mother how to attach her baby to the breast
  - The mother sits in a comfortable and relaxing position.
  - You sit in a comfortable position that is convenient for counseling and supporting the mother. Explain to the mother how she should hold her baby and show her if needed.
  - Help the mother understand and practice on her own as much as possible.
  - Your purpose is to help the mother position her baby to the breast on her own, not to do it for her.
  - Explain what you want the mother to do.
  - If possible, illustrate on your body so that the mother can see it clearly.

4. Practice

- Use the Breastfeed Observation Job Aid to assess signs of good and poor attachment.
- Notice that not all slides show all the signs of baby's attachment and position. In one slide there may be signs of both good and poor practices.

Figure 26

Figure 27

Figure 28

Figure 29

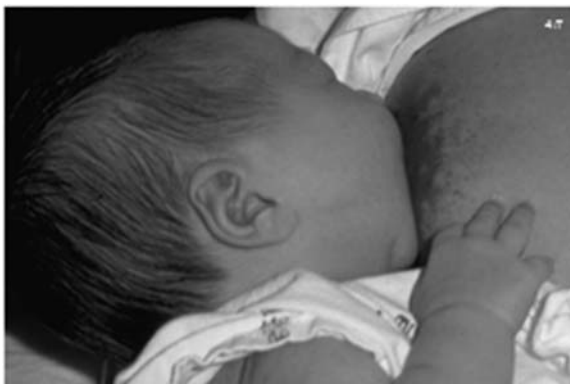


Figure 30

Figure 31

Figure 32

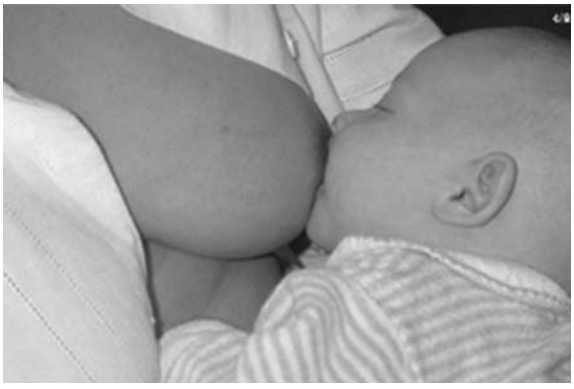


Figure 33

PRE - AND POST - TEST

● Give brief answers for questions from 1 to 8 by filling in the blank spaces with appropriate words or phrases:

Question 1. Four key points of positioning are:

A. .....

B. .....

C. .....

D. .....

Question 2. Depending on the situation of the mother and baby, the mother can select one of the four following BF positions:

A. .....

B. .....

C. .....

D. .....

Question 3. When the mother holds her breast properly, her fingers are described as follows:

A. The mother puts her four fingers .....

B. Her index finger .....

C. Her thumb .....

D. Her fingers should not be placed .....

Question 4. Four signs of good attachment include:

A. .....

B. .....

C. The baby's lower lip is curled outwards.

D. .....

Question 5. Seven consequences of poor attachment include:

A. Painful nipples

B. Damaged nipples

C. .....

D. The child does not get enough milk, cries a lot

E. The child feeds frequently, for a longer time

F. .....

G. .....

Question 6. Three main points to instruct the mother on good attachment include:

A. Touch the baby's mouth with her nipple

B. .....

C. .....

Question 7. Help the mother to select the best BF positions based on her real situation by matching the BF position in the left column with the situation in the right column of the table below:

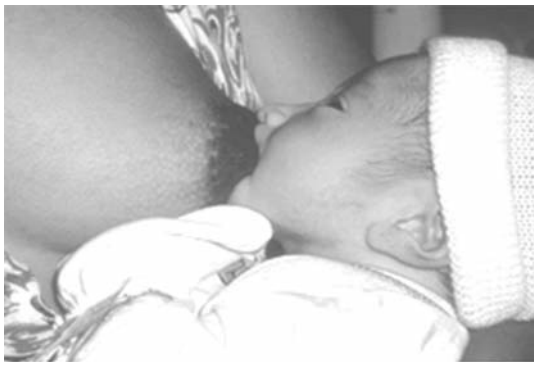
BF POSITIONS	MOTHER AND BABY'S SITUATIONS
1. The mother holds her baby in a normal position	A. Twin babies, the mother holds both babies and breastfeeds them B. The mother and baby are healthy C. Blocked ducts D. When the mother wants to sleep E. The baby has difficulties attaching to the breast F. Very small baby G. The mother after C-section H. Sicked baby
2. The mother holds her baby in the underarm position	
3. The mother holds her baby with her arm opposite the breast	
4. The mother lies down to breastfeed her baby	

Question 8. Help the mother to recognize signs of good or poor attachment by describing how the baby is attached in each picture from 1 to 8:

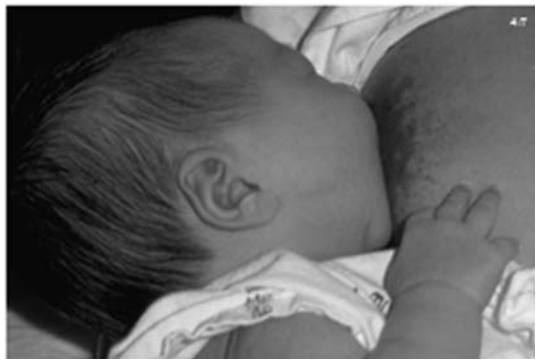
Picture 1 .....

Picture 2 .....

Picture 3 .....



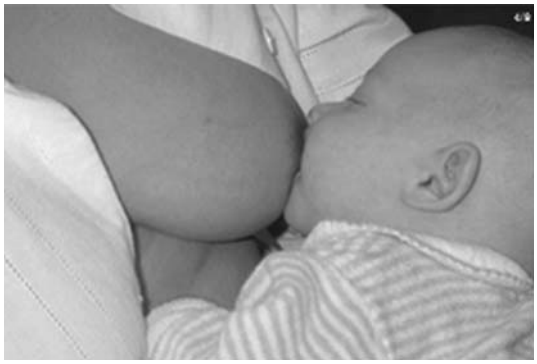
Picture 4 .....



Picture 5 .....

Picture 6 .....

Picture 7 .....



Picture 8 .....

● Distinguish True/False for questions from 9 to 10 by marking with (x) in column A for the true sentence and in column B for the false sentence

	A	B
Question 9. Good position when the mother holds the baby in a normal position is: the mother sits comfortably, holds the baby close to her body with the baby's face approaching the breast and the baby's whole body being supported. The mother looks at the baby and shows her love.		
Question 10. If the mother has too much milk, she can use a scissor hold to support her breast when breastfeeding her baby in order to block the milk flow.		

SESSION 5. EXPRESSING AND STORING BREAST MILK

Objectives of the session:

1. *To be able to describe seven cases when breast milk expression is needed*
2. *To be able to show mothers how to prepare and practice expressing breast milk by hand and by a breast pump*
3. *To be able to show mothers how to store and feed her baby with expressed breast milk*

---

1. Cases when breast milk expression is needed

- Leave breast milk for a baby when the mother goes to work.
- Feed a low-birth-weight baby who cannot breastfeed.
- Feed a sick baby, who cannot suckle enough.
- Keep up the supply of breast milk when a mother or baby is ill.
- Prevent leaking when a mother is away from her baby.
- Help a baby to attach to a full breast.
- Help with breast-health conditions, e.g., engorgement (see the session on Breast Conditions).

- There are many cases when breast milk expression is needed.
- It is essential for mothers to express breast milk in order to initiate or continue BF.
- All mothers are recommended to learn how to express breast milk in order to be able to do when needed.
- It is also essential for all health workers in maternal and child care to learn this so that they can instruct mothers on how to express breast milk when needed.

2. Preparation for expressing breast milk

2.1. Preparing a milk container

- Take a cup, glass, jug or jar with a wide mouth.
- Wash the cup with soap and water (Mothers can do this the day before)
- Pour boiling water into the cup and leave it for a few minutes. Boiling water kills most of the germs. When it is ready to express milk, pour the water out of the cup.

2.2. Stimulating the Oxytocin reflex before expressing breast milk

- Oxytocin reflex is very important to help eject breast milk out.
- When the mother expresses breast milk, the Oxytocin reflex cannot work as effectively as when the baby sucks. The mother needs to know how to support the Oxytocin reflex, otherwise she may encounter difficulties during breast milk expression.

HOW TO STIMULATE THE OXYTOCIN REFLEX

1. Help the mother psychologically

- Build her confidence
- Try to reduce any sources of pain or anxiety
- Help her to have good thoughts and feelings about the baby.

2. Help the mother to practice

- Help or advise her to sit in a quiet and private place or with a supportive friend.
- Some mothers can express milk easily in a group of other mothers who are also expressing milk for their babies.

3. Hold her baby with skin-to-skin contact if possible

- The mother can hold her baby on her lap while she expresses milk. If this is not possible, she can look at the baby or at a photograph of her baby.

4. Warm her breasts

- The mother can apply a warm compress, or warm water, or have warm water sprayed to her breasts.

5. Stimulate her nipples

- She can gently pull or roll her nipples with her fingers.

6. Massage or stroke her breasts gently

- The mother can gently stroke her breasts with her finger tips or with a comb or gently roll their closed fist over the breast toward the nipple.

7. Ask a helper to rub the mother's back to stimulate the Oxytocin reflex

- The mother remains clothed but it is necessary for her breasts and her back to be naked.
- Her breasts set loose.
- The helper closes his/her hands and rubs both sides of the mother's spine with his/her thumbs, making small circular movements, from the mother's neck to her shoulder blades (figure 34)
- Ask the mother how she feels, and if it makes her feel relaxed.

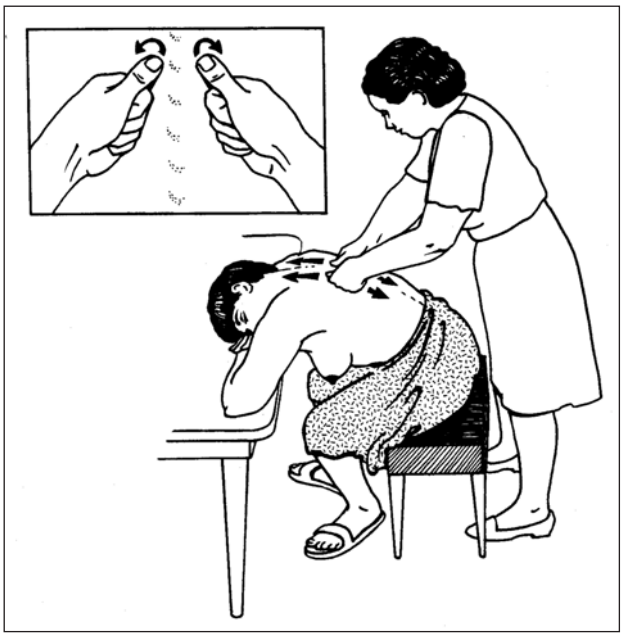


Figure 34. Stimulating the Oxytocin reflex by rubbing the mother's back

3. Some breast milk expression techniques

3.1. How to express breast milk by hand

- Instruct the mother to practice herself. Do not express her milk for her. Touch her only to guide her what to do, and be very gentle.
- It is important for the mother to wash her hands carefully.
- Sit or stand comfortably, and hold the container near the breast.
- Put the thumb on the breast above the nipple and areola, the first finger on the breast below the nipple and areola, opposite the thumb. The mother supports her breast with her other fingers.(see Figure 35 and illustration on the breast model)
- Press the thumb and first finger slightly inwards towards the chest wall. The mother should avoid pressing too strong or she may block the milk ducts.
- Press the breast behind the nipple and areola between her fingers and thumb. The mother should press on the larger ducts beneath the areola. Sometimes in a lactating breast it is possible to feel the ducts. They are like pods, or peanuts. If the mother is able to feel them, she can press on them.
- Press and release, press and release. This should not hurt, if it hurts, the technique is wrong. At first no milk may come, but after pressing a few times, milk starts to drip out. It may flow in streams if the oxytocin reflex is active.
- Press the areola in the same way from the sides, to make sure that milk is expressed from all segments of the breast.
- Avoid rubbing or sliding her fingers along the skin.

- Avoid pressing on the nipple itself. Pressing or pulling the nipple cannot express the milk. It is the same as the baby suckling only the nipple.
- Express one breast for at least 3-5 minutes until the flow slows; then express the other side; and then repeat both sides. The mother can use either hand for either breast, then change to the other.
- Explain to the mother that it takes 20 – 30 minutes to express breast milk, especially in the first few days when not much milk comes in. It is important not to try to express in a shorter time.

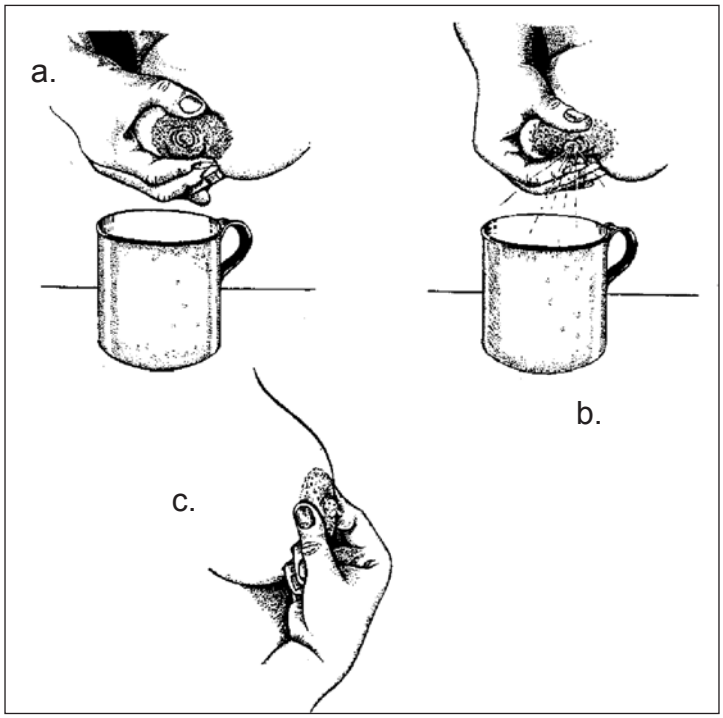


Figure 35: How to express milk
From the left to the right and top to bottom:
a) Place finger and thumb above and below the areola and press inwards towards the chest wall.
b) Press behind the nipple and areola.
c) Press from the sides to empty all segments.

3.2. How to express milk using a breast pump

- There are many kinds of breast pump for the mother to choose.
- Expressing milk by hand will be difficult in case of engorged and painful breasts. As a result, expressing milk with breast pump is necessary.
- Expressing milk with a pump is only easy when the breasts are full. It is difficult to use when the breasts are soft.

- Put the breast pump in the right direction, slightly let off the pump hand so that milk is expressed out gradually.

4. Purposes of breast milk expression

- Number of breast milk expression times depends on the reason for expressing milk, but it should be as often as the baby would breastfeed. The more frequently milk is expressed, the more milk is produced. If the expressing milk time is occasional or there are long intervals among expressions, the mother may be unable to produce enough milk.
- ***Main purposes of breast milk expression are:***

4.1. To establish lactation, to feed a low-birth-weight or sick newborn

- If BF is initiated early, immediately after birth, milk production starts early.
- In cases of low bith weight babies or sick newborns, the mother should start to express milk as soon as possible on the first day. At first, she may only express a few drops of colostrum but it helps breast milk prduction to begin.

4.2. To maintain the milk supply to feed a sick baby

- The mother should express milk at least every three hours, even during the night and maintain it until the baby can suckle again.

4.3. To build up her milk supply if the milk supply seems to be decreasing after few weeks

- Express very often for a few days (every 2 hours or even every hour) and at least every three hours during the night.

4.4. To leave milk for a baby while the mother is out at work

- Express as much as possible before the mother goes to work and leave the milk for her baby. It is also important to express while at work to help keep up her milk supply.

4.5. To relieve symptoms, such as engorgement, or leaking at work

- Express only as much as it is necessary.

5. How to feed a child with expressed breast milk

5.1. How to store expressed breast milk

- Expressed breast milk should be stored in hygienic containers.
- In case expressed breast milk is not used to feed the baby right away, it should be stored in the following conditions:

STORAGE PLACE	TEMPERATURE	DURATION
• At room temperature	19 - 26°C	• 4 hours (ideal), up to 6 – 8 hours (acceptable)
• In a refrigerator	<4°C	• 4 days (ideal), up to 8 days (acceptable)
• In a freezer	-18 đến -20°C	• 6 months (ideal), up to 12 months (acceptable)

5.2. How to feed the baby with expressed breast milk

➢ *For stored breast milk, it is necessary to defrost and warm it as follows:*

- Defrost stored breast milk: put breast milk into the fridge in order to defrost, then leave at room temperature to make sure that the ice is melted, shake the breast milk steadily then warm it up.
- Warm stored breast milk: place breast milk container in hot water for a few minutes until the milk is warm. Do not bring the temperature of milk to boiling point.

➢ *Feeding the baby with a cup and spoon is better than with a bottle and teat.*

➢ *Advantages of feeding the baby using a cup and spoon include:*

- It can be easily washed after each feed;
- Avoid breast refusal;
- Avoid allergies due to bad quality of teats.

PRE - AND POST - TEST

● Give brief answers for questions from 1 to 7 by filling in the blank spaces with appropriate words or phrases:

Question 1. Seven cases when expressing breast milk is needed include:

A. .....

B. Feed a low-birth-weight baby who cannot breastfeed.

C. Feed a sick baby, who cannot suckle enough.

D. .....

E. Prevent leaking when a mother is away from her baby.

F. .....

G. Help with breast-health conditions, e.g., engorgement (see the session on Breast Conditions).

Question 2. Two common methods used in breast milk expression are:

A .....

B .....

Question 3. Five purposes of breast milk expression are:

A. .....

B. To maintain the milk supply to feed a sick baby

C. .....

D. .....

E. To relieve symptoms, such as engorgement, or leaking at work.

Question 4. Three advantages of feeding the baby using a cup and spoon include:

A. .....

B. .....

C. .....

Question 5. Before feeding the baby with stored breast milk, the mother needs to do two following things:

A .....

B .....

Question 6. List out seven ways to stimulate the Oxytocin reflex (milk ejection reflex)

A. .....

B. Help the mother to practice

C. .....

D. Warm her breasts

E. .....

F. .....

G. .....

Question 7. In case expressed breast milk is not used to feed the baby right away, it should be stored in the following conditions:

STORAGE PLACE	TEMPERATURE	DURATION
• At room temperature	19 - 26°C	A. .....
• In a refrigerator	<4°C	B. .....
• In a freezer	-18 đến -20°C	C. .....

• Distinguish True/False for questions from 8 to 9 by marking with (x) in column A for the true sentence and in column B for the false sentence:

	A	B
Question 8. Feeding a baby using a cup and spoon is better than using a bottle and teat		
Question 9. If the mother expresses breast milk to initiate breast milk production, she should start to express milk on the first day.		

• Give a summarized answer, analysis and practical application for questions 10 and 11

Question 10. Give instructions to mothers on 7 ways to stimulate the milk ejection reflex (Oxytocin reflex before expressing milk).

Question 11. Instruct the mother how to express breast milk at home:

1. By hand
2. By breast pump

SESSION 6. PRACTICING TEN STEPS FOR SUCCESSFUL BREASTFEEDING AT HEALTH FACILITIES

Objectives of the session

1. *To be able to list out the ten steps for successful BF*
2. *To be able to describe IYCF practices in the ten steps for successful BF*

1. Introduction of Ten steps for successful BF

- Practicing IYCF according to "Ten steps for successful BF" at health facilities has a major effect on BF.
- Poor practices not only interfere with BF but also contributes to the spread of artificial feeding.
- Good practices support BF; and and make it more likely that mothers will breastfeed successfully, and will continue for a longer time.
- "Ten steps for successful BF" is the basis of the "Baby-Friendly Hospital Initiative (BFHI)", which is a world-wide effort lauched in 1991 by WHO and UNICEF.
- Vietnam has 57 hospitals joining BFHI; however, the maintenance and monitoring of Bf practices at these facilities has been coping with difficulties.

TEN STEPS FOR SUCCESSFUL BREASTFEEDING

Every facility providing maternal and child health care services should:

1. Have a written breastfeeding policy that is routinely communicated to all health care staff.
2. Train all health care staff in skills necessary to implement this policy.
3. Inform all pregnant women about the benefits and management of breastfeeding.
4. Help mothers 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.

TEN STEPS FOR SUCCESSFUL BREASTFEEDING

6. Give newborn infants no food or drink other than breast milk, unless medically indicated.
7. Practise rooming-in - allow mothers and infants to remain together - 24 hours a day.
8. Encourage breastfeeding on demand.
9. Give no artificial teats or pacifiers to breastfeeding infants.
10. Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or clinic.

2. IYCF practices in the Ten steps for successful BF

2.1. Step 1

- Have a written BF policy that is routinely communicated to all health care staff, helping to improve maternal and child health care at the health facility
- Contents of this policy should include:
  - 10 steps for successful BF.
  - an institutional ban on acceptance of free or low cost supplies of breast-milk substitutes.
  - a framework for assisting HIV-positive mothers to make informed infant feeding decisions that meet their individual circumstances and then support for this decision.

2.2. Step 2

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

2.3. Step 3

- Provide antenatal counseling on BF:
  - Provide BF counseling for all mothers who come to the facility for antenatal care so that they can breastfeed their infants and communicate it to others in the community.
  - Based on the real situation, counseling for a group of mothers or for individuals can be provided.
  - Special attention should be paid to young mothers who are having their first babies because of their limited experience.

ANTENATAL COUNSELLING ON BF

With mothers in groups:

- Explain the benefits of BF, especially EBF.
  - Most mothers decide how they are going to feed their babies a long time before they have the child - often before they become pregnant.
  - If a mother has decided to use formula milk, she may not change her mind.
  - Help mothers who are undecided, and give confidence to others who intend to breastfeed.
  - Encourage mothers to breastfeed exclusively instead of partially
- Talk about early initiation of breastfeeding; what happens after delivery; explain about the first breastfeeds, and the practices in the hospital, so that they know what to expect.
- Provide simple information on BF such as BF on demand and how to position a baby at breast.
- Answer the mother's questions (if any). Encourage them to ask questions so that they can discuss together and with the counselor.

With each mother individually:

- Ask about previous breastfeeding experience.
  - If she breastfed successfully, encourage her to do so again.
  - If she had difficulties, or if she formula fed, explain how she could succeed with breastfeeding this time and let he know that the counselor will counsel and help her.
- Ask if she has any questions.
- Examine her breasts only if she is worried about them. Build her confidence, and providing counseling and practical help.
- Note: Antenatal education should not mention artificial feeding.

2.4. Step 4

Help mothers initiate breastfeeding within an hour of birth

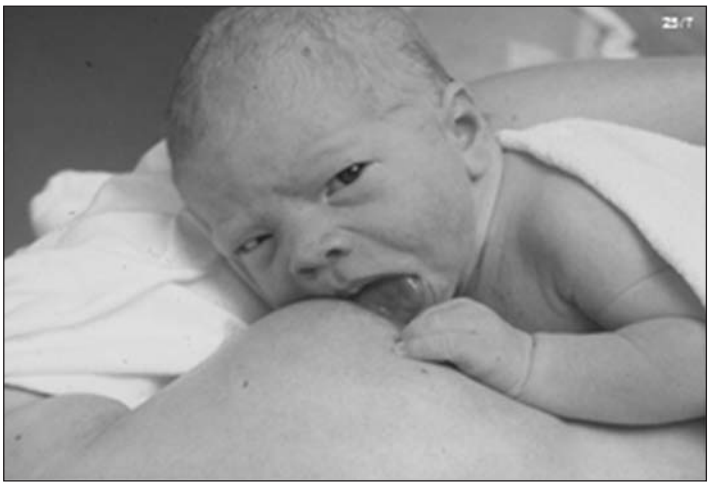


Figure 36. Illustration for skin-to-skin contact after delivery

- Right after delivery, when the mother and the infant have been stable, it is necessary to put the baby in skin-to-skin contact with his mother within at least 1 hour and encourage the mother to recognize the baby's feeding cues.
- Skin-to-skin contact procedure: Right after delivering the infant, dry him and place him between the mother's abdomen and breasts. Then cover both of them with a branket. Start doing that before clamping the baby's umbilical cord.
- Normally, within the first hour after delivery when having skin-to-skin contact the mother, the baby becomes alert and starts to seek the breast. The baby is ready to suckle and is able to attach easily.
- Ordinary medical routines should be postponed for at least 1 hour (if possible).
- The mother and baby should not be separated since it delays the initiation of breastfeeding. These practices hinher mother and baby's bonding and BF. Breastfeeding is less likely to be successful if the first breastfeed is delayed for more than 1 hour after delivery.
- Benefits of skin-to-skin contact:
  - To keep the baby warm with the heat released from the mother's body.
  - To stablize the infant's blood glucose after birth.
  - To stimulate the baby's innate behaviours of seeking mother breast and self - attachment.

For mothers who decide not to breastfeed:

- Encourage mothers who decide to feed their babies with formula milk rather than breast milk (e.g. HIV-positive mothers): to hold their babies regularly, cuddle them and show their love. This will help mothers feel close to their babies and love them more.
- There is no reasons for preventing HIV-positive mothers from skin-to-skin contact after delivery, even when she decides not to breastfeed their babies.
- It is essential to help HIV-positive mothers who choose to breastfeed their infants to place their babies on their chest right after birth as usual.

For C-section cases:

- Mothers having spinal or epidural anaesthesia are all possible to give their babies skin-to-skin contact like mothers with vaginal deliveries.
- Mothers having general anaesthesia can give their babies skin-to-skin contact right after she is able to respond.

2.5. Step 5

- *Show mothers how to breastfeed, and how to maintain lactation even if they are separated from their infants.*
  - The baby should be put next to the mother for BF as soon as there are BF cues. Help the mother recognise signs of seeking breasts from the baby and other signs showing BF cues.
  - Health workers need to spend time supporting mothers in the first breastfeed in order to ensure proper BF.
  - When the mother is separated from her baby, health workers need to help and support her more. Help the mother to express milk and maintain milk supply for baby in the future.
  - Build the mother's confidence that breast milk is important and benefitial to her baby.
  - Mothers, especially those who have C-sections, should be assisted to initiate BF as soon as possible.
- *Show mothers how to breastfeed after C-section:*
  - A common reason for separating the mother and baby is C-section.
  - It is usually possible for a mothers to breastfeed within about four hours after a C-section, as soon as she has regained consciousness.
  - Exactly how soon the mother regains consciousness depends on her personal health status and anaesthetic methods. In the case of epidural anaesthesia, the mother is able to breastfeed within 30 minutes to 1 hour after the C-section.
  - A full-term and healthy baby is able to wait for a few hours without no food or drink before his/her mother can feed him.

2.6. Step 6

- *Give newborn infants no food or drink other than breast milk, unless medically indicated.*
  - Any artificial feed given before breastfeeding is established is called a prelacteal feed. Prelacteal feeds prevent the baby from getting colostrum.

- Feeding the baby with other milks than breast milk (often called breast milk substitutes or formula milk) may cause intolerance to the proteins contained in the milk.
- Satisfying the baby's hunger by formula milk may cause breast milk refusal.
- If a baby has even a few prelacteal feeds, his mother is more likely to have difficulties such as engorgement and blocked ducts, etc. Breastfeeding is, then, more likely to stop earlier.
- Many people think that colostrum is not enough in both quantity and nutrients to feed a baby until the mature milk 'comes in'. However, the volume, digestive and absorptive ability of an infant's stomach, and his/her nutritional requirement is perfectly matched to the amount of colostrum produced by the mother.
- Even if many mothers are feeding their babies with formula milk, this does not prevent a hospital from being designated as baby-friendly if those mothers have all been counseled, tested and have made an appropriate decision themselves.

➢ *Cases when replacement feeding is indicated:*

- The mother is seriously sick and cannot breastfeed or epxress breast milk
- The mother is being radiated or using anti-breastfeeding medicines (such as anti-thyroid drugs or anti-cancel drugs)
- The mother is HIV-infected (except when the mother has been counseled and decided to breastfeed her baby)
- The baby develops metabolic diseases and intolerance to breast milk.

2.7. Step 7

➢ *Practise rooming-in - allow mothers and infants to remain together - 24 hours a day.*

➢ *Benefits of rooming-in:*

- It enables a mother to respond to her baby and feed him/her whenever the baby is hungry;
- This helps bonding between the mother and baby;
- This helps the mother to maintain BF;
- The mother becomes more confident in BF;
- The baby cries less so there is less temptation to give bottle feeds;
- Being rooming-in or bedding-in with his/her mother helps the baby grow healthy, both physically and mentally;
- HIV-positive mothers do not need to be separated from their babies. Generally, skin-to-skin contact does not result in HIV transmission.

2.8. Step 8

➢ *Encourage breastfeeding on demand. This means breastfeeding whenever the baby or mother wants, with no restriction on the length or frequency of feeds.*

- A mother does not have to wait until her baby is upset and crying to offer him/her the breast. She should learn to respond to the signs that her baby gives (for example, rooting, etc.).
- Let a baby suckle as long as s/he wants, and help him/her to attach well
- Some babies take all the breast milk they want in 5 - 10 minutes; other babies take half an hour to get the same amount of milk, especially in the first week or two. They are all behaving normally
- Let the baby finish feeding on the first breast, to get the fat-rich hindmilk. Then offer the second breast if s/he still wants to breastfeed.
- This step is also applied for babies who are receiving replacement milk. Their individual needs should be respected and responded to for both breastfed and artificially fed infants.

➢ *Benefits of breastfeeding on demand:*

- There is earlier passage of meconium.
- The baby gains weight faster.
- Breast milk comes in sooner and there is a larger volume of milk intake on day 3.
- There are fewer difficulties such as engorgement.
- There is less incidence of jaundice.

2.9. Step 9

➢ *Give no artificial teats or pacifiers to infants*

- Teats and pacifiers can carry infection and are not needed, even for the non-breast-feeding infant.
- Cup-feeding or spoon-feeding is recommended, as it is easier to clean and also ensures that the baby is held and looked at while feeding. It takes no longer than bottle feeding.
- If a hungry baby is given a pacifier instead of a feed, s/he may breastfeed less and thus, not grow well.

2.10. Step 10

➢ *Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or clinic.*

- One of the key BF practices is continuing to support mothers in BF at home and in their community.
- Before the mother is discharged, the hospital provides them with addresses of local BF support groups (if any) or of commune and district health centers. The mother should also be provided with contact information of the hospital such as telephone number of the hospital counselling room and name of hospital BF support group (if any) in case she has difficilties in BF.
- Inform the mother about websites on child health care so that she can search information related to IYCF, for example, the website of National Institute for Nutrition, or www.mattroibetho.vn, etc.

PRE - AND POST - TEST

● Give brief answers for questions from 1 to 3 by filling in the blank spaces with appropriate words or phrases:

Question 1. Four cases when replacement feeding is indicated include:

A. .....

B. .....

C. .....

D. .....

Question 2. Seven fundamental benefits of rooming-in include:

A. .....

B. This helps bonding between the mother and baby.

C. This helps the mother to maintain BF.

D. .....

E. The baby cries less so there is less temptation to give bottle feeds.

F. .....

G. HIV-positive mothers do not need to be separated from their babies.

Question 3. Five benefits of breastfeeding on demand are:

A. There is earlier passage of meconium

B. .....

C. Breast milk comes in sooner and there is a larger volume of milk intake on day 3

D. .....

E. .....

• Distinguish True/False for questions from 4 to 6 by marking with (x) in column A for the true sentence and in column B for the false sentence

	A	B
Question 4. Mothers having C-sections should initiate BF as soon as the mothers has regained consciousness		
Question 5. HIV-positive mothers need to be separated from their babies after delivery		
Question 6. For breastfeeding infants, even a few formula feeds can make BF stop earlier		

• Give a summarized answer, analysis and practical application for questions 7 to 11

Question 7. Present 10 steps for successful BF at health facilities.

Question 8. Present the benefits of well-done 10 steps for successful BF.

Question 9. Present antenatal counseling contents on BF for mothers in groups and a mother individually.

Question 10. Present four instructions to be given to mothers in BF and maintaining breast milk supply even when they have to be away from their children.

Question 11. Describe the feeding practices in 10 steps for successful BF.

SESSION 7. COMMON BREASTFEEDING DIFFICULTIES

Objectives of the session

1. *To be able to give instruction to mothers about BF in cases of insufficient milk, crying babies, and breast refusal*
2. *To be able to handle with the common breast conditions.*

---

1. Insufficient milk

1.1. Signs to recognize that a mother does not have enough milk

- Insufficient milk is among the most common reasons for a mother to stop BF.
- In many cases, the mother thinks that she does not have enough milk; the baby, in fact, is still getting all that s/he needs.
- Sometimes a baby does not get enough breast milk; but it is usually because he is not suckling enough, or not suckling effectively. Actually, most mothers are able to produce enough milk for one, or even two babies. It is rarely because his mother cannot produce enough.
- Ineffective and irregular breastfeeding causes a decrease in the amount of breast milk produced. This gradually leads to insufficient breast milk. Therefore, it is important to show mothers how to breastfeed their infants properly and frequently on demand.

1.1.1. Reliable signs that a baby is not getting enough milk

- Poor weight gain: less than 500 grams per month. (For the first six months of life, a baby should gain at least 500 grams per month).
- Few number of passing urine (fewer than 6 times per day) and the urine is concentrated, and may be strong smelling and dark orange in color. (However, if the baby is getting any other drink in addition to breast milk, it is difficult to be sure that the baby is getting enough breast milk even if the baby is passing a lot of urine).

1.1.2. Possible signs that a baby is not getting enough milk

- Baby is not satisfied after breastfeeds;
- Baby cries often;
- Very frequent breastfeeds;
- Very long breastfeeds;

- Baby refuses to breastfeed;
- Baby has hard, dry or green stools;
- Baby has infrequent small stools;
- Small amount of urine with dark orange in color;
- No milk comes out when mother expresses;
- Breasts did not enlarge during pregnancy;
- Breast milk did not “come in” after delivery.

Although these signs may show that a baby is not getting enough breast milk, there may be other reasons for them. Therefore, it is necessary to learn more reasons to identify whether the baby is really not getting enough breast milk or not.

1.2. Reasons why babies do not get enough breast milk

<table>
<tr><th colspan="4">REASONS WHY BABIES DO NOT GET ENOUGH BREAST MILK</th></tr>
<tr><th colspan="2">Common reasons</th><th colspan="2">Uncommon reasons</th></tr>
<tr><td rowspan="8">Factors related to BF</td><td>1. Delayed initiation of BF</td><td rowspan="8">Factors related to mothers’ physical health</td><td>1. Contraceptive pill, diuretics</td></tr>
<tr><td>2. Not BF on demand</td><td>2. Pregnancy</td></tr>
<tr><td>3. Infrequent breastfeeds</td><td>3. Severe malnutrition</td></tr>
<tr><td>4. No night breastfeeds</td><td>4. Alcohol</td></tr>
<tr><td>5. Short breastfeeds</td><td>5. Smoking</td></tr>
<tr><td>6. Bottles, pacifiers</td><td>6. Retained piece of placenta (rare)</td></tr>
<tr><td>7. Other foods</td><td>7. Poor breast development (very rare)</td></tr>
<tr><td>8. Other fluids</td><td></td></tr>
<tr><td rowspan="5">Factors related to mothers’ psychology</td><td>1. Lack of confidence</td><td rowspan="5">Factors related to babies’ status</td><td>1. Illness</td></tr>
<tr><td>2. Worries and stress</td><td>1. Abnormality</td></tr>
<tr><td>3. Dislike of BF</td><td></td></tr>
<tr><td>4. Rejection of baby</td><td></td></tr>
<tr><td>5. Tiredness</td><td></td></tr>
</table>

1.3. How to help mothers with "insufficient milk"

- Use counseling skills in order to take a good feeding history.
- Observe and assess a breastfeed to check positioning and attachment and to look for bonding between the mother and baby and other conditions of both the mother and baby
- Help the mother to identify the reasons why her baby is not getting enough milk.
- Help the mother to increase milk supply by:
  - Breastfeeding her baby properly.
  - Breastfeeding her baby frequently, both during the day and night. Emphasize an important thing to the mother that the more the baby breastfeeds, the more milk is produced.
- Arrange appoinments with mothers for counseling and support soon. Visit the mother and baby daily if possible until the baby is gaining weight and the mother feels confident. It may take 3 - 7 days for the baby to gain weight.
- For babies who are getting enough milk but mothers think they are not, note the following things in addition to above-mentioned instructions:
  - Try to find out what may be causing the mother to doubt her breast milk supply.
  - Praise the good points about the mother's BF technique and her baby's development.
  - Correcting mistaken ideas without sounding critical.
- Mothers who are more likely to introduce CF early need more support until their confidence is built up again and they are not going to feed their babies with complementary foods early

2. Breastfeed refusal

BF refusal for a long time can cause great distress to the mother, leading to BF cessation.

2.1. Signs of BF refusal

- The baby attaches to the breast, but then does not suckle or swallow or suckle very weakly.
- The baby cries and fights at the breast when the mother tries to breastfeed him.
- The baby suckle for a minute and then comes off the breast choking or crying. The baby may do this several times during a single feed.

2.2. Reasons for BF refusal

2.2.1. Illness, pain

- Infection;

- Brain damage;
- Pain from bruise (vacuum, forceps);
- Blocked nose;
- Sore mouth due to thrush or teething, etc.

2.2.2. Difficulty with BF techniques

- Use of bottles and pacifiers whilst BF;
- Not getting enough milk (due to poor attchment);
- Restricting number of feeds;
- Difficulty co-ordinating suckle;
- Mother shaking breast or pressure on back of head when positioning.

2.2.3. Changes which upset the baby (especially aged 3-12 months)

- Separation from mother as mother returns to work or other reasons;
- New caregiver or too many caregivers;
- Mother gets ill;
- Mother has breast problem (e.g mastitis, etc.);
- Mother menstruating;
- Change in smell of mother.

2.2.4. Other reasons

- Learning about the mother's breasts, for newborns
- Distraction, for infants aged 4-8 months
- "Self-weaning" in some cases, for children above one year old, when CF is more prominent.

FOUR REASONS WHY A BABY REFUSES TO BREASTFEED
1. Illness, pain 2. Difficulty with BF techniques 3. Changes which upset the baby (especially aged 3-12 months) 4. Other reasons

3. Helping a mother to get her baby to breastfeed again

3.1. Keep her baby close - no other caregives:

- Give plenty of skin-to-skin contact at all times, not just at feeding times;
- Sleep with her baby;
- Ask other people to help with housework so that the mother can focus on taking care of the baby and stay close to the baby.

3.2. Offer her breast whenever her baby is willing to suckle

- When her baby is sleep, or after a cup-feed;
- When she gets free time.

3.3. Help her baby to take the breast in different ways

- Express breast milk into the baby's mouth;
- Position the baby so that s/he is comfortable and easily attached to the breast – try different positions. Avoid pressing the back of his head or shaking her breast.

3.4. Feed her baby using a cup

- The mother can express breast milk to feed her baby using a cup;
- Avoid using bottles, teats, and pacifiers.

FOUR SOLUTIONS TO GET A BABY BREASTFEED AGAIN
1. Keep the baby close to the mother – no other caregives 2. The mother offers her breast whenever her baby is willing to suckle 3. Help the baby to take the breast in different ways 4. Feed the baby using a cup

4. Crying babies related to BF

4.1. Reasons for and signs of crying related to BF

- *Not getting enough breast milk:* The baby seems to be hungry in a few days due to growth spurt. If the baby demands to be fed very often, it is possible that s/he is not getting enough milk. This is common at the ages of about two weeks, six weeks and three months.
- *Foods the mother eats or drugs the mother takes:* This is because substances from the food or drug pass into her milk. This could be noticed when the mother eats some particular foods and her baby upsets and cries when BF.

- *Colic. Think of colic when the baby has the following signs:*
  - The baby cries at certain times of a day, often in the evening. The baby may pull up his legs as if he has abdominal pains. The baby who cries in this way may have a very active gut or wind but the cause is not clear. This is called "colic". Colicky babies usually grow well, and the crying becomes less after the baby is three month old.
  - The baby may appear to want to suckle but it is very difficult to satisfy him.
- *Sickness or pain:* In this case, the baby's crying pattern often changes.
- *Other reasons:*
  - The baby cries more than others as s/he wants to be held and carried more. In communities where mothers carry their babies with them, crying is less common than in communities where mothers like to put their babies down to leave them or where they put them to sleep in separate cots.
  - Discomfort: feeling dirty, hot, or cold.
  - Tiredness.

4.2. Helping mothers whose babies cry a lot

- For the mother with "insufficient milk", it is necessary to find the cause of the crying in order to help her. Use counselling skills to explore the reasons. Encourage the mother to breastfeed more often for a few days in order to increase milk production.
- Help the mother to talk about how she feels and empathize with her. She may be tired, frustrated and angry. Accept her ideas about the cause of crying and the baby's responses.
- Trying to learn about pressures from family and what they think the cause of crying is.
- Assess a breastfeed to check positioning and attachment, and the length of a feed.
- Check the baby's health and development to see if the baby is ill or in pain.
- Show the mother how to hold a crying baby: hold the baby closely to mother's lap, rub the baby's back and stomach gently. When crying, baby needs to be comforted, however, the crying will reduce at the age of 3 – 4 months old.

4.3. Some different ways to hold a colicky baby

- *Holding the baby along the forearm (Figure 37a):* The mother holds the baby along her forearm, pressing on the baby's back with her other hand; gently moves her hand backwards and forwards; or the mother sits and holds the baby lying face down across her lap and gently rubs the baby's back.
- *Holding the baby on the lap (Figure 37b):* The mother sits and holds the baby sitting on her lap, with his/her back to the mother's chest; holds the baby round his/her abdomen and gently rubs his/her abdomen.

- *Holding the baby against the chest (Figure 37c):* The mother stands and holds the baby upright against her chest, with the baby's head against the mother's neck; and the mother hums gently and lovingly so that the baby can hear her.
- The father or someone that the baby is friendly with can help holding the baby for the mother.

a. Holding the baby along your forearm **b. Holding the baby round its abdomen, on your lap** **c. Holding the baby against your chest.**

Figure 37. Some ways to hold a colicky baby

5. BF when mothers are having difficult breast conditions

5.1. Common breast conditions

- Common breast conditions include: flat and inverted nipples, engorged breasts, blocked ducts and mastitis, sore nipples and nipple fissure.
- There are a variety of breast shapes. These breasts are all normal status and they can produce plenty of milk for a baby, or two or even three babies.
- Many mothers worry about the size of their breasts. Women with small breasts often worry that they cannot produce enough milk for their babies. Differences in the size of breasts are mostly due to the amount of fat, not the amount of tissue that produce milk. It is important to reassure women that they can produce enough milk, whatever the size of their breasts.

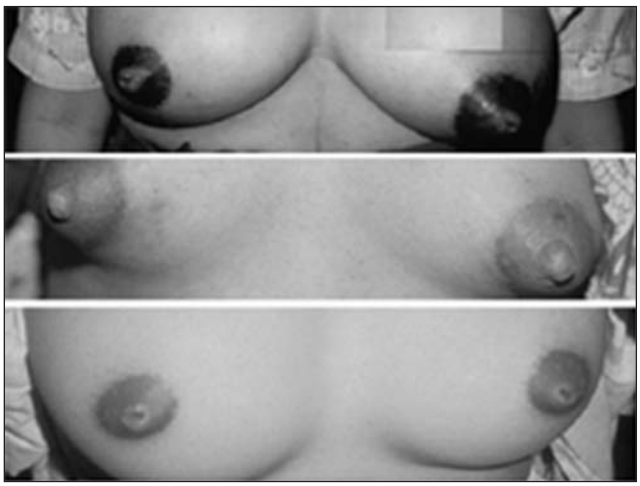


Figure 38. Different breast shapes

- The nipples and areolas also have different shapes and sizes. Sometimes the shapes makes it difficult for a baby to get well attached to the breast. The mother may need extra help at first so that the baby can suckle effectively. However, the baby is able to suckle well from breasts of any size.

5.1.1. Flat but protractile nipples

- The baby can easily take the nipple and stretch it out. The baby can suckle from this breast without any difficulties because s/he does not suckle from the nipple. The baby takes the nipple and breast tissue underlying the areola into its mouth to form “a teat”.
- The shape of a nipple is not as important as its protractility.
- If the nipple is flat during pregnancy, it can still be improved and the baby can suckle without any difficulties.

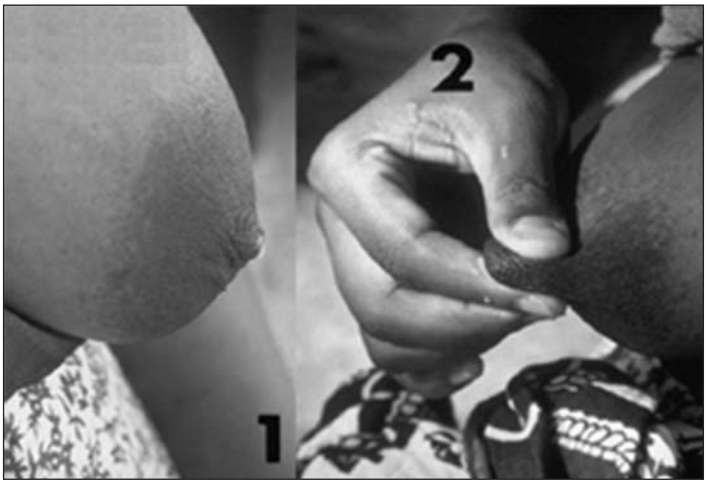


Figure 39. Flat and protractile nipples

5.1.2. Inverted nipples

- Inverted nipples often go back in after being stretched out, which makes the baby difficult to attach and breastfeed effectively. However, if the mother is well supported, she can still succeed in BF. In fact, this breast condition is very rare.

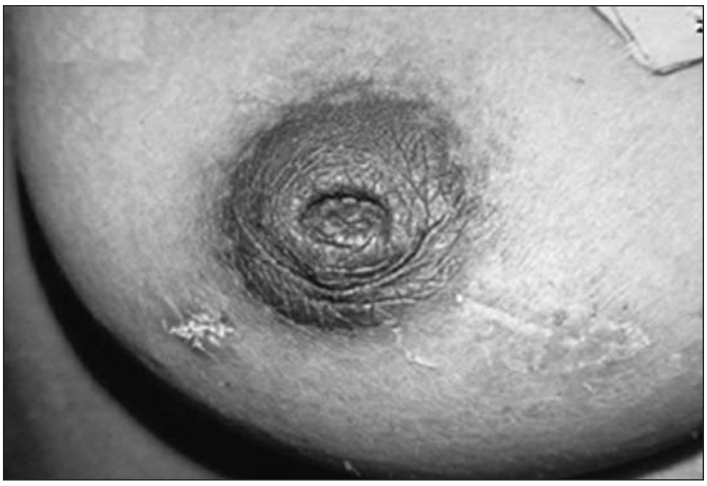


Figure 40. Inverted nipples

5.1.3. Treatment of flat and inverted nipples

- *Improving the breast condition before and after delivery*

The nipple condition could only be improved before delivery (after 38 weeks of pregnancy) and after delivery without any treatment. The most important thing is to help the mother to initiate BF early after delivery. It is not necessary to stretch the nipple out during pregnancy as it is normally not useful.

- *Build the mother’s confidence*
  - It is essential to explain to the mother that with patience and persistence, she can succeed; the breast condition will improve and her breasts will become softer within a

week or two after delivery; and that the baby suckles from the breast, not from the nipple.

- The mother should be supported for skin-to-skin contact with her baby right after delivery, letting her baby to seek the breast and attach him/herself whenever s/he wants. The baby breastfeeding will help to stretch the breast and nipple out.

➢ *Help the mother position her baby*

- Help the mother to position the baby at the breast early during the first day before her breastmilk "comes in" and her breasts are full; help the mother put the baby in different positions to make it easier for him/her to attach (e.g. holding the baby in the underarm position).
- Before BF, the mother needs to stimulate her nipples and stretch them out, and sometimes shaping the breast makes it easier for the baby to attach. To shape her breast, the mother supports it from underneath with her fingers and presses the top of the breast gently with her thumb. Mother should be careful not to hold too near the nipple.
- In addition, it is possible to use the syringe method (see the next part)

➢ *If a baby suckles ineffectively in the first or second week, help the mother try the following:*

- Express her milk and feed it to her baby with a cup. Expressing breast milk helps to keep breasts soft so that it is easier for the baby to attach. The mother should not use a bottle because that makes it more difficult for her baby to attach.
- The mother can also express a little breast milk directly into her baby's mouth. Getting some milk direclty into his/her mouth makes the baby try harder to breastfeed.
- The mother should try to give her baby skin-to-skin contact and let him/her try to attach to the breast on his/her own.

➢ *Syringe method for treatment of inverted nipples*

- This method is for treating inverted nipples postnatally and to help the baby to attach to the breast.
- Use a 20 ml syringe by cutting off the adaptor end of the barrel, then placing the plunger in the cut end of the barrel (the reverse of its usual position).
- Using the syringe to protract the mother's nipple is done right before positioning the baby at the breast, following the following steps:
  - Rest the smooth end of the syringe over the mother's nipple, gently pull the plunger to maintain steady but gentle pressure; do this for 30 seconds to 1 minute, several times a day.
  - Push the plunger back to reduce suction when the mother feels pain and when she removes the syringe from her breast (this prevents damaging the skin of the nipple and the nipple).

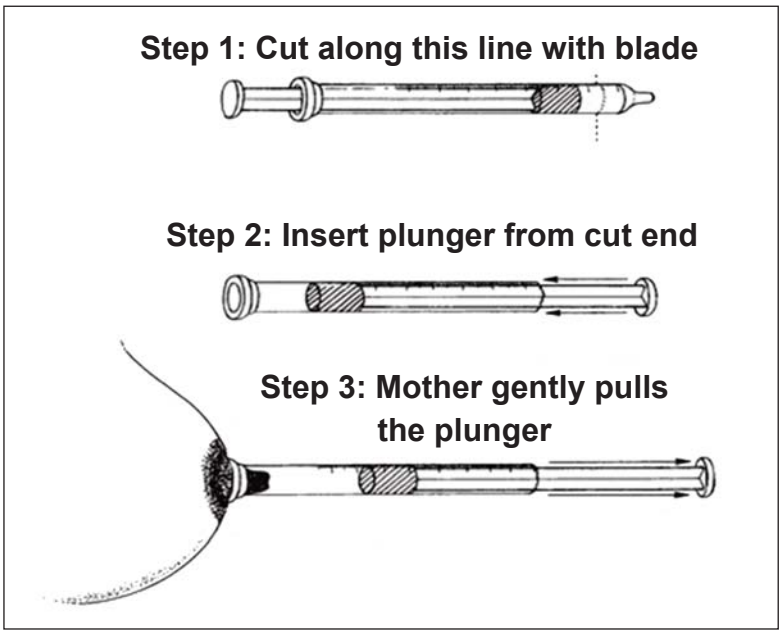


Figure 41. Preparing and using a syringe for treatment of inverted nipples

5.2. Full breasts

5.2.1. Signs of full breasts

- This often occurs in a few days after delivery when breast milk has come in.
- The breasts feel hot, heavy and hard; however, the milk is flowing well and it is possible to see milk is dripping from the breasts. This is normal fullness. Sometimes full breasts feel quite lumpy.
- The heaviness, hardness, or lumpiness decreases after a feed, the breasts feel softer and the mother feels more comfortable. In a few days, the breasts will adjust to the baby's needs, and they will feel less full.

5.2.2. Treatment of full breasts

The only treatment that the mother needs is for her baby to breastfeed frequently, to remove the milk.

5.3. Engorged breasts

5.3.1. Signs of engorged breasts

- The breasts are overfull, partly with milk, partly with increased tissue fluid and blood, which interferes with the flow of breast milk.
- The breasts are oeadematous and feels hot. The mother feels painful and no milk is coming out. The nipples becomes flat because the skin is stretched tight, which makes it difficult for the baby to attach and suckle.

- Sometimes when breasts are engorged, the skin looks red, and the mother has a fever; however, the fever usually settles in 24 hours.

5.3.2. Reasons for engorged breasts

- Delay in starting BF after birth.
- Poor attachment to the breast so breast milk is not removed effectively.
- Infrequent removal milk, for example, if breastfeeding is not on demand.
- Restricting the length of breast feeds.

Thus, engorgement can be prevented by letting the baby breastfeed as soon as possible after birth; making sure that the baby is well attached to the breast; and encouraging unrestricted BF, and BF on demand.

5.3.3. Treatment of engorged breasts

- Do not let the breast "rest". It is essential to remove milk to treat engorgement. If breast milk is not removed, mastitis may develop, an abscess may form and breast milk production decreases.
- Breastfeed the baby frequenlty if s/he is able to suckle. This is the best way to remove breast milk. Help the mother to position her baby so that s/he attaches well. As a result, the baby suckles effectively and does not damage the nipple.
- If baby is not able to suckle, help the mother to express her milk. Sometimes it is only necessary to express a little milk to make the breast soft enough for the baby to suckle.
- Before feeding or expressing, stimulate the mother's Oxytocin reflex. Some things that you can do to help the mother or she can do are:
    - Put a warm compress on her breasts;
    - Massage her back and neck;
    - Massage her breast gently;
    - Stimulate her breast and nipple skin;
    - Help her to relax;
    - Sometimes a warm compress or towel makes milk flow from the breasts so that they become soft enough for the baby to suckle.
- After a feed, put a cold compress on her breasts in order to reduce oedema.
- Build the mother's confidence.

5.3.4. Engorgement in HIV-positive mothers who stop breastfeeding

- Engorgement may occur in an HIV-positive mother who stops breastfeeding abruptly, for example, when her baby is six months old and due to start complementary feeds. The

mother should be counseled not to wean her baby abruptly, but to gradually reduce the BF frequency.

- When an HIV-positive mother is trying to stop BF, she should only express enough milk to relieve discomfort and not to increase the milk production.
- Milk may be expressed several times in a day when the breasts are overfull so that the mother feels comfortable.
- It is not recommended to use pharmacological treatment to reduce the milk supply. However, a simple analagesic, for example ibuprofen or paracetamol, may be used to reduce inflammation and milk production.

SUMMARY OF DIFFIRENCES BETWEEN FULL AND ENGORGED BREASTS	
Full Breasts	**Engorged Breasts**
Hot	Painful
Heavy	Oedematous
Hard	Tight, especially nipple, shiny, may look red
Milk flowing	Milk not flowing
No fever	May be fever for 24 hours.

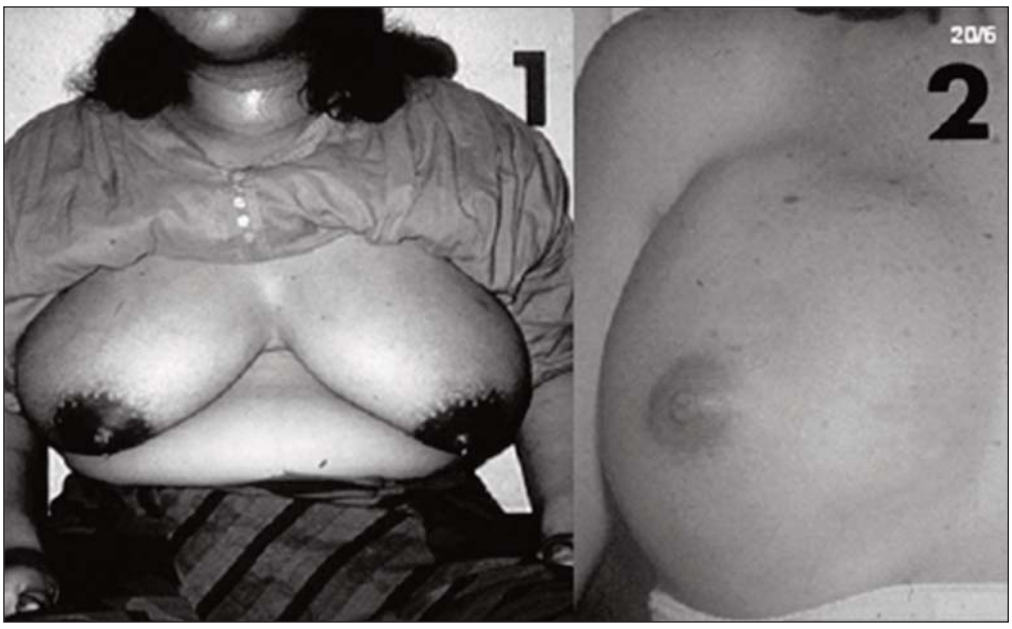
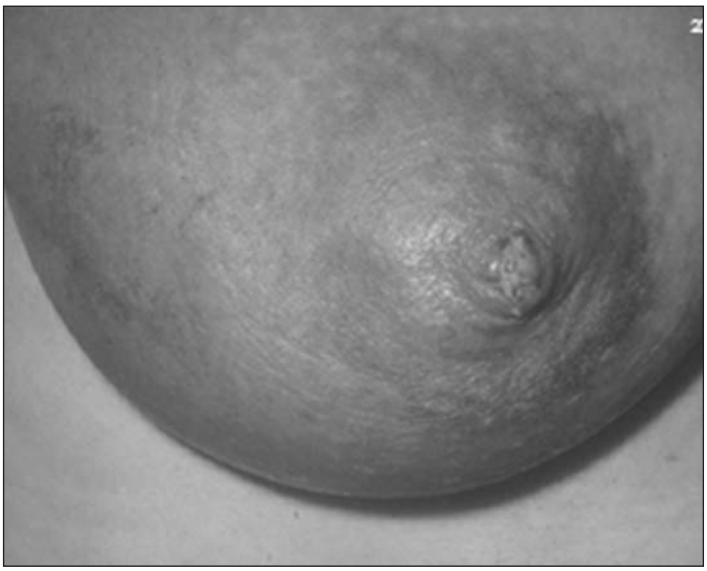


Figure 42. Full breasts (1) and engorged breasts (2)

5.4. Mastitis and blocked ducts

5.4.1. Mastitis

- The mother has a fever, tiredness and pain. Part of the breast is swollen and hard, with redness of the overlying skin.
- Mastitis is sometimes confused with engrogement.
- However, engorgement affects the whole breast, or often both breasts. Mastitis affects part of the breast, and usually only one breast.
- Masitis may develop in an engorged breast, or it may follow a condition called blocked duct.

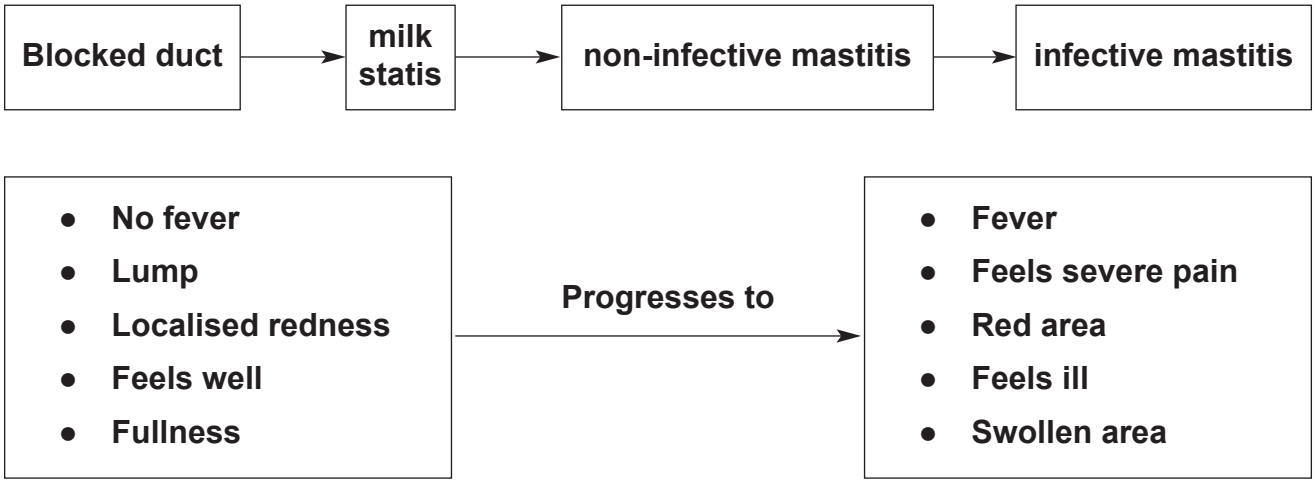


Hình 43. Viêm vú

5.4.2. Blocked ducts

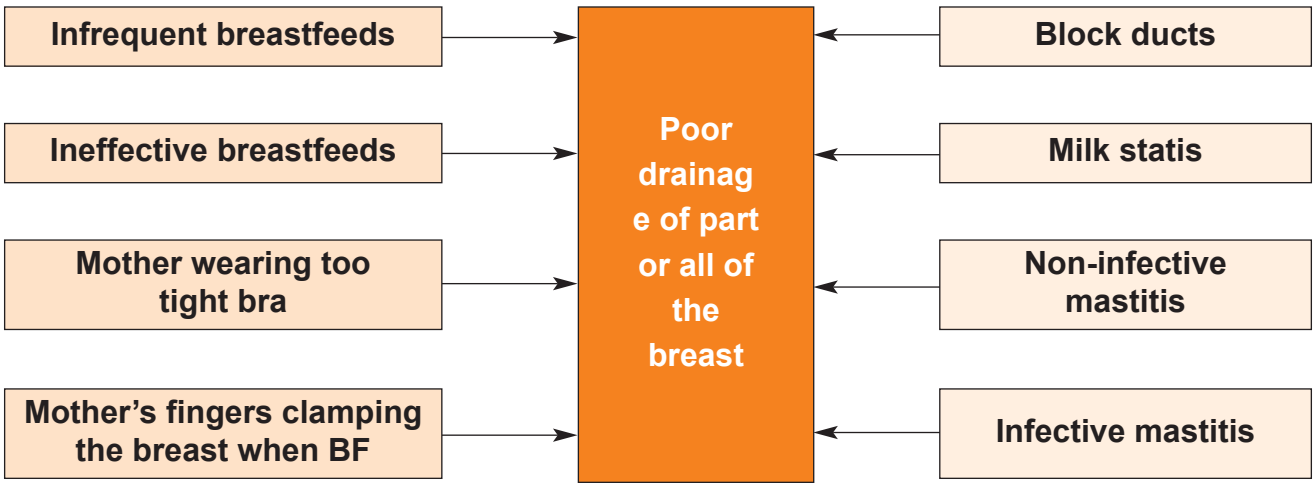
- A blocked duct occurs when the milk is not removed from part of a breast. Sometimes this is because the duct to that part of thhe breast is blocked by thickened milk.
- The symtomps are lump which is tender, and often redness on the skin over the lump. The woman has no fever and feels well.
- When breastmilk stays in part of the breast, because of a blocked duct or engorgement, it is called milk stasis. If the milk is not removed, it can cause inflammation of the breast tissue, which is called non-infective mastitis. If the breast becomes infected with bacteria, it is called infective mastitis.
- It is impossible to tell from the symptoms alone if matitis is non-infective or infective. If the symptoms are all severe, the mother needs treatment with antibiotics.

Symptoms of and linkage between blocked duct and mastitis



5.4.3. Reasons for blocked ducts and mastitis

- The main reasons for blocked ducts is poor drainage of all or part of the breast.
- Poor drainage of the whole breast may be due to infrequent breastfeeds or ineffective breastfeeds.
  - Infrequent breastfeeds may occur when amother is very busy, when a baby starts feeding less often, for example when he starts to sleep through the night, or because of a changed feeding pattern for another reason, for example the mother returning to work.
  - Ineffective suckling usually occurs when the baby is poorly attached to the breast, or because of short breastfeeds.
- Poor drainage of part of the breast may be due to ineffective suckling, pressure from tight clothes, especially a bra worn tight, or pressure of the mother's fingers which can block milk flow during a breastfeed
- If a baby is poorly attached, it may cause a nipple fissure which provides the way for bacteria to enter the breast tissue and may lead to mastitis.



5.4.4. Treatment of blocked ducts and mastitis

- *The most important part of treatment is to impove the drainage of milk from the affected part of the breast.*
- *Look for the causes of poor drainage and correct it.*
  - Check if clothes are too tight and put pressure on the breasts (particular the bra);
  - Notice if the mother presses the breast with her fingers as she breastfeeds. Does she hold the nipple and possibly block the milk flow?
- *Whether or not you find a cause, there are several suggestions to offer to the mother:*
  - Breastfeed frequently and the best way is to rest with the baby, so that the mother can feed him whenver the baby wants.

- Gently massage the breast while the baby is suckling, massaging over the blocked area right down to the nipple helps to remove the block from the duct.
- Apply warm compresses to the breasts between feeds
- Start the feed on the unaffected breast, this helps to stimulate oxytocin reflex. Then change to the affected breast after the reflex starts working. Try feeding the baby from both breasts.
- Sometimes the mother is unwilling to feed her baby from the affected breast, especially if it is very painful. In this situation, it is necessary to express the milk. If the milk stays in the breast, an abscess is more likely to develop.
- Usually blocked ducts and mastitis improve within a day when drainage to that part of the breast improves.

➢ *Antibiotics, anti-inflamation treatment and rest* if the mother has any of the following symptoms: severe symptoms at the first check-up or a nipple fissure or no improvement in 24 hours.

ANTIBIOTIC TREATMENT FOR INFECTIVE MASTITIS		
The most common bacterium found in breast abscess is Staphylococcus aureus. Therefore, it is necessary to treat breast infections with a Penicillinase-resistant antibiotic such as Flucloxacilin or Erythromycin		
Medicine	**Dose**	**Instructions**
Flucloxacillin	250 mg orally, 6 hourly for 7-10 days	Take dose at least 30 minutes before food.
Erythromycin	250-500 mg orally, 6 hourly for 7 - 10 days	

5.4.5. Mastitis in HIV-infected mothers

➢ HIV-positive mothers, who have mastitis or nipple fissure, may avoid breastfeeding during that time.

➢ HIV-positive mothers must express milk from the affected breast in order to ensure adequate removal of milk. This is essential to prevent the condition becoming worse, to help the breast recover and to maintain milk production. The health worker should help her to ensure that she is able to express milk effectively.

➢ If only one side breast is affected, the baby can feed from the unaffected side, feeding more often and for longer to increase milk production. Most babies get enough milk from one breast. The baby can feed from the affected breast again when it has recovered.

- If both sides of breasts are affected, the mother will need to express her milk from both breasts. Breastfeeding can resume when the breasts have recovered.
- The health workers can discuss other feeding options with mothers during the treatment time. The mother may decide to heat-treat her expressed milk or to give replacement or formula feeding. The infant should be fed by cup and spoon.
- Give antibiotics for 10-14 days to avoid relapse. Give pain relief and suggest rest as in HIV-uninfected mothers.
- In case the mother is able to give another form of milk safely, she may decide to stop breastfeeding temporarily. She could continue to express enough milk to allow her breasts to recover and to keep them healthy until milk production ceases.

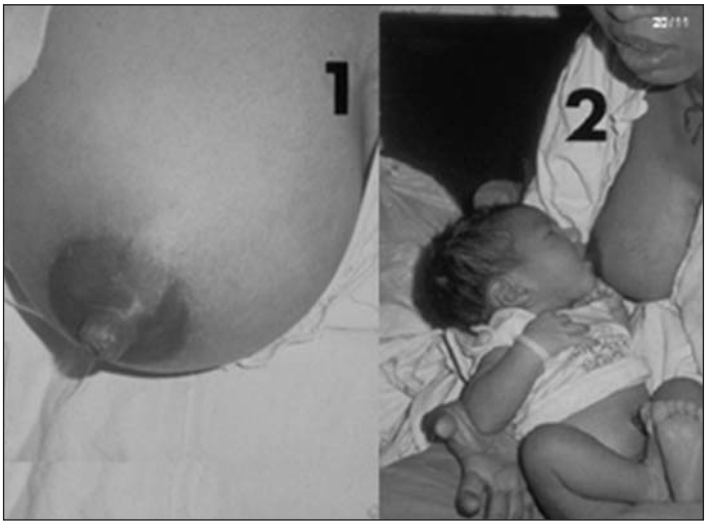


Figure 44. Nipple fissure

5.5. Sore nipples and nipple fissure

5.5.1. Reasons for nipple fissure

- The most common cause of nipple fissure is poor attachment. In case of poor attachment, the baby pulls the nipple in and out as he suckles and rubs the skin of the breast against his mouth, which causes soreness for the mother's nipple.
- At first there is no fissure, the nipple may look normally or it may look squashed with a line across the tip when the baby releases the breast. If the baby continues to suckle in this way, it damages the nipple skin and causes a fissure.

5.5.2. Treatment

- Suggest the mother not to wash her breasts many times in a day and not to use soap or a hard towel. Frequent washing removes natural oild from the skin and makes the fissure more likely.
- Suggest to the mother not to use medicated lotions and ointments because these can irritate the skin and there is no evidence that they are helpful.
- Suggest that after breastfeeding the mother rubs a little expressed breastmilk over the nipple and areola with her fingers. This promotes healing.

5.6. Candida infection

5.6.1. Symptoms

- The mother's nipples are very sore and itchy. In some cases, the mother feels like burning or stinging as though needles are being driven into her breast. Sometimes the pain shoots deep into the breast.
- Breast skin may look red, shiny and flaky. The nipple and areola may lose some of their pigmentation. Some skin areas around the nipple and areola look red and shiny; but sometimes, the nipple looks normal.
- Candida infection often occurs after the mother has antibiotic treatment for mastitis or other infections. Suspect Candida if sore nipples persist, even when the baby's attachment is good. Check if the baby gets thrush. The baby may have white patches inside his cheeks or on his toungue or he may have a rash on his bottom.

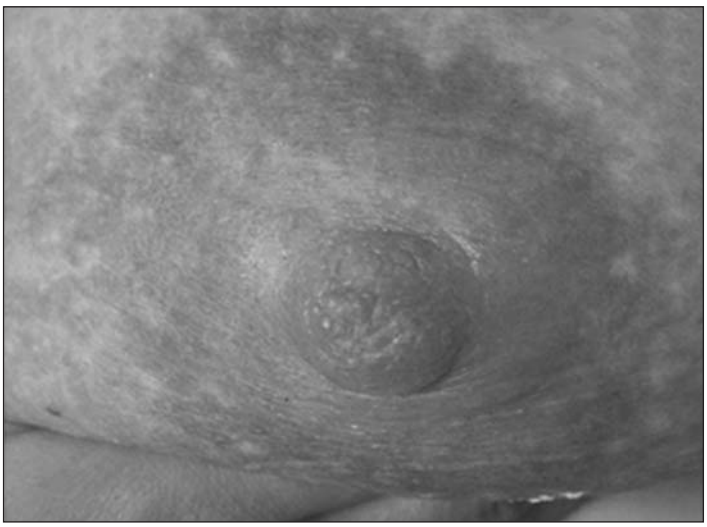


Figure 45. A breast with Candida infection

5.6.2. Treatment of Candida infection

- Advise the mother to stop using pacifiers/ teats. If these are used daily, they should be boiled for 20 minutes daily and replaced weekly.
- For HIV-infected mothers, it is particularly important to treat breast thrush and oral thrush in the infant promptly.
- Treat Candida infection for both the mother and baby.
    - Use nystatin cream 100,000 IU/g: Apply to nipples 4 times daily after breastfeeds or continue to apply for 7 days after lesion have healed.
    - Use nystatin suspension for 100,000 IU/ml: Apply 1 ml by dropping into the child's-mouth 4 times daily after breastfeeds for 7 days or as long as mother is being treated.
    - Stop using pacifiers, teats and nipple shields.

PRE - AND POST - TEST

● Give brief answers for questions from 1 to 10 by filling in the blank spaces with appropriate words or phrases:

Question 1. Two reliable signs that a baby is not getting enough breast milk include:

A. .....

B. .....

Question 2: Describe three signs of BF refusal:

A. The baby attaches to the breast, but then does not suckle or swallow or suckle very weakly.

B. ..... when the mother tries to breastfeed him.

C. ..... The baby may do this several times during a single feed.

Question 3: Point out four main reasons why a baby is crying:

A .....

B .....

C .....

D .....

Question 4. Four reasons why a baby refuses to breastfeed include:

A. .....

B. .....

C. .....

D. .....

Question 5. Four ways to help a baby to breastfeed again:

A. .....

B. .....

C. .....

D. .....

Question 6. Four reasons for engorged breasts include:

A. .....

B. .....

C. .....

D. .....

Question 7. Three positions to hold a colicky baby are:

A. .....

B. .....

C. .....

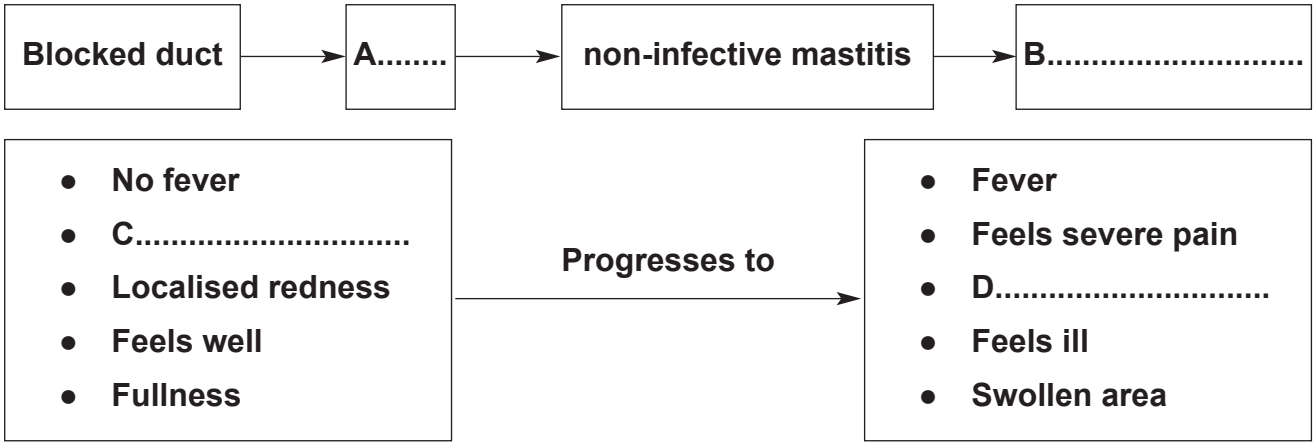
Question 8. Fill in the following table all missing points about the reasons why a baby is not getting enough milk:

REASONS WHY BABIES DO NOT GET ENOUGH BREAST MILK			
Common reasons		**Uncommon reasons**	
Factors related to BF	A.....	***Factors related to mothers' physical health***	H.....
	B.....		Pregnancy
	Infrequent breastfeeds		Severe malnutrition
	No night breastfeeds		I.....
	Short breastfeeds		Smoking
	C		Retained piece of placenta (rare)
	D.....		Poor breast development (very rare)
	Other fluids		
Factors related to mothers' psychology	Lack of confidence	***Factors related to babies' status***	Illness
	E.....		K.....
	G.....		
	Rejection of baby		
	Tiredness		

Question 9. Complete the following table on the summary of differences between full and engorged breasts:

SUMMARY OF DIFFIRENCES BETWEEN FULL AND ENGORGED BREASTS	
Full Breasts	**Engorged Breasts**
Hot	A.....
B.	Oedematous
Hard	C.....
Milk flowing	Milk not flowing
No fever	May be fever for 24 hours.

Question 10. Describe the symptoms of block ducts and mastitis in the following chart:



• Give a summarized answer, analysis and practical application for questions 11 to 20

Question 11. Instruct mothers to recognize signs that a baby is not getting enough milk.

Question 12. Instruct mothers in child feeding when the baby is not getting enough milk.

Question 13. Instruct mothers to recognize signs of BF refusal.

Question 14. Instruct mothers to identify 4 reasons for BF refusal.

Question 15. Instruct mothers in child feeding when the baby refuses to breastfeed.

Question 16. Instruct mothers to recognize early the reasons for baby crying.

Question 17. Instruct mothers to hold a crying baby.

Question 18. Instruct mothers in child feeding when babies cry.

Question 19. Instruct mothers to identify early common difficult breast conditions and how to prevent.

Question 20. Instruct mothers in child feeding when having difficulties with breast conditions.

SESSION 8. BREASTFEEDING LOW BIRTH WEIGHT BABIES

Objectives of the session

1. *To be able to show mothers how to breastfeed low birth weight babies*
2. *To be able to estimate the amount of milk needed for low birth weight babies when they cannot breastfeed*

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1. Common characteristics of low birth weight babies

- Low birth weight (LBW) babies are those born with a birth weight of less than 2,500 grams, including both preterm and full term babies.
- LBW babies are at particular risk of infections, and they need breast milk more than larger babies. Yet they are given artificial feeds more often than larger babies
- Many LBW babies can breastfeed without difficulty. Babies born at term, who are small-for-date, usually suckle effectively. They are often very hungry and need to breastfeed more often than larger babies, so that their growth can catch up.
- Babies who are born preterm may have difficulty suckling effectively at first. But they can be fed on breast milk by tube or cup, and helped to establish ful BF later. BF is easier for these babies than bottle feeding.

2. Breastfeeding LBW babies

2.1. When LBW babies can breastfeed

- Babies born at 32 weeks of pregnancy are able to swallow and suck.
- From 32 weeks of pregnancy onwards, many babies can suckle from the breast, swallow and breathe when BF; however, they may have difficulty in coordinating suckling, swallowing and breathing. During a breastfeed, a baby may need to pause to breathe, then continue BF. S/he may breastfeed effectively for a short time but cannot breastfeed continously until satiety.
- From 36 weeks of pregnancy onwards, babies are able to coordinate the suckling, swallowing and breathing in a breastfeed. They can breastfeed continously until satiety.
- Gestation age is a better measure for a baby's feeding ability than weight. However, it is not always possible to know gestational age. Many babies start to take milk from the breast when they weigh about 1,300-1,500 grams. Many can breastfeed fully when they weigh about 1,600-1,800 grams or less.
- Skin-to-skin contact between a mother (or father) and baby stimulates the prolactin and oxytocin reflexes; thus, it has been found to help both bonding and BF.

- ❖ Babies born at 32 weeks of pregnancy are able to breastfeed.
- ❖ Babies born at 30-32 weeks of pregnancy can take feeds from a cup and spoon
- ❖ Babies born before 30 weeks pregnancy need to receive feeds by tube and be taken care of in hospital.

2.2. Breastfeeding LBW babies who can suckle

- ➢ If oral feeding is possible as soon as a baby is born, the first feed should be given within the first 2 hours, and every 2-3 hours thereafter to prevent hypoglycaemia (low blood sugar).
- ➢ Breastfeed the baby as soon as possible. At first, s/he may only root for the nipple, or may suckle a litte. Continue to express breast milk and feed the baby by cup or spoon in order to ensure that the baby's nutritional demands are met.
- ➢ In many cases, LBW babies are still able to breastfeed easily and effectively. As they suckle weakly, they only get little milk. Hence, they want to feed more frequently.
- ➢ At first, the babies may have some difficulty in BF. Therefore, in the first few days after brith, the mothers can get their babies learn how to breastfeed along with expressing breast milk and feeding them by tube or cup, or spoon. It is essential not to bottle feed the baby as it may cause nipple confusion and BF refusal later.
- ➢ Cup-feeding is the best way for a baby to learn about oral feeding and give him/her an appetite. At this age, the baby often like to put things into his/her mouth but is unable to suckle effectively.
- ➢ Until the mother's milk has comed in, give feeds of donated breast milk (if possible and appropriate). If breast milk is not available, give glucose water or formula. Glucose water is not necessary for well, term babies who are not at risk of hypoglycaemia.
- ➢ Health workers need to give instructions to mothers on how to express breast milk and feed their babies by cup.
- ➢ A mother needs to express milk in the first day, especially in the first 6 hours of birth. Early expression of milk helps to stimulate milk production and "coming in"; even if the mother can only express a little colostrum, this amount of milk is very beneficial to the baby.
- ➢ When a LBW baby starts to suckle effectively; s/he may pause during feeds quite often and for a quite long periods. For example, he may take 4 or 5 sucks then pause for up to 4 or 5 minutes.
- ➢ When the baby stops suckling, it is important not to take him/her off the breast too quickly, leave the baby on the breats for a while so that s/he can contintue to breastfeed.

- Each breastfeed may last 1 hour; after a breastfeed, a baby may continute to be offered cup/ spoon-feeding.
- Make sure that the baby suckles in a good position: a good attachment makes effective suckling possible right from the first breastfeeds.
- The best positions to hold a LBW baby at the breast are:
  - Holding the baby with the arm across his/her body, the baby facing the nipple;
  - The underarm position.
- LBW babies need to be followed up regularly to make sure that they are getting all the breast milk that they need.

3. Breastfeeding LBW babies who cannot suckle

3.1. Milk options

- Option 1: Expressed breast milk (from the baby's mother if possible)
- Option 2: Canned milk, feeding according to instructions
- Cases when replacement feeding is indicated:
  - The mother is seriously sick and cannot breastfeed or epxress breast milk.
  - The mother is being radiated or using anti-breastfeeding medicines such as anti-thyroid drugs or anti-cancel drugs.
  - The mother is HIV-infected (except when the mother has been counseled and decided to breastfeed her baby).
  - The baby develops metabolic diseases and intolerance to breast milk.
- LBW babies who are given replacement feeding need to be followed up regularly in order to ensure their growth; encourage mothers to feed their babies by cup and spoon.

3.2. Amount of milk for LBW babies who cannot breastfeed

- Start with 60 ml/kg body weight;
- Increase the total volume by 20 ml per kg per day until the baby is taking a total of 200 ml per kg per day;
- Feed the baby 8 - 12 times a day (every 2 - 3 hours between feeds);
- The size of individual feeds may vary but the total daily intake must be ensured;
- Check the baby's 24 hour intake to ensure the baby is getting all he needs;
- Continue until the baby weighs 2,500 grams and is fully breastfeeding.

ESTIMATED AMOUNT OF MILK A BABY NEEDS PER DAY			
Baby's age	**Number of feeds/ day**	**Amount of milk/ feed**	**Total milk intake/ day**
At delivery – 1 month	8	60 ml	480 ml
1 month – 2 months	7	90 ml	630 ml
2 months – 4 months	6	120 ml	720 ml
4 months – 6 months	6	150 ml	900 ml

The amount of milk increases gradually by the child's age

- If a baby only gets a little milk in a feed, increase the amount of milk in the next feed or feed him/her earlier when s/he shows signs of hunger.
- If a baby does not gain enough weight, it necessary to feed him/her more frequently and with greater amount according to the stardard weight for his/her age.

4. Show mothers how to feed a baby by cup

- Wash your hands.
- Keep the baby sitting upright or semi-upright on your lap.
- Put an adequate amount of milk for one feed into the cup.
- Hold the cup of milk to the baby's lips.
- Tip the cup so that the milk just reaches the baby's lips.
- The cup rests lightly on the baby's lower lip, and the edges of the cup touch the outer part of the baby's upper lip.
- The baby becomes alert, and opens his/her eyes and mouth.
- A LBW baby starts to take the milk into his mouth with his tongue.
- A full term or older baby sucks the milk, spilling some of it.
- Do not pour the milk into the baby's mouth. Just hold the cup to his/her lips and let him/her take it.
- When the baby has had enough milk, s/he closes his/her mouth and will not take any more. If the baby has not taken the calculated amount, s/he may take more in the next feed or you may need to feed him/her more often.
- Measure the baby's intake in a day, not just at each feed.

Figure 46. Cup-feeding

- It is normal for the amount of milk that a baby takes at each feed to vary, whatever the method of feeding, including BF.
- Babies feeding by cup may take more or less than the calculated amount. If possible, offer a little extra, but let the baby decide when to stop.
- If a baby takes a very small feed, offer extra at the next feed, or give the next feed early if the baby shows signs of hunger.
- LBW babies need only very small volumes during the early days. If the mother can express even a small amount of colostrum, it is often all that her baby needs.

PRE - AND POST - TEST

• Give brief answers for questions from 1 to 2 by filling in the blank spaces with appropriate words or phrases:

Question 1. Low birth weight babies are those born with a birth weight of (A).....

Question 2. Complete the following table on the Estimated amount of milk needed for a baby daily by providing necessary and sufficient information

ESTIMATED AMOUNT OF MILK A BABY NEEDS PER DAY			
Baby's age	**Number of feeds/ day**	**Amount of milk/ feed**	**Total milk intake/ day**
At delivery – 1 month	8	60 ml	480 ml
1 month – 2 months	7	A.....ml	B.....ml
2 months – 4 months	6	120 ml	720 ml
4 months – 6 months	C.....	D.....ml	900 ml

• Distinguish True/False for questions from 4 to 6 by marking with (x) in column A for the true sentence and in column B for the false sentence

	A	**B**
Question 3. A full term newborn girl who is born with a weight of 2,400 grams will be categorized in the group of low birth weight babies		
Question 4. Preterm, low birth weight babies may have difficulty in breastfeeding; hence, they need to be given breast milk substitutes		
Question 5. Weight is a better measure of a baby's feeding ability than gestation age		
Question 6. Skin-to-skin contact helps to promote bonding and initiation of BF		
Question 7. A child during sickness and recovery needs more energy and nutrients than a normal healthy baby		

	A	B
Question 8. Measuring the milk intake for each feed is more important than measuring the total intake in a day		
Question 9. Mothers need to get preterm and LBW babies learn how to breastfeed		

● Give a summarized answer, analysis and practical application for questions 10 to 12

Question 10. Instruct mothers on how to feed LBW babies when they can suckle.

Question 11. Instruct mothers on how to feed LBW babies when they cannot suckle.

Question 12. Instruct mothers on how to feed a baby by cup.

SESSION 9. HEALTH AND NUTRITION CARE FOR PREGNANT WOMEN AND LACTATING MOTHERS

Objectives of the session

1. *To be able to point out the importance of nutrition care for pregnant women and lactating mothers*
2. *To be able to give instruction to mothers about the appropriate dietary and health care during pregnancy and lactation*

1. The importance of nutrition care for pregnant women and lactating mothers

- The health and nutritional status of mothers are intimately linked with the nutritional status of their children. Maternal inappropriate nutrition during pregnancy is among causes of stunting for their children later in life.
- Appropriate nutrition during pregnancy meets demand for the body's activities and the mother's physiological changes such as metabolism transformation, fat accumulation, increased uterus volume, fetus growth, and milk production later on.
- Inappropriate nutrition which does not meet the demands of pregnant women will affect the mother's health, especially affect the infant's development in the future.
- Inadequate maternal nutrition will lead to reduced resistance, increased risks of infections and preterm deliveries. Effects of maternal nutrition to the development of fetus and baby are different in each stage of gestation. Undernutrition in the first trimester of pregnancy will not put the newborn in the risk of underweight but in the risk of obesity and cardiovascular diseases; while undernutition in the last trimester put the baby at the risk of low birth weight and diabetes.

2. Changes in women's body weight during pregnancy

2.1. Women's and fetus's body weight change during pregnancy

Amount of weight gain	1st trimester	2nd trimester	3rd trimester
Mother	1000 grams	4000 - 5000 grams	5000 - 6000 grams
Fetus	100 grams	1000 grams	2000 grams

2.2. Recommended amount of weight gain based on the nutritional status (body mass index: BMI) before pregnancy (WHO - 1998)

Nutritional status	BMI	Recommended amount of weight gain
Good	18,5 - 24,9	20% of body weight before pregnancy
Poor	<18,5	25% of body weight before pregnancy
Overweight - obesity	>=25	15% of body weight before pregnancy

$$BMI = \frac{\text{weight (kg)}}{[\text{height}]^2\ (m^2)}$$

2.3. According to the international standard, average weight gain in Asian women is 10-12 kg, including 4 kg of fat, which is equivalent to 36,000 kcal. This is a resource for milk production.

3. Nutritional demand of pregnant women and lactating mothers

3.1. Nutritional demand of pregnant women and lactating mother is referred from one of the following recommendations

3.1.1. Recommendations for Southeast Asian women (FAO/WHO - 2005)

Nutritional needs/ day	Non-pregnant women	Extra nutrition needed		
		Pregnant women		Lactating mothers
		First 6 months	Last 3 months	
Energy	2200-2600 kcal	360 kcal *(equal to 1 bowl of rice)*	475 kcal *(equal to 2 bowls of rice)*	505 - 675 kcal *(equal to 3 bowls of rice)*
Protein	55 grams	15 grams	18 grams	28 grams
Lipid	60 grams	20 grams	20 grams	20 grams
Iron	39,2 mg	20 mg		
Vitamin A	500 mcg	300 mcg		350 mcg

3.1.2. Recommendations for Vietnamese women by age, physiological status and type of work (SEA-RDAs, 2005)

Age/ physiological status	Recommended nutritional requirement by type of work (kcal/ day)		
	Light work	Moderate work	Hard work
Pregnant women in the 2nd trimester	+ 360	+ 360	-
Pregnant women in the 3rd trimester	+ 475	+ 475	-
Lactating mothers (receving good nutrition before and during pregnancy)	+ 505	+ 505	-
Lactating mothers (receving poor nutrition before and during pregnancy)	+ 675	+ 675	-

3.2. Demand on Protein

- For pregnant women, protein is especially essential in the first trimester as it is needed for forming and building internal body organs such as heart, liver, lung and particularly neurological cells of the fetus.
- Amount of protein needed for pregnant women and lactating mothers are calculated by adding the amount of extra protein needed during pregnancy or lactation period to the amount needed by a normal adult woman.

3.3. Demand on Lipid

- Lipid accounts for 20-25% of total energy, i.e. about 60g lipid/day (from oil, fat, and butter). Lipid helps increase energy and provides fat-soluble vitamins (such as vitamins A, D, E, K) which are necessary for a mother's body in general and her fetus in particular.

3.4. Demand on Vitamins, Minerals and Micronutrients

- In human body, vitamins and minerals assist the normal metabolism and build organs in the body.
- Vitamin A: in addition to its increasing eyesight and immune resistance, Vitamin A creates long bones for infants, helping them to potentially reach their optimal height.
- Vitamin D: supports absorption and metabolism of calcium, forming a child's skeleton.
- Vitamin C: increases resistance and supports iron absorption.
- Acid folic: helps produce blood and neurological tubes.
- Other vitamins: support the body's ability to absorb nutrients and strengthen the body's functions.
- Iron: helps to produce blood, and is available in solid blood, red-colored meat, soy beans, and dark-green leaves.

- Calcium: helps in forming the skeleton.
- Zinc: increases an infant's height during pregnancy and an infant's immune system.

Pregnant women and lactating mothers need to eat diverse foods as amount, composition and quality of nutrients in each food vary, and there is no food to meet all nutritional demand of each individual.

4. Appropriate diets for mothers during pregnancy

4.1. A meal for a pregnant woman should contain all four food groups; and the amount of food should be more than before pregnancy.

A meal should provide sufficient nutrients from four following food groups:

- Energy from cereals (rice, noodles, corn, sweet potato, cassava, and its processed products).
- Protein from animal-source food (meat, fish, egg, and milk). Also, the mother should eat more beans, peas, sesames, peanuts, and plant oils to provide more vegetable protein.
- Lipid should be provided in each feed as lipid not only provides energy, but also dissolves vitamins A, D, E, K which are needed for both the mother and baby, building cells in the body, especially mental cells.
- Vitamins and minerals from green vegetables and fruit: Popular vegetables available in Viet Nam such as spinach, "rau ngot", "rau cai xoong", "rau den", etc. are rich in Vitamin C, carotene (a precursor of vitamin A), B12, B2, iron, folic acid, etc. Ripe fruit such as banana, papaya, orange, mango, etc. are also essential for mothers. She should eat ripe fruit daily if possible.

4.2. Foods and drinks that should be limited

- Do not use stimulating beverages/food (alcohol, coffee, cigarettes, and thick tea, etc.).
- Reduce condiments such as chili, pepper, and garlic.
- Reduce salty food, especially for edematous mothers, to diminish edema and avoid problems at birth.

4.3. For lactating mothers

- During lactation, at least in the first six months after birth, mothers need to eat more and diverse foods so that she can produce adequate good-quality breast milk for her baby. Actual needs depend on the nutritional status of the mother before and during pregnancy. The additional amount of energy needed for lactating mothers is divided into two groups as follows:
    - Mothers with good nutrition care before and during pregnancy (gaining 9-12 kg): need to eat more to ensure an increased amount of 505 kcal/day, reaching the total amount of 2,260 kcal/day for light workers and 2,620 kcal/day for moderate workers.

- Mothers with poor nutrition care before and during pregnancy, gaining less than 9 kg: need to eat more and diverse foods to ensure an increased amount of 675 kcal/day, reaching the total amount of 2,430 kcal/day for light workers and 2,790 kcal/day for moderate workers

5. Health care for pregnant women and lactating mothers

5.1. Health care

- During pregnancy, a mother needs to have at least one antenatal care every trimester for the following purposes:
- First trimester (first 3 months): Identify pregnancy and receive counseling on nutrition, consume an iron tablet, and monitor weight.
- Second trimester (next 3 months): Monitor the fetus's development, receive a tetanus vaccine, monitor the amount of weight gain, and receive counseling on nutrition.
- Third trimester (last 3 months): Monitor the fetus' development, receive tetanus vaccine, monitor the amount of weight gain, receive counseling on nutrition, and make prognosis of delivery.

5.2. Take iron/folic acid tablets as instructed by health workers to prevent iron-deficiency anemia

5.3. Breast care: Breast cleaning, especially nipple cleaning is very important to ensure that lactiferous duct is unblocked after delivery. Gently cleaning during a shower is recommended. In case of flat or inverted nipples, mothers are only allowed to stretch their nipples out after 38 weeks of pregnancy as early stretching leads to uterus contraction, affecting the fetus development.

6. Appropriate schedule of work and rest during pregnancy

- Do light work and do not work hard during pregnancy to avoid miscarriage and premature delivery.
- Do moderate exercises for good mood and smooth circulation of blood. Do not participate in extreme sports or athletics.
- Relaxation is necessary for mother and unborn baby; however taking a complete rest is not recommended to avoid difficulty in delivering the baby. The last month is the period of greatest weight gain, resulting in the mother having difficulty moving. Therefore, stopping work one month before delivery is helpful to both mother and baby
- Mental factors are very important to the pregnant mother and fetus's development. A happy family and a well-cared-for mother will help the fetus develop well, and enable good milk production.

PRE - AND POST - TEST

● Give brief answers for questions from 1 to 6 by filling in the blank spaces with appropriate words or phrases:

Question 1. Complete the following table by filling accurate information about the amount of weight gain of a pregnant woman and fetus in the blank spaces:

Amount of weight gain	1st trimester	2nd trimester	3rd trimester
Mother	A..... grams	4000 - 5000 grams	5000 - 6000 grams
Fetus	100 grams	B..... grams	C.....grams

Question 2. The formulation to calculate the body mass index BMI is:

$$BMI = \frac{A.....}{B.....}$$

Question 3. The recommended weight gain for a pregnant woman based on her nutritional status (Body Mass Index: BMI) before pregnancy is:

Nutritional status	BMI	Recommended amount of weight gain
Good	18,5 - 24,9	A.....% of body weight before pregnancy
Poor	<18,5	B.....% of body weight before pregnancy
Overweight - obesity	>=25	C.....% of body weight before pregnancy

Question 4. Nutrional demand recommendations for Southeast Asian women (FAO/WHO - 2005)

Nutritional needs/ day	Non-pregnant women	Extra nutrition needed		
		Pregnant women		Lactating mothers
		First 6 months	Last 3 months	
Energy	2200-2600 kcal	360 kcal *(equal to 1 bowl of rice)*	A..... kcal *(equal to 2 bowls of rice)*	505 - 675 kcal *(equal to 3 bowls of rice)*
Protein	55 grams	15 grams	18 grams	B.....grams
Lipid	60 grams	C.....grams	20 grams	20 grams
Iron	39,2 mg	D.....mg		
Vitamin A	500 mcg	300 mcg		E.....mcg

Question 5. Nutrional demand recommendations for Vietnamese women by age, physiological status and type of work (SEA-RDAs, 2005) are as follows:

Age/ physiological status	Recommended nutritional requirement by type of work (kcal/ day)		
	Light work	Moderate work	Hard work
Pregnant women in the 2nd trimester	+ A.....	+ 360	-
Pregnant women in the 3rd trimester	+ 475	+ B.....	-
Lactating mothers (receving good nutrition before and during pregnancy)	+ C.....	+ 505	-
Lactating mothers (receving poor nutrition before and during pregnancy)	+ 675	+ D.....	-

Question 6. According to the international standard, the average weight gain for South East Asia women during pregnancy should be (A)……., (B)……. kg of which is fat which is equivalent to (C)……. Kcal.

• Choose the best answer for questions from 7 to 8 by putting a circle around the letter at the beginning of the selected sentence

Question 7. Poor nutrition care for mothers in the first trimester of pregnancy will put the babies at the risk of:

A. Low birth weight

B. Low birth weight and diabetes

C. Diabetes and cardiovascular disease

D. Obesity and cardiovascular disease

Question 8. Poor nutrition care for mothers in the last trimester of pregnancy will put the babies at the risk of:

A. Low birth weight

B. Low birth weight and diabetes

C. Diabetes and cardiovascular disease

D. Obesity and cardiovascular disease

• Give a summarized answer, analysis and practical application for questions 9 to 12

Question 9. Why do pregnant women and lactating mothers need to be provided with adequate nutrients and diverse foods?

Question 10. Which kind of foods should be limited for pregnant women and lactating mothers?

Question 11. Instruct mothers on the appropriate nutritional diet during pregnancy and lactation periods

Question 12. Which working schedule, rest, and health care is needed for pregnant women?

SESSION 10. INTERNATIONAL CODE AND VIETNAM'S REGULATIONS ON THE MARKETING OF NUTRITIONAL PRODUCTS FOR INFANTS AND YOUNG CHILDREN

Objectives of the session

1. *To be able to describe different advertising forms of milk companies*
2. *To be able to point out the main points of the International Code and Vietnam's regulations on the marketing of breast milk substitutes*

1. Introduction

- All milk producers advertise their products to try to persuade people to buy more of them.
- Promotion of breast milk substitutes undermines mothers' confidence in their breast milk, and makes them believe that breast milk is not the best for their babies. This has a great influence on BF practices.
- It is essential to protect BF against the influences of breast milk substitutes advertisements. A necessary measure to protect BF is to regulate the advertising of breast milk substitutes at both international and national levels.
- Health facilities and health workers should protect BF by banning milk companies from advertising their products at all heath facilities.

2. Forms of milk companies's adverstising

- Display milk products and milk bottles attractively in supermarkets, stores, outdoor markets to attract mothers' attention when they go shopping
- Give free milk samples to mothers. Sometimes this is among presents given to mothers. Even when mothers intend to breastfeed their babies, they are more likely to give up if they receive free samples and presents.
- Give coupons to mothers for a discount on breast milk substitutes.
- Advertise on radio, TV, videos, billboards, buses, newspapers and magazines, etc.
- Advertising via health facilities:
    - Provide health facilities with posters and wall calendars. These are decorated nicely and attractively.

- Provide materials with attractive information to health facilities to distribute to families. Normally, health facilities do not have many materials to give to families and patients, while some of information included in these materials is useful.
- Provide such small objects as ballpoint pens, growth chart, clock, etc. with milk companies' brand names and logos on it. They sometimes even give valuable products such as TV sets or incubators to doctors and health facilities.
- Give free samples or free supplies of formula milk to health facilities.
- Give presents to health workers.

➢ Advertise in health magazines and newspapers.

➢ Pay for workshops, conferences or sightseeing tours, or give free lunches to medical schools, nutrition specialists and health workers.

➢ Fund, give grants to, and sponsor health facilities in many different ways.

3. Overview of the International Code on the marketing of breast milk substitutes

In 1981, the World Health Assembly adopted the International Code which aims to regulate the marketing of breast milk substitutes. The Code has been amended and frequently supplemented with resolutions, which are considered as minimal requirement to protect and support BF.

SUMMARY OF 9 KEY POINTS IN THE INTERNATIONAL CODE

1. No advertising breast milk substitutes and other products to the public
2. No free samples to mothers
3. No advertising at health facilities
4. No company personnel to advise mothers
5. No gifts or personal samples to health workers
6. No pictures of infants, or other pictures idealizing artificial feeding, on the labels of the products.
7. Information to health workers should be scientific and factual.
8. Information on artificial feeding, including that on labels, should explain the benefits of breastfeeding and the costs and dangers associated with artificial feeding.
9. Unsuitable products, such as sweetened condensed milk, should not be advertised for babies.

4. Vietnam's Regulations on the trade in and use of nutritional products for infants and young children

Based on the International Code on the marketing of breast milk substitutes, on November 6, 20146, the Prime Minister enacted Decree No.100/2014/NĐ-CP regulating the trade in and use of nutritional products for infants and young children, feeding bottles and teats, and pacifiers (as a replacement for Decree 100/2006/NĐ-CP dated 27 February 2006 by the Prime Minister on the trade in and use of nutritional products for infants and young children).

Overview of the Decree 100/2014/NĐ-CP

- The Decree consists of 5 chapters, 16 articles regulating the information, education, communication, advertisement; trade in and use of nutritional products for infants and young children, feeding bottles and teats, and pacifiers; responsibilities in trading and using nutritional products for infants and young children.
- Detailed content: refer to appendix 3

PRE - AND POST - TEST

● Give brief answers for questions from 1 to 3 by filling in the blank spaces with appropriate words or phrases:

Question 1. List out four ways of advertising milk that you think are not compliant to the regulations:

A. .....

B. .....

C. .....

D. .....

Question 2. List out four ways of advertising milk at health facilities that you think are not compliant to the regulations:

A. .....

B. .....

C. .....

D. .....

Question 3. List out 3 contents of the International Code on the marketing of breast milk substitutes to protect BF:

A. .....

B. .....

C. .....

● Give a summarized answer, analysis and practical application for questions 10 and 11

Question 4. Present the overview of Decree 100/2014/NĐ-CP dated 6 November 2014 by the Prime Minister on the trade in and use off nutritional products for infants and young children, feeding bottles and teats, and pacifiers

Question 5. List out 3 advantages when implementing the Decree 100/2014/NĐ-CP dated 6 November 2014 by the Prime Minister on the trade in and use off nutritional products for infants and young children, feeding bottles and teats, and pacifiers

Question 6. List out 3 challenges and shortcomings when implementing the Decree 100/2014/NĐ-CP dated 6 November 2014 by the Prime Minister on the trade in and use off nutritional products for infants and young children, feeding bottles and teats, and pacifiers

Question 7. Suggest 3 solutions for effective implementation of the Decree 100/2014/NĐ-CP dated 6 November 2014 by the Prime Minister on the trade in and use off nutritional products for infants and young children, bottles and teats, and pacifiers.

(Study and apply the international code and national regulations on the marketing of breast milk substitutes for infants and young children, and refer to reality to answer questions in the pre- and post-test)

SESSION 11. INTERPERSONAL COUNSELING SKILLS

Objectives of the session

1. *To be able to describe 6 skills of listening and learning*
2. *To be able to describe 6 skills of building confidence and giving support*
3. *To be able to apply interpersonal counseling skills to provide counseling on IYCF to mothers and caregivers*

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1. Skills of listening and learning

1.1. Skill 1: Use non-verbal communication

- While talking, the health worker should have gestures, eye contact, smile, facial expression, and positions of sitting, standing and walking, etc. that are appropriate with what s/he are talking about and who s/he are talking to.
- Always express the friendliness between the health worker and client so that the mother feels comfortable and easy to share all the necessary information with the counselor.

- **Position**

The health worker sits at the same height with the mother (sitting with his/her head at the same height with the mother's). This gesture will create the friendliness between the counselor and mother so that the mother feels comfortable to share her problems with the counselor.

- **Eye contact**

The health worker looks into the mother' eyes and show attention to what the mother is saying, avoid looking away or look down at his/her notes while counseling the mother.

- **Remove barricades between counselors and mothers**

The health worker should not sit behind the table, sit far away from the mother, or take notes while counseling her.

- **Take time**

Always make the mother feel that you have time for her, do not show that you are in a hurry, sit down, greet the mother, smile at her, watch the mother breastfeed her baby and wait for her answers. Avoid showing signs of impatience, looking at the clock/ watch or greeting the mother quickly while counseling her.

- **Communicate appropriately**

The health worker should communicate with the mother and her baby appropriately; does not grumble, sigh, yawn, etc.

1.2. Skill 2: Use open-ended questions

<table>
<tr><th colspan="2">Open-ended questions</th><th colspan="2">Close-ended questions</th></tr>
<tr><td colspan="2">➢ Opened-questions are those that require the listener to think and respond with more information.
➢ Open-ended questions often start or end with such words as Why, How, What, When, Where, Who.</td><td colspan="2">➢ Close-ended questions are those to which the listener can only respond with a “Yes” or “No”.</td></tr>
<tr><td colspan="2">➢ If the health worker asks open-ended questions, the mother will have to provide some information. She cannot respond “Yes” or “No”. This will help the counselor know more information about how the mother feeds her baby.</td><td colspan="2">➢ The health worker should not ask close-ended questions as s/he only gets “Yes” or “No” for answers and it is very difficult to collect necessary information from the mother.</td></tr>
<tr><td colspan="2">➢ Should ask open-ended questions:
✓ How are you breastfeeding your child?
✓ Why don’t you breastfeed your child at night?
✓ When did you start feeding your child with complementary foods?</td><td colspan="2">➢ Should not ask close-ended questions:
✓ Are you breastfeeding your child properly?
✓ You do not breastfeed your child at night, do you?
✓ You started feeding your child with complementary foods when s/he was 6 months old, didn’t you?</td></tr>
<tr><th colspan="2">Examples</th><th colspan="2">Examples</th></tr>
<tr><td>Health worker</td><td>Good morning/afternoon. My name is …, I am the commune’s midwife. How is your baby?</td><td>Health worker</td><td>Good morning/afternoon. My name is …, I am the commune’s midwife. How is your baby?</td></tr>
<tr><td>Mother</td><td>Thank you. S/he is fine, but s/he is often hungry</td><td>Mother</td><td>S/he is fine. Thank you.</td></tr>
<tr><td>Health worker</td><td>Can you tell me how you feed him/her?</td><td>Health worker</td><td>Are you breastfeeding your baby?</td></tr>
<tr><td>Mother</td><td>S/he is breastfed. I only feed him/her with a bottle of milk in the evening.</td><td>Mother</td><td>Yes, I am.</td></tr>
<tr><td>Health worker</td><td>Why do you decide to feed him/her like that?</td><td>Health worker</td><td>Do you have any difficulties?</td></tr>
<tr><td>Mother</td><td>S/he usually wants to be breastfed at that time, but I think I don’t have enough milk.</td><td>Mother</td><td>No, I don’t.</td></tr>
<tr><td colspan="2">❖ When asking open-ended questions, the mother cannot respond “Yes” or “No”, but have to provide information; therefore, the health worker will get more information from the mother.</td><td colspan="2">❖ When asking close-ended questions, the motherswill respond “Yes” or “No”; therefore, the health worker will not get necessary information from the mother.</td></tr>
</table>

1.3. Skill 3: Use words and gestures to show attention

- If the health worker uses listening skills, words and gestures to show his/her attention to the mother, this will make the mother talk more and the health worker will get more information.
- Examples of showing attention:
  - Look at the mother, nod and smile;
  - Use simple words such as: aha, Mmm, oh, really!
  - Do not argue or interrupt the mother if it is not necessary.
  - Do not do personal work when the mother is talking.
- Examples:

Health worker	*Good morning/afternoon. How is your baby now that complementary feeding started?"*
Mother	*Good morning/afternoon. I guess s/he is fine.*
Health worker	*Mmm… (smiling and nodding)*
Mother	*Well, I was a bit worried because s/he vomited the other day.*
Health worker	*Really. (raising eyebrows, showing attention)*
Mother	*I am wondering if it was because I fed him/her with fish.*
Health worker	*Aha (nodding to show sympathy)*

The health worker uses listening skills, words and gestures to show his/her attention to the mother, this makes the mother talk more and the health worker gets more information.

1.4. Skill 4: Repeat what the mother says

- Repeating or reflecting what the mother says is a good way to show that you are listening, thus encourages the mother or caregiver to continue talking, and to say what is important to him/her.
- The health worker reflects back to the information from the mother in order to confirm the information and encourage her to provide more information as well.
- Examples of repeating what the mother says:

Health worker	*Good morning/afternoon. How are you and your baby today?*
Mother	*S/he wants to feed too much and is taking my breast all the time!*

Health worker	*Does s/he always want to feed?*
Mother	*Yes. S/he seemed to be hungry this week, I assume I did not have enough milk.*
Health worker	*During this week, s/he seemed to be more hungry, didn't s/he?*
Mother	*My sister told me to feed him/her with formula milk a few times a day.*
Health worker	*She said that your baby needed formula milk?*

The health worker reflects back to the information from the mother in order to confirm the information and encourage her to provide more information as well

1.5. Skill 5: Emphathize - showing that you understand the mother's thoughts and feelings

Empathy	Sympathy	Reflecting what the mother says
➢ Empathy is talking about feelings, not about facts. • Empathy is more than reflecting back what the mother says to you (not just responding to the mother's opinion). • Empathy can be with both good and bad feelings of the mother.	➢ Sympathy is different from emphathy • Sympathy means that you feel sorry for the mother but you look at it from your own point of view. • Empathy brings the attention back to you, and does not make the mother feel that you understand her.	➢ Reflecting what the mother says only repeats what the mother said about her baby, not what she said about her feelings. This makes the mother tired.
➢ Example You are worrying because your child wants to feed all the time, aren't you?	➢ Example Yes, I understand your feelings, my child also wants to feed all the time so it makes me exhausted.	➢ Example Does your child often want to feed?

The health worker's empathy with the mother's situation will make the mother share more about their worries and beliefs.

1.6. Skill 6: Avoid judgmental words

➢ Judgmental words are such words as: right, wrong, good, bad, sufficient, appropriate, etc.

➢ Using judgmental words in the conversation with the mother will make her feel that she is wrong or there is something wrong so she will be reluctant to share all that she needs to share with you.

- Mothers may use judgmental words in their specific contexts. Health worker may use some positive judgmental words to build the mother's confidence. However, these words should be avoided as much as possible.

➢ ***Examples of using judgmental words and non-judgmental words:***

	Use judgmental words	Use non- judgmental words
Health worker	✓ Do you feed your baby properly?	✓ How do you feed your baby?
Health worker	✓ Do you have enough milk?	✓ How often do you breastfeed you baby in a day?
Examples		
Health worker	✓ Good morning/ afternoon. Is your aby breastfeeding fine?	✓ Good morning/afternoon. How is your breastfeeding?
Mother	✓ Yes, I think so.	✓ I breastfeed him/her exclusively. I have not fed him/her anything else!
Health worker	✓ Do you think you have enough milk for your baby?	
Mother	✓ I have no idea … I hope I do, but maybe not... (The mother looks worried).	
Health worker	✓ Has your baby gained weight well this month?	✓ How is his/her weight? Can I see his/her growth chart?
Mother	✓ I am not sure....	✓ The nurse said she has gained half a kilo this month. I am quite happy.
Health worker	✓ Can I see his/her growth chart?	✓ S/he must have got enough breast milk.
According to you,	***What did the health worker learn about the mother's feelings?***	***What did the health worker learn about the mother's feeling?***

Using non-judgmental words will not make the mother worried and help her share what she have not done or not done well; thus, helping her to change and do better.

SUMMARY OF LISTENING AND LEARNING SKILLS

- ❖ Use effective non-verbal communication
- ❖ Use open-ended questions
- ❖ Use words and gestures to show attention
- ❖ Repeat what the mother says
- ❖ Empathize – showing that you understand the mother's thoughts and feelings
- ❖ Avoid judgmental words

2. Skills of building confidence and giving support

2.1. Skill 1. Accept the mother's opinion

Accepting the mother's opinion means that the health worker accepts what the mother thinks and feels; It is important not to either disagree with the mother or agree with her mistaken ideas.

- ➢ Accepting the mother's opinion means responding to the mother simply and neutrally, expressing your empathy and accept what she thinks and feels.
- ➢ It is important not to either disagree with the mother or agree with her mistaken ideas.
- ➢ For example: If you talk to a sad and worried mother "Oh, don't be so sad. There's nothing to be worried about", the mother may assume it would be wrong to think that way. This makes the mother less confident and unable to make her own decision.
- ➢ **Examples:**

Mother	My milk is so thin that I have to feed my baby with formula milk.
Health worker's disagreement with the mother is an inpropriate response	Oh, no! It looks like that but it is not thin at all" (nodding your head, smiling).
Counselor's agreement with the mother's mistaken idea is an inapropriate response	Oh, yes! Thin milk might be a problem.
Counselor's acceptance to the mother's opinion is an appropriate response	I know! You are worried about your milk, aren't you?

2.2. Skill 2. Identify and praise what the mother is doing well

- First of all, it is important to identify the mother's good practices, and then we should praise or show agreement with her;
- Compliments will build the mother's confidence, encourage her to continue those practices and it will make it easier for her to follow advices from the counselor;
- In some cases, it may be difficult to identify what the mother is doing right, but this is not common. Most mothers must be doing some things right in feeding their children, whatever her socio-economic status or education is;
- Examples of praising what the mother is doing well:

Counseling situation: *In the previous month, the baby gained less weight as compared to the standard, but he/she still gains weight*	
Judgmental words	**Complimentary words**
✓ The growth line shows that your child is gaining weight too slowly. ✓ I think that your child is gaining weight too slowly.	✓ Your baby's weight gain in this month is thanks to your breast milk.

2.3. Skill 3. Provide short and appropriate information

- It is important to provide the mother with appropriate information so that she can change her inappropriate practices.
- It is recommended to provide 1-2 pieces of specific and relevant information to the mother
- It is recommended not to provide negative and judgmental that s the mother feel that she does something wrong.
- Examples:

Health worker should not say:	**Health worker should say:**
✓ Thin semi-solid soup is not good for your baby	✓ Thick semi-solid soup helps your baby grow better

2.4. Skill 4: Provide practical help

- Providing practical help is better than words
- Examples:

<table>
<tr><th>Situation</th><th colspan="2">Counselor's practical help</th></tr>
<tr><td>The mother feels tired, dirty or uncomfortable</td><td colspan="2">Help to make her clean and comfortable</td></tr>
<tr><td>The mother is hungry or thirsty</td><td colspan="2">Give her a cup of water and/or some food</td></tr>
<tr><td>The mother cannot breastfed her child because her breast is engorged</td><td colspan="2">Help her express breast milk to reduce engorgement</td></tr>
<tr><td rowspan="2">The mother is taking rest after delivery. She looks tired.
She talks to the health worker: "No, I will not breastfeed my child. I have no milk and it is too painful to sit up"</td><td>Appropriate support</td><td>Inappropriate support</td></tr>
<tr><td>I will make you feel more comfortable, and I will bring you a cup of water.</td><td>You should breast-feed your child right now so that you milk will come in.</td></tr>
</table>

2.5. Skill 5. Use simple language

- Health workers are trained professionals so they understand and are familiar with technical terms. However, using these terms to talk to mothers will make them difficult or unable to understand or misunderstand.
- It is necessary for the health worker to use simple and understandable words when counseling and talking to the mother so that they can understand, remember and follow the instructions.

2.6. Skill 6. Make 1 or 2 recommendations, not commands

The health worker should recommend practical solutions to the mothers, then let her make her own decision and choose the most appropriate recommendation with her conditions and circumstances, do not force her to follow the recommendations exactly.

SUMMARY OF SKILLS OF BUILDING CONFIDENCE AND PROVIDING SUPPORT

- Accept the mother's opinion
- Identify and praise what the mother is doing well
- Provide short and appropriate information
- Provide practical help
- Use simple words
- Make 1 or 2 recommendations, not commands

PRE - AND POST - TEST

Trainees use the checklist and marking scale of interpersonal counseling skills, in combination with knowledge and experience on IYCF to practice counseling the mothers in case studies from 1 to 5.

• CASE STUDIES:

Case study 1: The mother delivered her first child 2 days ago. She has already returned home but she does not know how to breastfeed her child. Please counsel her on how to breastfeed properly.

Case study 2: The mother delivered her child 10 days ago. At present, she feels painful in her nipples every time she breastfeeds her child. Yesterday, one of her nipples was painful, hard and heavy. Please counsel her.

Case study 3: The mother delivered her child 2 months ago. Her child still gains 0.5 kg/month, but she is worried because her child is not chubby. She wants to feed the baby with formula milk. Please counsel her.

Case study 4: The mother has a 3-month-old child. She feels that she does not have enough milk. She wants to give the baby semi-solid soup so that he grows stronger. Please counsel her.

Case study 5: The mother has a 7-month-old child and is breastfeeding him. Every day, she feeds him with a bowl of semi-solid soup and divides it in 2 meals. The baby is not gaining weight this month. Please counsel her.

CHECKLIST OF INTERPERSONAL COUNSELING SKILLS

No.	Interpersonal counseling skills	Yes	No
Listening and learning skills			
1	Use non-verbal communication		
2	Use open-ended questions		
3	Use words and gestures to show attention		
4	Repeating what the mother says		
5	Empathize – showing that you understand the mother's thoughts and feelings		
6	Avoid judgmental words		
Building confidence and giving support skills			
7	Accept the mother's opinion		

No.	Interpersonal counseling skills	Yes	No
8	Identify and praise what the mother is doing well		
9	Provide short and appropriate information		
10	Provide practical help		
11	Use simple language		
12	Make 1 or 2 recommendations, not commands		

- Use the checklist to train/learn, to evaluate PROMPTLY AND FREQUENTLY during and after the practice session. Trainees can use the checklist to evaluate themselves and evaluate each other during the role-play.
- The trainer and/or "Observer" use the checklist to observe the "Counselor":
  - Mark in the cell "Yes" when the "Counselor" appropriately and completely applies necessary counseling skills, and the counseling contents are relevant to the case study.
  - Mark in the cell "No" when the "Counselor" does not apply or applies inappropriately and incompletely the necessary skills and/or counseling contents are relevant to the case study.
  - Note down the key points to learn and share in the next counseling session.
- Using the checklist will not help to classify the trainees but only shows that the trainees pass or do not pass the practice session because there is no grades:
  - **Passed:** If at least 50% of counseling skills in the checklist are marked "Yes".
  - **Failed:** If less than 50% of counseling skills in the checklist are marked "Yes".

MARKING SCALE OF INTERPERSONAL COUNSELING SKILLS

No.	Interpersonal counseling skills	Ratio	Scale		
			0	1	2
Skills of listening and learning					
1	Use non-verbal communication				
2	Use open-ended questions				
3	Use words and gestures to show attention				
4	Repeating what the mother says				

No.	Interpersonal counseling skills	Ratio	Scale		
			0	1	2
5	Empathize – showing that you understand the mother's thoughts and feelings				
6	Avoid judgmental words				
Skills of building confidence and giving support					
7	Accept the mother's opinion				
8	Identify and praise what the mother is doing well				
9	Provide short and appropriate information				
10	Provide practical help				
11	Use simple language				
12	Make 1 or 2 recommendations, not commands				
Total					**24**

- Use the marking scale to evaluate the learning results regularly, periodically and at the end of the training course, which helps classify the trainees and certify them.
- For the column "Ratio", trainer bases on the importance of each skill to determine the "ratio" accordingly, but it is necessary to clearly explain the reasons for that and reach consensus among the trainers/in the department and inform trainees during the training process.
- **Criteria:**
  - **0 point:** Do not apply or apply inappropriately the necessary counseling skills and/or conseling contents are not relevant to the assigned case study.
  - **1 point:** Apply incompletely the necessary counseling skills and/or counseling contents do not completely meet all the counseling objectives
  - **2 points:** Apply appropriately and completely the necessary counseling skills and conseling contents are relevant to the assigned case study and meet all the counseling objectives.
- **Ranking:**
  - **0 - 11 points:** Failed
  - **12 - 18 points:** Passed
  - **19 - 24 points:** Good

SESSION 12. INDIVIDUAL AND GROUP COUNSELING STEPS

Objectives of the session

1. *To be able to describe 6 steps of individual and group counseling on IYCF*
2. *To be able to provide individual and group counseling sessions on IYCF based on the six steps*

---

1. Overview of individual and group counseling steps

1.1. Both individual and group counseling need to follow completely the counseling principles, skills and steps, including:

- Individual and group counseling need to follow 6 similar steps;
- Use the interpersonal counseling skills (skills of listening and learning, skills of building confidence and giving support) in these 6 steps;
- Counseling contents should meet the demand of clients (mothers);
- Counselors are required to have basic capacity of professional knowledge related to counseling contents and skills.

1.2. Some differences between individual and group counseling:

- Individual counseling is to counsel one person (one mother); thus, the counseling contents only focus on the counseling demand of a mother. Recommendations, solutions and commitment also target issues of one person only (one mother);
- When providing counseling for a group, the counselor needs to prepare the counseling topic based on the demand of a group (a group of mothers). Recommendations, solutions and commitment is also various to suit each mother in the group. The application of counseling skills should also be flexible to encourage the mothers to participate actively and achieve the objectives of the counseling session.

2. Summary of 6 steps of individual and group counseling (including the similar and different features)

<table>
<tr><th>6 steps of counseling</th><th>Individual counseling</th><th>Group counseling</th></tr>
<tr><td rowspan="2">Step 1</td><td>Introduction
- Greet the mother, create a friendly atmosphere
- Counselor introduces him/herself</td><td></td></tr>
<tr><td></td><td>- Mothers introduce themselves
- Counselor introduces the counseling topic
- Warm-up to create a happy atmosphere, involving the mothers' participation</td></tr>
<tr><td rowspan="3">Step 2</td><td colspan="2">Identify understanding, attitudes, practices</td></tr>
<tr><td>mother needs to be counseled on</td><td>of mothers on the counseling topic</td></tr>
<tr><td colspan="2">- Use open-ended questions to identify mothers' issues properly
- Listen to what mothers share
- Do not judge what the mothers think and do wrong
- Identify and praise what mothers understand and do right</td></tr>
<tr><td>Step 3</td><td colspan="2">Analyze and assess
- Identify mothers' difficulties and problems
- Answer mothers' questions</td></tr>
<tr><td>Step 4</td><td colspan="2">Make practical recommendations
- Provide relevant information
- Use visual aids to help mothers understand and remember the necessary information
- Make 1-2 practical recommendations</td></tr>
</table>

6 steps of counseling	Individual counseling	Group counseling
Step 5	***Negotiate change and get commitment*** - Discuss solutions to overcome dificulties - Make practical recommendations that the mothers can do - Encourage and negotiate with each mother to choose 1-2 things to try and change - Come to an agreement on practicing new behavior and get commitment to do	
Step 6	***Close the counseling session*** - Ask the mother or some mothers (for group counseling) to repeat the main points of the counseling session - Summarize all points to remember after the counseling session - Come to an agreement and get commitment on things to do and plan for the next meeting - Praise, encourage and thank mothers	

3. Apply individual counseling skills to practice counseling mothers on IYCF

3.1. Use the case studies to practice the following contents:

- Practice the skills of individual counseling;
- Practice using the “Breastfeed Observation Job Aid” to assess a breastfeed;
- Practice positioning the baby at the breast to help the mother breastfeeds;
- Practice rubbing the mother’s back to stimulate the oxytocin reflex;
- Practice expressing breast milk by hand to help the mother do properly;
- Practice solving the mothers’ difficulties in BF.

3.2. Needed tools and equipment:

- Dolls, breast models;
- Breastfeed Observation Job Aid;
- Checklist of individual counseling skills.

3.3. Practice:

- Trainees practice in groups: 3-4 trainees/group;
- Practice in turn: one trainee plays the role of a mother, another plays the role of a counselor, the rest are observers;
- Trainees who are observers: use the checklist of individual counseling skills and the Breast-feed Observation Job Aid as tools to check and assess the counseling process of the trainee who plays the role of a counselor;
- Depending on each case study, the group of trainees can carefully study the situation and apply the skills appropriately to practice solving the problem the most effectively.

3.4. Case studies on BF

3.4.1. Case study 1: The mother has a 3-month-old child. She still breastfeeds her child, but she thinks that she does not have enough milk, so she feeds him/her with formula milk.

3.4.2. Case study 2: The mother has returned home after 5 days of delivery (her first child). At the hospital, she was not instructed by health worker on how to breastfeed properly. At present, both her breasts are engorged and her baby still cries after suckling. The mother thinks that she does not have enough milk, so she feeds him/her with formula milk by bottle.

3.4.3. Case study 3: The mother has a 2-month-old child and she is breastfeeding him/her. The mother comes to visit and says that her child's nose is stuffy. The baby cries a lot and cannot suckle.

3.4.4. Case study 4: The mother has a 5-month-old child. She takes her child to the commune health center to weigh and check the baby's growth chart. The baby is still breastfed. The growth chart shows that the baby gains weight slowly. The mother is very worried and wants to feed her child with formula milk because she thinks that she does not have enough milk.

PRE - AND POST - TEST

Use the checklist and marking scale of individual and group counseling skills in combination with knowledge, skills and practical experience on BF to evaluate the counseling skills when practicing each specific case study.

- Use the checklist to train/learn, to evaluate PROMPTLY AND FREQUENTLY during and after the practice session. Trainees can use the checklist to evaluate themselves and evaluate each other during the role-play.

❖ CHECKLIST

- The trainer and/or "Observer" use the checklist to observe the "Counselor":
  - Mark in the cell "Yes" when the "Counselor" appropriately and completely applies necessary counseling skills, and the counseling contents are relevant to the case study.
  - Mark in the cell "No" when the "Counselor" does not apply or applies inappropriately and incompletely the necessary skills and/or counseling contents are relevant to the case study.
  - Note down the key points to learn and share in the next counseling session.
- Using the checklist will not help to classify the trainees but only shows that the trainees pass or do not pass the practice session because there is no grades:
  - **Passed:** If at least 50% of counseling skills in the checklist are marked "Yes".
  - **Failed:** If less than 50% of counseling skills in the checklist are marked "Yes".

❖ MARKING SCALE

- Use the marking scale to evaluate the learning results regularly, periodically and at the end of the training course, which helps classify the trainees and certify them.
- For the column "Ratio", trainer bases on the importance of each skill to determine the "ratio" accordingly, but it is necessary to clearly explain the reasons for that and reach consensus among the trainers/in the department and inform trainees during the training process.

CHECKLIST OF INDIVIDUAL COUNSELING SKILLS

No.	Steps of individual counseling	Checklist	
		Yes	No
Step 1	**Introduce and create a friendly atmosphere**		
	Greet mother and create a friendly atmosphere		
	Counselor introduces him/herself		
Step 2	**Identify mother's knowledge, attitude and practices**		
	Use open-ended questions to identify mother's issues properly		
	Listen to what mother shares		
	Do not judge what mother thinks and does wrong		
	Identify and praise what mother understands and does right		
Step 3	**Analyze and assess**		
	Identify mother's difficulties and problems		
	Answer mother's questions		
Step 4	**Make practical recommendations**		
	Provide relevant information		
	Use visual aids to help mother understands and remembers the necessary information		
	Make 1-2 practical recommendations		

No.	Steps of individual counseling	Checklist	
		Yes	No
Step 5	**Negotiate change and get commitment**		
	Discuss solutions to overcome dificulties		
	Make practical recommendations that mother can do		
	Encourage and negotiate with mother to choose 1-2 things to try and change		
	Come to an agreement on practicing new behavior and get commitment to do		
Step 6	**Close the counseling session**		
	Ask mother to repeat the main points of the counseling session		
	Summarize all points to remember after the counseling session		
	Come to an agreement and get commitment on things to do and plan for the next meeting		
	Praise, encourage and thank mother		

MARKING SCALE OF INDIVIDUAL COUNSELING SKILLS

No.	Steps of individual counseling	Ratio	Scale		
			0	1	2
Step 1	**Introduce and create a friendly atmosphere**				
	Greet mother and create a friendly atmosphere				
	Counselor introduces him/herself				
Step 2	**Identify mother's knowledge, attitude and practices**				
	Use open-ended questions to identify mothers' issues properly				
	Listen to what mothers share				
	Do not judge what the mothers think and do wrong				
	Identify and praise what mothers understand and do right				
Step 3	**Analyze and assess**				
	Identify mother's difficulties and problems				
	Answer mother's questions				
Step 4	**Make practical recommendations**				
	Provide relevant information				
	Use visual aids to help mothers understand and remember the necessary information				
	Make 1-2 practical recommendations				
Step 5	**Negotiate change and get commitment**				
	Discuss solutions to overcome dificulties				
	Make practical recommendations that the mothers can do				

No.	Steps of individual counseling	Ratio	Scale		
			0	1	2
Step 5	Encourage and negotiate with each mother to choose 1-2 things to try and change				
	Come to an agreement on practicing new behavior and get commitment to do				
Step 6	**Close the counseling session**				
	Ask mother to repeat the main points of the counseling session				
	Summarize all points to remember after the counseling session				
	Come to an agreement and get commitment on things to do and plan for the next meeting				
	Praise, encourage and thank mother				
Total					**38**

➢ **Criteria:**

- **0 point:** Do not apply or apply inappropriately the necessary counseling skills and/or conseling contents are not relevant to the assigned case study.
- **1 point:** Apply incompletely the necessary counseling skills and/or counseling contents do not completely meet all the counseling objectives
- **2 points:** Apply appropriately and completely the necessary counseling skills and conseling contents are relevant to the assigned case study and meet all the counseling objectives.

➢ **Ranking:**

- **0 - 18 points:** Failed
- **19 - 28 points:** Passed
- **29 - 38 points:** Good

CHECKLIST OF GROUP COUNSELING SKILLS

No.	Steps of group counseling	Checklist	
		Yes	No
Step 1	**Introduce and create a friendly atmosphere**		
	Greet mothers and create a friendly atmosphere		
	Counselor introduces him/herself		
	Mothers introduce themselves		
	Counselor introduces the counseling topic		
	Warm-up to create a happy atmosphere, involving the mothers' participation		
Step 2	**Identify mothers's knowledge, attitude and practices on the counseling topic**		
	Use open-ended questions to identify mothers' issues properly		
	Listen to what mothers share		
	Do not judge what the mothers think and do wrong		
	Identify and praise what mothers understand and do right		
Step3	**Analyze and assess**		
	Identify mothers' difficulties and problems		
	Answer mothers' questions		
Step 4	**Make practical recommendations**		
	Provide relevant information		
	Use visual aids to help mothers understand and remember the necessary information		
	Make 1-2 practical recommendations		

No.	Steps of group counseling	Checklist	
		Yes	No
Step 5	**Negotiate change and get commitment**		
	Discuss solutions to overcome dificulties		
	Make practical recommendations that the mothers can do		
	Encourage and negotiate with each mother to choose 1-2 things to try and change		
	Come to an agreement on practicing new behavior and get commitment to do		
Step 6	**Close the counseling session**		
	Ask some mothers to repeat the main points of the counseling session		
	Summarize all points to remember after the counseling session		
	Come to an agreement and get commitment on things to do and plan for the next meeting		
	Praise, encourage and thank mothers		

MARKING SCALE OF GROUP COUNSELING SKILLS

No.	Steps of group counseling	Ratio	Scale		
			0	1	2
Step 1	Introduce and create a friendly atmosphere				
	Greet mothers and create a friendly atmosphere				
	Counselor introduces him/herself				
	Mothers introduce themselves				
	Counselor introduces the counseling topic				
	Warm-up to create a happy atmosphere, involving the mothers' participation				
Step 2	Identify mothers's knowledge, attitude and practices on the counseling topic				
	Use open-ended questions to identify mothers' issues properly				
	Listen to what mothers share				
	Do not judge what the mothers think and do wrong				
	Identify and praise what mothers understand and do right				
Step 3	Analyze and assess				
	Identify mothers' difficulties and problems				
	Answer mothers' questions				
Step 4	Make practical recommendations				
	Provide relevant information				

No.	Steps of group counseling	Ratio	Scale		
			0	1	2
	Use visual aids to help mothers understand and remember the necessary information				
	Make 1-2 practical recommendations				
Step 5	Negotiate change and get commitment				
	Discuss solutions to overcome dificulties				
	Make practical recommendations that the mothers can do				
	Encourage and negotiate with each mother to choose 1-2 things to try and change				
	Come to an agreement on practicing new behavior and get commitment to do				
Step 6	Close the counseling session				
	Ask some mothers to repeat the main points of the counseling session				
	Summarize all points to remember after the counseling session				
	Come to an agreement and get commitment on things to do and plan for the next meeting				
	Praise, encourage and thank mothers				
Total					**44**

➢ **Criteria:**

- **0 point:** Do not apply or apply inappropriately the necessary counseling skills and/or conseling contents are not relevant to the assigned case study.
- **1 point:** Apply incompletely the necessary counseling skills and/or counseling contents do not completely meet all the counseling objectives
- **2 points:** Apply appropriately and completely the necessary counseling skills and conseling contents are relevant to the assigned case study and meet all the counseling objectives.

➢ **Ranking:**

- **0 - 21 points:** Failed
- **22 - 33 points:** Passed
- **34 - 44 points:** Good

SESSION 13. FIELD PRACTICE AT HOSPITAL ON COUNSELING AND GIVING INSTRUCTIONS ON BREASTFEEDING

Objectives of the session:

1. *To be able to use appropriate counseling skills to counsel mothers on IYCF.*
2. *To be able to assess a breastfeed using the Breastfeed Observation Job Aid.*
3. *To illustrate how to support mothers with good positioning and attachment.*

---

1. Preparation:

- 4 sheets of Breastfeed Observation Job Aid;
- 4 sheets of Checklist of Counselling Skills;
- Pencils and notebooks.

2. Location: Post-delivery room of the obstetrics department

3. Practice steps:

- A trainer gives initial instructions to all trainees on how to do the practice session;
- Give instructions and supervise the group work: at least 2 trainers should participate in this activity. Each trainer is responsible for a group of trainees;
- Trainees work in group of 3-4 or 4-5 people depending on the number of trainees and trainers;
- Each trainee takes turn to counsel and support a mother while the others observe;
- Make sure that each trainee has a chance to provide counseling and support at least one mother.

4. Tasks of trainees as counselors:

- Introduce yourself to the mother and ask for permission to talk with them. Introduce your group and explain to the mother that you are interested in IYCF. Take a chair (if possible).
- If the baby is suckling, ask the mother to continue. If she is not breastfeeding the baby, ask her to breastfeed her child as usual whenever the baby wants. Ask the mother to permit the group to observe the breastfeed.

- Practice counseling skills as much as possible. Start a conversation with the mother by asking some open-ended questions such as “How do you feel?”, “How is your baby’s breastfeeding?”. Suggest and encourage the mother to talk about herself and the baby. Identify and praise what the mother is doing right. Provide the mother with at least 2 relevant information to her current situation.
- It is significant to help the mother position her baby at the breast and overcome difficulties in practice sessions. One common difficulty is that the baby feels sleepy. In this situation, you can say to the mother “I know your child is sleepy, but you and I can discuss how to hold the baby until s/he wakes up”. Then, instruct the mother on 4 key points of positioning. By doing so, the child may wake up and want to feed when his/her nose touches the nipple.
- Thank the mother after the conversation.

5. Tasks of trainees as observers:

- Stand behind “the counselor” to observe and keep silent.
- Observe the mother and baby as the whole: See if the mother is relaxing or not, if she have bottle or formula milk to feed the baby. Observe the conversation between the mother and “counselor” to see who talks more. Check if the mother feels comfortable and interested in the conversation.
- Specifically observe counseling skills being practised by the trainee in the conversation with the mother.
- Carefully observe and mark with a (✓) in the appropppriate cells (yes or no) in the checklist of counselling skills.
- Note down necessary things during the observation to share and withdraw lessons for the next counseling session.
- While observing the mother breastfeeding her baby, use the Breastfeed Obversation Job Aid and mark with a (✓) in the right boxes.

MISTAKES TO AVOID

Don’t say that you are interested in BF

- The mother may change her attitude and might feel uncomfortable if she is feeding her child with formula milk. You should say that you are interested in “IYCF” or “feeding methods”;
- If the mother asks for help, you should talk to the trainers or health workers of the patient room or examination room.

MISTAKES TO AVOID

Be careful so that the forms do not become the barriers

- While talking with the mothers, trainees should not take notes (if they want to take notes, they should do it after the conversation ends). Only refer to the forms to know what to do.
- The "observers" can note down necessary information if they need.

- **It is important for trainees to apply the counseling skills appropriately to help mothers in different situations (skills of listening and learning, building confidence and giving support, assessing a breastfeed, helping the mother to position her baby at the breast and helping the baby to attach to the breast, taking the feeding history).**
- **In some situations that you cannot propose any solutions, recommendations and appropriate information should be provided to the mothers.**

SESSION 14. IMPORTANCE OF COMPLEMENTARY FEEDING

Objectives of the session

1. *To be able to explain the importance of appropriate CF*
2. *To be able to describe 10 CF principles*
3. *To be able to point out the risks of too early or too late CF*

---

1. The importance of CF

1.1. Definition of CF

Complementary feeding means giving other semi-solid or solid foods rich in energy and nutrients in addition to breast milk

- The period of CF is from 6 to 24 months of age. A baby needs more foods in addition to breast milk.
- CF means giving children from 6 to 24 months of age other semi-solid or solid foods rich in energy and nutrients in addition to breast milk. From 6 months onward, although breast milk still plays a very important role in providing energy and nutrients to children, it cannot meet the total energy needed for children's development. Therefore, they need more foods in addition to breast milk.
- Complementary foods are foods that provide additional nutrients to children, but do not completely substitute breast milk. Complementary foods must be nutritious, diversed and in adequate supply for children to grow and develop.
- Liquid foods including milk (formula milk mixed with water or fresh milk) and all kinds of fruit juices are not considered as complementary foods because these foods compete and replace breast milk, which reduces the amount of breast milk that children should have got.

1.2. The time to start CF

1.2.1. The optimal time to start CF:

- The most appropriate time to start CF is at 6 months of age (180 days) to help children grow well.
- Most babies need CF at 6 months of age. Therefore, the mother should be counseled on how to prepare complementary food and how to feed the child in the first feed when the

baby is about five months of age. This will help the mother to have sufficient information and the skills to practice CF when the baby is six months old.

- The following signs show that a baby is ready to eat:
  - Like watching and reaching for foods when others are eating;
  - Like putting things into his/her mouth;
  - Can control his/her tongue better to move the foods around in his/her mouth;
  - Start chewing and moving his/her jaw up and down.

1.2.2. Risks of starting CF too early or too late

Risks of starting CF too early (before 6 months or 26 weeks)	Risks of starting CF too late (after 6 months or 26 weeks)
➢ The baby breastfeeds less, reducing breast milk production; ➢ The baby has increased risks of illness, diarrhea, malnutrition, allergies because complementary foods are not appropriate with the baby's immature disgestive and immune systems; ➢ The baby breastfeeds less, increasing the mother's risk of a new pregnancy.	➢ The baby does not receive the necessary foods to fill the nutrient gap from breast milk, especially the iron gap; ➢ The baby grows and develops slowly; ➢ Risks of malnutrition and nutrient deficiency increase.

2. Principles of CF

- Start giving complementary foods at an appropriate age (start at 6 months or 180 days), not too early or too late. Continue BF as much as possible.
- Start from liquid to solid foods, from a little to bigger amounts; and help the baby get acquainted with new foods (not providing liquid foods for more than 2 weeks).
- Number of meals should increase according to the child's age. Ensure that the food suits the baby's appetite.
- Make the food tender for easy eating and swallowing, and with different colors and flavors so that the baby wants to eat.
- Prepare mixed food rich in nutrients using locally available food. Change the foods daily and feed the baby with diversed foods. Do not give the baby with the same food for more than once in a day.

- Add oil, fat, sesame, or peanut to make the food smell good, taste deliciously, and soft so that it is easier to eat as well as provides more energy to help the baby develop well.
- The cooking tools must be clean and hands must be washed with soap before preparing meals and feeding the baby.
- Give the child more complementary food and drink during and after the child's illness, especially after a bout of diarrhea or a high temperature.
- Do not give the baby cakes, candies or soft drinks before the meal because the sweetness will increase blood sugar, inhibiting the extracting enzyme so that child lose his/her appetite and skips the meal or takes less food.
- Meal time is when the child learns to eat. It is necessary to teach, encourage and motivate him/her to eat. The baby will eat more in a happy and comfortable atmosphere. This will help the baby receive all nutrients s/he needs. Do not force the baby to eat.

- **The most appropriate time to start CF is at 6 months of age (180 days) to help the baby develop well.**
- **Continued BF up to 24 months or beyond, along with appropriate CF will help the baby grow healthy and strong.**

PRE - AND POST - TEST

● Give brief answers for questions from 1 to 3 by filling in the blank spaces with appropriate words or phrases:

Question 1. Four signs showing that a baby is ready to eat are:

A. .....

B. .....

C. The baby can control his/her tongue better to move foods around in his/her mouth;

D. .....

Question 2. Three risks of starting CF too early are:

A. .....

B. .....

C. .....

Question 3. Three risks of starting CF too late are:

A. .....

B. .....

C. .....

● Choose the best answer for questions from 4 to 5 by putting a circle around the letter at the beginning of the selected sentence

Question 4. Appropriate CF is:

A. Give the baby other breast milk substitutes

B. Give the baby other foods in addition to breast milk

C. Give the baby other liquid foods in addition to breast milk

D. Give the baby other semi-solid or solid foods in addition to breast milk

Question 5. The optimal age to start CF is:

A. When the baby is completed 4 months old

B. When the baby is completed 5 months old

C. When the baby is completed 6 months old

D. When the baby is completed 7 months old

- ***Give a summarized answer, analysis and practical application for questions 10 and 11***

Question 6. What is the importance of CF?

Question 7. What are the 10 principles to be ensured in CF?

SESSION 15. COMPLEMENTARY FOODS

Objectives of the session

1. *To be able to list out four main groups of complementary foods*
2. *To be able to explain the importance of using diverse foods and foods rich in iron and Vitamin A*

---

1. Four groups of basic complementary foods

1.1. Starchy foods (staples):

- This is a source of foods to provide calories in a diet; often starchy, protein limited and poor in micronutrients. Thus, they should be combined with other foods to ensure that the child has enough nutrients.
- Include rice, maize, potatoes, tubers, beans, etc.

1.2. Protein-rich foods:

- They help build human body, transport nutrients, stimulate appetite, regulate metabolism, and protect human body.
- Include animal- and plant-source foods:
  - *Animal-source foods:* rich in nutrients, including eggs, milk, meat, fish, shrimp, crab, eel, pupa, and organ foods (such as liver, heart, etc.)
  - *Plant-source foods:* When these foods are mixed with grains, they will become as nutrient-rich as animal-source foods, but are often cheaper. They include all kinds of beans (black bean, green bean, soya bean, etc.).

1.3. Fat-rich foods:

- This is a source of foods to provide energy for the child's meal, help the child easily absorb vitamins saturated in oil such as vitamin A, E, D, K, etc., and make the food softer and easier to swallow.
- Include oil, butter, fat, in which oil is easier to absorb than fat

1.4. Vitamin- and mineral-rich foods:

- This is a very good source of foods to provide vitamins and minerals for the child. Vegetables with dark-green leaves and yellow-colored fruits and tubers help the baby to have healthy eyes and protect him/her from infections.
- Include green vegetables and ripe fruits.

Figure 50. Four main groups of complementary foods

2. Foods to fill iron gap

2.1. Why should the child be given iron-rich foods?

- Iron is needed to make new blood, to assist in growth and development, to increase the immune system, and to help the child to fight against infections.
- The young child grows faster in the first year than in the second year. Therefore, the need for iron is higher when the child is younger.
- In the first six months, the child will use up the stored iron from the mother; after that, there is a gap in iron and it needs to be filled with complementary foods.
- Zinc is also an essential micronutrient that helps children to grow and stay healthy. Iron-rich foods are usually rich in zinc, so if the child is fed with foods rich in iron, s/he also receives zinc.

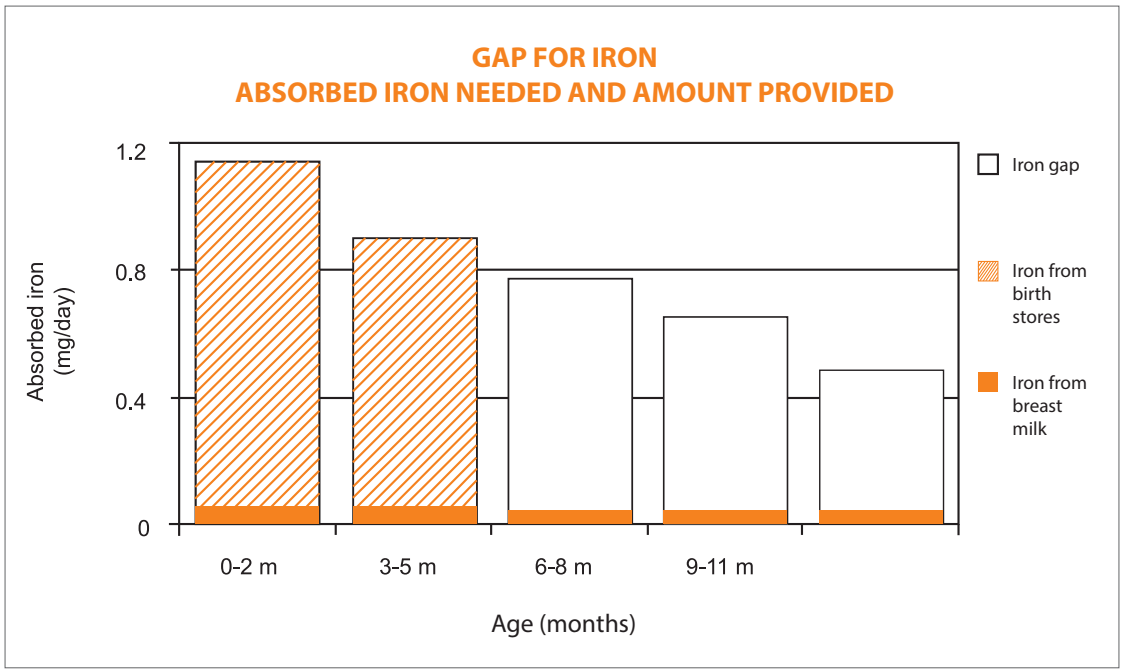

Figure 51. Absorbed iron needed and amount provided

Notes for Figure 51:

- ✓ *The top of each column represents the amount of absorbed iron that is needed per day by the child;*
- ✓ *The plaid area is the amount of stored iron from birth (enough for the child until 6 months of age);*
- ✓ *The black area shows the amount of iron provided by breast milk (the baby must be breastfed);*
- ✓ *The white area illustrates the iron gap that need to be filled with complementary foods.*

2.2. Iron absorption

- ➢ Sources of foods that are rich in iron include pulses and dark-green leaves.
- ➢ In order to fill the gap in iron effectively, it is necessary to consider the following factors that affect the child's iron absorption:
  - The total amount of iron in the food;
  - The type of iron (iron from meat and fish is better absorbed than iron from plants);
  - More iron will be absorbed if the child is anaemic;
  - Mix different foods in a meal appropriately.
- ➢ Some kinds of foods help increase the amount of iron absorbeb:
  - The total amount of iron absorbed from eggs and plant foods increases if they are fed with:
    - Foods rich in vitamin C (tomato, cauliflower, guava, mango, pineapple, papaya, orange, lemon and other citrus fruit);

- A small amount of meat, organ foods, bird, fish, and seafoods.

- Some foods and drinks reduce iron absorption:
  - Tea and coffee;
  - Food high in fiber.

3. Foods to fill vitamin A gap

3.1. Why should the baby be given vitamin A rich foods?

- Vitamin A is essential for for eyes and skin and helps the child to fight against infections.
- As vitamin A can be stored in a child's body for a few months, families are encouraged to feed the child with foods rich in vitamin A daily or as often as possible when these foods are available. A variety of vegetables and fruits in the child's diet help to meet many nutrient needs;
- Breast milk provides a significant amount of vitamin A for a child. If the child is not breastfed, s/he especially needs a diet rich in vitamin A.

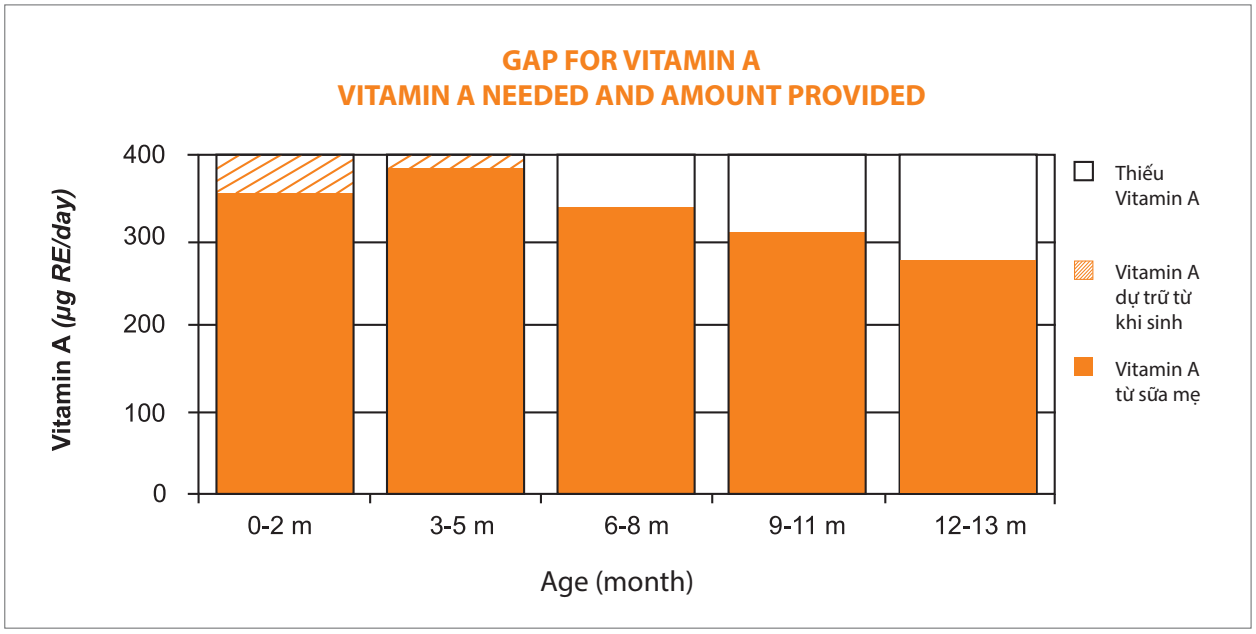

Figure 52. Vitamin A needed and amount provided

- The top of each column represents the amount of Vitamin A needed by a child each day;
- Breast milk supplies a large amount of vitamin A needed if BF is continued and the mother's diet is sufficient in vitamin A;
- As a child grows, there is a gap in vitamin A that needs to be filled with complementary foods.

3.2. Foods rich in vitamin A

- Dark-green leaves and yellow-colored, red-colored fruits;
- Organ foods (liver) from animals;
- Milk and dairy products such as butter, cheese and yogurt;
- Egg yolks;
- Margarine, dried milk powder and other foods fortified with vitamin A.

Dark-green leaves and yellow-colored fruits help children to have healthy eyes and fight against infections.

4. Importance of animal-source foods

- Meat and organs (liver, heart, and blood), milk, yogurt, cheese, and eggs are very rich in nutrients;
- Meat or organs of animals, birds, fish, prawn, crab and shells, canned fish, and blood-source foods are very rich in iron and zinc. Liver is not only rich in iron but also in vitamin A;
- Milk and eggs are rich in protein and other nutrients. However, milk and dairy products such as cheese and yogurt are not iron rich foods;
- Milk fat, whole milk, and egg yolks are good sources of nutrients and vitamin A.
- Dairy products (whole milk, skim milk, or powedered milk) and any foods containing bones are good sources of calcium to help bones grow strong;
- Risks of iron deficiency may exist unless the child's diet has diverse foods from meat and fish. Micronutrient supplemented or fortified foods such as flour, noodle, cereals, and fortified instant foods will help to meet the child's need. Some children need micronutrient supplements if they do not eat enough foods rich in iron or they have particularly high demand of iron.

It is necessary to feed children with animal-source foods daily and frequently. This is especially important to non-breastfed children.

5. Importance of legumes and nuts

- Legumes/ pulses and nuts/ seeds are good sources of foods for the child, providing protein and iron.
- Some ways to make legumes, beans/ peas and nuts/ seeds easier for the child to eat and digest:
  - Soak beans and throw away the water before cooking;
  - Remove skins by soaking raw seeds and the rub the skins off before cooking;
  - Boil beans, then sieve to remove coarse skin;
  - Roast beans and seeds, then grind them into powder;
  - Add beans/ nuts to porridge or stews;
  - Mash cooked beans.
- Eating diverse foods in the same meal helps the child obtain essential nutrients. For example, combining a cereal with a pulse or adding a milk product to a cereal.

6. Micronutrient fortified foods

- Currently, there are some kinds of instant foods fortified with micronutrients such as flour and a cereal product fortified with iron and zinc for children. Therfore, families can consider buying these products for their children.
- The following things should be considered when selecting instant micronutrient fortified foods for children:
  - What are the main ingredients?
  - Is the product fortified with micronutrients such as iron, vitamin A or other vitamins?
  - Does the product contain ingredients such as oil and fat to add energy?
  - What is the cost compared to similar home-made foods?
  - Does the product label or other instructions provide specific information of the child age, usage, and expiry date?
  - It is important not to use the words “a breast milk substitute” or “for children under 6 months only.”

7. Fuild need of the young child

- If a child is exclusively breastfed, there is no need to feed him/her with extra water (because 88% of breast milk is water – providing enough fluid needed by a child)

- When the child is given complementary foods, s/he should be given extra clean water apart from the amount of water in porridge, soup and other complementary foods,.
- Give the child a drink when s/he is thirsty, has a fever or diarrhea.
- It is possible to give the child fruit juices, but too much fruit juice may cause diarrhea or reduce the child's appetite.
- It is not recommended to give the child soft drinks. Drinks that contain a lot of sugar may make the child thirstier or require the body to handle the extra sugar.
- It is necessary to give the child a small drink if the child is thirsty during a meal. This may help the child to quench thirst and eat more.
- A non-breastfed child aged 6 - 24 months needs:
  - About 2 - 3 cups of water every day (1 cup = 250ml);
  - From 4 - 6 cups of water per day in a hot climate.

- **All families need to know about foods rich in iron, vitamin A, micronutrients and locally available animal-source foods.**
- **All families should feed children with appropriate and diverse foods, especially foods rich in iron, vitamin A, micronutrients and from animal sources; and give them enough water as needed.**

PRE - AND POST - TEST

● Give brief answers for questions from 1 to 5 by filling in the blank spaces with appropriate words or phrases:

Question 1. Name the four basic food groups needed in a child's diet

A .....

B .....

C .....

D .....

Question 2. List 5 kinds of locally available complementary foods that provide starch.

A .....

B .....

C .....

D .....

E .....

Question 3. List 5 kinds of locally available complementary foods that are rich in protein.

A .....

B .....

C .....

D .....

E .....

Question 4. List 5 kinds of locally available complementary foods that are rich in fat.

A .....

B .....

C .....

D .....

E .....

Question 5. List 5 kinds of locally available complementary foods that are rich in vitamins and minerals

A .....

B .....

C .....

D .....

E .....

- ***Give a summarized answer, analysis and practical application for questions 6 and 12***

Question 6. Why should young children be fed with iron-rich foods? Introduce at least 5 kinds of iron-rich foods that are available at your locality. Instruct mothers to use complementary foods appropriately to fill the gap for iron.

Question 7. Why should young children be fed with vitamin A-rich foods? Introduce at least 5 kinds of vitamin A-rich foods that are available at your locality. Instruct mothers to use complementary foods appropriately to fill the gap for vitamin A.

Question 8. Why should young children (particularly non-breastfed children) be fed with diverse animal-source foods daily and frequently? Introduce at least 5 kinds of animal-source foods that are available at your locality.

Question 9. Instruct mothers to prepare foods from legumes and nuts for the child to eat and digest more easily.

Question 10. Instruct mothers to select and use micronutrient fortified foods properly for children. Introduce at least 5 kinds of micronutrient fortified foods that are available at your locality.

Question 11. Present a child's fluid need. Instruct the mothers to provide water properly according to the child's need.

Question 12. Why should young children be fed with diverse foods?

SESSION 16. QUANTITY AND QUALITY OF COMPLEMENTARY FEEDING

Objectives of the session

1. *To be able to present the number of complementary feeding meals and amount of complementary foods that is appropriate to each age group*
2. *To be able to explain the reasons why children need to be fed with thick foods and describe how to increase the density of complementary foods*
3. *To be able to give instruction to mothers and caregivers on good feeding techinques*
4. *To be able to give instruction to mothers and caregivers on ensuring food safety and hygiene in complementary feeding*

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1. Amount of foods and number of meals

- When CF starts, the child's digest system needs time to get used to new foods and the child needs to learn how to eat with gradually increased amounts of food.
- To provide enough energy for the child, it is necessary to give the child snacks apart from main meals.
- A healthy snack needs to provide energy and nutrients for the child, including: yoghurt, dairy products, breads, biscuits, honey, fruits, green bean cakes, and well-cooked potatoes.
- Sugar-rich foods cannot replace other foods in the child's diet; therefore, candies and soft drinks are not healthy snacks for the child.
- When the child gets older, it is necessary to increase the amount of foods, give as much as the child needs, and motivate and encourage the child to eat.
- All main foods (starches) provide protein and nutrients but they do not have all the nutrients, minerals, and vitamins, etc. needed for the development of the child, so s/he needs to be provided with many other food groups apart from the main foods.
- The child's daily meals must have all 4 basic food groups or more. Apart from starches, some other foods need to be considered as follows:
  - Animal-source foods: This is an important part in the child's daily diet;
  - Dark-green leaves, yellow-colored fruits and tubers;

- Foods to fill iron and energy gap: It is possible to feed the child with processed foods that are fortified with iron to meet his/her demand. If there is no iron-rich foods, health workers need to encourage the families to give the child iron and micronutrient tablets.

Properties of healthy complementary foods for the child:

- Foods that are rich in energy, protein and micronutrients, especially iron, zinc, vitamin A, C, etc.;
- Foods that are clean and safe for the child (no pathogenic agents, no poisionous chemicals, no bones or hard things that may be harmful to the child);
- Foods that are not too hot, spicy, salty and are appropriate to the child;
- Foods that are locally available with reasonable costs and easy for preparing and cooking.

Amount of food			
Age	***Texture***	***Number of meals/day***	***Amount of foods at each meal***
6- 8 months	- Thick semi-solid soup - Mashed foods	- 2-3 meals - 1-2 snacks - Frequent BF	- Start with 2-3 spoons (10 ml) per feed - Increase gradually to ½ of a 250 ml-sized bowl
9 -11 months	- Semi-solid soup - Or porridge, finely chopped or mashed foods	- 3-4 meals - 1-2 snacks - BF	- ½ to ¾ of a 250 ml-sized bowl
12-24 months	- Family foods, finely chopped or mashed (if necessary)	- 3-4 meals - 1-2 snacks - BF	- ¾ to one 250 ml-sized bowl
The amount of foods above is given to the breastfed child. If the child is no longer breastfed, give him/her 1-2 cups of milk (250 ml/day) and 1-2 extra meals/day; gradually increasing by the child's age.			

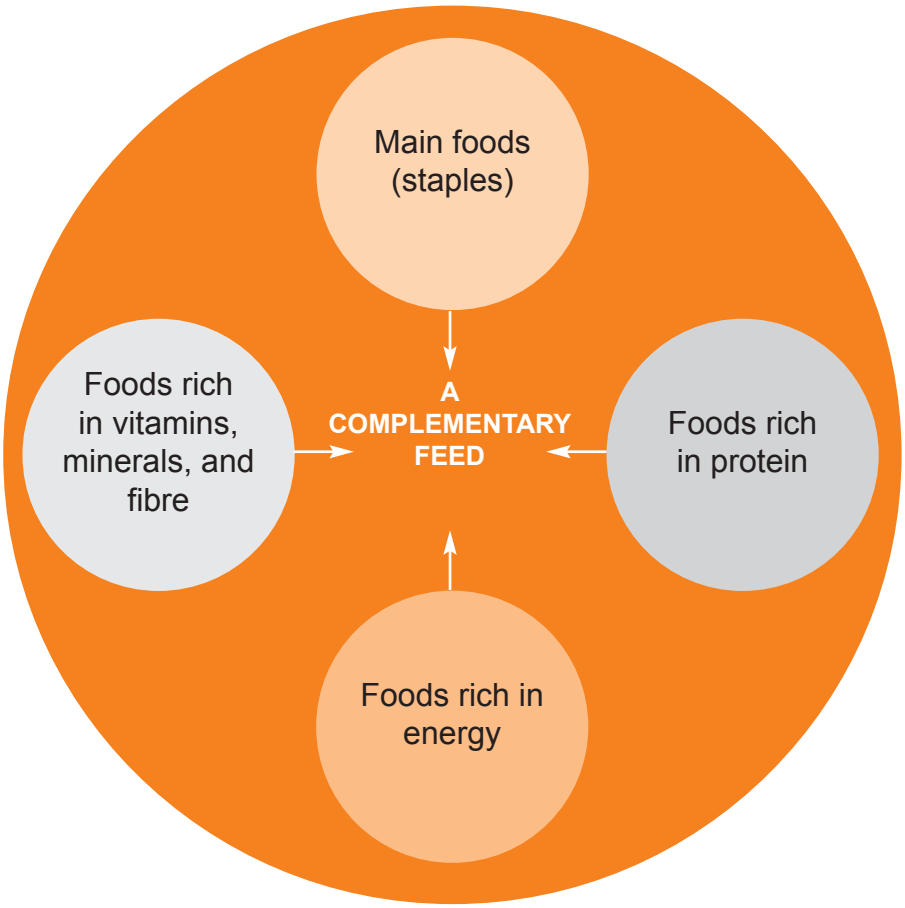


Figure 53. A complementary feed of young children

❖ All types of food provide energy, but no individual food can provide all nutrients needed by the child; therefore, it is necessary to feed the child with diverse foods.

DAILY RECOMMENDED APPROPRIATE COMPLEMETNARY FEEDING FOR CHILDREN 6-24 MONTHS

- ❖ All children are fed the recommended amount of food per meal by age.
- ❖ All children are fed the recommended number of meals daily by age.
- ❖ All children meet their recommended daily energy requirements.
- ❖ All children are fed nutrient- and energy-dense foods.
- ❖ Children are given diverse foods, with four food groups or more.
- ❖ Children are given iron-rich and Vitamin A-rich foods daily.
- ❖ All children are fed fish, meat (especially poultry) daily.

2. Consistency of complementary foods

2.1. Importance of consistency of complementary foods

Thickness of foods helps to fill the energy gap in the child's diet

- The child's stomach is very small. At the age of 8 months, a baby's stomach can hold about 200 ml at one time. Liquid and diluted foods quickly fill up the baby's stomach so that the baby does not receive enough nutrients. This explains why consistency of complementary food is of concern.
- Thickness of food helps to meet the baby's energy needs and suits the baby's stomach capacity.
- In developed countries, density of complementary foods is often 2 kcal/g; meanwhile in developing countries, it is only 1 kcal/g. This is the cause of chronic energy deficiency.
- Breast milk is a liquid food, so when a breastfed child starts eating complementary foods, s/he should be given from liquid to semi-solid, then to solid foods.
- A well-cooked bowl of semi-solid soup will change from thin to thick consistency as it gets cooler. Adding water to make the food thinner will reduce its density will be reduced; therefore, it cannot meet the energy needs of the child.

Food with appropriate consistency provides more energy for babies

Right consistency Too thin

Figure 54. Illustration for consistency of complementary foods

2.2. Ways to enrich a child's food

- For semi-solid soup or other foods:
  - Prepare with less water and make a thicker soup. Do not ,make the food too thin.
  - Roast cereal grains before grinding them into flour. Roasted flour does not thicken much, so less water is needed to make the soup.
- For beans, vegetables, meat and fish:
  - Mash or chop into a thick puree and feed to the child instead of the liquid part of the soup.
- Add energy- and nutrient-rich foods to the semi-solid soup or porridge:
  - Add a spoonful of milk powder after cooking;
  - Mix pulse, bean flour with the cereal flour before cooking;
  - Make it thick with peanut or sesame flour;
  - Add a spoonful of oil, fat, or margarine.
- Add germinated flour:
  - Add the flour and sprouted grains such as green bean, maize, rice, etc. into the food to increase the dilution and make the soup thinner; therefore, increase the soup quantity, reduce its stickiness, so that the child will eat all the food easily.
  - In addition, sprouted grains provide more vitamins and micronutrients for the child.
  - Adding 10% of germinated flour may increase the soup quantity up to 3 to 4 times in the same amount of water.

3. Food selection and substitution

Denpending on the specific condition and circumstance of each family, it is possible to replace some components of complementary foods by appropriate foods as follows:

- Starchy foods: Rice can be replaced by maize and potatoes;
- Protein-rich foods:
  - Meat and eggs can be replaced by shrimps, craps and fish;
  - Cow milk can be replaced by soya milk;
  - Protein from animal source foods (meat, eggs, milk, shrimps, crabs, fish) can be replaced by protein from plants (soybeans, green beans, black beans, sesame, peanuts).

➢ Energy-rich foods:

- Feed the chid with oil;
- Or fats (from pig, chicken, fish, etc.) can be used to provide energy in the child's foods.

4. Feeding techniques

- A child needs to be fed, to have good health and to be taken care of in order to grow and develop fully.
- Behavior and practice of caregivers and family members when providing foods, care, stimulation and emotional support will help the child grow and stay healthy.
- When the child is not given sufficient foods; sick or in a psychological transition period, the proper and responsive feeding is an important factor to help the child receive all energy and nutrients s/he needs.
- An important time to practice child feeding is at meal times.
- The child needs to learn how to eat, to try new foods; to chew, to swallow foods, to drink; to hold a spoon, a bowl, to get the food and put it into his/her mouth.
- Mothers and caregivers should spend time to support the child to eat properly. Meal time is when the child learns to eat. The child may have a good appetite and eat more if a happy and comfortable atmosphere is created, of s/he is encouraged and supported while eating. It is necessary to observe every meal from the first feed until the child is 24 months old.

Force the child to eat	Let the child eat by him/herself	Responsive feeding
➢ May make the child afraid of eating • The child cannot regulate the amount of foods taken • The child is in risk of obesity • Then, the child will refuse to eat	➢ Letting the child eat by him/herself without support makes it difficult for the child • The child eats less, feels bored and tired • The child may be hungry • If this happens for a long time, it may lead to malnutrition	➢ The child's ability to eat by himself/herself will increase by age and practicing time. So, letting the child eat by him/herself along with appropriate support will help the child learn to eat faster; • Make the child interested in eating, have a good appetite and eat more.

Three basic principles of proper feeding

❖ Feed the child based on his/her responses and cues;

❖ Do not force the child to eat;

❖ Do not let the child eat by him/herself without support and observation;

❖ **Recognize the child's signs and repond to them appropriately**

- Signs showing that the child is hungry: being tired, asking for foods or crying.
- Signs showing that the child does not want to eat: turning away, throwing the foods or crying.

❖ **Responsive feeding skills**

- Respond positively to the child with smiles, eye-to-eye contact and encouraging words;
- Feed the child slowly and patiently with love;
- Let the child eat by him/herself along with giving appropriate support;
- Minimize distractions in the meal;
- Stay with and pay attention to the child through the meal
- Try to feed a variety of foods to encourage the child to eat
- Feed the child regularly on demand, do not let the child be hungry
- Cease temporarily when the child does not want to eat, then continue later on

5. Ensure hygiene and food safety in CF

Clean and safety complementary foods are essential to reduce the risks and causes of infections for children. Therefore, 4 principles must be followed when feeding a child:

1. *Clean hands and utensils*
2. *Safe storage*
3. *Well-cooked foods*
4. *Clean water and fresh foods*

1. Clean hands and utensils	➢ Wash hands before holding foods and regularly when preparing meals. ➢ Wash hands after using the toilet, changing the baby's nappies or touching animals. ➢ Clean all the surfaces, utensils for cooking and containing foods. ➢ Protect the kitchen and foods from insects and other animals.
2. Safe storage	➢ Fresh animal-source foods should be stored separately from other foods. ➢ Raw foods and cooked foods should be stored in separate containers. ➢ Dry foods should be kept in clean and covered containers. ➢ Do not leave cooked foods at room temperature for more than 2 hours. ➢ Do not store foods for long, even in a refrigerator. ➢ Do not leave defrosted foods at room temperature. ➢ Prepared milk stored in the refrigerator should be used within 24 hours only. ❖ **Milk and food for children should ideally be fed right after preparing.**
3. Well-cooked foods	➢ Foods for children should be well-cooked until they are not pinky, especially for meat, poultry, eggs, and seafoods. ➢ Foods like porridge, vegetables should be brought to a boil. ➢ Cooked foods should be reheated thoroughly by bringing to a boil and stiring while re-cooking.
4. Clean water and fresh foods	➢ Use clean water or safely filtered water. ➢ Select fresh foods. ➢ Do not use expired foods. ➢ Use sterilised milk. ➢ Wash fruits with clean water, especially for non-cooked foods.

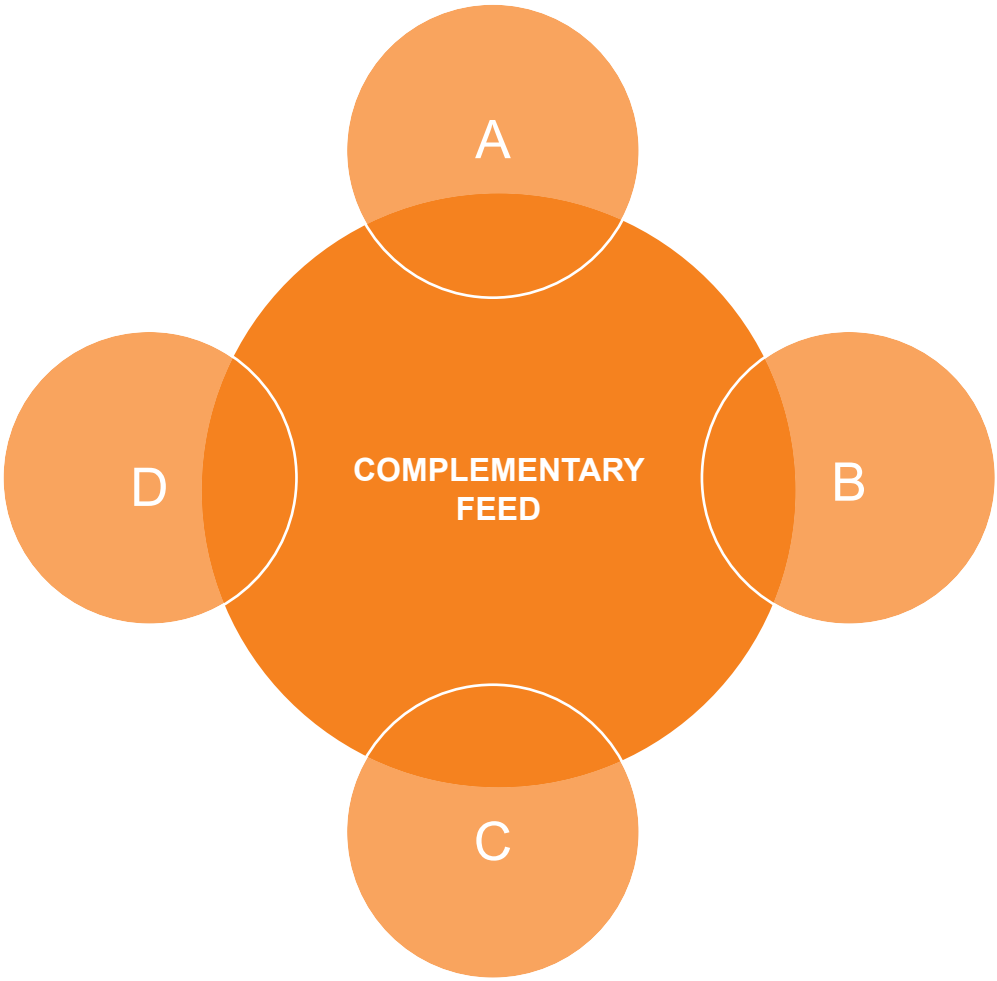
PRE - AND POST - TEST

• Give brief answers for questions from 1 to 8 by filling in the blank spaces with appropriate words or phrases:

Question 1. Complete the table on age-appropriate complementery feeding for children from 6 months of age.

Amount of food			
Age	***Texture***	***Number of meals/day***	***Amount of foods at each meal***
6- 8 months	➢ Thick semi-solid soup ➢ Mashed food	A. ……....meals B…….snacks ➢ Frequent BF	C…….spoonfuls (when starting CF), increase gradually to ½ of a 250 ml-sized bowl
9 -11 months	Semi-solid soup or porridge; finely chopped or mashed foods	D……meals E……snacks ➢ BF	F……..to…… a 250 ml-sized bowl
12-24 months	➢ Family foods, finely chopped or mashed if necessary	G…….meals H……snacks ➢ BF	I……to ……a 250 ml-sized bowl

Question 2. A child's daily meals should have at least 4 food groups as follows:



Question 3. Three basic principles of proper feeding are:

A .....

B .....

C .....

Question 4. Four consequences of forcing the child to eat are:

A .....

B .....

C .....

D .....

Question 5. Three consequences of letting the child eat by him/herself without appropriate support are:

A .....

B .....

C .....

Question 6. It is necessary to recognize two following signs when feeding the child:

A .....

B .....

Question 7. Two benefits of responsive feeding are:

A .....

B .....

Question 8. Recommended daily foods for children aged 6-24 months need to meet 7 basic requirements as follows:

A .....

B .....

C .....

D .....

E .....

F .....

G .....

• Distinguish True/False for questions from 9 to 12 by marking with (x) in column A for the true sentence and in column B for the false sentence

	A	B
Question 9. Complementary foods for children should have high density because the child's stomach is very small, but s/he has high demand on energy to grow.		
Question 10. A way of increasing density of complementary foods is to add milk powder or oil, fat.		
Question 11. Responsive feeding is letting the child eat by him/ herself.		
Question 12. Sugar-rich foods can replace other foods in the child's daily diet.		

• Give a summarized answer, analysis and practical application for questions from 13 and 18

Question 13. Present 4 basic requirements of healthy complementary foods for children.

Question 14. Explain to mothers why the consistency of complementary foods can fill the energy gap in a child's diet? Instruct mothers, caregivers and families on how to increase the consistency of complementary foods.

Question 15. Instruct mothers on how to select and replace complementary foods for a child in accordance with the family conditions.

Question 16. Instruct mothers, caregivers and families to practice the responsive feeding skills.

Question 17. Why should a young child be given adequate amount of food and number of meals per day?

Question 18. Instruct mothers, caregivers and families to fully and properly practice 4 principles of a hygienic and safe complementary feeding.

SESSION 17. FUSSY EATING AND REFUSAL TO EAT IN YOUNG CHILDREN

Objectives of the session

1. *To be able to identify the reason of fussy eating and refusal to eat in young children*
2. *To be able to give instructions to mothers and caregivers on prevention of and nutrition care for fussy eating and refusal to eat children*

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1. Concept of fussy eating and refusal to eat

- A child is considered as a fussy eater when s/he eats less than the recommended amount of foods, leading to signs of slow growth.
- A freaky eater is the child who refuses to eat certain foods, leading to specific nutrient deficiency.
- Young children sometimes show signs of fussy eating and refusal to eat. In fact, about 25% to 35% of toddlers and preschoolers are believed by their parents to have problems of fussy eating or refusal to eat . However, most of them have a good appetite that is appropriate with their ages, and still grow normally. Thus, it is necessary to help families and caregivers learn how to feed their children effectively.

2. Signs to early recognize fussy eating and refusal to eat in young children

- The child does not eat all the recommended amount of foods given or the meal lasts long (for more than 1 hour);
- The child suckles and eats less than usual;
- The child keeps the foods in his/her mouth for a long time and does not swallow;
- The child does not eat certain kinds of foods such as meat, fish, eggs, milk, vegetables, fruits;
- The child refuses to eat, run away when seeing foods;
- The child wants to vomit when seeing foods.

3. Reasons of fussy eating and refusal to eat

3.1. Reasons from the child

- ***Fear-based fussy eating:***
  - The child fears of pain and discomfort that s/he experienced before such as choking, breathing difficulty, naso-gastric tubes;
  - The child fears of being given complementary foods too early when his/her responses and coordination ability are not fully developed and adapted appropriately with complementary feeding.
- ***Psychology-based fussy eating:***
  - The child concentrates too much on other activities and refuses to eat;
  - The child may react negatively when being forced to eat due to his/her need for autonomy;
  - The child' psychophysiology changes during his/her development and this may also cause fussy eating or refusal to eat.
- ***Selective food-based refusal to eat:***
  - The child is usually afraid of and does not like new foods or unfamiliar foods. However, s/he will accept new and unfamiliar foods if s/he is gradually exposed to these foods;
  - The child may have previous experience of fear when being given new foods. If parents do not know how to address the problem in this period, the child's diet will be limited among a few kinds of foods that s/he trusts.

3.2. Reasons from parents and caregivers:

- ***Unrealistic expectations:*** Family members do not fully understand the growth and nutritional needs of children at different ages, so they cannot define children's normal development properly or have too high expectations that their child should be chubbier and taller than normal.
- ***Psychological factors:***
  - Force the child to eat more than s/he needs, causing fear of eating;
  - Do not understanding the physiological appetite that appears in children from 1 to 5 years old.
- ***Give the child inappropriate complementary foods:***
  - Giving the child too much of drinks such as milks, fruit juices or too many cakes and candies will reduce his/her appetite and make the child unable to get energy- and nutrient-rich foods;

- Giving the child junk foods between meals and snacks also influences the child's taste;
- Feed the child inappropriately with the needs at his/her ages.

➢ ***Improper feeding technique:*** Force the child to eat, do not practice responsive feeding; leading to fussy eating and fear of foods.

➢ ***Eating habits of family members:*** Most of the toddlers love to imitate the eating habits of their parents, family members and other children. Families and friends are good examples to form good eating habits and taste for children.

4. Identify reasons of fussy eating and refusal to eat

It is essential to consider the child's medical record to identify whether his/her fussy eating originates from psychological or pathological problems.

➢ ***Making a detailed record of the child's daily foods for 3 to 7 days helps tp calculate the amount of energy absorbed by the child:***

- Review the child's daily feeding record such as: diets, normal feeding duration, and feeding atmosphere, etc.
- If the child finds some food delicious the previous day, but s/he refuses to eat it the next day, then the matter may come from the parents' unrealistic expectation.
- If the child's good appetite comes suddenly and applies to all kinds of foods, it is a sign of sickness.

➢ ***Comprehensive and periodic health check:***

- To exclude the potential that the child has acute or chronic diseases associated with fussy eating. Some medicines may also affect the child's appetite;
- To find out the signs of undertnutrition;
- To exclude the root causes of decreased appetite;
- If the child looks healthy and grows normally, refusal to eat could be resulted from psychological issues.

5. Prevention of fussy eating and refusal to eat in young children

➢ ***In terms of nutrition:***

- Start CF at an appropriate age (completed 6 months old), not too early, and not too late;
- Give the child an adequate amount foods per meal and number of meals per day, appropriate with his/her age. Do not feed the child too many foods in a meal and too many times in a day (time between meals is too short) in order not to make the child too full, uncomfortable and feared of foods;

- Feed the child diverse foods to avoid nutrient redundancy or deficiency;
- Try to feed the child at the right time.

➢ ***In terms of psychology:***

- Make the child feel happy and comfortable when eating;
- Be patient and encourage the child to eat;
- Do not force the child to eat;
- Minimize distractions during the meal.

6. Nutrition care for children with fussy eating and refusal to eat problems

6.1. Food preparation

➢ Change the dishes every day, feed the child diverse foods and foods s/he like;

➢ Balance the child's diet, do not feed him/her too much starchy foods or to much meat, fish. Change the ways of cooking to increase the child's appetite;

➢ Decorate the dishes nicely with different colors and good smell;

➢ Prepare some small and tender foods for the child to hold and eat by him/herself.

6.2. How to feed the child effectively

➢ Feed the child many times in a day and give snacks between meals;

➢ If the child refuses to eat new foods, do not force him/her to eat, but try again in another time;

➢ Do not give the child cakes, candies or soft drinks, etc, before the meal because it will reduce the child's appetite and make him/her refuse to eat other nutrient-rich foods;

➢ Feed the child when s/he feels hungry. When the child refuses the foods, do not force him/her to eat, but wait until he/she feels hungry and wants to eat;

➢ A feed should be limited in about 20 - 30 minutes. When a meal is over, foods should be taken away so that the child will not refuse foods in the next feed;

➢ Let the child play or take a bath before the meal to make him/her feel hungry;

➢ Let the child eat with friends and family members. Parents can eat the child's foods or give him/her their foods if possible to encourage him/her to eat. Compliment that the food is delicious, praise and encourage the child so that s/he feels confident and excited when eating;

- Let the child take/hold the foods and eat by him/herself and support him/her during the meal;
- Appetite stimulants should not be prescribed for fussy eaters while vitamins and minerals may be necessary if the child's diet quality is not ensured;
- When the child grows heathily, s/he should not be given nutrient fortified products as they cannot replace appropriate feeding practices.
- Take the child to health facilities if s/he has the following signs:
  - The child does not gain weight in two successive months;
  - The child refuses to eat for a long time;
  - The child is not active and does not play much;
  - The child is sick, has a fever, a cough, diarrhea, pain in his/her mouth, sore throat, etc.

PRE - AND POST - TEST

● Give brief answers for questions from 1 to 4 by filling in the blank spaces with appropriate words or phrases:

Question 1. A child is considered as a fussy eater when s/he eats (A)……., leading to signs of (B)…….

Question 2. A freaky eater is the child who (A) ……..... certain foods, leading to (B)……...

Question 3. List out the 3 groups of reasons for fussy eating and refusal to eat from the child

A .....

B .....

C .....

Question 4. List out 4 groups of reasons for fussy eating and refusal to eat in young children from the family

A .....

B .....

C .....

D .....

E .....

● Give a summarized answer, analysis and practical application for questions from 5 to 7

Question 5. How to identify the reasons of fussy eating and refusal to eat?

Question 6. Instruct families on how to prevent fussy eating and refusal to eat in young children

Question 7. Instruct families on nutrition care for the children with fussy eating and refusal to eat

SESSION 18. IN-CLASSROOM PRACTICE: COUNSELING AND GIVING INSTRUCTIONS ON APPROPRIATE COMPLEMENTARY FEEDING

Objectives of the session

1. *To be able to practice counseling for mothers, caregivers and families on appropriate CF for young children*
2. *To be able to give instructions to mothers on how to prepare a bowl of appropriate complementary foods for young children*

---

1. Instructions for role-playing

1.1. When you are a "counselor":

- Greet the *"caregiver"* and introduce yourself. Ask his/her name and the child's nam and always use their names during the conversation.
- Ask one or two opened-ended questions to start the conversation and identify why the *"caregiver"* needs counseling.
- Use appropriatly the counseling skills learned to achive the counseling objectives.

1.2. When you are a "caregiver":

- Introduce yourself and the child's name;
- Ask the *"counselor"* some questions given in the case study. Appropriately provide information from the case study;
- If the *"counselor"* uses counseling skills effectively and make you feel interested, you can give him/her more necessary information.

1.3. When you are an "observer":

- Use the checklist of counseling skills and case study to observe: which skills the *"counselor"* used, which ones s/he did not and which ones s/he used inappropriately, which one s/he used effectively. Then, mark with a (√) in relevant cells in the checklist.

  Whether the counseling contents are relevant to the case study?
- Mark in the cell *"Yes"* when the *"Counselor"* appropriately and completely applies necessary counseling skills, and the counseling contents are relevant to the case study.
- Mark in the cell *"No"* when the *"Counselor"* does not apply or applies inappropriately and incompletely the necessary skills and/or counseling contents are relevant to the case study.

- When the role-play ends , praise the “counselor” for what s/he did well and give him/her comments for improvement the next time.

2. Case studies on CF

Read the case study and practice counseling skills based on the checklist of counseling skills.

2.1. Case study 1:

The mother has a 6-month-old child who is growing well. This is her second baby. Some people advise her to get the child familiar with bottle-feeding because she can put dilute foods into a bottle and her baby can eat the food by him/herself. However, the mother is not sure whether this is good or not. Thus, she comes to meet the health workers for counseling.

2.2. Case study 2:

The mother has an 8-month-old child. She comes to the health facility because her baby seems to grow slowly and often gets sick. She is confused when receving different information about CF. At present, she feed her baby with semi-solid soup prepared with juices from meat and mashed vegetables because she thinks an 8-month-old child cannot eat mashed meat and vegetables. She wants to know how to feed her child properly.

2.3. Case study 3:

The mother brings her child to the health facility for a regular weighing. The baby is 18 months old and is her first child. She does not breastfeed the baby. At present, she feeds the baby with different kinds of foods (semi-solid soup, mashed fruits, vegetables, and beans), but the baby only eats several bites, then cries and throws it away. The mother still feeds her child every day, but she does not know why the child does not gain weight. She is very worried and tired, and does not know what to do.

2.4. Case study 4:

The mother has a 7-month-old child. This is her first child. Her friends advise her to come to the health facility to be counseled on CF. At present, the child is exclusively breastfed and growing well. The mother intends to give her baby complementary foods when s/he is 1 year old.

3. Preparation for food demonstration

3.1. Notes on preparation for the food demonstration

- The facilitator should be familiar with necessary skills before the demonstration.
- Foods and utensils needed for the demonstration should be popular for mothers and locally available.
- The place for food demonstration should be wide and bright enough for the trainees to observe, listen to instructions and practice.
- The maximum number of people attending a demonstration is 30. Mothers should not bring their children so that they can concentrate and participate in the practice session.

3.2. Utensils preparation:

- 01 gas cooker (oil cooker)
- 10 big plates
- 10 small bowls
- 10 teaspoons
- 02 pairs of chopsticks
- 03 small pans for cooking semi-solid soup
- Table for food demonstration
- 01 cutting board
- 01 chopping knife
- 01 cutting knife
- 01 pair of mortar and pestle
- 02 baskets and 02 closely-woven baskets
- 01 pan for cooking porridge (2- litre pan)
- 02 basins, 01 cup
- Soap

3.3. Food preparation:

- Ordinary rice: 150 g
- Rice flour: 150 g
- Pork, chicken, beaf: 100 g each
- Fresh fish (anabas, snake-head, carp): 200 g
- Shrimp: 100 g
- Local fruits: banana, orange, mango, papaya
- Chicken or duck eggs: 4 eggs
- Oil/fat
- Land crabs: 5 – 10 crabs
- Tofu: 1 piece (200 g)
- Soymilk: 1 cup
- Sesame, peanut: 100 g
- Local vegetables: sauropus, ceylon spinach, etc.

3.4. Selection of ingredients to prepare a semi-solid soup (for reference)

200 ml of water + 2 teaspoons of rice flour + 2 full teaspoons of mashed vegetables + 1 - 2 teaspoons of oil/fat and add foods for each type of semi-solid soup as follows:

Meat semi-solid soup (pork, beaf, chicken), fish, shrimp	30 g/bowl
Chicken egg semi-solid soup	½ - 1 egg yolk/bowl
Duck egg semi-solid soup	¼ - ½ egg yolk/bowl
Crab semi-solid soup	5 crabs/ bowl
Tofu semi-solid soup	50 g/bowl
Sesame, peanut semi-solid soup	2 teaspoons/bowl

4. Food demonstration practice

4.1. Review the objectives of food demonstration

- Instruct mothers on how to prepare a simple and nutrient rich meal for their children using locally available foods (do it by themselves to remember);
- Show the mothers how to identify the appropriate consistency of foods;
- Mothers can prepare a healthy and appropriate meal for their children.

4.2. Identify messages

- Select 1 - 3 messages to provide to mothers
- Make open-ended questions to check mothers' knowledge on each message.

Examples:

Message	Question	Answer
Thick foods are those that provide much energy for children. It does not fall out of the spoon when the spoon is tilted.	How is the appropriate thickness of foods for children?	It should be thick enough so that it does not change its shape when we tilt the spoon.
Animal-source foods are good foods for children, helping the child grow and stay healthily.	Which animal-source foods will you feed your child in the next 2 days?	Meat, fish, eggs, milk, and cheese - these are healthy foods for children.
The child needs to learn how to eat: be patient, encourage and support him/her to eat.	How will you teach your child to learn how to eat?	Be patient, encourage, and support the baby to eat

4.3. Intruct mothers to practice cooking

- Introduce foods to be used for demonstration, see if there is any other replacement (oil can be replaced by fat or cheese; fresh milk can be replaced by milk powder (canned milk) or boiled water can be used if no milk is available). Encourage mothers to use locally available foods that are not too expensive, and used as normal family foods.
- Discuss with mothers to set the menu from available foods with an appropriate amount to the child's age.
- Divide mothers into groups based on the amount of foods and number of cooking utensils, each group will practice cooking a semi-solid soup for children.
- Instruct mothers to follow these steps:
  - Wash hands;

- Preliminarily prepare the foods: select, wash, chop, and mash the vegetables; wash, mince (grind) the meat; kill, wash, boil the fish, and remove its bones; select eggs, take only the egg yolks, etc.
- Take an adequate amount of flour;
- Add an adequate amount of food (fish, meat, eggs, vegetables, etc.);
- Add an adequate amount of milk or water;
- Add a sufficient amount of oil or fat, add fish sauce/salt;
- Check the thickness of the soup.

4.4. Check if the soup is well-cooked

➢ Pour the semi-solid soup into a plate or bowl and check how well-cooked it is.

➢ Properties of the well-cooked semi-solid soup:

- Be clear in color;
- Do not stick to the pot when pouring;
- Form a certain curve on its surface
- When the semi-solid soup is cooled, it is easy to use a spoon to take a part of the soup.
- Do not change its shape after a long time and do not turn into water

4.5. Try the soup

➢ Invite each mother in a group to taste the soup (use a clean spoon), then gives their comments;

➢ Feed the child (if appropriate).

4.6. Ask mothers

➢ Which were the foods used?

➢ When can the mother prepare the food for her child?

➢ Repeat important messages;

➢ Fill in the “Observation checklist for food demonstration”

4.7. Close the food demonstration

➢ Say thank you to mothers;

- Give mothers the checklist for food demonstration;
- Ask mothers to share experience to neighbouring families and friends having young children;
- Remind mothers to come to the commune health center to check the nutritional status and growth of their children;
- The supervisor uses the evaluation checklist to assess the results of the demonstration.

OBSERVATION CHECKLIST FOR FOOD DEMONSTRATION

General information

- Date: .....
- Venue: .....
- Health worker's/collaborator's name: .....
- Child's name: .....
- Child's age (months): .....
- Mother's name: .....
- Name of the complementary food: .....

Ingredients of the complementary food

No.	Foods	Unit	Quantity	Preliminarily preparing

Steps (write down all steps the mothers take to prepare the complementary food)

.....

.....

.....

.....

.....

.....

.....

Total time:……. *minutes*

Final product:

- Quantity:……(bowls/ plates)
- Thickness:

  Thin □ Pasty □ Thick □

  Other □……

- Well-cooked: □

Comments of mothers and observers about the final product:

- In terms of appearance:

.....

.....

- In terms of taste:

.....

.....

- Observation of feeding (if possible):

.....

.....

Information discussed with mothers

- Mothers' opinion about the recipe, whether they can use this recipe at home:

.....

.....

- Reasons why mothers select this recipe:

.....

.....

- Suggestions to improve this recipe for the next time:

.....

.....

EVALUATION CHECKLIST OF FOOD DEMONSTRATION

Date of demonstration:

Group:

Supervisor:

Item	Result *	Comment
Foods (in general)		
Starch		
Animal-source foods		
Pulses/Bean + fruits and vegetables rich in vitamin A, C		
Oil/fat		
Thickness		
Quantity		
Clean and safe utensils		
Instructions given to mothers		
Messages on CF		
Counseling contents provided to mothers		

** Results: Good - Fair - Moderate - Poor*

SESSION 19. FEEDING CHILDREN DURING ILLNESS AND RECOVERY, CHILDREN HAVING HIV-INFECTED MOTHERS

Objectives of the session

1. *To be able to give instructions to families and community on child feeding during illness and recovery*
2. *To be able to give instructions to families and community on feeding children having HIV-infected mothers*

---

1. The significance of feeding a child during illness (sickness) and recovery

- During infections, children need more energy and nutrients to fight the infection. If they do not get extra food, their fat and muscle tissue is used as fuel. This is why they lose weight, look thin, and stop growing.
- Appropriate feeding during illness will help the child get over the diseases soon, reduce the seriousness of diseases, recover more quickly, and avoid the risk of malnutrition. This will contribute to reduce costs for the families and health sector.
- The goal of feeding a child during and after illness is to help the child to return to the weight s/he had before s/he was ill.

Encourage the child to eat and drink during illness; and provide extra foods after illness to help them recovery quickly.

2. Feeding the child during illness and recovery

Principles of feeding the child during illness	Principles of feeding the child during recovery
➢ During illness, the child normally only wants breast milk and no other foods. ➢ Although the child does not want to eat, you should not restrict his/her foods. ➢ It is necessary to give extra food for the child to recover quickly and reduce the duration of treatment.	➢ After illness, the child's appetite usually increases, so it is necessary to increase the amount of foods for him/her. ➢ This is a good period to give extra food for the child to minimize weight loss and help him/her to regain weight. ➢ It is necessary to give extra food for the child until he/she regains the lost weight and grows at a healthy rate.

Principles of feeding the child during illness	Principles of feeding the child during recovery
➢ *For children < 6 months* ● Continue to breastfeed and breastfeed more frequently ➢ For children > 6 months ● Continue to breastfeed and breastfeed more frequently; ● Encourage the child to eat and drink, with lots of patience; ● Feed the child more frequently and with little amount of foods for each meal; ● Give foods that the child likes; ● Give a variety of nutrient-rich foods.	➢ Give extra breast-feeds; ➢ Give an extra meal; ➢ Give an extra amount of foods for each meal; ➢ Give extra energy-rich foods; ➢ Feed with extra patience and love.

3. Feeding children having common diseases

3.1. Feeding children having diarrhea

Along with following the rehydration treatment by giving additional water and an oral rehydration salts drink to children having diarrhea to prevent dehydration, they should be given appropriate nutrition care to prevent weight loss and possible malnutrition.

3.1.1. Feeding children having diarrhea

➢ *Children under 6 months:*

- Continue to breastfeed and breastfeed more frequently

➢ *Children over 6 months:*

- Continue to breastfeed and breastfeed more frequently
- Feed the child more frequently and with little amount of foods for each meal;
- Feed the child with nutrient-rich foods (meat, eggs, miks, fish…) and energy-rich foods (oil, fat);
- Foods should be tenderer, well-cooked, thinner than usual and fed to the child right after cooking to ensure hygiene.
- Give the child ripe fruits or fruit juice such as banana, orange, lemon, mango, papaya, etc. to increast the amount of potassium. Avoid giving the child soft drinks because they may lead to more serious diarrhea.

- Avoid using high-fibre or nutrient-poor foods such as high-fiber vegetables, grain starches (corns, beans, etc.) as they are difficult to digest.
- Avoid using foods containing too much sugar, which may cause more serious diarrhea.
- The amount of foods: encourage the child to eat as much as possible, six times a day or more for younger children.
- After the diarrhea is over, a child should be given one more meal per day for two weeks in order to help him quickly recover and prevent malnutrition. A child with prolonged diarrhea should be given one more meal per day for at least one month.

3.1.2. Diarrhea prevention

- A child should be exclusively breastfed in the first six months and continued to be breastfed until the child is two years old.
- A child should be given complementary food when s/he is completed six months old. Porridge for the child should be prepared with colorful food of all four food groups, especially oil. The food should be well cooked, mashed, and served right after cooking.
- The food must be clean.
- Use a clean bowl, cup, and spoon to feed the child.
- Family members need to wash their hands after going to the toilet and before cooking and feeding the child.
- Use a hygienic toilet. Let the child use a chamber pot and throw stools into the toilet.
- Give the child all scheduled vaccinations. Give the child the measles vaccination when he is nine months old.

3.1. Feeding children having a high fever

When children have a high fever, their demand for fluid, energy, protein, vitamins, and minerals rise significantly; digestive enzymes become inhibited, leading to loss of appetite, which is why children should be given foods that are easy to digest.

- ➢ A young child who is still breastfed: Continue to breastfeed and breastfeed more. If the child cannot suckle, feed him/her expressed breast milk with a spoon.
- ➢ An older child who is eating complementary food: give him/her tender, various, and easily digestible food and divide this food into many small meals (semi-solid soup, porridge, thinner soup). Feed the child his/her favorite foods to encourage him/her to eat more.
- ➢ Give the child more water, and more fruits rich in vitamin C (orange, lemon, grapefruit).
- ➢ After the child recovers from illness, give him one extra meal per day and feed him food rich in nutrients until s/he has regained weight.

4. Feeding children having HIV-infected mothers

4.1. For children under 6 months

4.1.1. Breastfeeding:

- If the mother and her child are given full ARV treatment, the mother should exclusively breastfeed her child in the first 6 months of life. After that, the child should be given complementary food along with continued BF up to 12 months.
- Stop BF once a nutritionally adequate and safe diet can be provided.
- Breastfeeding should be weaned gradually within one month or more. Abrupt or rapid cessation of BF is not recommended as this may cause pain and mastitis for the mother and stress for the baby.

4.1.2. Replacement feeding:

- Feed the child energy- and nutrient-rich foods to meet his/her demand until s/he can be fully fed on family foods.
- Only give the child formula milk as an alternative food when SIX following specific requirements are met (WHO - 2010):
  - The family is fully supportive of this feeding practice;
  - The mother or caregiver must ensure to provide enough replacement milk for the first six month;
  - The mother or caregiver can reliably provide sufficient replacement milk to support the child's growth and development;
  - The mother or caregiver is able to provide replacement feeding with food hygiene and safety, and low risk of diarrhea and malnutrition;
  - Safe water and sanitation is ensured at the household and community;
  - The mother or caregiver can access to comprehensive child health care services.

Principles of feeding children having HIV-infected mothers

- EBF for the first 6 months will reduce the risk of HIV transmission compared to mixed feeding.
- EBF in combination with ARV treatment will reduce the risk of HIV transmission to less than 1%.
- Mixed feeding (feeding both breast milk and other foods, drinks or other milks during the first 6 months) is not recommended as this practice will increase the risk of HIV transmission.
- HIV-infected mothers or caregivers of infants having HIV-infected mothers will be counseled by health workers to make an appropriate child feeding decision.

4.2. Feeding children from 6 to 24 months of age

4.2.1. For children fed with replacement foods:

It is necessary to make sure that replacement foods are safe and fully meet the child's needs for his/her healthy development.

4.2.2. For breastfed children:

- If the child is exposed to HIV/HIV-uninfected, breastfed and provided with ARV treatment, it is necessary to re-evaluate the ability of replacement feeding and access to ARV prevention when the child is 6 months old in order to make a decision on weaning. It is encouraged to wean the child gradually within 1 month and continue ARV prevention for both the mother and child within 1 week after BF cessation.
- If the child is HIV-infected and still breastfed, it is encouraged to continue BF until 24 months of age or beyond.

4.2.3. CF for HIV-infected/exposed children

<table>
<tr><th>HIV-infected children without symptoms</th><th>HIV-infected children with symptoms</th><th>HIV-infected children with symptoms and weight loss</th></tr>
<tr><td>The child should be given 10% of energy more than normal child</td><td>The child should be given 20 - 30% of energy more than normal child</td><td>The child should be given 50 - 100% of energy more than normal child</td></tr>
<tr><td colspan="2">➢ Feed the child with more snacks and/or
➢ Give the child more nutrient-rich foods in meals</td><td>➢ Feed the child with ready-to-use therapeutic foods or high-energy formula milks.
➢ If those foods are not available:
● Give the child more energy-rich foods in meals.
● Give more snacks.</td></tr>
<tr><td colspan="3">All children having HIV-infected mothers must be fed properly to ensure their increased demands be met.</td></tr>
</table>

- When the child is HIV-infected, his/her nutritional status will be affected, especially for those aged 6 to 24 months.
- The HIV-infected/exposed children need to be provided with sufficient nutrients (including micronutrients) to meet their increased metabolism demands caused by the disease and help them to grow and develop normally.
- Nutrition care should be part of the comprehensive health care and support for the HIV-infected/exposed children in order to increase their ability to fight against infections and improve the effectiveness of ARV treatment.

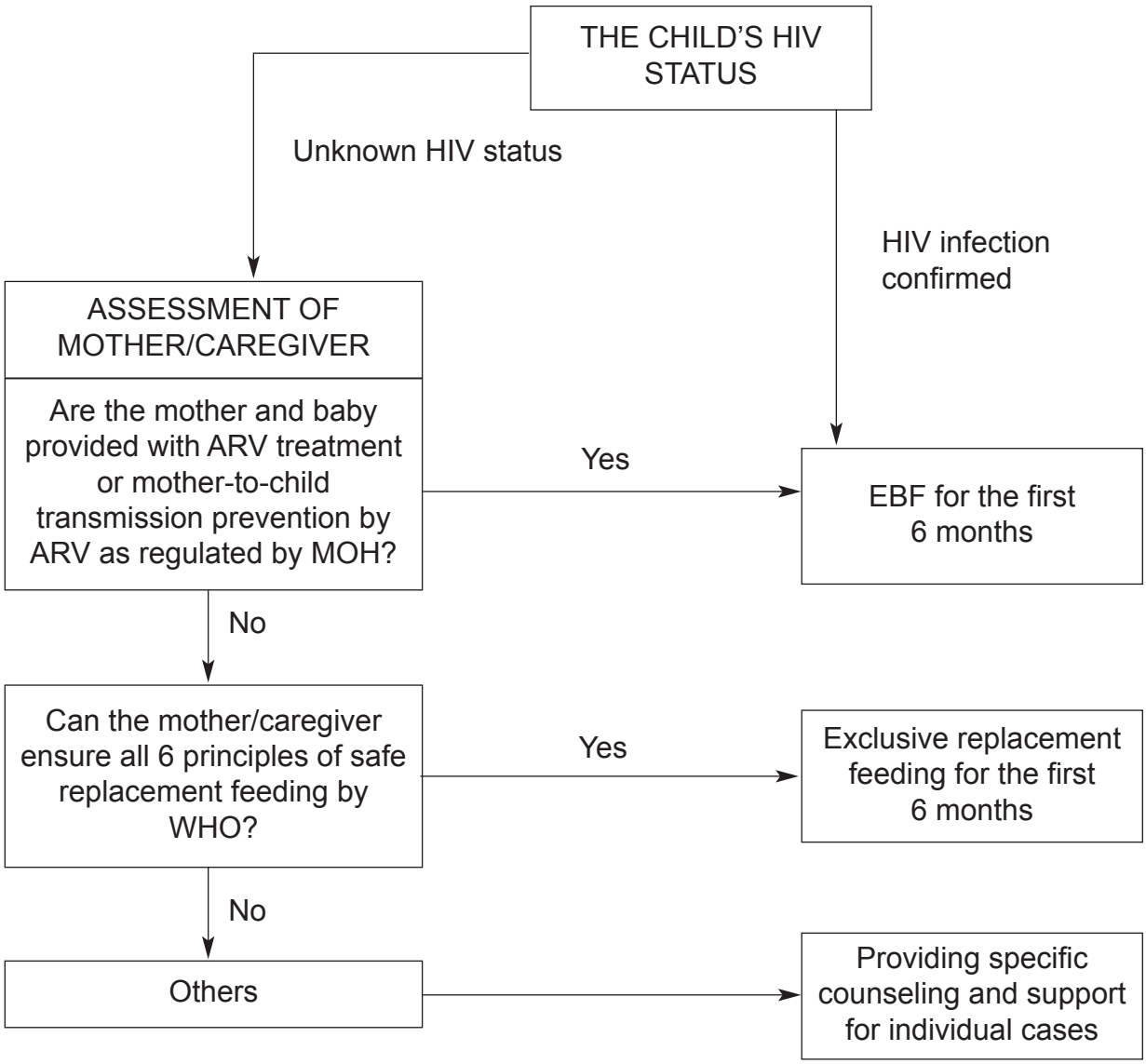


Diagram on feeding guildlines for children having HIV-infected mothers

PRE - AND POST - TEST

• Give brief answers for questions from 1 to 3 by filling in the blank spaces with appropriate words or phrases:

Question 1. It is necessary to make sure 5 following principles when feeding children from 6 to 24 months old during illness:

A. .....

B. .....

C. .....

D. .....

E. .....

Question 2. Five principles of feeding children during recovery are:

A. .....

B. .....

C. .....

D. .....

E. .....

Question 3. Four principles of feeding children having HIV-infected mothers are:

A. .....

B. .....

C. .....

D. .....

• Choose the best answer for questions from 4 to 6 by putting a circle around the letter at the beginning of the selected sentence

Question 4. HIV-infected children without symptoms need to be given more energy than normal children by:

A. 10%

B. 20%

C. 30%

D. 40%

E. 50%

Question 5. HIV-infected children with symptoms need to be given more energy than normal children by:

A. 10-20%

B. 20-30%

C. 30-40%

D. 50-60%

E. 60-70%

Question 6. HIV-infected children with symptoms and weight loss need to be given more energy than normal children by:

A. 50-60%

B. 50-70%

C. 50-80%

D. 50-90%

E. 50-100%

● Give a summarized answer, analysis and practical application for questions from 7 to 9

Question 7. Instruct mothers, caregivers and families on how to feed children having diarrhea and how to prevent diarrhea.

Question 8. Instruct mothers, caregivers and families on how to feed children having a high fever.

Question 9. Instruct mothers, caregivers and families on how to feed children having HIV-infected mothers.

SESSION 20. ASSESSING NUTRITIONAL STATUS OF CHILDREN

Objectives of the session

1. *To be able to state the definition of nutritional status*
2. *To be able to categorize and assess nutritional status using the anthropometric method*
3. *To be able to perform well the techniques of measuring children's height and weight, measuring arm circumference*
4. *To be able to use growth charts to counsel mothers on how to assess a child's nutritional status*

1. Concept of nutritional status

1.1. Definition:

Nutritional status is a set of functional, structural and biochemical characteristics reflecting the satisfaction level of a body's demands.

Nutritional status of individuals is the outcome of eating and using the body's nutrients. Good nutritional status reflects balance between food intake and health conditions; when the body is in nutrient deficiency or excess, it shows the problems with health or nutrition.

1.2. Types of malnutrition

Based on the child's weight, height and in comparison with the WHO growth standard in 2006, malnutrition is divided into 3 types:

Underweight	Stunting	Wasting
➢ The weight is lower than the standard weight for children of the same age and sex (weight-for-age Z Score <-2SD)	➢ A reduced growth rate in human development. It is a primary manifestation of chronic malnutrition, including malnutrition during fetal development brought on by the malnourished mother. It is defined when the height is lower than the standard height for children of the same age and sex (height-for-age Z Score is <-2SD).	➢ The process in which muscle and fat tissue are "wasted" away, is referred to as acute malnutrition because it is believed that episodes of wasting have a short duration. It is defined when the weight-for-height Z Score is <-2SD.

2. Methods of assessing nutritional status

- Nutrition anthropometric method
- Diet and eating customs survey
- Clinical examination: focus on hidden and obvious symptoms of malnutrition
- Tests: mainly bio-chemical tests (blood, urine, etc.)
- Functional examination: to identify functional disorders caused by nutrient deficiencies
- Morbidity and mortality survey: to study the relationship between diseases and the nutritional status.
- Assessment of ecological factors: focus on factors relating to the nutrition status and health.

3. Nutrition anthropometric method

Nutrition anthropometry is a technique to measure body size and structure to assess the nutritional status. Nutritional status results from both hereditary and environmental factors, in which nutritional factors play a critical role.

Anthropometric sizes can be classified into the following groups:

a) Body mass, characterized by weight.

b) Length sizes, specifically lying length and standing height.

c) Body structure, energy and protein storage via surface soft tissues: skin and muscle beneath fat, etc.

4. Anthropometric data collection techniques

4.1. Age calculation for children under 5 years old

4.1.1. Month calculation for children from 0 to 12 months old

- 0 month: from the time of delivery till before first completed month day (from 1 to 29 days).
- 1 month: from the first completed month day till before 2nd completed month day (from 30 to 59 days).
- 12 months: from 12 completed months till 12 months and 29 days.

4.2.2. Year calculation for children under 5 years old

- 0 year or under 1 year: from the time of delivery till the day before the completed year (1st year)
- 1 year: from the day of 1st completed year till the day before the 2nd birthday (2nd year)
- Under 5-year-old children refers to those from 1 to 59 months.

4.2. Weighing techniques

Weight is an indicator that is often used in the anthropometric method.

- Equipments:
  - Choose the type of scale appropriate with practical condition: pan-type scale, hanging scale, steelyard scale, digital scale, dial scale, etc.
  - Scales must be sensitive (the usual minimum precision is of 0.1 kg) with accuracy ensured.
- Locations to place scales:
  - The room used for weighing needs to be cool in summer, warm in winter, and have enough light.
  - Table scales: should be put on a flat and firm surface which is convenient for children to step on the scale.
  - Hanging scales and steelyard scales: should be hung on firm locations; the dial display should level the weigher's eyes; the hanging string should be durable and strong; a string is needed to protect the counterweight in case of steelyard scales.
- Weighing instructions:
  - Adjust the scale to 0 or the balance point after each use.
  - Check the accuracy of the scale by an object of an identified weight after several weighing times (e.g. 5 - 10 times)
  - Conduct weighing at a certain time, morning is the best time, when waking up, after using the toilet, eating nothing (or before meals), wearing light clothes, without shoes, hats and other heavy things.
  - Stand in the middle of the scale platform, look ahead, and stand still (for table scales). Young children should be put lying down or sitting in the pan (for pan-type scales, dial scales), or on the sling (for dial hanging scales).
  - The result reader should look right at the scale display, read the result when the scale stays balanced, and note down the weight in kg with a decimal (e.g. 10.6 kg; 9.5 kg).

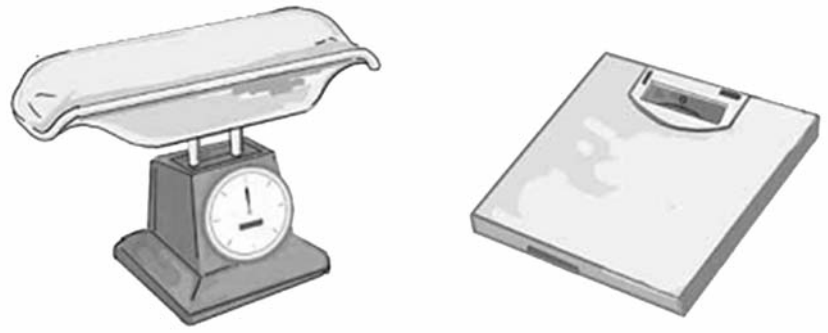
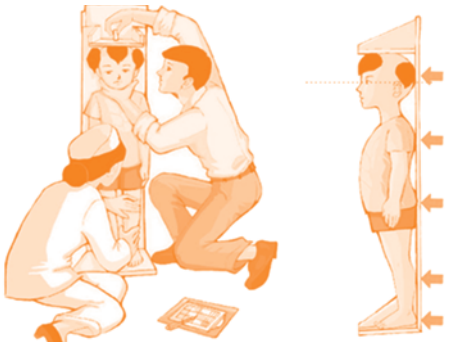


Figure 54: Baby weighing equipments

4.3. Standing height /lying length measuring techniques

<table>
<tr><th colspan="3">General principles of measuring standing height/ lying length for children</th></tr>
<tr><td colspan="3">➢ The height boards should have minimum precision of 0.1 cm
➢ Take off shoes, sandals, slippers, hats, hair bands, scarves, hair clips, etc.
➢ The child's knees should be kept straight with two heels touching each other. Make sure that the child's heels, calves, buttocks, shoulders and occipital bones approach the height board.
➢ The child's eyes should look straight ahead; with their arms loosely at their sides.
➢ Read the result in cm with a decimal.</td></tr>
<tr><td></td><td>Measuring the lying length</td><td>Measuring the standing height</td></tr>
<tr><td rowspan="2">Purpose</td><td> 
Figure 55: Measuring lying length for children under 24 months old</td><td> 
Figure 56: Measuring standing height for children from 24 months</td></tr>
<tr><td>➢ Lying length measurement is used for children under 24 months.</td><td>➢ Standing height measurement is used for children from 24 months and for adults.</td></tr>
<tr><td>How to measure</td><td>➢ The board should be placed on a firm horizontal, flat surface (on a table or the floor, etc.)
➢ Lay the child on the board. The child's eyes look straight at the ceiling and the top of his/her head touches the fixed square indicating 0 value.</td><td>➢ Let the child stand against the backboard
➢ Put the headboard against the top of the child's head, forming a right angle with the backboard.</td></tr>
<tr><td>Read the result</td><td>➢ Look up the result in the table of lying length measurement.
➢ If standing height measurement is not possible, lying length measurement should be applied, and 0.7 cm should be deducted from the result.</td><td>➢ Look up the result in the table of standing height measurement.</td></tr>
</table>

4.4. Mid-upper arm circumference measurement (MUAC)

- Poor development or muscular wasting is the main symptom of malnutrition caused by protein and energy deficiency. In nutritional field, muscles weight is often measured directly through arm and leg circumferences.
- Measuring MUAC of the left hand is often used to assess the nutritional status of a child because its value does not change much among children 12 - 60 months, so the child's exact age is not required.
- Instructions: The child's left hand is kept loosely at his/her side. Use a soft, inelastic tape; measure at the mid-point between the tip of shoulder and the tip of elbow; hold the tape against the child's skin, make sure the tape is neither too tight nor too loose, and read the result with the precision of 0.1 cm.

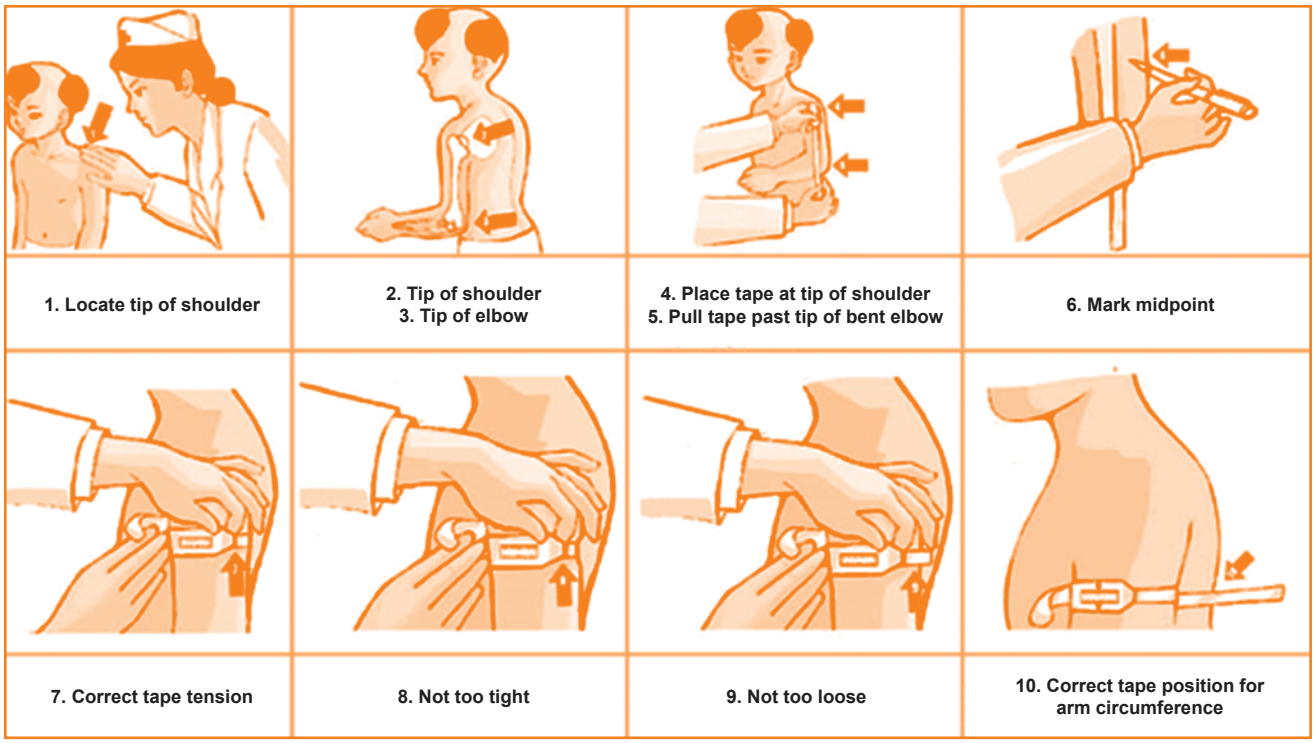


Figure 57. Measuring MUAC

5. Nutritional status assessment

Nutritional status is assessed based on three criteria: Weight/Age (W/A); Height/Age (H/A); Weight/Height (W/H) (WHO growth standard)

5.1. Weight for age

- This is the most common criterion
- The child's weight is compared to that of a baby of the same age and sex in reference to the WHO growth standard in 2006. (See the annex: Weight for age table)
- Threshold point below -2SD is considered underweight.

Level	Classification threshold
Very severe underweight	Below -4SD
Severe underweight	From below -3SD to ≥ -4SD
Moderate underweight	From below -2SD to ≥ -3SD
Normal	From -2SD to +2SD
Overweight	Above +2SD

Weight for age criterion only indicates malnutrition, but cannot tell if it just happened or is chronic. For the child with weight/age score above +2SD, it is required to use the weight/height score or measure the fat level beneath the skin in order to identify exactly whether s/he is overweight or not.

5.2. Height for age:

Baby's height is compared to that of a baby of the same age and sex in reference to WHO growth standard in 2006. (See the annex: Height for age table).

Threshold point below -2SD is considered stunting.

Level	Classification threshold
Severe stunting	Below -3SD
Moderate stunting	Below -2SD to -3SD
Normal	-2SD or above

Height for age criterion (below -2SD) reflects prolonged malnutrition or malnutrition in the past.

5.3. Weight for height:

- Baby's weight is compared to that of a baby of the same height and sex in reference to WHO growth standard in 2006. (See the annex: Weight for height table).
- Threshold point below -2SD is considered wasting and reflects malnutrition in the present, which has newly occurred and stopped the child from gaining weight or made him/her lose weight.

Level	Classification threshold
Severe wasting malnutrition	Below -3SD
Moderate wasting malnutrition	Below -2SD to -3SD
Normal	From -2SD to +2SD
Overweight	Above +2SD

When both H/A and W/A criteria are below the recommended threshold (-2SD), the child is in coordinative malnutrition (acute and chronic) of both stunting and wasting.

5.4. MUAC:

- Severe acute malnutrition: MUAC <115mm (equal to <-3SD W/H compared to WHO growth standard, 2006)
- Moderate acute malnutrition: MUAC ≥115mm - <125mm (equal to ≥-3SD - < -2SD W/H compared to WHO growth standard, 2006)

6. Using growth chart

6.1. Purposes of using growth chart

- Growth chart helps mothers record their children's development most effectively and continously. Each child from delivery unitl 5 years has his/her own growth chart which is kept by his/her mother or a family member.
- The collaborator should give appropriate and timely recommendations to mothers and families as well as encourage them to bring their children for weighing the next time and participate in the child health care activities at the locality.

6.2. Interpretation of results on growth chart

- If the child's scores is between -2 and +2 (blue area), s/he grows normally.
- If the child's scores is below – 2 (orange area), s/he is moderately malnourished.
- If the child's scores is below - 3 (red area), s/he is severely malnourished.
- If the child's scores is over + 2SD (yellow area), s/he is overweight.
- An upward growth line shows normal development.
- A flat growth line is a warning sign.
- A downward growth line is a dangerous sign.

➢ Notes:

- Weight gain is more important than the weight itself.
- The trend of growth line is more important than the positions of points.
- If the child gains weight, his/her mother needs to maintain her good feeding practices.
- If the child does not gain weight (flat line), it is a warning sign, showing poor health and feeding practice; therefore, it is necessary to find out reasons why in order to have appropriate feeding practices.
- Any child who does not gain weight within 3 months should be taken to the health facility for examination.
- If the child loses weight (downward line), it is a dangerous sign; therefore, it is necessary to find out reasons why in order to have proper, timely and prompt treatment.
- In the first 6 months, flat or downward lines are both serious.

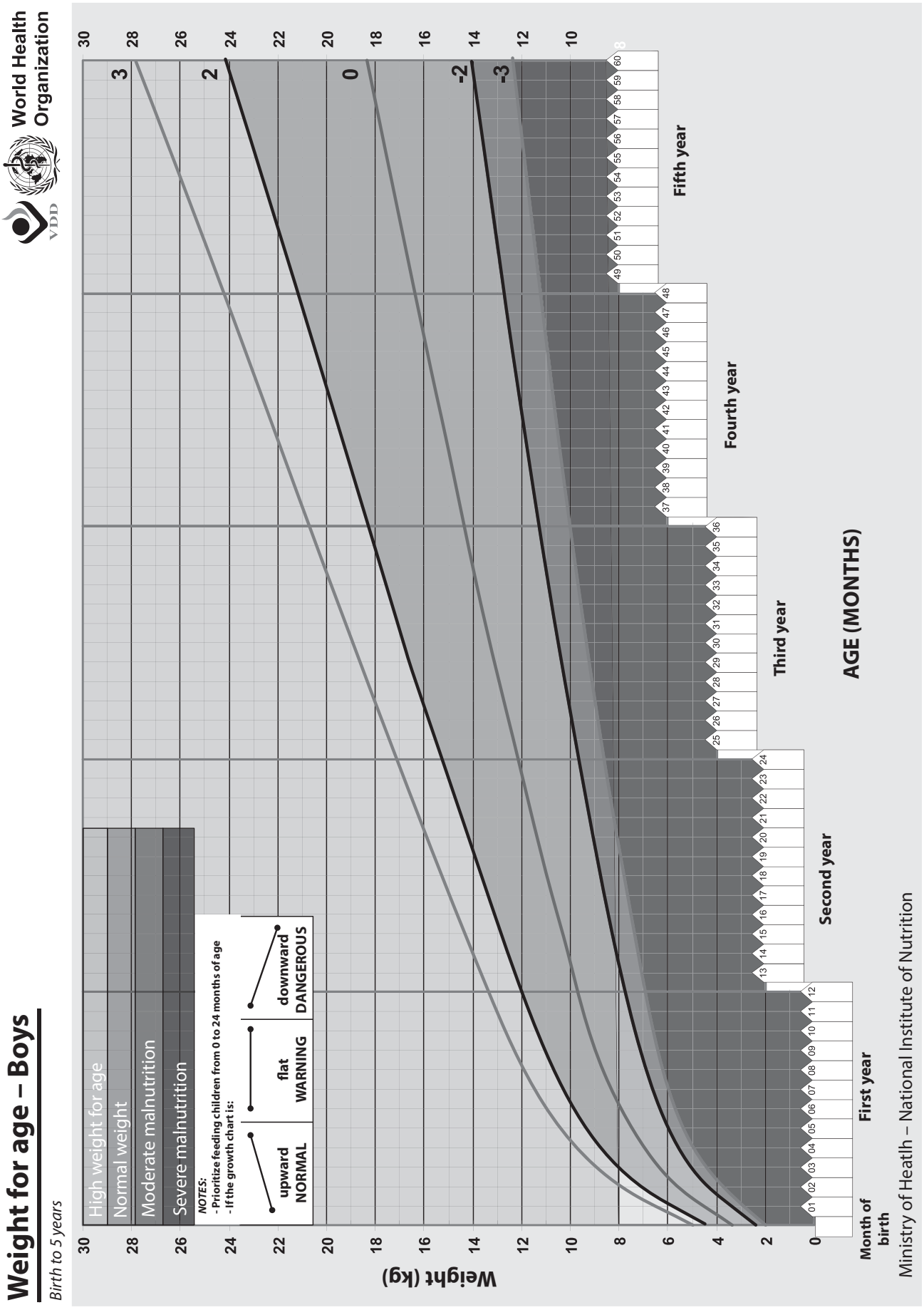
4.2. Practise using growth chart in counseling

➢ Divide the class into small groups of 3 to 4 members: a member plays the role of a counselor, one plays the role of the mother/ caregiver, and the others observe and comment.

➢ Each group is given a growth chart and draws one of the situations.

Situation 1	Situation 2
A 3-month-old boy - Birth weight: 3.4kg - 1 month : 4.2 kg - 2 months: 5 kg - 3 months: 5.7 kg	A 6-month-old girl - Birth weight: 3.1 kg - 2 months: 4.5 kg - 3 months: 4.7 kg - 4 months: 4.7 kg
Situation 3	**Situation 4**
A 9-month-old girl - Birth weight: 4 kg - 6 months: 8 kg - 7 months: 7.8 kg - 9 months: 7.9 kg	A 13-month-old boy - Birth weight: 3.5 kg - 10 months: 9.3 kg - 9 months: 9.6 kg - 12 months: 10.1 kg
Situation 5	
15-month-old boy - Birth weight: 2.5 kg - 12 months: 12 kg - 13 months: 12.5 kg - 14 months: 13.5 kg	

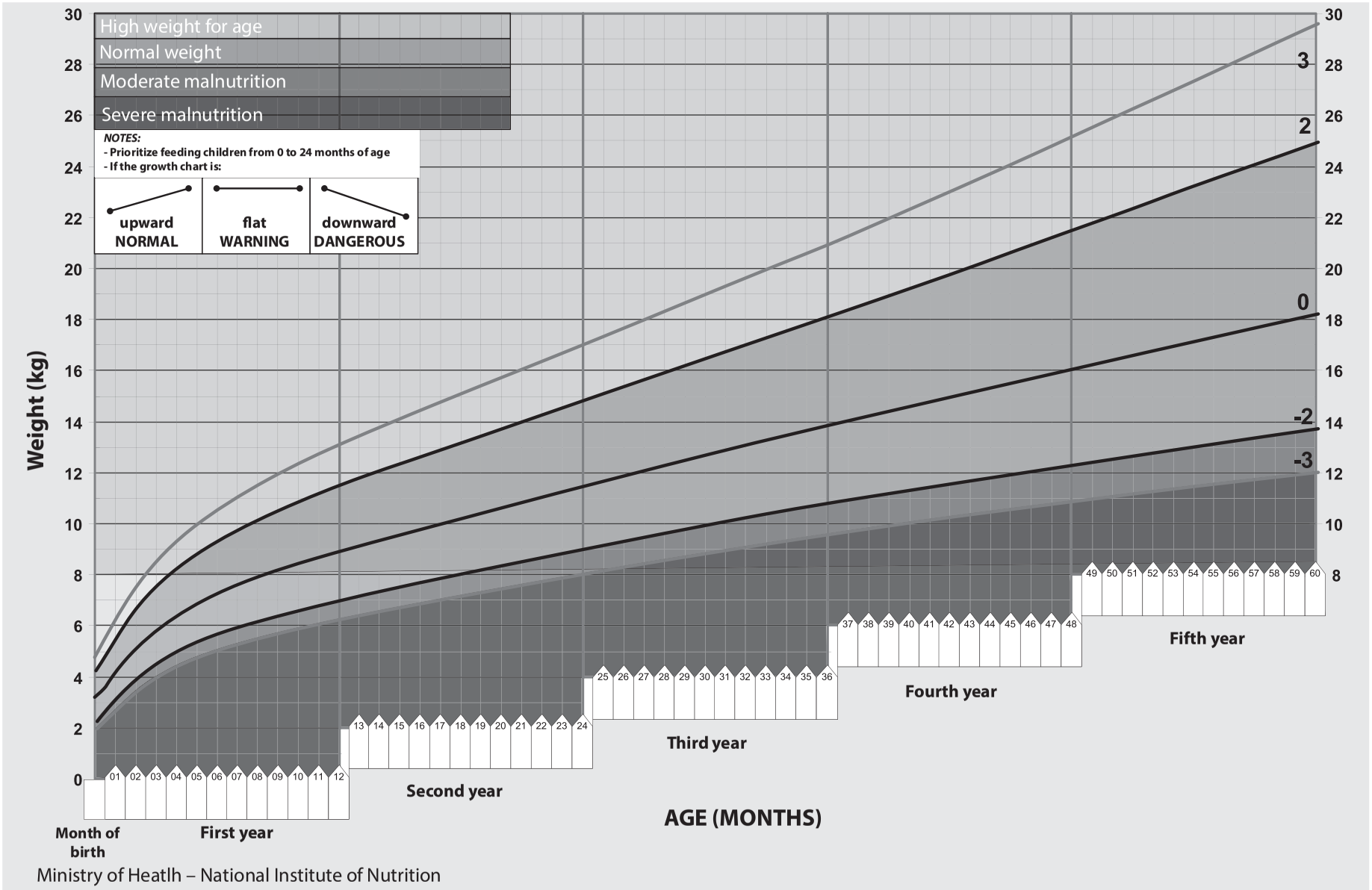
- The groups start counseling role-play:
  - The person who plays the role of the mother: studies the child's weight gain level to set up the situation (the diet, care, diseases, etc.)
  - The counselor completes the growth chart and uses it in counseling.
  - The observers use the Checklist of Counseling Skills to evaluate.
- Invite each group to present the situation to the whole class.


World Health Organization
VDD
Weight for age – Boys
Birth to 5 years
High weight for age
Normal weight
Moderate malnutrition
Severe malnutrition
NOTES:
- Prioritize feeding children from 0 to 24 months of age
- If the growth chart is:
upward NORMAL
flat WARNING
downward DANGEROUS
3
2
0
-2
-3
Weight (kg)
AGE (MONTHS)
Month of birth
First year
Second year
Third year
Fourth year
Fifth year
Ministry of Heatlh – National Institute of Nutrition

Weight for age – Girls

Birth to 5 years

World Health Organization



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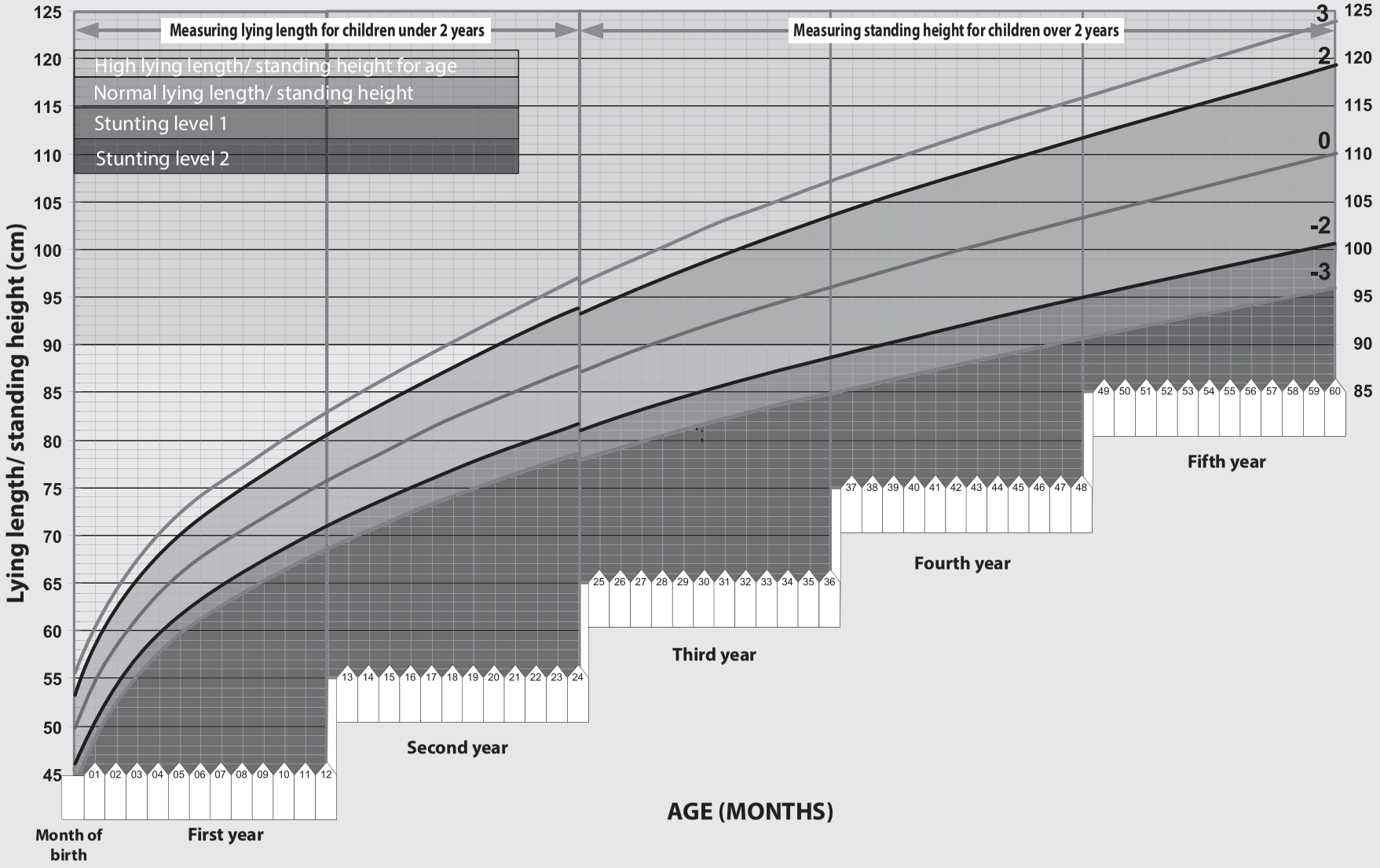
Lying length/ standing height for age – Boys

Birth to 5 years

World Health Organization

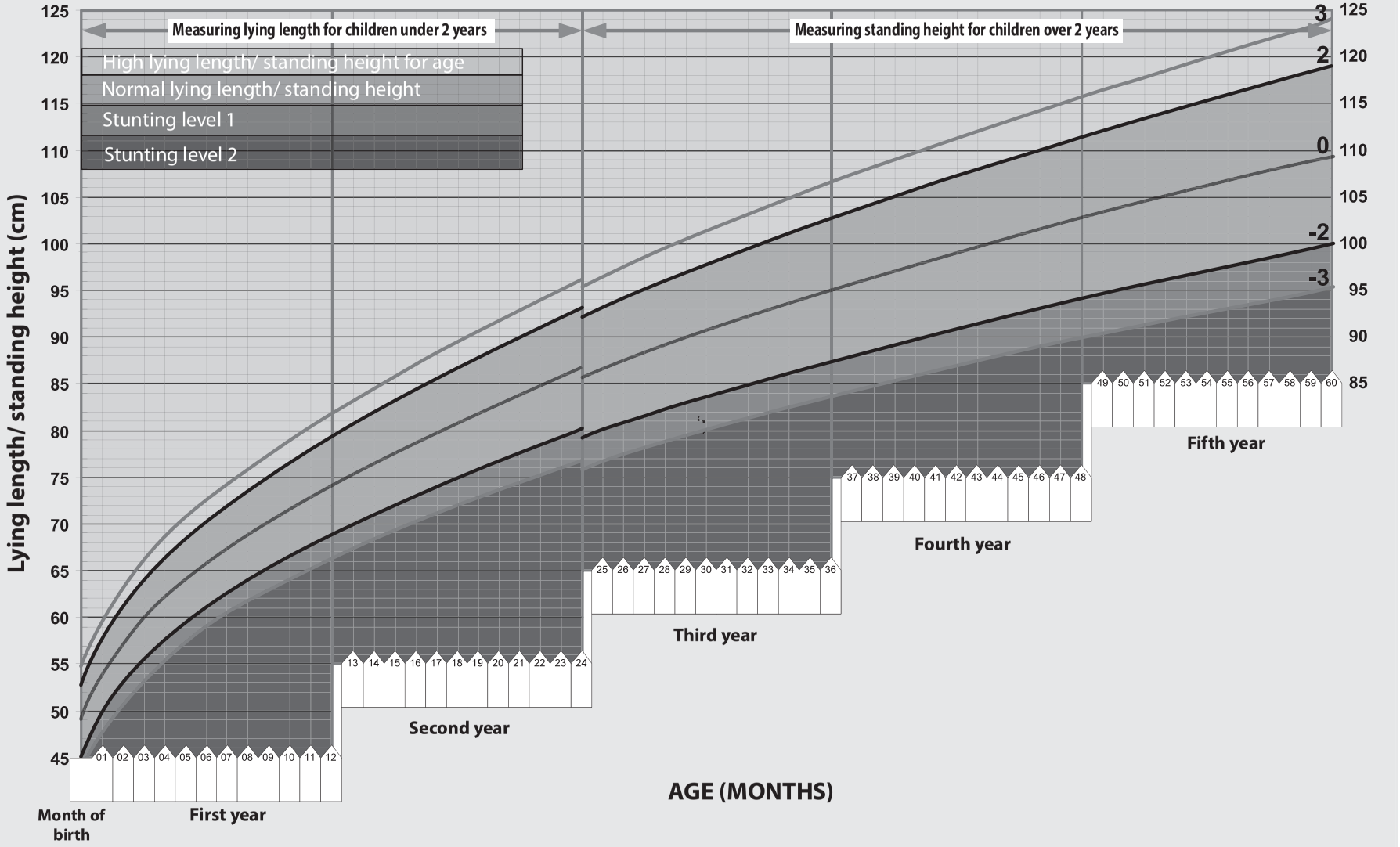


Ministry of Heatlh – National Institute of Nutrition

Lying length/ standing height for age – Girls

Birth to 5 years

World Health Organization



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PRE - AND POST - TEST

• Give brief answers for questions from 1 to 4 by filling in the blank spaces with appropriate words or phrases

Question 1. Five general principles when measuring a child's height are:

A. .....

B. .....

C. .....

D. .....

E. .....

Question 2. Complete the weight for age table in reference to WHO's growth standard in 2006

Level	Classification threshold
Very severe underweight	A. Below ……SD
Severe underweight	B. From below ……SD to ≥ ……SD
Moderate underweight	C. From below ……SD to ≥ ……SD
Normal	D. From ……SD to ……SD
Overweight	E. Above ……SD

Question 3. Complete the height for age table in reference to WHO's growth standard in 2006

Level	Classification threshold
Severe stunting	A. Below ……SD
Moderate stunting	B. Below ……SD to ……SD
Normal	C. ……SD or above

Question 4. Complete the weight for height table in reference to WHO growth standard in 2006.

Level	Classification threshold
Severe wasting malnutrition	A. Below ……SD
Moderate wasting malnutrition	B. Below ……SD to ……SD
Normal	C. From ……SD to ……SD
Overweight	D. Above ……SD

• Distinguish True/False for questions from 5 to 9 by marking with (x) in column A for the true sentence and in column B for the false sentence

	A	B
Question 5. The child is malnourished when the weight for age is below 2SD		
Question 6. The child is malnourished when the height for age is below -2SD		
Question 7. The child is malnourished when the height for age is above +1SD		
Question 8. The child is malnourished when the MUAC is < 135mm		
Question 9. The child is overweight when the weight for height is above +2SD		

• Give a summarized answer, analysis and practical application for questions from 10 to 12

Question 10. Present types of malnutrition and corresponding indicators for each of them.

Question 11. In order to define the child's weight exactly, which points should be noted when weighing him/her?

Question 12. Instruct mothers on how to use growth chart properly and with right purposes.

APPENDICES

APPENDIX 1. SOME INFANT AND YOUNG CHILD FEEDING INDICATORS AND DEFINITIONS

1. Breastfeeding Indicators

- ***Early initiation of breastfeeding:*** The proportion of infants who are breasted within the first hour after delivery.
- ***Exclusive breastfeeding in the first 6 months:*** The proportion of infants who are fed exclusively with breast milk for the first six months. That means an infant receives only breast milk and no other liquids or solids, not even water, with the exception of drops or syrups consisting of vitamins, minerals supplements or medicine according to doctor's instructions.
- ***Continued BF up to 24 months:*** The proportion of children 20-23 months of age who are fed breast milk.

2. Complementary feeding indicators

- ***Introduction of complementary foods:*** The proportion of infants 6 months of age who receive solid, semi-solid, or soft food.
- ***Dietary diversity:*** The proportion of children 6-23 months of age who receive foods from four or more food groups.
- ***Consumption of iron-rich or iron-fortified foods:*** The proportion of children 6-23 months of age who receive iron-rich food or iron-fortified food that is specially designed for infants and young children, or that is fortified in the home.

3. Types of malnutrition

- ***Underweight:*** refers to children whose weight is under the standard of the same age and gender (weight-for-age Z score <-2SD or low body mass index).
- ***Stunting:*** is a reduced growth rate in human development, manifesting chronic malnutrition. It is a primary sign of malnutrition in early childhood, including malnutrition during fetal development brought on by the malnourished mother. It is identified when the height-for-age Z score <-2SD.
- ***Wasting:*** refers to the process by which a debilitating disease causes muscle and fat tissue to "waste" away. Wasting is sometimes referred to as "acute malnutrition" because it is believed that episodes of wasting have a short duration. It is identified when the weight-for-height Z score <-2SD.
- ***Overweight:*** refers to the process when accumulated muscle and fat tissue causes the body weight to be over the standard of the same age and gender. Overweight is identified when the weight-for-age Z score >2SD.

APPENDIX 2. SOME SUGGESTED COMPLEMENTARY FEEDING RECIPES FOR CHILDREN 6-23 MONTHS OF AGE

Recommended amount of food per day according to children's diet (for breastfed children)

Type of food	Recommended amount (gram)/day			
	Thin semi - solid soup	***Thick semi - solid soup***	***Porridge***	***Watery rice***
Rice flour	40-50	80		
Rice			100-120	120-150
Meat, fish, shrimp, egg	30	60-90	60-90	60-100
Oil (fat)	10	10-15	15-20	15-20
Legumes	5-10	10	10-20	20-30
Vegetables	10-20	30-50	30-50	30-50
Fruits	50	100	200	200
Fish sauce	5	10	10	10

1. Diet for children 6 – 7 months of age

1.1. Feeding methods

- Breastfeed the child on demand (6-8 times/day)
- Start with thin semi-solid soup a couple of times per day before transitioning to thicker soup
- Meal frequency: 1-2 times/day
- Quantity: start with a couple of teaspoons in the first few days and gradually increase to ½ bowl
- Green vegetables: use different types of vegetables (katuk, morning glory, Chinese mustard, amaranth, Malabar nightshade, etc.) - smashed and fed all

1.2. Some recipes

❖ ***Egg soup:***

Rice flour:	2 teaspoons
Chicken eggs:	½ of an egg yolk (or two quail eggs)
Fat (oil):	1 teaspoon (a teaspoon = 5ml)
Smashed green vegetables:	1 teaspoon
Water:	approximately half a small bowl (a bowl = 250 ml)

❖ ***Meat soup:***

Rice flour:	2 teaspoons
Lean meat:	1-2 teaspoons
Fat (oil):	1 teaspoon
Smashed green vegetables:	1 teaspoon
Water:	approximately half a small bowl

❖ ***Green bean + pumpkin soup:***

Rice flour:	2 teaspoons
Green bean flour:	2 teaspoons
Smashed pumpkin:	2 small pieces
Fat (oil):	1 teaspoon
Water:	approximately half a small bowl

2. Diet for children 8-9 months of age

2.1. Feeding methods

- Breastfeed the child on demand
- Meal frequency: 1-2 times/day
- Quantity: ½ - 2/3 bowl
- Feed the child with smashed fruits: 1-2 times/day

2.2. Some recipes

❖ ***Meat (pork, chicken, beef)/fish/shrimp/liver soup:***

Rice flour:	4 teaspoons

Finely minced meat or liver/fish fillet/smashed peeled shrimp: 2 teaspoons

Fat (oil):	1-2 teaspoons
Smashed green vegetables:	2 teaspoons
Water:	a small bowl

❖ ***Crab soup:***

Rice flour:	4 teaspoons

Fluid filtered from smashed crab mixed with water: 1 small bowl

Fat (oil):	1 teaspoon
Smashed green vegetables:	2 teaspoons

❖ ***Pumpkin + peanut soup:***

Rice flour:	4 teaspoons
Smashed pumpkin:	4 small pieces
Smashed roasted peanut:	2-3 teaspoons
Water:	a small bowl

3. Diet for children 10 - 12 months of age

3.1. Feeding methods

- Breastfeed the child many times in a day
- Frequency: 3 times/day of thick semi-solid soup (or thick porridge)
- Quantity: ¾ to 1 bowl
- Feed the child with fruit juices or smashed fruits: 2 times/day

3.2. Some recipes

❖ ***Meat/fish/shrimp/liver soup:***

Rice flour:	4-5 teaspoons
Finely minced meat/fish fillet/smashed peeled shrimp/ minced liver:	3 teaspoons
Fat (oil):	2 teaspoons
Finely cut green vegetables:	2 teaspoons
Water:	a full bowl

❖ ***Egg soup:***

Rice flour:	4-5 teaspoons
Chicken eggs:	an egg yolk (or four quail eggs)
Fat (oil):	2 teaspoons
Smashed green vegetables:	2 teaspoons
Water:	a small bowl

❖ ***Crab soup:***

Rice flour:	5 teaspoons
Fluid filtered from smashed crab mixed with water:	1 bowl
Fat (oil):	2 teaspoons
Finely cut green vegetables:	2 teaspoons

❖ ***Pumpkin + peanut soup:***

Rice flour:	4-5 teaspoons
Smashed pumpkin:	4 small pieces
Smashed dried peanut:	2-3 teaspoons
Water:	a full bowl

4. Diet for children 1 - 2 years of age

4.1. Feeding methods

- Continue to breastfeed the child
- Meal frequency: 3-4 times of thick porridge or watery cooked rice/day
- Quantity: 1 bowl
- Feed the child with fruit juices or smashed fruits on demand

4.2. Some recipes

❖ ***Meat/fish/shrimp/eel/liver porridge:***

Rice:	a handful (or a bowl of cooked porridge)
Minced meat /fish fillet/ minced peeled shrimp/ minced steamed eel/ minced liver:	3-4 teaspoons
Fat (oil):	2 teaspoons
Finely cut green vegetables:	3 teaspoons
Water:	adequate

❖ ***Egg porridge:***

Rice:	a handful (or a bowl of cooked porridge)
Chicken egg:	an egg (using both yolk and glair)
Fat (oil):	2 teaspoons
Finely cut green vegetables:	2 teaspoons
Water:	adequate

❖ ***Black/green bean porridge:***

Rice:	a handful (or a bowl of cooked porridge)
Black/green bean:	½ of rice amount
Fat (oil):	2 teaspoons
Finely cut green vegetables:	2 teaspoons
Water:	adequate

Week menu for 7-9 month old children

Time	Mon/ Wed	Tue/ Thu	Fri/ Sat	Sun
06:00	Breast milk	Breast milk	Breast milk	Breast milk
08:00	Pork soup	Chicken soup	Beef soup	Egg soup
10:00	Banana: 1/3-1/2 banana	Papaya: 50g	Sapodilla: 1 sapodilla	Mango: 50g
11:00	Breast milk	Breast milk	Breast milk	Breast milk
14:00	Egg soup	Fish soup	Shrimp soup	Meat soup
17:00	Breast milk	Breast milk	Breast milk	Breast milk
19:00	Beef soup	Pork soup	Chicken soup	Pork soup

Week menu for 10-12 month old children

Time	Mon/ Wed	Tue/ Thu	Fri/ Sat	Sun
06:00	Breast milk	Breast milk	Breast milk	Breast milk
08:00	Pork soup	Chicken soup	Beef soup	Egg soup
10:00	Banana: 1/2-1 banana	Papaya: 100g	Sapodilla: 1 sapodilla	Mango: 100g
11:00	Breast milk	Breast milk	Breast milk	Breast milk
14:00	Egg soup	Crab soup	Shrimp soup	Fish soup
16:00	Orange juice*	Orange juice	Orange juice	Orange juice
17:00	Breast milk	Breast milk	Breast milk	Breast milk
19:00	Beef soup	Pork soup	Chicken soup	Pork soup

** orange juice: ½ of an orange and 1 tea spoon of sugar*

Week menu for 1-2 year old children

Time	Mon/ Wed	Tue/ Thu	Fri/ Sat	Sun
06:00	Breast milk	Breast milk	Breast milk	Breast milk
08:00	Pork porridge	Chicken porridge	Beef porridge	Egg porridge
10:00	Banana: 1 banana	Papaya: 100g	Sapodilla: 1 sapodilla	Mango: 100g
11:00	Breast milk	Breast milk	Breast milk	Breast milk
14:00	Beef and potato soup	Green bean and pumpkin soup	Shrimp porridge	Peanut and pumpkin porridge
16:00	Orange juice	Orange juice	Orange juice	Orange juice
17:00	Breast milk	Breast milk	Breast milk	Breast milk
19:00	Fish porridge	Eel porridge	Pork porridge	Eel porridge

Theo khuyến cáo của Tổ chức Y tế thế giới và Viện Dinh dưỡng, cần cho trẻ ăn đa dạng các loại thực phẩm hàng ngày, với ít nhất là 4 trong 8 loại thực phẩm theo khuyến cáo như sau:

- Ngũ cốc, khoai củ;
- Đậu đỗ, các loại hạt;
- Sữa và các chế phẩm sữa;
- Thịt, cá, gia cầm, gan hay phủ tạng;
- Trứng;
- Rau quả giàu vitamin A;
- Các loại rauu quả khác;
- Dầu mỡ.

APPENDIX 3.

APPENDIX 3.1. WEIGHT FOR AGE REFERENCE TABLE

(1) Select the appropriate table to the child's gender

(2) Calculate the child's months of age and refer to the Months of age column (the first column)

(3) Check the child's weight to see which range it belongs to in the columns equivalent to the z-scores and identify the child's nutritional status

Moderate underweight	*Under -2SD to ≥ -3SD*
Severe underweight	*Under -3SD to ≥ -4SD*
Normal	*From - 2SD to + 2SD*
Overweight	*Over +2SD*

3.1.1. WEIGHT FOR AGE (Z SCORE)

Boys (0-5 years old)

Months of age	-3SD	-2SD	Median	+2SD	+3SD
0	2.1	2.5	3.3	4.4	5.0
1	2.9	3.4	4.5	5.8	6.6
2	3.8	4.3	5.6	7.1	8.0
3	4.4	5.0	6.4	8.0	9.0
4	4.9	5.6	7.0	8.7	9.7
5	5.3	6.0	7.5	9.3	10.4
6	5.7	6.4	7.9	9.8	10.9
7	5.9	6.7	8.3	10.3	11.4
8	6.2	6.9	8.6	10.7	11.9
9	6.4	7.1	8.9	11.0	12.3
10	6.6	7.4	9.2	11.4	12.7
11	6.8	7.6	9.4	11.7	13.0
12	6.9	7.7	9.6	12.0	13.3
13	7.1	7.9	9.9	12.3	13.7
14	7.2	8.1	10.1	12.6	14.0
15	7.4	8.3	10.3	12.8	14.3
16	7.5	8.4	10.5	13.1	14.6

Boys (0-5 years old)

Months of age	-3SD	-2SD	Median	+2SD	+3SD
17	7.7	8.6	10.7	13.4	14.9
18	7.8	8.8	10.9	13.7	15.3
19	8.0	8.9	11.1	13.9	15.6
20	8.1	9.1	11.3	14.2	15.9
21	8.2	9.2	11.5	14.5	16.2
22	8.4	9.4	11.8	14.7	16.5
23	8.5	9.5	12.0	15.0	16.8
24	8.6	9.7	12.2	15.3	17.1
25	8.8	9.8	12.4	15.5	17.5
26	8.9	10.0	12.5	15.8	17.8
27	9.0	10.1	12.7	16.1	18.1
28	9.1	10.2	12.9	16.3	18.4
29	9.2	10.4	13.1	16.6	18.7
30	9.4	10.5	13.3	16.9	19.0
31	9.5	10.7	13.5	17.1	19.3
32	9.6	10.8	13.7	17.4	19.6
33	9.7	10.9	13.8	17.6	19.9
34	9.8	11.0	14.0	17.8	20.2
35	9.9	11.2	14.2	18.1	20.4
36	10.0	11.3	14.3	18.3	20.7
37	10.1	11.4	14.5	18.6	21.0
38	10.2	11.5	14.7	18.8	21.3
39	10.3	11.6	14.8	19.0	21.6
40	10.4	11.8	15.0	19.3	21.9
41	10.5	11.9	15.2	19.5	22.1
42	10.6	12.0	15.3	19.7	22.4
43	10.7	12.1	15.5	20.0	22.7
44	10.8	12.2	15.7	20.2	23.0

Boys (0-5 years old)

Months of age	-3SD	-2SD	Median	+2SD	+3SD
45	10.9	12.4	15.8	20.5	23.3
46	11.0	12.5	16.0	20.7	23.6
47	11.1	12.6	16.2	20.9	23.9
48	11.2	12.7	16.3	21.2	24.2
49	11.3	12.8	16.5	21.4	24.5
50	11.4	12.9	16.7	21.7	24.8
51	11.5	13.1	16.8	21.9	25.1
52	11.6	13.2	17.0	22.2	25.4
53	11.7	13.3	17.2	22.4	25.7
54	11.8	13.4	17.3	22.7	26.0
55	11.9	13.5	17.5	22.9	26.3
56	12.0	13.6	17.7	23.2	26.6
57	12.1	13.7	17.8	23.4	26.9
58	12.2	13.8	18.0	23.7	27.2
59	12.3	14.0	18.2	23.9	27.6
60	12.4	14.1	18.3	24.2	27.9

3.1.2. WEIGHT FOR AGE (ZCORE)

Girls (0-5 years old)

Months of age	-3SD	-2SD	Median	+2SD	+3SD
0	2.0	2.4	3.2	4.2	4.8
1	2.7	3.2	4.2	5.5	6.2
2	3.4	3.9	5.1	6.6	7.5
3	4.0	4.5	5.8	7.5	8.5
4	4.4	5.0	6.4	8.2	9.3
5	4.8	5.4	6.9	8.8	10.0
6	5.1	5.7	7.3	9.3	10.6

Girls (0-5 years old)

Months of age	-3SD	-2SD	Median	+2SD	+3SD
7	5.3	6.0	7.6	9.8	11.1
8	5.6	6.3	7.9	10.2	11.6
9	5.8	6.5	8.2	10.5	12.0
10	5.9	6.7	8.5	10.9	12.4
11	6.1	6.9	8.7	11.2	12.8
12	6.3	7.0	8.9	11.5	13.1
13	6.4	7.2	9.2	11.8	13.5
14	6.6	7.4	9.4	12.1	13.8
15	6.7	7.6	9.6	12.4	14.1
16	6.9	7.7	9.8	12.6	14.5
17	7.0	7.9	10.0	12.9	14.8
18	7.2	8.1	10.2	13.2	15.1
19	7.3	8.2	10.4	13.5	15.4
20	7.5	8.4	10.6	13.7	15.7
21	7.6	8.6	10.9	14.0	16.0
22	7.8	8.7	11.1	14.3	16.4
23	7.9	8.9	11.3	14.6	16.7
24	8.1	9.0	11.5	14.8	17.0
25	8.2	9.2	11.7	15.1	17.3
26	8.4	9.4	11.9	15.4	17.7
27	8.5	9.5	12.1	15.7	18.0
28	8.6	9.7	12.3	16.0	18.3
29	8.8	9.8	12.5	16.2	18.7
30	8.9	10.0	12.7	16.5	19.0
31	9.0	10.1	12.9	16.8	19.3
32	9.1	10.3	13.1	17.1	19.6
33	9.3	10.4	13.3	17.3	20.0

Girls (0-5 years old)

Months of age	-3SD	-2SD	Median	+2SD	+3SD
34	9.4	10.5	13.5	17.6	20.3
35	9.5	10.7	13.7	17.9	20.6
36	9.6	10.8	13.9	18.1	20.9
37	9.7	10.9	14.0	18.4	21.3
38	9.8	11.1	14.2	18.7	21.6
39	9.9	11.2	14.4	19.0	22.0
40	10.1	11.3	14.6	19.2	22.3
41	10.2	11.5	14.8	19.5	22.7
42	10.3	11.6	15.0	19.8	23.0
43	10.4	11.7	15.2	20.1	23.4
44	10.5	11.8	15.3	20.4	23.7
45	10.6	12.0	15.5	20.7	24.1
46	10.7	12.1	15.7	20.9	24.5
47	10.8	12.2	15.9	21.2	24.8
48	10.9	12.3	16.1	21.5	25.2
49	11.0	12.4	16.3	21.8	25.5
50	11.1	12.6	16.4	22.1	25.9
51	11.2	12.7	16.6	22.4	26.3
52	11.3	12.8	16.8	22.6	26.6
53	11.4	12.9	17.0	22.9	27.0
54	11.5	13.0	17.2	23.2	27.4
55	11.6	13.2	17.3	23.5	27.7
56	11.7	13.3	17.5	23.8	28.1
57	11.8	13.4	17.7	24.1	28.5
58	11.9	13.5	17.9	24.4	28.8
59	12.0	13.6	18.0	24.6	29.2
60	12.1	13.7	18.2	24.9	29.5

APPENDIX 3.2. LENGTH/ HEIGHT FOR AGE REFERENCE TABLE

(1) Select the appropriate table to the child's gender and age

(2) Calculate the child's months of age and refer to the Months of age column (the first column)

(3) Check the child's height to see which range it belongs to in the columns equivalent to the z-scores and identify the child's nutritional status

Moderate stunting	*Under -2SD to ≥ -3SD*
Severe stunting	*Under -3SD to ≥ -4SD*
Normal	*From - 2SD*

3.2.1. LENGTH FOR AGE (ZCORE)

Boys (0-2 years old)

Months of age	-3SD	-2SD	Median	+2SD	+3SD
0	44.2	46.1	49.9	53.7	55.6
1	48.9	50.8	54.7	58.6	60.6
2	52.4	54.4	58.4	62.4	64.4
3	55.3	57.3	61.4	65.5	67.6
4	57.6	59.7	63.9	68.0	70.1
5	59.6	61.7	65.9	70.1	72.2
6	61.2	63.3	67.6	71.9	74.0
7	62.7	64.8	69.2	73.5	75.7
8	64.0	66.2	70.6	75.0	77.2
9	65.2	67.5	72.0	76.5	78.7
10	66.4	68.7	73.3	77.9	80.1
11	67.6	69.9	74.5	79.2	81.5
12	68.6	71.0	75.7	80.5	82.9
13	69.6	72.1	76.9	81.8	84.2
14	70.6	73.1	78.0	83.0	85.5
15	71.6	74.1	79.1	84.2	86.7
16	72.5	75.0	80.2	85.4	88.0
17	73.3	76.0	81.2	86.5	89.2
18	74.2	76.9	82.3	87.7	90.4
19	75.0	77.7	83.2	88.8	91.5

Boys (0-2 years old)

Months of age	-3SD	-2SD	Median	+2SD	+3SD
20	75.8	78.6	84.2	89.8	92.6
21	76.5	79.4	85.1	90.9	93.8
22	77.2	80.2	86.0	91.9	94.9
23	78.0	81.0	86.9	92.9	95.9
24	78.7	81.7	87.8	93.9	97.0

3.2.2. LENGTH FOR AGE (Z SCORE)

Girls (0-2 years of age)

Months of age	-3SD	-2SD	Median	+2SD	+3SD
0	43.6	45.4	49.1	52.9	54.7
1	47.8	49.8	53.7	57.6	59.5
2	51.0	53.0	57.1	61.1	63.2
3	53.5	55.6	59.8	64.0	66.1
4	55.6	57.8	62.1	66.4	68.6
5	57.4	59.6	64.0	68.5	70.7
6	58.9	61.2	65.7	70.3	72.5
7	60.3	62.7	67.3	71.9	74.2
8	61.7	64.0	68.7	73.5	75.8
9	62.9	65.3	70.1	75.0	77.4
10	64.1	66.5	71.5	76.4	78.9
11	65.2	67.7	72.8	77.8	80.3
12	66.3	68.9	74.0	79.2	81.7
13	67.3	70.0	75.2	80.5	83.1
14	68.3	71.0	76.4	81.7	84.4
15	69.3	72.0	77.5	83.0	85.7
16	70.2	73.0	78.6	84.2	87.0
17	71.1	74.0	79.7	85.4	88.2
18	72.0	74.9	80.7	86.5	89.4
19	72.8	75.8	81.7	87.6	90.6
20	73.7	76.7	82.7	88.7	91.7

Girls (0-2 years of age)

Months of age	-3SD	-2SD	Median	+2SD	+3SD
21	74.5	77.5	83.7	89.8	92.9
22	75.2	78.4	84.6	90.8	94.0
23	76.0	79.2	85.5	91.9	95.0
24	76.7	80.0	86.4	92.9	96.1

3.2.3. HEIGHT FOR AGE (Z SCORE)

Boys (2-5 years old)

Tháng tuổi	-3SD	-2SD	Trung vị	+2SD	+3SD
24	78.0	81.0	87.1	93.2	96.3
25	78.6	81.7	88.0	94.2	97.3
26	79.3	82.5	88.8	95.2	98.3
27	79.9	83.1	89.6	96.1	99.3
28	80.5	83.8	90.4	97.0	100.3
29	81.1	84.5	91.2	97.9	101.2
30	81.7	85.1	91.9	98.7	102.1
31	82.3	85.7	92.7	99.6	103.0
32	82.8	86.4	93.4	100.4	103.9
33	83.4	86.9	94.1	101.2	104.8
34	83.9	87.5	94.8	102.0	105.6
35	84.4	88.1	95.4	102.7	106.4
36	85.0	88.7	96.1	103.5	107.2
37	85.5	89.2	96.7	104.2	108.0
38	86.0	89.8	97.4	105.0	108.8
39	86.5	90.3	98.0	105.7	109.5
40	87.0	90.9	98.6	106.4	110.3
41	87.5	91.4	99.2	107.1	111.0
42	88.0	91.9	99.9	107.8	111.7
43	88.4	92.4	100.4	108.5	112.5
44	88.9	93.0	101.0	109.1	113.2
45	89.4	93.5	101.6	109.8	113.9

Boys (2-5 years old)

Tháng tuổi	-3SD	-2SD	Trung vị	+2SD	+3SD
46	89.8	94.0	102.2	110.4	114.6
47	90.3	94.4	102.8	111.1	115.2
48	90.7	94.9	103.3	111.7	115.9
49	91.2	95.4	103.9	112.4	116.6
50	91.6	95.9	104.4	113.0	117.3
51	92.1	96.4	105.0	113.6	117.9
52	92.5	96.9	105.6	114.2	118.6
53	93.0	97.4	106.1	114.9	119.2
54	93.4	97.8	106.7	115.5	119.9
55	93.9	98.3	107.2	116.1	120.6
56	94.3	98.8	107.8	116.7	121.2
57	94.7	99.3	108.3	117.4	121.9
58	95.2	99.7	108.9	118.0	122.6
59	95.6	100.2	109.4	118.6	123.2
60	96.1	100.7	110.0	119.2	123.9

3.2.4. HEIGHT FOR AGE (Z SCORE)

Girls (2-5 years old)

Tháng tuổi	-3SD	-2SD	Trung vị	+2SD	+3SD
24	76.0	79.3	85.7	92.2	95.4
25	76.8	80.0	86.6	93.1	96.4
26	77.5	80.8	87.4	94.1	97.4
27	78.1	81.5	88.3	95.0	98.4
28	78.8	82.2	89.1	96.0	99.4
29	79.5	82.9	89.9	96.9	100.3
30	80.1	83.6	90.7	97.7	101.3
31	80.7	84.3	91.4	98.6	102.2
32	81.3	84.9	92.2	99.4	103.1
33	81.9	85.6	92.9	100.3	103.9

Girls (2-5 years old)

Tháng tuổi	-3SD	-2SD	Trung vị	+2SD	+3SD
34	82.5	86.2	93.6	101.1	104.8
35	83.1	86.8	94.4	101.9	105.6
36	83.6	87.4	95.1	102.7	106.5
37	84.2	88.0	95.7	103.4	107.3
38	84.7	88.6	96.4	104.2	108.1
39	85.3	89.2	97.1	105.0	108.9
40	85.8	89.8	97.7	105.7	109.7
41	86.3	90.4	98.4	106.4	110.5
42	86.8	90.9	99.0	107.2	111.2
43	87.4	91.5	99.7	107.9	112.0
44	87.9	92.0	100.3	108.6	112.7
45	88.4	92.5	100.9	109.3	113.5
46	88.9	93.1	101.5	110.0	114.2
47	89.3	93.6	102.1	110.7	114.9
48	89.8	94.1	102.7	111.3	115.7
49	90.3	94.6	103.3	112.0	116.4
50	90.7	95.1	103.9	112.7	117.1
51	91.2	95.6	104.5	113.3	117.7
52	91.7	96.1	105.0	114.0	118.4
53	92.1	96.6	105.6	114.6	119.1
54	92.6	97.1	106.2	115.2	119.8
55	93.0	97.6	106.7	115.9	120.4
56	93.4	98.1	107.3	116.5	121.1
57	93.9	98.5	107.8	117.1	121.8
58	94.3	99.0	108.4	117.7	122.4
59	94.7	99.5	108.9	118.3	123.1
60	95.2	99.9	109.4	118.9	123.7

APPENDIX 3.3. WEIGHT FOR HEIGHT REFERENCE TABLE

Growth standards of the World Health Organization are established differently for boys and girls. In the following tables (for BOYS – on the Left and for GIRLS – on the Right), the middle column is the child's length or height in cm.

Use the table to identify the nutritional status of children as follows:

1. Identify the value that is closest to the child's length/ height in the middle column.
2. If the value falls between the two numbers in the column, round it in the following ways: if the number after the comma is smaller than 5, round it down (e.g., 99.4 cm will be rounded down to 99 cm); if the number after the comma is equal to or higher than 5, round it up (e.g., 99.5 will be rounded up to 100).
3. Check the child's weight to see which range it falls in the columns corresponding to the length/ height row, compare and read the result on the child's nutritional status. For boys, read the weight table on the left; for girls, read the weight table on the right.

Moderate wasting	*Under -2SD to - 3SD*
Severe wasting	*Under -3SD*
Normal	*From - 2SD to + 2SD*
Overweight	*Above +2SD*

Boy's weight (kg)			**Length**	**Girl's weight (kg)**		
-3SD	-2SD	Median	Cm	Median	-2SD	-3SD
2.4	2.6	3.1	49	3.2	2.6	2.4
2.6	2.8	3.3	50	3.4	2.8	2.6
2.7	3.0	3.5	51	3.6	3.0	2.8
2.9	3.2	3.8	52	3.8	3.2	2.9
3.1	3.4	4.0	53	4.0	3.4	3.1
3.3	3.6	4.3	54	4.3	3.6	3.3
3.6	3.8	4.5	55	4.5	3.8	3.5
3.8	4.1	4.8	56	4.8	4.0	3.7
4.0	4.3	5.1	57	5.1	4.3	3.9
4.3	4.6	5.4	58	5.4	4.5	4.1
4.5	4.8	5.7	59	5.6	4.7	4.3

Boy's weight (kg)			Length	Girl's weight (kg)		
-3SD	-2SD	Median	Cm	Median	-2SD	-3SD
4.7	5.1	6.0	60	5.9	4.9	4.5
4.9	5.3	6.3	61	6.1	5.1	4.7
5.1	5.6	6.5	62	6.4	5.3	4.9
5.3	5.8	6.8	63	6.6	5.5	5.1
5.5	6.0	7.0	64	6.9	5.7	5.3
5.7	6.2	7.3	65	7.1	5.9	5.5
5.9	6.4	7.5	66	7.3	6.1	5.6
6.1	6.6	7.7	67	7.5	6.3	5.8
6.3	6.8	8.0	68	7.7	6.5	6.0
6.5	7.0	8.2	69	8.0	6.7	6.1
6.6	7.2	8.4	70	8.2	6.9	6.3
6.8	7.4	8.6	71	8.4	7.0	6.5
7.0	7.6	8.9	72	8.6	7.2	6.6
7.2	7.7	9.1	73	8.8	7.4	6.8
7.3	7.9	9.3	74	9.0	7.5	6.9
7.5	8.1	9.5	75	9.1	7.7	7.1
7.6	8.3	9.7	76	9.3	7.8	7.2
7.8	8.4	9.9	77	9.5	8.0	7.4
7.9	8.6	10.1	78	9.7	8.2	7.5
8.1	8.7	10.3	79	9.9	8.3	7.7
8.2	8.9	10.4	80	10.1	8.5	7.8
8.4	9.1	10.6	81	10.3	8.7	8.0
8.5	9.2	10.8	82	10.5	8.8	8.1
8.7	9.4	11.0	83	10.7	9.0	8.3
8.9	9.6	11.3	84	11.0	9.2	8.5
9.1	9.8	11.5	85	11.2	9.4	8.7
9.3	10.0	11.7	86	11.5	9.7	8.9

Boy's weight (kg)			Chiều cao	Girl's weight (kg)		
-3SD	-2SD	Median	Cm	Median	-2SD	-3SD
9.6	10.4	12.2	87	11.9	10.0	9.2
9.8	10.6	12.4	88	12.1	10.2	9.4
10.0	10.8	12.6	89	12.4	10.4	9.6
10.2	11.0	12.9	90	12.6	10.6	9.8
10.4	11.2	13.1	91	12.9	10.9	10.0
10.6	11.4	13.4	92	13.1	11.1	10.2
10.8	11.6	13.6	93	13.4	11.3	10.4
11.0	11.8	13.8	94	13.6	11.5	10.6
11.1	12.0	14.1	95	13.9	11.7	10.8
11.3	12.2	14.3	96	14.1	11.9	10.9
11.5	12.4	14.6	97	14.4	12.1	11.1
11.7	12.6	14.8	98	14.7	12.3	11.3
11.9	12.9	15.1	99	14.9	12.5	11.5
12.1	13.1	15.4	100	15.2	12.8	11.7
12.3	13.3	15.6	101	15.5	13.0	12.0
12.5	13.6	15.9	102	15.8	13.3	12.2
12.8	13.8	16.2	103	16.1	13.5	12.4
13.0	14.0	16.5	104	16.4	13.8	12.6
13.2	14.3	16.8	105	16.8	14.0	12.9
13.4	14.5	17.2	106	17.1	14.3	13.1
13.7	14.8	17.5	107	17.5	14.6	13.4
13.9	15.1	17.8	108	17.8	14.9	13.7
14.1	15.3	18.2	109	18.2	15.2	13.9
14.4	15.6	18.5	110	18.6	15.5	14.2
14.6	15.9	18.9	111	19.0	15.8	14.5
14.9	16.2	19.2	112	19.4	16.2	14.8

APPENDIX 4. SUMMARY OF THE NATIONAL NUTRITION STRATEGY FOR THE PEIROD OF 2011 – 2020 WITH A VISION TOWARDS 2030

1. Principles

a) Improving nutrition status is the responsibility of each person, including all levels of authority and all sectors.

b) Balanced and proper nutrition is essential for achieving comprehensive physical and intellectual development of Vietnamese people and improved quality of life.

c) Nutrition activities should involve multiple sectors, under the guidance and leadership of the Party and Government at all levels, with social mobilisation of mass organisations and the general population. Priority should be given to poor, disadvantaged areas and ethnic minority groups, and for mothers and small children.

2. Objectives

a) General objective:

By the year 2020, the diet of Vietnamese people will be improved in terms of quantity, balanced in quality, hygienic and safe; Child malnutrition will be further reduced, especially prevalence of stunting, contributing to improved physical status and stature of Vietnamese people; and obesity/overweight will be managed, contributing to the control of nutrition-related chronic diseases.

b) Specific objectives

➢ **Objective 1:** To continue to improve the diet of Vietnamese people, in terms of quantity and quality.

Indicators:

- The proportion of households with low energy intake (below 1800 Kcal) will be reduced to 10 % by 2015 and 5 % by 2020.
- The proportion of households with a balanced diet (Protein:Lipid:Carbohydrate ratio – 14:18:68) will reach 50% by 2015 and 75% by 2020.

➢ **Objective 2:** To improve the nutrition status of mothers and children

Indicators:

- The prevalence of chronic energy deficiency in reproductive-aged women will be reduced to 15% by 2010 and less than 12% by 2020.
- The rate of low birth weight (infants born less than 2,500g) will be reduced to under 10% prevalence by 2015 and less than 8% by 2020.
- The rate of stunting in children under 5 years old will be reduced to 26% by 2015, and to 23% by 2020.

- The prevalence of underweight among children under 5 years old will be reduced to 15% by 2015 and to 12.5% by 2020.
- By 2020, the average height of children under 5 will increase by 1.5 – 2cm in both boys and girls; and height in adolescents by sex will increase by 1-1.5 cm compared with the averages from 2010.
- The prevalence of overweight in children under 5 will be less than 5% in rural areas and less than 10% among urban populations by 2015, and will be maintained at the same rate by 2020.
- Giảm tỷ lệ thiếu năng lượng trường diễn ở phụ nữ tuổi sinh đẻ xuống còn 15% vào năm 2015 và dưới 12% vào năm 2020.

➢ **Objective 3:** To improve micro-nutrient status

Indicators:

- The prevalence of children under five with low serum vitamin A (<0.7 µmol/L) will be reduced to 10 % by 2015 and below 8 % by 2020.
- The prevalence of anaemia in pregnant women will be reduced to 28% by 2015 and to 23 % by 2020.
- The prevalence of anaemia among children under five years will be reduced to 20% by 2015 and 15% by 2020.
- By 2015, standardised iodized salt (≥20 ppm) will be regularly available throughout the country, with coverage of more than 90% of households. Mean urinary iodine levels in mothers with children under 5 will be between 10-20 ㎎/dl, and these concentrations will be maintained by 2020.

➢ **Objective 4:** To effectively control overweight and obesity and risk factors of nutrition related noncommunicable chronic disease in adults

Indicators:

- The prevalence of overweight and obesity in adults will be controlled to a rate of less than 8% by 2015 and will increase to no more than 12% by 2020.
- The proportion of adults with elevated serum cholesterol (over 5.2 mmol/L) will be less than 28% in 2015 and will remain relatively controlled with less than 30% prevalence in 2020.

➢ **Objective 5:** To improve knowledge and practices regarding proper nutrition

Indicators:

- The rate of exclusive breastfeeding (EBF) for the first 6 months will reach 27% by 2015 and 35% by 2020.
- The proportion of mothers with proper nutrition knowledge and practices when caring for a sick child will reach 75% by 2015 and 85% by 2020.

- The proportion of adolescent females receiving maternal and nutrition education will reach 60% by 2015 and 75% by 2020.

➢ **Objective 6:** To reinforce capacity and effectiveness of the network of nutrition services in both community and health care facilities.

Indicators:

- By 2015, the proportion of nutrition coordinators receiving training in community nutrition (from 1 to 3 months) will reach 75% among provincial level employees and 50% of those at the district level. By 2020, this proportion will be 100% and 75%, respectively.
- By 2015, 100% of communal nutrition coordinators and nutrition collaborators will be trained and updated on nutrition care practices. Training of all nutrition staff will be maintained in 2020.
- The proportion of central and provincial hospitals with dieticians will reach 90% at central level, 70% at provincial level and 30% at district level by 2015. By 2020, this proportion will be 100%, 95%, and 50% respectively.
- The proportion of hospitals applying nutrition counseling and therapeutic treatment for conditions such as aging health, HIV/AIDS and TB, will reach 90% among central, 70% among provincial, and 20% among district hospitals by 2015. By 2020, the coverage will be 100%, 95% and 50%, respectively.
- The proportion of provinces qualified for performing nutrition surveilance will reach 50% by 2015 and 75% by 2020. Nutrition data will be monitored with particular focus in vulnerable provinces, in emergency situations, and in provinces with high prevalence of malnutrition.

c) Vision toward 2030

By 2030, Vietnam aims to reduce child malnutrition below the level of public health significance (stunting rate to be less than 20% and underweight rate to be less than 10%) and to remarkably increase the mean height in adults. In addition, increased awareness about proper nutrition and behavior change should be improved in the general population for the prevention of nutrition related chronic diseases, which are on the rise. Ongoing monitoring and evaluation should be completed among different population groups in order to ensure appropriate and balanced diets. Additionally, adequate food safety controls should be ensured. Meeting these objectives will contribute to the overall goal of all population groups meeting nutrition requirements needed to maximise quality of life, especially for school children.

3. Main approaches

a) Approaches for policy

➢ Leadership and guidance from all levels of the Party and Government should be reinforced in order to achieve the reduction of underweight. Nutrition indicators, particularly the rate of stunting, should soon be considered a socioeconomic development indicator for the

nation, as well as each locality. Monitoring and evaluation of the nutrition indicators should be strengthened in order to determine if the goals are being achieved.

- In order to effectively implement interventions for improved nutritional status, a multi-sector cooperation mechanism should be finalised, particularly involving the Ministry of Health, Ministry of Agriculture and Rural Development, Ministry of Education and Training, Ministry of Culture, Sport and Tourism, Ministry of Labor, Invalids and Social Affairs. In addition, there is a need to establish policies and procedures to mobilise and promote the involvement of mass organisations and industries in implementation of the National Nutrition Strategy.
- The legislative framework dealing with issues of food and nutrition should be developed and finalised. Specific areas of focus include: regulations on production, marketing and utilisation of nutrition products for small children, food fortification laws, adequate maternity leave, breastfeeding promotion, school nutrition policy focusing on pre-school and primary school children, and encouraging increased production of specialised nutrition products in the private sector to be used specifically among poor and disadvantaged groups, ethnic minority groups, pregnant women, children under 5, and children with special needs.

b) Approaches for developing resources

- *Capacity building:*
  - Nutrition, dietetics, and food safety professionals should be extensively trained and effectively used.
  - A variety of nutrition specialists should be trained to fill various roles including post-graduate, bachelor, and technician programs in nutrition and dietetics.
  - A staff network for professionals working in the field of nutrition should be developed and reinforced, particularly for those working in local communities. Capacity building of managerial staff should be strengthened from central to local levels, including those in relevant sectors and ministries.
  - The training format should be adapted according to socioeconomic needs and should be designed to meet the education level of its target audience. Priority should be given to people from ethnic minorities, disadvantaged groups, and areas with high prevalence of malnutrition. International cooperation in capacity building for development of nutrition programs should be promoted.
- *Financial resources:*
  - The main approaches to raising financial resources are from social mobilisation and diversification of funding sources, with gradual increase projected toward investment of addressing nutrition issues. Potential funding sources include: state and local government budgets, international aid, and other legal financial supports which the state will allocate to national program and projects.
  - Financial resources should be managed and coordinated effectively, ensuring the

equality and equity in nutrition care for all people. Monitoring, supervision and evaluation of the effectiveness of budget utilisation should be strengthened.

c) Approaches for nutrition advocacy, education and communication:

- Communication of health messages should be promoted, to raise awarenes on the importance of nutrition in the comprehensive physical and mental health development of children, targeting authorities and managers at all levels.
- Mass media communication should be conducted using various methods and formats, with content appropriate for each region, area or target group to whom it is aimed in order to improve nutrition knowledge and practices. These messages are especially vital in the goals to reduce prevalence of stunting and the control of overweight and obesity and nutrition-related non-communicable diseases in all population groups.
- A focus on nutrition and health education should be continued in the school system, from pre-school onwards. Furthermore, a school nutrition program should be developed and implemented with the gradual introduction of school meals and milk available in pre-schools and primary schools. Appropriate models should be developed according to region and target group.

d) Technical approaches

- Specific food and nutrition interventions should be developed to improve nutritional status of target groups. Priority should be given to poor, disadvantaged and ethnic minority areas, as well as those at risk.
- Proper nutrition care should be given to mothers during prenatal and postnatal periods. Exclusive breastfeeding should be promoted during the first 6 months with appropriate complementary feeding for children 6 months through 2 years of age.
- The Food and Nutrition Surveillance Center should be strengthened at both central and regional level institutions in order to provide systematic monitoring of food consumption and nutritional status trends.
- A network of nutrition services including counseling and rehabilitation should be developed and improved.
- Local food production, processing and utilisation should be promoted and diversified. The Vegetation - Aquaculture - Cage for Animal husbandry (VAC) ecosystem should be further developed, ensuring the production, circulation and distribution of safe foods. Daily consumption of fish, milk and vegetables should be promoted in order to encourage the population toward the goal of increased dietary diversity to meet the ideal Protein:Lipid: Carbohydrate ratio.
- A system to monitor and forecast food insecurity at both national and household levels should be established. Furthermore, a plan to respond to nutrition issues following emergencies should be developed.

đ) Approaches for science and technology and international cooperation

- Capacity building and management of scientific research in nutrition and food should be strengthened. Research, development and technology applications should be promoted to develop creation and selection of new breeds of livestock, production and processing of nutritionally fortified foods and specialised products.
- Information technology and database development should be promoted in the areas of food and nutrition.
- The utilisation of evidence-based information should be promoted in policy development, planning, and development of nutrition programs and projects at different levels, with particular focus on the reduction of stunting and micronutrient deficiencies.
- Experiences and advances of nutrition sciences should be applied in the prevention of obesity, metabolic syndrome and nutrition related non-communicable diseases.
- Active cooperation with scientifically advanced countries, institutes, and universities both regionally and globally should be cultivated in order to improve research and training needed to rapidly progress toward advanced science and technology standards and to build up nutrition capacity.
- Comprehensive cooperation with international organisations should be promoted to support the implementation of National Nutrition Strategy (NNS).
- International cooperation projects should be integrated into the activities of the NNS in order to achieve the NNS objectives.

4. Implementation phases

a) ***Phase 1 (2011-2015):*** Implementation of key activities for nutrition improvement, focusing on education, training, capacity building and strengthening of policies that support nutrition initiatives, institutionalisation of state direction for nutrition activities, and continuation of National target programs.

b) ***Phase 2 (2016-2020):*** based on the evaluation of the implementation of phase 1 (2011-2015), phase 2 will involve policy modification, appropriate intervention, and comprehensive implementation of solutions and tasks in order to successfully carry out the objectives of the strategy. Furthermore, the nutrition database will be utilised for planning purposes and to sustain and evaluate implementation of the NNS.

5. Main projects/programs to implement NNS

a) Project for nutrition education, communication and capacity building

- Responsible agency: The Ministry of Health.
- Cooperating agencies: The Ministry of Education and Training, the Ministry of Information and Communication, Vietnam Television, related ministries, sectors, agencies, and Provincial People's Committees.

b) Project for maternal and child malnutrition control, and improved stature

- Responsible agency: The Ministry of Health.
- Cooperating agencies: Related ministries, sectors, agencies, and Provincial People's Committees.

c) Project for micronutrient deficiency control

- Responsible agency: The Ministry of Health.
- Cooperating agencies: The Ministry of Agriculture and Rural Development, the Ministry of Industry and Trade, the Ministry of Education and Training, the Ministry of Information and Communication, related ministries, sectors, agencies, and Provincial People's Committees.

d) Program for school nutrition

- Responsible agency: The Ministry of Health.
- Cooperating agencies: The Ministry of Education and Training, other related ministries, sectors, agencies, and Provincial People's Committees.

đ) Project for overweight/obesity and nutrition-related non-communicable chronic disease control

- The Ministry of Health is responsible, with cooperation from other related ministries, sectors, agencies, and Provincial People's Committees, for the activities in hospitals and the community.
- The Ministry of Education and Training is responsible, with cooperation from the Ministry of Health and other related ministries, sectors, agencies, and Provincial People's Committees, for the activities in school system.

e) Program for household food and nutrition security and nutrition following emergencies

- Responsible agency: The Ministry of Agriculture and Rural Development.
- Cooperating agencies: The Ministry of Health, other related ministries, sectors, agencies, and Provincial People's Committees.

g) Nutrition surveillance project

- Responsible agency: The Ministry of Health.
- Cooperating agencies: The Ministry of Agriculture and Rural Development, the Ministry of Planning and Investment (GSO), other related ministries, sectors, agencies, and Provincial People's Committees.

APPENDIX 5.

DECREE NO. 100/2014/NĐ-CP Regulating the trade in and use of nutritional products for infants and young children, feeding bottles and teats, and pacifiers

THE GOVERNMENT

No.: 100/2014/ND-CP

SOCIALIST REPUBLIC OF VIETNAM

Independence - Freedom - Happiness

Hanoi,06th November 2014

DECREE

On trading in and use of nutritional products for young children, feeding bottles and teats, and pacifiers

Pursuant to the Law on Organization of the Government dated December 25, 2001;

Pursuant to the Law on Child Protection, Care and Education dated June 15, 2004

Pursuant to the Law on Advertisement dated June 21, 2012;

Pursuant to the Law on Food Safety dated June 17, 2010;

Pursuant to the Law on Commerce dated June 14, 2005;

At the proposal of the Minister of Health,

The Government promulgates Decree on trading in and use of nutritional products for infants, feeding bottles and teats, and pacifiers.

Chapter I
GENERAL PROVISIONS

Article 1. Scope of regulation

This Decree provides information, education, communication on, advertisement for trading in and use of nutritional products for infants, feeding bottles and teats; responsibilities for trading in and using nutritional products for young children in order to reduce the malnutrition prevalence based on the promotion and protection of breastfeeding – best food for young children's health and comprehensive development.

Article 2. Interpretation of terms

In this Decree, the following terms are interpreted as below:

1. *Nutritional products for young children* are defined as breast milk substitutes and complementary foods for children up to 24 months which are produced by industrial methods, up to the prescribed standards and suitable to each period of growth or special physiological conditions of young children.
2. *Breast milk substitutes for young children up to the age of 24 months include:*

a) Formulated nutritional products in form of liquid or powder produced from the milk of cow or other animals with the appropriate components which can be used as breast milk replacement for young children up to the age of 12 months (infant formula)

b) Formulated nutritional products in form of liquid or powder produced from the milk of cow or other animals with the appropriate components or originated from animal and vegetable, which can be used in the complementary feeding period for young children from the age of 06 to 24 months (follow-up formula);

c) Other formulated nutritional products in form of liquid or powder produced from the milk of cow or other animals with the appropriate components or originated from animal and vegetable, which are presented or introduced as suitable to use for the young children under the age of 24 months, but do not include the complementary foods in the nutritional regime for young children over the age of 06 months.

3. *Complementary nutritional products (or complementary food for short)* are a kind of solid or semisolid food including 04 food groups: starch, protein, fat, vitamin and minerals; which are ready made to supplement breast milk or substitute breast milk for children under 24 months.
4. *Young children* are defined as those who are from newborn to 24 months old.
5. *Label of nutritional products for young children* is in the form of writing, printing, drawing, photocopying versions, or images which are pasted, printed, attached, molded, laid, or carved directly on products, commercial package of products or other materials attached to the products and commercial package of nutritional products for infants.
6. *Sample of nutritional products for young children* is to provide for free of charge a small amount of these products.
7. *Health facilities* include general hospitals having pediatric and obstetric clinics, obstetric or pediatric hospitals, maternity house; general clinics, obstetric or pediatric clinics; regional general clinics, and commune and township's health centers; facilities for research or counseling on nutrition for young children.
8. *Physicians and health professionals* comprise medical doctors, nurses, intermediate-level physicians, nutritional counselors, midwives or other health practitioners, including unpaid voluntary employees working at health facilities.

9. *Staff at manufacture and business establishments of nutritional products* for young children include contracted staff, sales staff who are entitled to sales commission, collaborators, and staff who promote nutritional products for young children.

Chapter II
INFORMATION, EDUCATION, COMMUNICATION AND ADVERTISEMENT

Article3. Information, education and communication on benefits of breastfeeding

Information, education and communication on the benefits of breastfeeding and on the methods of feeding young children must be given priority in programs on information, education and communication program on the protection of mother' and child's health, and on improvement of children's nutritional status.

Article 4. Information, educational and communication documents on young child feeding

1. Contents of information, educational and communication materials on young child feeding must be clear, easy-to-read, easy-to-understand, objective and scientific.
2. Information, education and communication materials on young child feeding must cover the following contents:
   a) Benefits and superiority of breastfeeding, affirming that breast milk is the best food for the health and overall growth of infants; antibacterial elements, especially antibodies, available in breast milk only, which help children prevent and fight against diarrhea, respiratory infections and other infectious diseases;
   b) Guidelines on exclusive breastfeeding until the age of 06 months and continuation of breastfeeding until the age of 24 months or older, correctly and properly feeding them with complementary foods from the age of 7 months;
   c) Disadvantages of non-breastfeeding and feeding with breast milk substitutes, such as inability to provide children with immune factors available in breast milk, high cost and time-consuming; bacterial contamination in cases of preparing the formula improperly, and so one;
   d) Adverse impacts of bottle-feeding, using teats and pacifiers, and providing complementary foods for children before they are 06 months old;
   đ) Instructions on how to prepare, preserve, choose and use complementary food for young children at home by simple methods, ensuring hygiene, safety and proper nutrition with all kinds of food available.
   e) Proper nutrition for mothers to maintain breast milk supply for breastfeeding.
3. Information, education and communication materials on young child feeding that contain the following contents are prohibited:

a) Pictures, words or other ways used to encourage the use of breast milk substitutes, bottle-feeding or discourage breastfeeding;

b) Comparing formula for young children with breast milk, or stating that it is even better than breast milk;

c) Names or logos of breast milk substitutes, bottles and teats for infants.

Article 5. Information, education and communication materials on the use of nutritional products for young children

Contents of information, education and communication materials on the use of nutritional products for young children must provide information on the following:

1. How to correctly choose and use nutritional products for young children;
2. How to clean and sterilize utensils used for feeding young children; .
3. How to feed young children with clean cups and spoons.
4. Warnings on possible harms to young children's health caused by teats, bottle-feeding or providing complementary food for young children before they are 06 months old;
5. Information on risks of getting infected from bottle-feeding and when breast milk substitutes are not prepared and given to children properly.
6. Warning about cost incurred of feeding young children with breast milk substitutes.

Article 6. Advertisement of nutritional products for young children

1. All forms of advertisement for breast milk substitutes for under-24 month children; complementary food for under-6 month infants; feeding bottles and teats; and image of fetus or young children in advertisements for milk products for pregnant women are strictly prohibited;
2. The advertisement of complementary foods for under-24 month young children must meet the following requirements:

   a) The beginning of the advertisement must have the statement: *"Breast milk is the best food for the health and comprehensive growth of young children";*

   b) In the advertisement, there must be a clear statement that, *"This product is complementary food and can supplement with breast milk and be used for over-06 month infants"*; in line with the provisions of Articles 4 and 5 of this Decree and other regulations of laws on advertisement and food safety.

3. Content, conditions and procedures of advertisement are in line with regulations on advertisement.

Chapter III

TRADING IN and USE of NUTRITIONAL PRODUCTS for YOUNG CHILDREN, BOTTLES and TEATS and PACIFIERS

Article 7. Announcement on regulation conformity and on conformity with food safety regulations

1. Nutritional products for young children must be published about its regulation conformity or its conformity with food safety regulations in accordance with laws on food safety before being introduced into the market.
2. The Minister of Health issues the National Technical Standards for formulated nutritional products for young children.

Article 8. Regulations on labelling of breast milk substitutes for young children

1. Labelling of breast milk substitutes for young children must meet the following requirements:
   a) There must be the words *"ATTENTION"* in upper case, followed by the words in lower case that highlight the following contents: *"Breast milk is the best food for the health and comprehensive growth of infants. Antibacterial elements, especially antibodies, available in breast milk only, help children prevent and fight against diarrhea, respiratory infections and several other infectious diseases."* The height of letters must not be less than 2 mm. The color of letters must be clear and contrast with the background color of the label;
   b) There must be the following words in lower case: *"Use this product only under physicians' instructions. Strictly follow preparation instructions. Feed children by hygiene cups and spoons."* The height of letters must not be less than 1.5 mm;
   c) Infants' ages that are suitable for using the substitute must be clearly written;
   d) Labels of the breast milk substitutes must not have pictures or drawings of infants, breastfeeding mothers, feeding-bottles or teats; words and images implying that the substitute is equivalent to or better than breast milk in quality or encouraging bottle-feeding must not be used; the labels of these products must not be similar to those for pregnant women;
   đ) Labels of breast milk substitutes must be printed with the number of the acceptance document of conformity announcement or the number of the document confirming their conformity with regulations on food safety.
2. Other contents on labels of breast milk substitutes for young children must be in line with the regulations on labeling of domestically circulated, imported or exported goods, on food safety and must meet the following required contents:
   a) Correct guide on the proper way of preparation, illustrated with simple and easy-to-understand tables in Vietnamese;
   b) Instruction on sterilizing the feeding tools;

c) Preservation conditions, expiry date before and after opening the can.

Article 9. Regulations on labelling of complementary foods for young children

1. Labels of complementary foods for young children must meet the following requirements:

   a) They should clearly state that: “This product is complementary food and can supplement breast milk for over-6 month infants”. The text should be placed on the front face of the product, in upper case letters which are as high as 2mm or more. The color of the letters must be clear and contrast with the background color of the label.

   b) There must be the word: *“ATTENTION”* in upper case, followed by the words in lower case that highlight the following message: *"Breast milk is the best food for the health and comprehensive development of young children"* The height of the letters must not be less than 2 mm;

   c) Infants' age that is suitable for using the products must be clearly written;

   d) Labels of the products must not have pictures or drawings of infants, breastfeeding mothers, feeding-bottles or teats; words and images implying that the product is equivalent to or better than breast milk in quality or encouraging bottle-feeding must not be used;

   đ) Labels of the products must be printed with the number of the acceptance document of conformity announcement or the number of of the document confirming their conformity with regulations on food safety.

2. Other contents on labelling of complementary foods for young children must comply with the regulations on labeling of domestically circulated, imported or exported goods, and on food safety.

Article 10. Labelling of feeding bottles and teats and pacifiers

1. Labels of feeding bottles and teats must meet the following requirements:

   a) There must be the words in lower case: *“Strictly follow instructions on hygiene and sterilization. Using feeding bottles and teats can make young children refuse to breastfeed and have the risk of getting diarrhea.”* The height of these lower-case letters must not be less than 2 mm. The color of these letters must be clear and contrast with the background color of the label.

   b) Provide correct guidelines on cleaning and sterilization;

   c) Provide precise names and addresses of producers and distributors.

2. Packages of or labels of bottles and teats must display the words in lower case: *"Using teats, and pacifiers negatively affects breastfeeding."* The height of these lower-case letters must not be less than 2 mm. The color of these letters must be clear and contrast with the background color of the label.

3. Labels of feeding bottles and teats, and pacifiers must not contain pictures or drawings of newborns and infants, breastfeeding mothers, or pictures or words implying that the product is similar to mother's nipples.

4. The regulations on labels of feeding bottles and teats, and pacifiers specified in Item 1, 2 and 3 of this Article are applied to both domestically manufactured products and imported ones.

Chapter IV

RESPONSIBILITIES IN TRADING IN AND USE OF NUTRITIONAL PRODUCTS FOR YOUNG CHILDREN

Article 11. Responsibilities of production and business establishments of nutritional products for young children

1. The production and business establishments are responsible for:
   a) Selling nutritional products for young children that ensure quality and food safety according to the published standards or regulations;
   b) Providing medical doctors, health workers and consumers with accurate scientific information and proper usage of nutritional products for young children as regulated in Article 4 and 5 of this Decree.
2. The production and business establishments must not:
   a) Produce and trade in nutritional products for young children which are not pursuant to the published standards or regulations, or are expired or have no packages or labeling.
   b) Appoint their employees to directly or indirectly contact mothers, pregnant women or members of their families at health facilities or other venues with purposes of advertising, communicating and promoting the use of breast milk substitutes;
   c) Display breast milk substitutes and complementary foods for children under 06 months at health facilities; display names and logos of breast milk substitutes on banners, posters and other advertising materials in supermarkets, retail stores and health facilities;
   d) Apply different forms of promotion for breast milk substitutes, such as offering sample products, discount coupons, awards and gifts, accumulating points for reward bonus, discount or any other forms;
   đ) Provide scholarships, funds for research projects, training activities, conferences, workshops, courses, concerts, organizing contests, drama performance, developing films and video clips, telephone counseling service or other forms to propagandize, introduce, or promote the business and use of breast milk substitutes;
   e) Implement or support the education and communication related to young child feeding in order to communicate, introduce, and promote the business and use of breast milk substitutes.

Article 12. Responsibilities of health facilities

1. Health facilities are responsible for:

a) Conducting the counseling sessions on breastfeeding for pregnant women, mothers who have young children and their family members;

b) Organizing communication sessions, hanging posters and banners or broadcasting images that have contents as regulated in Article 4 and 5 of this Decree at pregnancy check-up rooms, prepartal and postpartum rooms, nutrition counseling rooms or places which are easily observed and gather pregnant women, mothers having young children and their family members;

c) Creating condition for mothers to initiate breastfeeding their newborns within one hour after birth, exclusively breastfeed them in the first 6 months and continue breastfeeding until24 months of age or beyond.

2. Health facilities must not:

a) Sell or allow the sale of breast milk substitutes for young children at health facilities, except for hospital pharmacies;

b) Permit production and business establishments of breast milk substitutes to display and post any tools and devices that have names or logos of the breast milk substitutes, feeding bottles and teats, and pacifiers at health facilities;

c) Allow employees of production and business establishments of breast milk substitutes to approach mothers who have young children and pregnant women under any form;

d) Receive breast milk substitutes, material benefits and tools that have names or logos of breast milk substitutes, which are offered by production and business establishments.

Article 13. Responsibilities of physicians and health workers in health facilities

1. Physicians and health workers in health facilities have responsibilities for:

a) Promoting, supporting and protecting breastfeeding; understanding and strictly implementing the regulations of this Decree;

b) Informing pregnant women and mothers who have young children about benefits of breastfeeding and how to practice it;

c) Supporting mothers in breastfeeding their newborns within one hour after birth;

d) Instructing mothers to breastfeed and maintain lactation even when they have to be away from their babies;

e) Counseling mothers and family members to exclusively breastfeeding their children in the first 06 months;

f) Providing guidelines and help for mothers so that they can stay with their babies immediately after birth;

g) Encouraging mothers to breastfeed their babies on demand;

h) Requesting mothers and family members not to give babies any feeding bottle and teat or pacifier;.

i) Encouraging the establishment of breastfeeding mothers' support groups and referring mothers to these groups after discharging from hospital.

j) Prescribe breast milk substitutes if needed.

2. Physicians and health workers in health facilities must not:

a) Instruct mother to use breast milk substitutes for children under 06 months, except for cases with physician's prescription of using breast milk substitutes; .

b) Inform pregnant women, mothers who have young children or members of their families that feeding young children with breast milk substitutes is equivalent to or better than breastfeeding in value;

c) Receive directly or indirectly nutritional products for infants, material benefits, or tools that have names or logos of breast milk substitutes;

d) Allow production and business establishments to give sample products or gifts related to breast milk substitutes;

đ) Provide employees of production and business establishments with lists of names, ages, addresses and telephone contact numbers of mothers having young children or pregnant women, or permit them to approach pregnant women and mothers having young children at health facilities.

Article 14. Management Responsibilities

1. The Ministry of Health and other ministries, sectors, people's committees at all levels within the scope of their authorities and responsibilities, shall manage the use of nutritional products for young children, quality and safety management of nutritional products for young children, and conduct monitor and inspection of compliance with laws on trading in and use of nutritional products for young children, feeding bottles and teats, and pacifiers.

2. The Ministry of Culture, Sports and Tourism chairs and coordinates with the Ministry of Health, the Ministry of Commerce and Industry, the Ministry of Information and Communication to manage the information and advertisement of nutritional products for young children in accordance with laws .

3. The Ministry of Health chairs and coordinates with the Vietnam Women's Union, socio-political organizations, and social organizations to disseminate and guide the implementation of laws on trading in and use of nutritional products for young children, feeding bottles and teats, and pacifiers for pregnant women, mothers and their family members.

Chapter V
IMPLEMENTATION PROVISIONS

Article 15. Implementation provisions

1. This Decree takes effect since 01 March 2015.
2. The Government's Decree No. 21/2006/ND-CP dated February 27, 2006, on trading in and use of nutritional products for young children becomes invalid as this Decree takes effect.
3. In cases where nutritional products for young children are circulating in the market, the continued circulation is permitted according to the expiry date shown on the packaging.

Article 16. Implementation responsibilities

1. The Minister of Health hold the responsibilities for instructing, and implementing the enforcement of this Decree.
2. Ministers, heads of ministerial-level agencies, heads of Government agencies, and Chairmen of People's Committees at all levels, and related agencies and individuals hold the responsibilities for implementing this Decree.

Recipients:
- *Secretariat of the Central Committee of the Vietnamese Communist Party;*
- *Prime Minister and Deputy Prime Ministers;*
- *Ministries, ministerial-level agencies and Government agencies;*
- *People's Councils and People's Committees of provinces and cities under the Central Government;*
- *Central Office and other committees of the Party;*
- *The Office of the Party's General Secretary;*
- *The Office of the President;*
- *The Ethnic Council and Committees of the National Assembly;*
- *The Office of the National Assembly;*
- *The People's Supreme Court;*
- *The People's Supreme Procuracy of Vietnam;*
- *The National Auditing;*
- *The National Finance Supervisory Committee;*
- *The Vietnam Bank for Social Policies;*
- *The Vietnam Development Bank;*
- *The Central Committee of the Vietnam Fatherland Front;*
- *The Central agencies of organizations;*
- *The Office of the Government: Chairman/Chairwoman of the Office of the President, Functional Offices, Prime Minister's Assistants, Directors of Electronic Portal, Departments, Bureaus, attached units and Official gazette;*
- *Archived at: Clerical Office, Department of Science, Education, Culture and Social Affairs (5b)*

ON BEHALF OF
THE GOVERNMENT

PRIME MINISTER
(Signed and stamped)

NGUYEN TAN DUNG

PRE- AND POST-TEST ANSWER SHEET

SESSION 1. OVERVIEW OF INFANT AND YOUNG CHILD FEEDING

Question 1.

A. Pregnancy; B. 24 months of age

Question 2.

A. Child malnutrition

Question 3.

A. Pregnancy, especially the third trimester

B. 0 - 6 months of age

C. 6 - 24 months of age

Question 4.

A. The nutritional status; B. The survival of infants and young children

Question 5. B.

Question 6. A.

Question 7. D.

Question 8. D.

Question 9. D.

Question 10. Refer to ideal IYCF practices.

Question 11. Refer to the summary of operational targets of the Global strategy for IYCF.

SESSION 2. IMPORTANCE OF BREASTFEEDING

Question 1.

A. Promotes the harmonized growth and development of infants and prevents malnutrition.

C. Has important psychological benefits to both mothers and babies.

D. Protects mother's health.

Question 2.

A. 14 - 16.

B. 1 - 3.

C. Yellowish.

Question 3.

A. Water.

B. Other nutrients.

Question 4.

A. Fat.

B. Energy.

Question 5.

A. Early initiation of BF within 1 hour of birth.

B. Exclusive BF for the first 6 months of life.

C. Continued BF up to 24 months of age or beyond.

Question 6.

COLOSTRUM	
Property	**Importance**
1. Antibody rich	**A. Protects against allergy and infection**
2. Many white blood cells	B. Protects against infection
3. Mild purgative effect	C. Clears meconium **D. Reduces severity of jaundice**

COLOSTRUM	
Property	**Importance**
4. Growth factors	E. Helps intestine to mature **F. Prevents allergy and intolerance to other foods**
5. Rich in Vitamin A	G. Reduces severity of infection

Question 7.

DAY	HOUR	STOMACH APACITY/FEED
Day 1	0 - 24 hours	**A. 5 - 7 ml**
Day 2	24 - 48 hours	B. 10 - 13 ml
Day 3	48 - 72 hours	**C. 22 - 27 ml**
Day 4	72 - 96 hours	D. 36 - 46 ml
Day 5	96 - 120 hours	**E. 43 - 57 ml**

Question 8. A.

Question 9. B.

Question 10. B.

Question 11. A.

Question 12. B.

Question 13. B.

Question 14. A.

Question 15. B.

Question 16. A.

Question 17. A.

Question 18. A.

Question 19. B.

Question 20. D.

Question 21. *(Refer to: Breastfeeding in the first 7 days after birth)*

- Put the baby in skin-to-skin contact with mother and initiate BF within 1 hour of birth.
- Understand the capacity of an infant's stomach in the first 7 days after delivery.
- Do not feed an infant with formula milk and any other liquids, especially in the first day of birth.
- Newborns need to be breastfed frequently and whenever they show feeding cues.

Question 22. *(Refer to: Breastfeeding in the first 7 days after birth)*

- Interferes with bonding between mothers and babies;
- More diarrhea and persistent diarrhea as animal milk's proteins are not appropriate for a baby to digest and absorb;
- More infections, especially respiratory infections as artificial food does not contain anti-infective factors;
- More allergies such as eczema and asthma and milk intolerance;
- More malnutrition and micronutrient deficiency, especially Vitamin A deficiency as the baby eats too little or the milk is too thin;
- Overweight and obesity if the baby are fed with too much formula milk;
- Increased risk of some chronic diseases in adulthood (diabetes, cardiovascular disease, etc.);
- Lower IQ than breastfed infants;
- Mothers who do not breastfeed their infants may become pregnant sooner; have an increased risk of anemia, breast cancer, and ovarian cancer later in life.
- Feeding bottles and teats are easily contaminated because they are difficult to clean, which easily causes digestive infections for children;
- Children get familiar with teats and pacifiers so may refuse to breastfeed. They will breastfeed less, which will reduce the mother's breast milk production and lead to insufficient milk.

SESSION 3. BREAST MILK PRODUCTION

Question 1.

A. Breast; B. Nipple; C. Areola;

(answers are only requested to be correct and sufficient, not requested to be in A, B, C order)

Question 2.

A. Alveoli; B. Lactiferous sinuses; C. Muscle cells.; D. Supporting tissue and fat

(answers are only requested to be correct and sufficient, not requested to be in A, B, C, D order)

Question 3.

B. Milk flowing from her breasts when she thinks of her baby, or hears him/her crying.

E. A mother may feel pain from uterine contractions, sometimes with a rush of blood, during feeds in the first week.

F. Slow, deep sucks and swallowing by the baby, which show that breast milk is flowing into his/her mouth.

Question 4.

A. Milk production.

B. Suppress the ovulation.

Question 5.

A. Eject milk/ let the milk down/ make the milk flow.

B. A mother's uterus contract, reducing bleeding after delivery.

Question 6.

A. Rooting.

B. Sucking.

C. Swallowing.

Question 7. B.

Question 8. A.

Question 9. B.

Question 10. A.

Question 11. A.

Question 12. A.

Question 13. B.

Question 14. A.

Question 15. B.

Question 16. B.

Question 17. C.

Question 18. *(Refer to: Signs and sensations of an active Oxytocin reflex)*

- Mothers are often aware of their oxytocin reflex. There are several signs of an active oxytocin reflex that mothers, or others, may notice.
- A mother may notice a squeezing or tingling sensation in her breasts just before or during a feed.
- Milk flowing from her breasts when she thinks of her baby, or hears him/her crying.
- Milk flowing from one breast, when the baby is suckling the other.
- Milk flowing from the breasts in fine streams, if the baby comes off the breast during a feed.
- A mother may feel pain from uterine contractions, sometimes with a rush of blood, during feeds in the first week.
- Slow, deep sucks and swallowing by the baby, which show that breast milk is flowing into his/her mouth.

Question 19. *(Refer to: Helping and hindering the Oxytocin reflex)*

- Let the mother and her baby stay together all the time.
- Enable the mother to feel comfortable all the time.
- Always build the mother's confidence.
- Do not mention anything that makes the mother doubt about her breast milk supply.

Question 20. *(Refer to: Breast milk inhibitor – Prolactin reflex and Breast milk inhibitor)*

- The mother needs to breastfeed her baby frequently and properly.
- For a breast to continue making milk, the milk must be removed by breastfeeding or expressing breast milk.
- If a baby cannot suckle from one or both breasts, the breast milk must be removed by expression to enable production to continue.
- There is no difference in breast milk production and ejection between cases of vaginal delivery and C-section.
- The mother needs to eat, drink and rest well.

SESSION 4. POSITIONING AND ATTACHMENT

Question 1.

A. The baby's head and body are in a line;

B. The baby's whole body is held close to the mother's, the baby's belly close to the mother's;

C. The baby approaches the breast, nose to nipple;

D. For infants, not only the head, shoulders, but also bottom should be supported.

Question 2.

A. The mother holds the baby in a normal position;

B. The mother holds the baby in the underarm position;

C. The mother holds the baby with the arm opposite the breast;

D. The mother lies down to breastfeed.

Question 3.

A. Against her chest wall below her breast;

B. Supports the breast;

C. Is placed above;

D. Too near the nipple.

Question 4.

A. The baby's mouth is wide open.

B. The baby's chin is touching the mother's breast.

C. The baby's lower lip is curled outwards.

D. More of the areola is visible above the baby's top lip than below the lower lip.

Question 5. Bảy hậu quả của ngậm bắt vú sai là:

C. Engorgement.

F. Decreased milk production.

G. The child fails to gain weight.

Question 6. Ba nội dung chính cần hướng dẫn bà mẹ giúp trẻ ngậm bắt vú đúng là

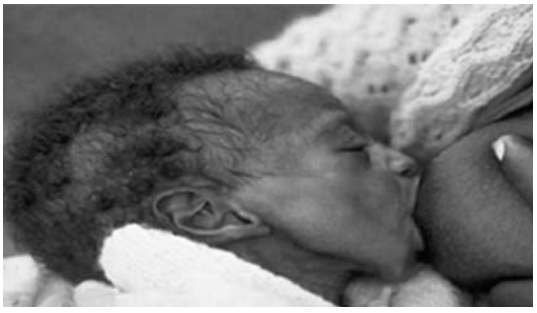
B. Move the baby quickly onto her breast, aiming the baby's lower lip below the nipple.

C. Signs of good attachment.

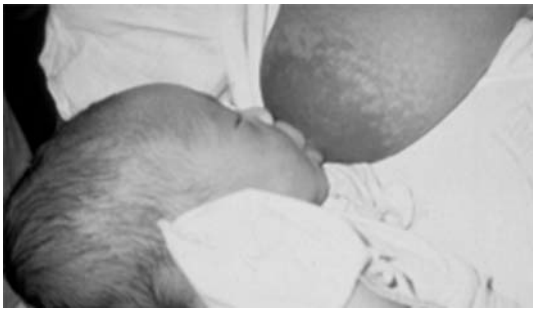
Question 7. 1 + B; 2 + A, C, E; 3 + F, H; 4 + D, G

Question 8. Help the mother to recognize signs of good or poor attachment by describing how the baby is attached in each picture from 1 to 8:

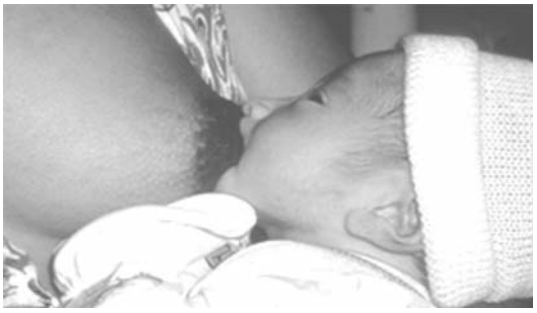
Picture 1. Good



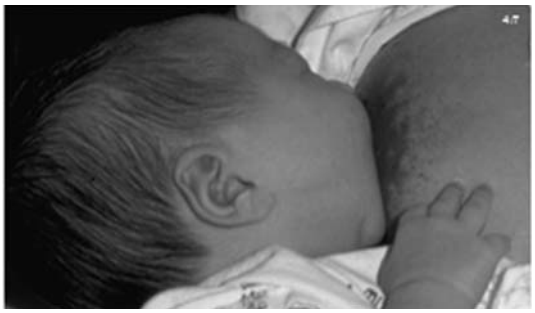
Picture 2. Poor



Picture 3. Poor



Picture 4. Poor



Picture 5. Poor

Picture 6. Poor

Picture 7. Poor

Picture 8. Poor

Question 9. A.

Question 10. B.

SESSION 5. EXPRESSING AND STORING BREAST MILK

Question 1.

A. Leave breast milk for a baby when the mother goes to work.

D. Keep up the supply of breast milk when a mother or baby is ill.

F. Help a baby to attach to a full breast.

Question 2.

A. Expressing by hand

B. Expressing by pump

Question 3.

A. To establish lactation, to feed a low-birth-weight or sick newborn.

C. To build up her milk supply if the milk supply seems to be decreasing after few weeks.

D. To leave milk for a baby while the mother is out at work.

Question 4.

A. It can be easily washed after each feed;

B. Avoid breast refusal;

C. Avoid allergies due to bad quality of teats.

Question 5.

A. Defrost stored breast milk;

B. Warm stored breast milk.

Question 6.

A. Help the mother psychologically;

C. Hold her baby with skin-to-skin contact if possible;

E. Stimulate her nipples;

F. Massage or stroke her breasts gently;

G. Rub the mother's back to stimulate the Oxytocin reflex.

Question 7.

STORAGE PLACE	TEMPERATURE	DURATION
1. At room temperature	19 - 26°C	A. 4 hours (ideal), up to 6 – 8 hours (acceptable)
2. In a refrigerator	<4°C	B. 4 days (ideal), up to 8 days (acceptable)
3. In a freezer	-18 to -20°C	C. 6 months (ideal), up to 12 months (acceptable)

Question 8. A.

Question 9. A.

Question 10.

Refer to: Stimulating the Oxytocin reflex before expressing breast milk

Question 11.

Refer to: Some breast milk expression techniques

SESSION 6. PRACTICING TEN STEPS FOR SUCCESSFUL BREASTFEEDING AT HEALTH FACILITIES

Question 1.

A. The mother is seriously sick and cannot breastfeed or epxress breast milk

B. The mother is being radiated or using anti-breastfeeding medicines such as anti-thyroid drugs or anti-cancel drugs

C. The mother is HIV-infected (and decided not to breastfeed her baby)

D. The baby develops metabolic diseases and intolerance to breast milk.

Question 2.

A. It enables a mother to respond to her baby and feed him/her whenever the baby is hungry.

D. The mother becomes more confident in BF.

F. It helps the baby grow healthy, both physically and mentally.

Question 3.

B. The baby gains weight faster.

D. There are fewer difficulties such as engorgement.

E. There is less incidence of jaudice.

Question 4. A.

Question 5. B.

Question 6. A.

Question 7. *(Refer to: IYCF practices in the Ten steps for successful BF)*

1. Have a written breastfeeding policy that is routinely communicated to all health care staff.
2. Train all health care staff in skills necessary to implement this policy.
3. Inform all pregnant women about the benefits and management of breastfeeding.
4. Help mothers 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 breast milk, unless medically indicated.

7. Practise rooming-in - allow mothers and infants to remain together - 24 hours a day.
8. Encourage breastfeeding on demand.
9. Give no artificial teats or pacifiers to breastfeeding infants.
10. Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or clinic.

Question 8. *(Refer to: IYCF practices in the Ten steps for successful BF)*

Practicing the 10 steps supports BF, helping mothers to BF successfully and continue BF for a longer time.

Question 9. *(Refer to: IYCF practices in the Ten steps for successful BF)*

With mothers in groups:

- Explain the benefits of BF.
- Talk about early initiation of breastfeeding.
- Provide simple information on BF.
- Answer the mother's questions (if any).

With each mother individually:

- Ask about previous breastfeeding experience if the mother has delivered a baby.
- Ask if she has any questions.
- Examine her breasts only if she is worried about them. Build her confidence, and providing counseling and practical help.

Note: Antenatal education should not mention artificial feeding.

Question 10. *(Refer to: IYCF practices in the Ten steps for successful BF)*

1. 1. The baby should be put next to the mother for BF as soon as there are BF cues. Help the mother recognise signs of seeking breasts from the baby and other signs showing BF cues.
2. Health workers need to spend time supporting mothers in the first breastfeed in order to ensure proper BF.
3. When the mother is separated from her baby, health workers need to help and support her more. Help the mother to express milk and maintain milk supply for baby in the future.
4. Build the mother's confidence that breast milk is important and benefitial to her baby.

Question 11. *(Refer to: IYCF practices in the Ten steps for successful BF)*

- How to perform skin-to-skin contact after delivery
- Help mothers to initiate BF within one hour of birth
- Instruct mothers how to breastfeed properly, express and maintain breast milk supply when they are away from their children.

SESSION 7. COMMON BREASTFEEDING DIFFICULTIES

Question 1.

A. Poor weight gain: less than 500 grams per month.

B. Few number of passing urine (fewer than 6 times per day) and the urine is concentrated.

Question 2:

B. The baby cries and fights at the breast.

C. The baby suckle for a minute and then comes off the breast choking or crying.

Question 3:

A. The baby is not getting enough milk (the baby is hungry).

B. Due to foods the mother eats or drugs the mother takes.

C. The baby is colicky.

D. The baby is sick or in pain.

Question 4.

A. Illness, pain.

B. Difficulty with BF techniques.

C. Changes which upset the baby (especially aged 3 - 12 months).

D. Other reasons.

Question 5.

A. The mother keeps her baby close, give her baby to no other caregives.

B. The mother offers her breast whenever her baby is willing to suckle.

C. Help the baby to take the breast in different ways.

D. Feed the baby using a cup.

Question 6.

A. Delay in starting BF after birth.

B. Poor attachment to the breast so breast milk is not removed effectively.

C. Infrequent removal milk, for example, if breastfeeding is not on demand.

D. Restricting the length of breast feeds.

Question 7.

A. Holding the baby along the forearm.

B. Holding the baby on the lap.

C. Holding the baby against the chest.

Question 8.

A. Delayed initiation of BF.

B. Not BF on demand.

C. No night breastfeeds.

D. Short breastfeeds.

E. Worries and stress.

G. Dislike of BF.

H. Contraceptive pill, diuretics.

I. Smoking.

K. Abnormality.

Question 9.

A. Painful.

B. Heavy.

C. Tight, especially nipple, shiny, may look red.

Question 10.

A. Milk statis.

B. Infective mastitis.

C. Lump.

D. Read area.

Question 11. Refer to: Signs that a mother does not have enough milk.

Question 12. Refer to: How to help mothers with “Insufficient milk”.

Question 13. *(Refer to: Signs of BF refusal.)*

- The baby attaches to the breast, but then does not suckle or swallow or suckle very weakly.

- The baby cries and fights at the breast when the mother tries to breastfeed him.
- The baby suckle for a minute and then comes off the breast choking or crying. The baby may do this several times during a single feed.

Question 14. *(Refer to: Reasons for BF refusal.)*

- Illness, pain.
- Difficulty with BF techniques.
- Changes which upset the baby (especially aged 3-12 months).
- Other reasons.

Question 15. *(Refer to: Helping a mother to get her baby to breastfeed again.)*

- The mother keeps her baby close, give her baby to no other caregives.
- The mother offers her breast whenever her baby is willing to suckle.
- Help the baby to take the breast in different ways.
- Feed the baby using a cup.

Question 16. *(Refer to: Reasons for and signs of crying related to BF.)*

- The baby is not getting enough milk.
- Due to foods the mother eats or drugs the mother takes.
- The baby is colicky.
- The baby cries more than others as s/he wants to be held and carried more.
- Discomfort: feeling dirty, hot, or cold.
- Tiredness.

Question 17. Refer to: Reasons for and signs of crying related to BF and Helping mothers whose babies cry a lot.

Question 18. Refer to: Helping mothers whose babies cry a lot.

Question 19. Refer to: BF when mothers are having difficult breast conditions.

Question 20. Refer to: BF when mothers are having difficult breast conditions.

SESSION 8. BREASTFEEDING LOW BIRTH WEIGHT BABIES

Question 1.

A. with a birth weight of less than 2,500 grams, including both preterm and full term babies

Question 2.

A. 90 ml.

B. 630 ml.

C. 6.

D. 150 ml.

Question 3. A.

Question 4. B.

Question 5. B.

Question 6. A.

Question 7. A.

Question 8. B.

Question 9. A.

Question 10. Refer to: Breastfeeding LBW babies who can suckle.

Question 11. Refer to: Breastfeeding LBW babies who cannot suckle.

Question 12. Refer to: Show mothers how to feed a baby by cup.

SESSION 9. HEALTH AND NUTRITION CARE FOR PREGNANT WOMEN AND LACTATING MOTHERS

Question 1.

A. 1000 gram.

B. 1000 gram.

C. 2000 gram.

Question 2.

A. weight (kg).

B. $[height]^2$ (m^2).

Question 3.

A. 20%.

B. 25%.

C. 15%.

Question 4.

A. 475 kcal.

B. 28 gram.

C. 20 gram.

D. 20 mg.

E. 350 mcg.

Question 5.

A. 360.

B. 475.

C. 505.

D. 675.

Question 6.

A. 10 - 12 kg.

B. 4 kg.

C. 36000 kcal.

Question 7. D.

Question 8. B.

Question 9. Refer to: Nutritional demand of pregnant women and lactating mothers.

Question 10. Refer to: Appropriate diets for mothers during pregnancy and lactation - Foods and drinks that should be limited.

Question 11. Refer to: Appropriate diets for mothers during pregnancy and lactation.

Question 12. Refer to: Appropriate schedule of work and rest during pregnancy.

SESSION 14. IMPORTANCE OF COMPLEMENTARY FEEDING

Question 1.

A. Like watching and reaching for foods when others are eating;

B. Like putting things into his/her mouth;

D. Start chewing and moving his/her jaws up and down.

Question 2.

A. The baby breastfeeds less, reducing breast milk production;

B. The baby has increased risks of illness, diarrhea, malnutrition, allergies;

C. The baby breastfeeds less, increasing the mother's risk of a new pregnancy.

Question 3.

A. The baby does not receive the necessary foods to fill the nutrient gap from breast milk, especially the iron gap;

B. The baby grows and develops slowly;

C. Risks of malnutrition and nutrient deficiency increase.

Question 4. D.

Question 5. C.

Question 6. Refer to "The importance of CF"

Question 7. Refer to "Principles of CF"

SESSION 15. COMPLEMENTARY FOODS

Question 1.

A. Starchy foods (Staples);

B. Protein-rich foods;

C. Fat-rich foods;

D. Vitamin, mineral- and fiber-rich foods.

Question 2 to 5:

➢ Answers need to meet 3 basic criteria:

- List out the correct names of 5 kinds of foods
- 5 listed foods should be in the right groups
- 5 listed common foods should be available in a specific locality

Question 6. Refer to “Foods to fill iron gap”

Question 7. Refer to “Foods to fill vitamin A gap *(Why should the baby be given vitamin A rich foods; Foods rich in vitamin A)*

Question 8. Refer to “Importance of animal-source foods”

Question 9. Refer to “The importance of legumes and nuts”

Question 10. Refer to “Micronutrient fortified foods”

Question 11. Refer to “Fluid need of the young child”

Question 12. Summarize what have been learnt in the session “Complementary Foods”

SESSION 16. QUANTITY AND QUALITY OF COMPLEMENTARY FEEDING

Question 1.

A. 2-3 meals
B. 1-2 snacks
C. 2-3 10ml-sized spoons
D. 3-4 meals
E. 1-2 snacks
F. 1/2 to 2/3 of a bowl
G. 3-4 meals
H. 1-2 snacks
I. 3/4 to one bowl

Question 2.

A. Main foods (Staples);
B. Foods rich in protein;
C. Foods rich in energy;
D. Foods rich in vitamin, mineral and fiber.

Question 3.

A. Feed the child based on his/her responses and cues;
B. Do not force the child to eat
C. Do not let the child eat by himself/herself without support and observation

Question 4.

A. May make the child afraid of eating;
B. The child cannot regulate the amount of foods taken;
C. The child is in risk of obesity;
D. Then, the child will refuse to eat.

Question 5.

A. The child eats less, feels bored and tired;
B. The child may be hungry;
C. If this happens for a long time, it may lead to malnutrition;

Question 6.

A. Signs showing that the child is hungry: being tired, asking for foods or crying;

B. Signs showing that the child does not want to eat: turning away, throwing the foods or crying.

Question 7.

A. The child's ability to eat by himself/herself will increase by age and practicing time;

B. Make the child interested in eating, have a good appetite and eat more.

Question 8.

A. All children are fed the recommended amount of food per meal by age.

B. All children are fed the recommended number of meals daily by age.

C. All children meet their recommended daily energy requirements.

D. All children are fed nutrient- and energy-dense foods.

E. Children are given diverse foods, with four food groups or more.

F. Children are given iron-rich and Vitamin A-rich foods daily.

G. All children are fed fish, meat (especially poultry) daily.

Question 9. A.

Question 10. A.

Question 11. B.

Question 12. B.

Question 13. Refer to "Properties of healthy complementary foods for the child".

Question 14. Refer to "Consistency of complementary foods".

Question 15. Refer to "Food selection and substitution".

Question 16. Refer to "Responsive feeding skills".

Question 17. Refer to "Amount of foods and number of meals".

Question 18. Refer to "Ensure hygiene and food safety in CF".

SESSION 17. FUSSY EATING AND REFUSAL TO EAT IN YOUNG CHILDREN

Question 1.

A. Less than the recommended amount of foods;

B. Slow growth;

Question 2.

A. Refuses to eat;

B. Specific nutrient deficiency.

Question 3.

A. Fear-based fussy eating;

B. Psychology-based fussy eating;

C. Selective food-based refusal to eat.

Question 4.

A. Unrealistic expectations;

B. Psychological factor;

C. Give the child inappropriate complementary foods;

D. Improper feeding technique;

E. Eating habits of family members.

Question 5. Refer to “Identify reasons of fussy eating and refusal to eat”.

Question 6. Refer to “Prevention of fussy eating and refusal to eat in young children”.

Question 7. Refer to “Nutrition care for children with fussy eating and refusal to eat problems”.

SESSION 19. FEEDING CHILDREN DURING ILLNESS AND RECOVERY, CHILDREN HAVING HIV-INFECTED MOTHERS

Question 1.

A. Continue to breastfeed and breastfeed more frequently;

B. Encourage the child to eat and drink, with lots of patience;

C. Feed the child more frequently and with little amount of foods for each meal;

D. Give foods that the child likes;

E. Give a variety of nutrient-rich foods.

Question 2.

A. Give extra breastfeeds;

B. ive an extra meal;

C. Give an extra amount of foods for each meal;

D. Give extra energy-rich foods;

E. Feed with extra patience and love.

Question 3.

A. EBF for the first 6 months will reduce the risk of HIV transmission compared to mixed feeding..

B. EBF in combination with ARV treatment will reduce the risk of HIV transmission to less than 1%.

C. Mixed feeding (feeding both breast milk and other foods, drinks or other milks during the first 6 months) is not recommended as this practice will increase the risk of HIV transmission.

D. HIV-infected mothers or caregivers of infants having HIV-infected mothers will be counseled by health workers to make an appropriate child feeding decision.

Question 4. A.

Question 5. B.

Question 6. E.

Question 7. Refer to “Feeding children having diarrhea”.

Question 8. Refer “Feeding children having a high fever”.

Question 9. Refer to “Feeding children having HIV-infected mothers”.

SESSION 20. ASSESSING NUTRITIONAL STATUS OF CHILDREN

Question 1.

A. The height boards should have minimum precision of 0.1 cm;

B. Take off shoes, sandals, slippers, hats, hair bands, scarves, hair clips, etc.;

C. The child's knees should be kept straight with two heels touching each other. Make sure that the child's heels, calves, buttocks, shoulders and occipital bones approach the height board;

D. The child's eyes should look straight ahead; with their arms loosely at their sides;

E. Read the result in cm with a decimal.

Question 2.

Level	Classification threshold
Very severe underweight	A. Below -4SD
Severe underweight	B. From below -3SD to ≥ -4SD
Moderate underweight	C. From below -2SD to ≥ -3SD
Normal	D. From -2SD to +2SD
Overweight	E. Above +2SD

Question 3.

Level	Classification threshold
Severe stunting	A. Below -3SD
Moderate stunting	B. Below -2SD to -3SD
Normal	C. -2SD or above

Question 4.

Level	Classification threshold
Severe wasting malnutrition	A. Below -3SD
Moderate wasting malnutrition	B. Below -2SD to -3SD
Normal	C. From -2SD to +2SD
Overweight	D. Above +2SD

Question 5. B.

Question 6. A.

Question 7. B.

Question 8. B.

Question 9. A.

Question 10. Refer to “Types of malnutrition”

- Underweight: Weight for age
- Stunting: Height for age
- Wasting: Weight for height

Question 11. Refer to “Weighing techniques”.

Question 12. Refer to “Using growth chart”.

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INFANT AND YOUNG CHILD FEEDING

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