

Breastfeeding

how to support success



A practical guide for health workers

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WORLD HEALTH ORGANIZATION
REGIONAL OFFICE FOR EUROPE
COPENHAGEN

1997

TARGET 7

HEALTH OF CHILDREN AND YOUNG PEOPLE

By the year 2000, the health of all children and young people should be improved, giving them the opportunity to grow and develop to their full physical, mental and social potential.

TARGET 16

HEALTHY LIVING

By the year 2000, there should be continuous efforts in all Member States to actively promote and support healthy patterns of living through balanced nutrition, appropriate physical activity, healthy sexuality, good stress management and other aspects of positive health behaviour.

ABSTRACT

Mothers eager to breastfeed their infants are often reliant on health workers for advice regarding breastfeeding. The knowledge and attitude of health workers can influence the success or failure of breastfeeding. However, the formal education of health workers on how to help mothers to cope with the process of lactation is often inadequate. This document is designed to guide health workers in the process of supporting mothers to breastfeed successfully.

Keywords

BREAST FEEDING
HEALTH PERSONNEL – education
GUIDELINES
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Foreword

A good start in life ... a mother eager to give her baby the best possible start may have resolved to breastfeed. Eventually, however, it is health workers, who are supposed to help her get started, who may make or break this resolve. European mothers normally come in contact with the health care system at the start of pregnancy, and babies usually enter the world in a medical institution.

In Europe we have many examples demonstrating how health workers can influence the success or failure of breastfeeding. Their attitudes and practices as well as lactation management skills are the basis of this influence. There are numerous examples of hospitals that have changed their maternity ward routines and subsequently increased the prevalence and duration of breastfeeding. Mothers in maternity wards are the captive audience of the health worker during these first few, crucial days of getting to know their new baby. This is a period when they are sensitive to the support that health workers can provide.

European mothers usually stay in touch with the health care system during their young child's first years. Each contact gives the health worker a chance to continue to support successful breastfeeding.

The formal education of health workers on how to help mothers to cope with the process of lactation is often inadequate. Many health workers have to rely on what they have learned by chance about breastfeeding either through study, observation, or their own personal experience. Sometimes, the latter is the strongest influence on their attitude and ability to assist others. In the absence of a solid theoretical and practical education on the subject, a negative personal experience may make it difficult for the health worker to help mothers. This booklet is designed to guide health workers in the process of supporting mothers.

We hope the health worker will look for the full justification of the advice in the international health literature. We also hope that this "bare bones" text is easier to translate and adapt to national languages. The drawings are designed to illustrate points; they may be re-drawn to be nationally appropriate in terms of dress and appearance, but not in regard to matters such as the good attachment of a baby's mouth at the breast.

This is the second revised edition of the booklet, based on comments and reactions received to the first one, which was published in 1993. We would like to thank Gabrielle Palmer¹ for expert help in editing this issue. We continue to invite reactions from users and readers. The address to which you can write is published below.

¹ Centre for International Child Health, Institute of Child Health, London.

We hope that this can be an interactive project, eventually enabling all mothers who wish to breastfeed to get all the support they need. From our own experience we know how gratifying it is to help mothers in this way. The happiness of the mother and a satisfied baby are the best rewards for a health worker supporting success.

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Preface

Most women are eventually able to breastfeed. However, it is not an instinctive act. Breastfeeding is an art that has to be learned. A few women breastfeed easily from the first day and never have a problem, but many meet challenges somewhere along the road. When that happens, most women need encouragement and skilled support to continue to breastfeed successfully.

In modern societies women do not often see other women breastfeeding, nor do they have experienced relatives or friends to learn from. So health workers play an important role in fostering the conditions in which breastfeeding can flourish.

This guide gives the basic information necessary for health workers to support the mother who wants to breastfeed, whenever their help is needed.

The guide is not a textbook on lactation. It is intended to give exact and practical advice on how to help women breastfeed, how to prevent difficulties and what to do if they arise. This is based on the experience of health workers and mothers in a modern industrialized society and tries to give answers to common questions.

Because we are continually researching and learning more about breastfeeding, the guide will be frequently updated to include new information and understanding. In addition, many health workers have experience, either their own or through their contact with mothers. Whether this has been of breastfeeding successes or difficulties, the information in this booklet will lead to a greater understanding of why matters went well or not. The Programme for Nutrition Policy, Infant Feeding and Food Security in the Regional Office welcomes ideas for extension and modification of the text.

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Denmark

What you can do

- Use the guide as it is.
- Adapt it, taking account of the local situation such as social or commercial influences which undermine the good practice advised in this text.
- Find additional reading on breastfeeding physiology through either the medical, midwifery and other journals or from mother support group literature. Avoid literature from the baby food industry as it is usually flawed.

Why breastfeed?

Whether the mother breastfeeds or feeds her baby a substitute for human milk is her decision. She cannot make this choice if she has not been well informed, nor offered the opportunity of breastfeeding.

Mothers often get a lot of misinformation from various sources. You, the health worker, can be a primary source of accurate and helpful information. Most mothers look to you for the information and reassurance that they are doing things right and that their baby is well.

Some people argue that discussing breastfeeding will evoke feelings of guilt in bottle-feeding mothers. This is not a workable policy for good public health. The result would be an ever-increasing population of bottle-feeding mothers. A positive approach can increase the incidence and duration of breastfeeding.

Women should have a real option to breastfeed, after having considered the facts about human milk and substitutes, and about breastfeeding and bottle-feeding.

What you can do

- Take the time necessary during antenatal visits, to explain thoroughly to the mother the advantages of breastfeeding and disadvantages of artificial feeding (see annexes 1–5).
- Stress that in difficult situations, such as natural disasters and wars, breastfeeding is even more vital. Breast-milk is always available. Breast-milk substitutes may be difficult to get and expensive, and lack of safe water and energy sources makes artificial feeding dangerous for the baby.
- Make sure the mother is aware that she can breastfeed in these situations.
- Have available material about re-lactation and breastfeeding during emergencies (see the list of “Pamphlets for mothers”, page 65).
- Help the mother understand that:
 1. Breastfeeding is not more physically exhausting than bottle-feeding. On the contrary, breastfeeding offers the mother opportunities to sit or lie down during the day. Breastfeeding may act as an anti-stress technique: both mother and baby get comfort from breastfeeding.
 2. Breastfeeding is more convenient than bottle-feeding. Breast-milk is easy to carry around, it is always available and a baby fed breast-milk is less susceptible to infection than a baby fed breast-milk substitutes.

- Talk with the mother about her previous breastfeeding experiences, and if she had difficulties, help her find out why.
- Try to have some attractive posters or material about breastfeeding in your office conveying that breastfeeding is attractive and socially acceptable.
- Suggest ways to change conditions that may restrict the freedom of some mothers while breastfeeding, and help the mother cope with possible cultural and social obstacles.
- Make it clear that breastfeeding is actually the most “modern” way of feeding.
- Check that the mother knows exactly what she is doing when she chooses how to feed her baby.
- Accept the mother’s choice and support her in that choice. A mother’s choice is not made until after she gives birth. Some mothers who have intended to bottle-feed change their minds after the birth. Putting the baby to the breast after the birth should be standard practice for childbirth whether the mother is intending to continue to breastfeed or not. This can be such a positive experience that she continues breastfeeding. Do not try to “push” a mother who still insists on bottle-feeding. She needs support too.
- Explain thoroughly to the mother who chooses artificial feeding how to prepare and use breast-milk substitutes and how to wash and sterilize equipment before each feed.
- Emphasize the importance of following the instructions on the labels of breast-milk substitute tins.
- Stress the danger of trying to save money by giving the baby diluted milk, or non-nutritive liquids such as sugar water, juices, herbal teas or thin gruels. [Give local examples.]
- Suggest that she give her baby skin-to-skin contact when bottle-feeding.

Breastfeeding is a woman’s right, *not* her duty

Preparing for breastfeeding

Some mothers have firmly resolved to breastfeed, even before they become pregnant. A few mothers have resolved *not* to do so. Many mothers are indifferent, insecure or ambivalent when you see them during pregnancy. Some have family or friends with strong views on the subject. The main concern of a pregnant woman is, however, the birth rather than what follows.

What you can do

- Help the woman understand that:
 1. All women who have given birth will produce milk, unless they have retained some fragment of the placenta.
 2. The great majority of women are able to provide enough milk to breastfeed their babies exclusively for around six months and to carry on breastfeeding for as long as they want after they introduce the baby to solid foods.
 3. The size of the breasts and the shape of the nipples are not important for breastfeeding success.
 4. Antenatal preparation of the breasts and the nipples is not necessary.
- Encourage the woman to talk about her concerns and expectations about breastfeeding and parenthood so that you can discuss them.
- Pay special attention to a woman who is single, very young, has previously had difficulties in breastfeeding or has other special needs.
- Encourage and support the woman to trust her own body.
- Make the woman feel that it is she who controls her pregnancy and parenting. Do not take over this control.
- Avoid excessive monitoring of a healthy pregnancy, as this may make the woman unsure of herself and her abilities, and negatively affect breastfeeding.
- Explain the importance of the first hours following delivery for establishing a good breastfeeding experience.
- Prepare her for the sight of a wet, possibly bloody and unwashed neonate, as it will be presented to her immediately after delivery.
- Explain to the woman how breastfeeding works, as briefly and simply as you can. Stress the importance of good attachment and baby-led feeding.
- Make the woman confident that if there are any difficulties with breastfeeding, 99% can be resolved.

Building confidence

A woman's confidence in her ability to breastfeed is crucial to her success. Appropriate care during pregnancy and childbirth is essential in building this confidence.

You as a health worker can help her tremendously in this, but only if you yourself have confidence in your own abilities. Your own confidence grows as you see how your support helps women succeed.

What you can do

- Realize that breastfeeding is a personal act, and that personal experiences influence the way mothers – and fathers – approach breastfeeding.
- Make sure your personal experiences do not unnecessarily and negatively influence your support skills. Only when you understand and accept your own personal experiences can you effectively support others.
- Never blame yourself or any mother for breastfeeding failure. When things have gone wrong it is because no one understood what was the cause at the time. With hindsight we can prevent the mistakes being repeated. Accepting our own and other's mistakes helps us all to work better.
- If you have a personal history of failing to breastfeed, even if you wanted to, try to find the reasons for what went wrong. Figure out how you would support a mother with similar problems today. You will probably be able to find the reasons from this text.
- If you yourself breastfed without any problems, do not assume that other mothers exaggerate *their* problems.
- Ask a colleague or another woman with breastfeeding experience for help, if you meet a challenge you cannot deal with.
- Strengthen your confidence by continually updating your knowledge and improving your care-giving skills. To give confidence you need to nurture your own confidence.

Breastfeeding is a matter of confidence

Communication and counselling

The mother may or may not have been prepared for breastfeeding and parenting during pregnancy. Regardless of this, she needs your reassurance that she is going to do well and that she is a good mother. Not only what you say, but the way you say it, is important.

You communicate with your facial expressions, tone of voice, gestures and other nonverbal means. If your verbal and nonverbal messages do not match each other, you will give a confused message.

What you can do

- Always treat the mother-infant pair as a unit, and show them your respect for their ability to interact.
- Be aware that mothers often feel they should not bother busy health workers with their “small” difficulties, even when the difficulties are not small.
- Let the mother know how much time she can spend with you, so that she knows what to expect.
- Sit at the same level as the mother so that she does not feel intimidated by you.
- Try to learn without asking questions, through the following techniques.
- Listen to the mother. Avoid reading and writing while she is talking.
- Show your good attention with your eyes, your face and small sounds of agreement.
- Be patient. Do not interrupt the mother. She may need to repeat herself.
- Reflect back to the mother what she has been saying, e.g. “So you feel you do not have enough milk.” Then gently explore the reasons for what she says.
- Suggest that the mother offers her baby a breastfeed and watch the mother and baby carefully to identify possible difficulties. Use the check list on page 14 as a reminder.
- Ask open questions that need a full answer, not a “yes” or “no” (i.e. *not* “Do you have sore nipples?” but “How do your nipples feel?”).

- Avoid too many questions. Ask just enough to fill in gaps in what the mother has told you. Base your questions on what she has already said, so she knows that you are listening.
- Show the mother your approval of everything she is doing well. Even if she seems to be doing everything wrongly you can praise her for having the good sense to consult you.
- Be careful not to argue or criticize, no matter what she says.
- Make the mother feel that you respect her feelings.
- Give her information which will enable her to help herself if she has any difficulties.
- Practise your communication skills by asking people to explain in their own words what you have been saying to them. Awareness of how others understand you is important for effective communication.
- When you end the session, reassure the mother that she can indeed breastfeed her baby. Even if she is unsure in the beginning, she will soon be a great expert on her own baby's needs.

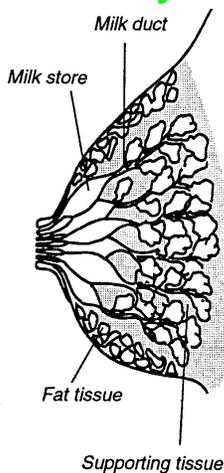
Give information, not advice

How breastfeeding works

Most difficulties with breastfeeding are due to restricted feeding time, lack of confidence or poor attachment of the baby at the breast. The most common results are an unsettled, hungry and angry baby (who may eventually refuse the breast), breast engorgement, and possibly blocked milk ducts and diminished milk production. In addition, the nipples may become sore or even crack.

Most of these difficulties can be prevented if the mother understands how breastfeeding works.

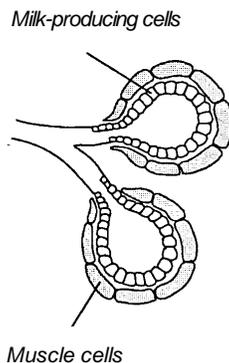
Anatomy of the breast



The female breast is a complex structure with glandular tissue surrounded by supporting and fat tissue. The glandular tissue consists of 15–25 separate, branched sections.

The milk-producing cells, the alveoli, are clustered at the end of each branch and surrounded by smooth muscle cells. A milk duct leads from each segment to the lactiferous sinus, behind the nipple. Each duct has an opening at the end of the nipple.

Milk production



The production of milk is triggered by the hormone prolactin, which is secreted in the mother's body when the baby is feeding from the breast.

The more the baby stimulates the breast, the more milk is produced. It is not possible to “empty” a breast, as the cells constantly produce milk. The effective removal of the milk keeps the production going.

If breastfeeding time is restricted, either through the baby's access to the breast or by taking the baby off the breast before it finishes a feed spontaneously, the production of milk may not be stimulated adequately.

Milk ejection

The “oxytocin” or ejection reflex makes milk flow – or rush – towards and collect in the milk sinuses behind the nipples. When the baby feeds from the breast, the touch of the mouth on the nipple and areola send nerve messages to the posterior pituitary gland which releases oxytocin into the bloodstream. This causes the myo-epithelial cells around the milk-producing cells to contract and eject the milk. At first this is an unconditioned reflex responding only to the physical stimulus. Later, it becomes a conditioned reflex and the cry, sight or thought of her baby may make a mother’s milk flow.

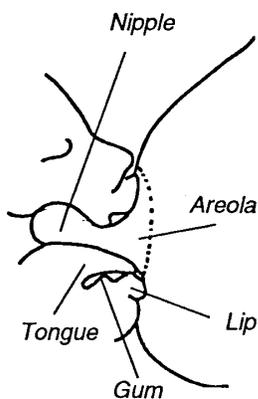
If a mother is very distressed or lacks the confidence to breastfeed her oxytocin reflex may be inhibited, but this inhibition is both partial and temporary and can be resolved.

Milk extraction

Unlike the teat on a bottle, the nipple does not contain milk. To extract milk, the baby’s mouth has to press against the milk sinuses behind the nipple. This “milking” movement of the baby’s mouth (or in English, suckling) is possible only when the baby is well attached at the breast.

If the baby is not stimulated to open its mouth wide and take in a good mouthful of breast tissue and is left to suck on the nipple as though it were an artificial teat, it will not get the available milk from the breast, nor stimulate the production of more milk.

Attachment of the baby’s mouth

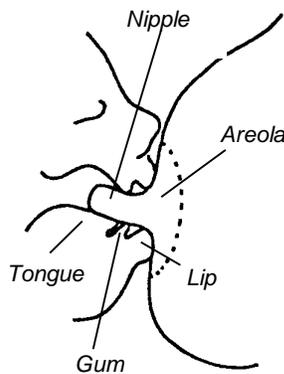


When the baby is brought to the breast, place it so that its nose is level with the nipple, then tease its top lip by touching it with the nipple. This will stimulate the baby to open its mouth wide, gape and take a good mouthful of breast. The nipple and a good part of the areola will disappear into the baby’s mouth.

Good attachment looks like this:

1. The baby’s mouth is wide open and the lips are turned outwards. The lower lip especially can be seen to be curled right back and the baby’s chin is touching the mother’s breast.
2. The nipple will be deep into the baby’s mouth, with the tip touching the baby’s palate.

3. The baby suckles by making two simultaneous movements: the lower jaw goes up and down and a muscular wave (like peristalsis) goes from the tip to the back of the tongue. You can sometimes see the tongue above the lower lip. This action presses the milk out of the lactiferous sinuses, through the nipple into the back of the baby's mouth.
4. The baby suckles with short quick movements at first, but changes the rhythm to a more continuous deep suckling as the milk flows. The baby pauses throughout with the pauses getting longer as the feed continues.
5. The baby's cheeks will be rounded and not drawn in and sometimes the baby's ears will move as it suckles.



Poor attachment:

1. The baby sucks or “chews” on the nipple only, with lips, gums or tongue.
2. The mouth is not wide open and the lips are sucked in.
3. The lips and gums press against the nipple instead of the areola.
4. The tongue may be misplaced, blocking the protrusion of the nipple into the baby's mouth.
5. The cheeks are pulled in.

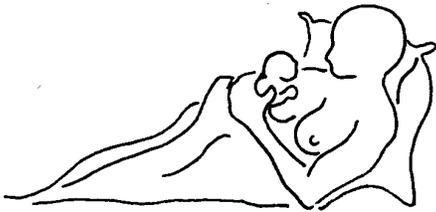
How to achieve good attachment

Positioning of the baby's body is important for good attachment and successful breastfeeding. Most difficulties can be avoided altogether if good attachment and positioning are achieved at the first and early feeds.

The first feed

Immediately after delivery the healthy baby instinctively searches for food. In the first couple of hours of life, the baby is alert, active and ready to feed. If the mother has been given certain drugs during labour then the baby may not be so alert.

Placed on the stomach of the mother, a healthy, term baby is able to crawl towards the breast. If it has not been disturbed or sedated, the baby can find the breast without any help, usually within the first hour. The birth of the placenta is facilitated by increased maternal oxytocin production, stimulated by the baby's contact with the nipple.



Some babies need a couple of hours or more, and some may not be ready to feed until they wake up after their first sleep. The process of childbirth is not finished until the baby has safely transferred from placental to mammary nutrition.

What you can do

- Support the woman during labour and delivery in a way that minimizes the need for interventions.
- Encourage the woman to try measures of pain relief which will not interfere with breastfeeding. Avoid, if possible, medication which will eventually have a sedative effect when passed on to the baby transplacentally.
- Allow the baby to remain with the mother, skin to skin, from immediately after birth until the baby has finished the first feed.
- Let mother and baby interact at their own pace. Assist only when you believe it to be absolutely necessary or when the mother asks for assistance.
- Postpone any routine procedures following birth that can safely wait until mother and baby are ready, i.e. for at least one to two hours. Examples are the measuring and dressing of the baby.
- Separate mother and baby only if absolutely necessary. The preliminary observation of the baby can usually be done while it stays close to its mother. Even a brief separation before the first feed can disturb the process.

- If the mother is sedated or feels too tired, help the searching baby to have the first feed without any effort from the mother.
- Encourage and help the mother to have skin-to-skin contact with her baby as much as possible during the first days after delivery. If their interaction in the first hours was disturbed for some reason, it can be “re-enacted” at any time during the first days, and even weeks after the birth.
- Discourage the use of pacifiers and bottles during the establishment of lactation when the baby is learning to breastfeed. When some babies are fed with an artificial teat they develop a preference for it and this can reduce their enthusiasm for the breast.

**Let the baby start to feed
when it shows that it is ready**

Positioning of the baby's body

We use the word “attachment” to describe how the baby's mouth takes the breast. We use the word “positioning” to describe how the baby's body is put near the mother's body. This attention to detail is equally important. A good position of the baby's body is a prerequisite for a good attachment of the mouth.

The basic principle is that the baby should be able to get a good mouthful of breast easily. To do this its body must be close to the mother's and its head free to move without constraint.

A well positioned baby does not use suction to remove the milk from the breast, but “suckles”, that is uses the “milking” action described above. If the baby uses suction because the mouth is not properly attached on the breast, this will result in nipple soreness.

Many women have never seen breastfeeding, only bottle-feeding. A bottle-fed baby is held quite differently from a breastfed baby. Many mothers and health workers who are accustomed to bottle-feeding may unconsciously hold the baby as though they were going to bottle-feed it. Therefore, many mothers need help to find a good breastfeeding position.

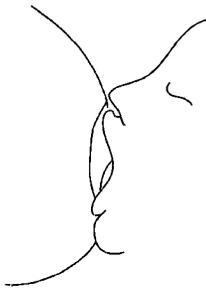
What you can do

- Explain that there is no one correct way to hold a baby and that she and her baby will work out what is most comfortable for both of them. However it may be helpful for her to understand the following principles.
- Provide her with a summary in writing or show her good visual material or another mother and baby feeding well.

1. First she should make herself comfortable, so that she can relax with the baby. If she feeds in a sitting position, ideally it should be on a low chair so that her feet are flat on the floor and her knees slightly raised. You may have traditional furniture or cushions used for breastfeeding. If so promote them. If a higher chair is used, a stool or some thick books should be there to rest her feet on. She must sit comfortably with her back supported and not lean forward. The important principle to remember is “bring the baby to the breast, not the breast to the baby”.
2. The baby should be held close towards her body, tummy against tummy, so that it does not have to turn the head to feed. The baby can be held diagonally, sideways, tucked under the mother’s arm or whichever way the mother and baby are most comfortable and relaxed. The important point is the baby facing the breast without turning its head.
3. As she brings the baby to her breast the baby’s nose should be level with the nipple and it will tilt its head back a little.
4. In some positions the mother can support its bottom with her hand. The head can rest on the mother’s arm. In others she can support the head gently with her hand. Do not hold the head too firmly because the baby needs to be able to move its head freely to adjust its attachment at the breast. Some babies react strongly against their head being held, and may bend over backwards and “fight at the breast”.



1. There is no need to press the breast away from the baby’s nostrils with a finger. If the baby is well positioned and well attached, it will be able to breathe through the sides of the nostrils. The shape of its nose is custom-made for the purpose. The commonly used “scissor” position of the fingers may pull the breast out of the baby’s mouth and prevent good attachment.
2. If a mother feels she needs to support her breast, she can cup her breast with her hand from underneath or place a flat hand against her ribcage.



1. Rubbing the nipple, or a finger, gently against the baby’s cheek or lips will evoke the “rooting” reflex, so that the baby focuses on the breast.
2. Touching the baby’s lips with her nipple will evoke the oral searching reflex, so that the baby opens the mouth wide and thrusts the tongue forward.
3. It is the baby who should come to the breast, and not the breast to the baby. Trying to steer the breast into the baby’s mouth as if it were a bottle is unhelpful and should be avoided.

4. When it feeds, the baby's chin should touch the mother's breast. Usually, more of the top part of the areola is visible than the underneath part. Every woman is different. Some have very large areolas which will always show during breastfeeding while a small areola may disappear from sight completely during a feed. The most important signal for the mother is that feeding does not hurt, the baby's mouth should feel comfortable at her breast. Pain is usually a sign of poor attachment.

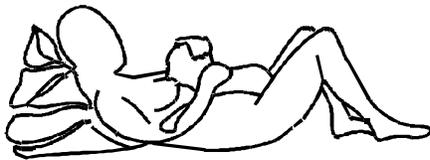
Feeding positions

In the "classical" feeding positions the mother either sits upright, baby supported on her lap or thighs, or she lies down, baby at her side. However, there are many other feeding positions, and she can try any of these.

Women and babies vary in size and shape and preference, so no position can be labelled "ideal". The important thing is that the mother is relaxed and can hold her baby close to her breast comfortably for the time it takes.

What you can do

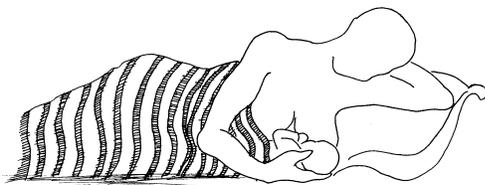
- Help the mother to find feeding positions that suit her and her baby.
- Encourage the mother to practise different feeding positions from time to time. Horizontal positions allow her to rest or even sleep while breastfeeding.



Horizontal position



Vertical position



Horizontal position



Backwards position

How to check the position

Is the mother relaxed, comfortable and free of pain when feeding?

Is the baby's body close to the mother's?

Does the baby face the breast without turning the head?

Is the baby's head slightly tilted back?

Does the baby's chin touch the mother's breast?

Does the baby breathe freely?

Is the mouth wide open?

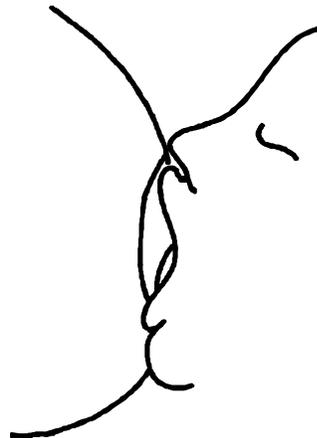
Are the lips, especially the lower one, turned outward (not sucked in), with more of the areola covered below than above the mouth?

Is the tongue cupped under the breast? The tongue may show between the lower lip and the breast.

Does the baby feed slowly and deeply, using tongue and lower jaw? (Muscles around the ear may move, but cheeks are *not* moving in and out.)

Can swallowing be seen or heard?

Is the baby calm and stays attached to the breast?



How to meet the baby's needs

A healthy, term baby does not need any food or drink other than breast-milk for the first six months of its life. Breast-milk contains all that the baby needs, in the right proportions. The composition of breast-milk changes over time, in accordance with the changing needs of the growing baby.

What you can do

- Encourage breastfeeding without any supplements for the first six months, unless supplements are medically indicated. The medical indications for supplementation are very few (see annexes 6 and 7).
- Help the mother understand that:
 1. Colostrum, the early milk, is tailored to meet the baby's needs for the first few days and it should always be used. Although it may seem sparse, colostrum is all that the healthy full-term baby needs until mature milk "comes in". Colostrum is energy-dense and rich in protective antibodies and the fat-soluble vitamins E and A.
 2. Most healthy babies lose 5–10% of the birth weight in the first days of life. Most of this is a physiologically natural loss of water, due to the change of environment. Normally they regain birth weight within 5–10 days, but some babies do this within 3 days whilst others take as long as 3 weeks.
 3. Physiologically, after the birth, the normal baby only needs colostrum and later breast-milk. Any other fluid, whether water (with or without dextrose, glucose or any other sugar), tea or breast-milk substitute are unnecessary and may do harm. They interfere with the baby's appetite and feeding pattern and discourage it from suckling well at the breast.
 4. Giving any other fluid before, after or in between breastfeeds will result in less milk being removed from the breast, and consequently less stimulation. The mother's body reacts with a lowered endocrinological response and lowered activity in the milk-producing cells, and eventually a lower milk production.
 5. Some babies who are given bottles or a pacifier in the period after the birth, may develop a preference for the artificial teats. They will not be so eager for the breast and this can affect the establishment of breastfeeding.
 6. Breast-milk is never "too thin". Its composition changes from the beginning to the end of a feed. The first milk, called "foremilk" looks more watery and bluish than cow's milk. This quenches the baby's thirst. As the feed continues the "hindmilk" which is rich in fat follows and provides the energy-dense part of the feed which satisfies the baby's hunger. Fifty per cent of the energy in

breast-milk comes from a unique pattern of fats which are ideal for brain and neurological development.

7. The vitamins and minerals in breast-milk are normally sufficient to meet the baby's needs during the first six months. Supplements are not required and can even be hazardous.

While the amount of iron in breast-milk is low, its bioavailability is high. Iron deficiency is rare as long as babies are fed *only* breast-milk for the first six months. Supplementation with tea or other milks may inhibit the absorption of iron and thereby cause anaemia.

The vitamin D content of breast-milk is rather low. However, the best source of vitamin D is ultraviolet sunlight on bare skin. The baby's weekly need for vitamin D is satisfied with 10 minutes of ultraviolet sunlight on the whole body surface or 30 minutes on hands and face. Normally, in sun-rich countries, subcutaneous formation of vitamin D caused by short periods of sun exposure fully complements the milk content. If the baby is not exposed to sunlight, supplementation is often recommended.

Vitamin K in breast-milk is low. It is concentrated in colostrum and the fat-rich hindmilk. Unrestricted access to the breast from birth is therefore important to provide vitamin K for the baby. The mother's diet can influence levels in her milk. Vitamin K is abundant in green leafy vegetables, vegetable oils, cow's milk and its fermented products, and liver.

8. Breast-milk is all that the baby needs for around six months. The majority of mothers are able to breastfeed exclusively for six months. After that mashed family foods should be given, but breast-milk can continue to be a significant part of the baby's nutrition as well as providing protection against disease. Children benefit from breast-milk right through to the second year of life or beyond. Breastfeeding is always good for the baby, however long or short a time it is practised.

Support six months of exclusive breastfeeding

How often and for how long

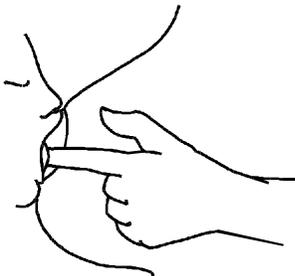
Unrestricted breastfeeding is the key to establishing the milk supply and will prevent many difficulties. This means giving the baby the breast whenever it shows signs of hunger during the day and the night. It also means letting the baby finish a feed in its own time and letting it come off the breast spontaneously.

What you can do

- Help the mother understand that:
 1. Breast-milk is more easily and rapidly digested than substitutes. During the early weeks, most breastfed babies therefore need more frequent feeds than babies fed breast-milk substitutes. All new babies need some night feeds and breastfed babies may wake up more often, but it is much easier to breastfeed than to prepare a bottle. The breastfeeding hormones may help mothers go back to sleep quickly after a feed. Some mothers can doze while breastfeeding. It is safe for mothers and babies to sleep together; encourage this as it is ideal for breastfeeding.
 2. Babies have different feeding patterns. They may need to feed as many as 10–15 times or as few as 6–8 times within 24 hours. Some feed fast, others feed slowly. Some babies feed in spurts with rests in between, others feed more steadily. Some babies want one breast, others want both. All these patterns are fine, but if the baby is feeding all the time, never settles and is not gaining weight, then this could be a sign that it is not getting the milk from the breast.
 3. Some babies suckle for comfort, as well as for milk. Some babies want to suckle a lot and this can be important for maintaining their milk supply. Using a pacifier may reduce the time the baby would normally spend at the breast, so that the production of milk is not stimulated adequately.
 4. A baby's cry for food is the last desperate plea after a series of signals that show that it is ready for a feed. The baby first makes characteristic "milking" movements of the tongue. It starts salivating and with increasing intensity, its hands and fingers move towards the mouth. It turns its head from side to side "rooting" for the breast. All of these signals mean that the baby is ready for a feed. Ideally, a baby should always be fed before it starts to cry because a distressed baby is less easy to put to the breast. This is why rooming-in is so important for a mother, so that she can learn to recognize and respond to these early signals.
 5. A baby *cannot* be overfed with breast-milk. Babies are born with appetite control which matches their bodies' needs.

6. The baby changes its feeding pattern, according to changing needs, daily or over time by feeding more or less often, for longer or shorter duration. Be led by the baby, it knows what it needs. You cannot force a baby to feed when it does not want to. The baby will feed best when you respond to its signals.
7. The baby can suckle as often and for as long as it wants. When the baby is well positioned and well attached, unrestricted breastfeeding will *not* damage a mother's nipples. In fact it reduces the risk of sore and cracked nipples, prevents severe engorgement and helps keep the mother comfortable.

- Look at every baby as a unique person.
- Let the mother take charge of her baby from delivery onwards. In this way she will learn more easily to recognize and interpret her baby's signals.
- Offer the mother and her baby the opportunity to stay in the same room 24 hours a day.
- Explain to the mother that the risk of hospital infection is lower when mothers and babies stay together (see Annex 7).
- Encourage the mother to:
 1. Put the baby to the breast at any sign of hunger or discomfort. Do not wait for it to cry.
 2. Keep the baby with her in bed or place the baby's bed right beside her own, so that it is easy to bring the baby into her bed to feed. The mother does not risk crushing the baby unless she is very ill or heavily sedated.
 3. Keep night feeds simple by using only dim light, making little noise and changing the nappy only if really necessary. In this way breastfeeding will not disturb her sleep or that of her room mates.
 4. Let the baby feed without paying attention to time. Always let the baby come off the breast spontaneously.
 1. Allow the baby to pause periodically with the breast in the mouth. The baby eventually lets go of the breast when satisfied or requiring a short pause.
 2. Do *not* remove the baby from the breast before it signals that it has had enough. The baby will signal this, by letting go of the breast and refusing to take it again, or by falling asleep.
 3. If you have to take the baby off the breast, break the suction with a finger between the baby's tongue and the nipple before removing the baby, to prevent nipple damage (see illustration).



4. After a short pause, try to offer the same breast again, to make sure the baby gets the hindmilk. It will take it if it needs to. A baby who is moved from one breast to the other before it is ready may not get enough energy-rich hindmilk and may be hungry as a result.
5. Offer the other breast if the baby refuses the first, but do not worry if it does not want it. Some babies like to feed from one, others two, others vary from feed to feed.
6. Offer the alternate breast first in each feeding. If the baby has a “favourite” breast, however, this need not be a problem. It is possible to produce enough milk to feed a baby from one breast only.

Support unrestricted breastfeeding

Common challenges

Enough milk?

Mothers and health workers who are used to artificial feeding often worry that they cannot see how much milk the breastfed baby is getting. Many women feel insecure about their ability to produce enough milk. As soon as the baby seems discontented, cries, wants to feed often or refuses the breast, the mother may start worrying about her milk supply. “Insufficient milk” is the reason most frequently given by mothers who have given up breastfeeding.

Inability to produce milk is, however, very rare; it has been estimated that it occurs in 1–2 per 10 000 mothers. Most mothers can feed their babies on breast-milk alone for around 6 months, if breastfeeding is unrestricted, the baby is well attached at the breast and the let-down of milk is not inhibited.

What you can do

- Help the mother understand that:
 1. The great majority of mothers can produce the milk their baby needs.
 2. Measuring a sample amount of milk through hand or pump expression is not helpful. The output volume may be influenced by the efficiency of the method used for milk extraction and the mother’s experience with the procedure.
 3. Test-weighing the baby before and after a feed is counterproductive. The baby takes different amounts from feed to feed. The composition of the milk varies, and the weight of the milk does not tell you whether it is rich in fat or in water. In addition, weighing procedures may make the mother anxious, thus delaying or inhibiting the let-down of milk, so that the baby gets less than usual.
 4. The stools of a breastfed baby may be very soft and may appear at intervals ranging from several times a day to once in ten days. The colour may vary between greenish and deep yellow.
 5. Babies grow at their own pace. Some babies gain weight steadily; other healthy babies gain little or no weight one week, then make up for it over the next week or two. Breastfed babies can have different weight gain patterns from babies fed substitutes. Unfortunately, most commonly used growth charts are based on data from bottle-fed babies. Remember that weight gain is only one of the variables used to assess infant health.

6. Slow weight gain is not an indication for supplementation. It is an indication that breastfeeding technique needs to be examined. There could be poor attachment, or the mother could be taking the baby off the breast before it is finished, so check these points before looking for a medical problem.

Assess the total breastfeeding situation when checking whether the baby is getting what it needs:

Does the baby appear healthy?
Is the baby awake (active and alert) for more than 4 hours out of 24?
Does the baby receive only breast-milk?
Is feeding unrestricted and at least six times per day?
Is the baby well positioned?
Is the baby well attached?
Does the milk flow easily from the breast?
Are the baby's stools soft and yellow and relatively frequent (at least once in ten days)?
Does the baby gain approximately 500–800 g per month for the first three months?

Depending on the outcome of the assessment, either reassure the mother that her baby is getting what it needs and that she is doing well, or help her find the reason behind her problem, so that you may solve it together.

Difficulties with the oxytocin reflex²

Difficulties with the oxytocin reflex sometimes happen. The flow of milk, which is triggered by this reflex may be temporarily delayed or inhibited if the mother experiences shock, pain, anxiety or embarrassment, which can lead to a higher adrenaline level in the blood, peripheral vasoconstriction, and less oxytocin reaching the alveolar cells.

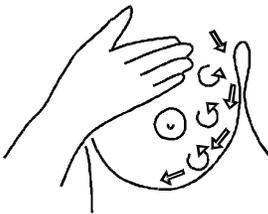
When the oxytocin reflex is inhibited, the baby temporarily gets very little milk, even when well attached at the breast. The baby may then pull away from the breast and cry.

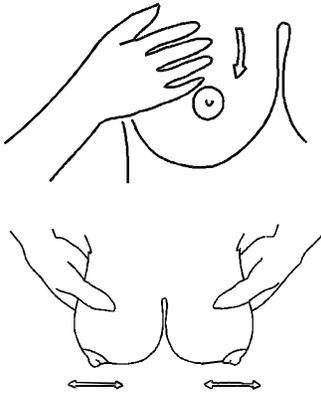
NB. As inhibition of the oxytocin reflex is a temporary matter, do not overemphasize it as a cause of problems.

² This is also called the let-down or ejection reflex.

What you can do

- Reassure the mother that she still has the ability to breastfeed and that her milk will soon be flowing again.
- Check the positioning and attachment of the baby.
- Stress the importance of unrestricted breastfeeding.
- Explain to the mother how breastfeeding works.
- Make sure that the mother understands that:
 1. The size of her breasts does not affect their capacity for milk production. The size of the breast prior to pregnancy is related to the amount of fat tissue, not to the amount of milk-producing tissue.
 2. When the breasts become softer the second or third week after delivery this does *not* mean that the milk has disappeared. It is because the initial “hyperactivity” connected with the establishment of milk production subsides, and the process has settled.
 3. A woman’s ability to produce milk can *never* be suddenly lost. If the milk does not flow even when the baby is well attached, this means that the let-down of milk is temporarily inhibited. When the baby is allowed to continue to suckle, even if the breast seems “empty”, the milk will start to flow again.
- Let the mother talk freely about any anxieties, whether they are to do with breastfeeding or not. Listen attentively, but do not necessarily offer advice. Just expressing her feelings, crying or laughing can help the mother feel better. Be gentle and interested. Your belief that her milk will soon flow can enhance her faith in her own body.
- Explain to the mother how to assist the let-down:
 1. Suggest that she sits or lies down and makes herself comfortable. Suggest she has something nice to drink or eat. Encourage her to talk to the baby and let the baby stay close to her body, preferably skin-to-skin.
 1. Ask a family member, friend or the health worker to massage the upper part of her back, neck and shoulders to help her relax and make her feel cared for.
 2. Massage the breast. Beginning at the top, move the fingers in a light circular motion on one spot on the skin for a few seconds; then move the fingers to the next area on the breast. Apply only so much pressure that it feels comfortable. Massage in a spiral around the breast, towards the areola (see illustration).





3. Stroke lightly from the perimeter of the breast in towards the nipple. Repeat around the whole breast (see illustration).
 4. Manipulate the nipple between thumb and forefinger. This is the most effective way of evoking the oxytocin reflex.
1. Leaning forwards shake the upper body gently. Try to imagine that gravity will help the milk flow (see illustration). Ask someone to massage your back along the spine.
 2. Apply warm water (shower or bath) or warm compresses.
 3. Breastfeed while sitting in a warm bath, if possible.

Not enough milk

Many mothers experience critical moments when the baby's demand actually exceeds their supply of breast-milk. Babies grow in "spurts", so this may happen even if breastfeeding is unrestricted.

Such episodes of insufficient milk supply may also be due to poor attachment of the baby at the breast, restricted frequency or duration of breastfeeding, or inhibition of the oxytocin reflex. The situation is almost always reversible. Any mother who has fed her baby successfully in the past can at any time increase her milk supply. Even mothers who have stopped breastfeeding completely can re-establish their production to feed their babies on breast-milk alone (see the section on "Re-lactation and induced lactation", page 44).

At these critical moments giving a bottle is *not* the solution. Supplementation often leads to real problems with milk supply, because it results in less feeding from the breast and hence less stimulation of milk production.

The solution is to improve the attachment and let the baby feed as often as possible for a couple of days.

What you can do

- Check and improve the baby's attachment at the breast (see the section on "How to achieve good attachment", page 10). Sometimes, a small change in the position of the baby in relation to the breast will help it to gape a little wider and take in some more breast. Even a millimetre shift can make a difference to effective suckling.
- Explain to the mother how breastfeeding works.
- Help the mother understand that she *cannot* save milk by delaying the next feed. The breast is not a container, but a factory where the greater the demand for the product, the more is produced.

- Prepare the mother to accept that for several days she may be feeding frequently, but soon the milk supply will increase and eventually feeds will be fewer.
- Suggest to the mother that during this critical period, she should try to limit appointments, only do essential household tasks and if possible get some help.
- Encourage and help the mother to:
 1. Be confident in her ability to breastfeed.
 2. Have the baby skin-to-skin as much as possible.
 3. Offer the baby the breast whenever it shows signs of hunger during the day and night.
 4. Feed before the baby becomes agitated. A calm baby is easier to attach than a distressed baby.
 5. Always let the baby finish the feed in its own time. This is vital for the baby to get the hindmilk.
 6. Offer the second breast at each feed, but do not worry if the baby refuses. The baby feels when its nutritional needs are satisfied. One cannot force a baby to feed when it is full.
 7. Avoid pacifiers as they can deter the baby from wanting to breastfeed and therefore reduce the stimulation of milk.
 8. Discourage the use of complementary foods for a thriving baby until after the sixth month.
 9. If the mother has already resorted to supplements, suggest that she always put the baby to the breast before offering these, so that there is maximum stimulation of the milk supply. Suggest that she gradually reduces the quantity of supplement.
 10. If supplements (and expressed breast-milk) are being given during a critical phase, suggest they be given by cup or spoon (see the section on “Feeding by cup”, page 48).
 11. If the baby refuses to feed from an “empty” breast, suggest the use of a breastfeeding supplementer (see the section on page 45).
 12. Drink whenever she feels thirsty, but there is no need to drink extra fluids whilst breastfeeding.
 13. Avoid oral contraceptives with high levels of estrogens.
 14. Be patient and observant. Keep up her courage, and trust the experience that almost all women succeed when properly helped.

Too much milk

As the baby regulates the amount of milk it needs, true over-production is rare. However faulty practices such as poor attachment or taking the baby off the first breast too soon can, in some women, lead to over-production. The baby will then try to take a larger volume of foremilk from the second breast in its quest for the satisfying calories in the hindmilk.

What you can do

- Observe the positioning and attachment and help the mother to improve the way the baby takes the breast.
- Check that the mother is not offering the second breast until the baby definitely refuses the first one.
- Check that the mother is not taking the baby off the breast before it finishes spontaneously. Some mothers misinterpret a pause in the suckling as a sign the baby is finished. Stress the importance of unrestricted breastfeeding.

Leaking

Many women experience milk leaking from their breasts during the early weeks. Because the oxytocin reflex works on both breasts at the same time, milk may drip from one side while the baby is feeding from the other.

What you can do

- Show the mother how to stop the leaking by pressing her wrist or hand against the nipple for a minute or two (see illustration).
- During a feed she can use a pad of cloth or tissue paper to absorb the milk.
- The mother should avoid plastic-coated breast pads, which keep the nipples moist and vulnerable to skin problems.

Sore and damaged nipples

Nipple soreness may occur in the first period of breastfeeding, especially when skills to achieve good attachment, and frequent early feeding, are still to be learned.

Poor attachment of the baby at the breast is the main cause of nipple pain and damage. Restricted feeding can result in engorgement which in turn can lead to poor attachment.

What you can do

- Check and improve the baby's attachment. Pay attention to the position of the baby's body. Carefully read the section on "How to achieve good attachment", page 10.
- Explain to the mother that if the baby is well attached, the nipple cannot be damaged and any soreness will start to heal immediately. A well-attached baby cannot harm the nipple. Continued correct feeding can help heal a sore nipple. Healing can take place within 24 hours if the baby is properly attached. The duration of suckling does not cause or worsen sore nipples; poor attachment does.
- Encourage and help the mother to:
 1. Feed the baby whenever it shows signs of hunger.
 2. Stimulate the let-down of milk before putting the baby to the breast (see the section on "Difficulties with the oxytocin reflex", page 21).
 3. Always let the baby come off the breast spontaneously. If the baby is satisfied, but still falls asleep at the breast, take it off the breast cautiously, and only after carefully breaking the suction, by inserting a finger between the breast and the baby's mouth.
 4. Washing the nipples will remove the protective skin secretions and can easily lead to damage. When taking a shower or a bath, do not use soap or shower gel on the breasts. Besides restricting washing to normal hygiene, never use soap, creams or sprays, especially those containing alcohol. No product has been shown to help sore nipples and many can do damage.
 5. Keep the nipples dry and exposed to the air when possible. There is no need to wear a bra at night.
- If the mother is reluctant to feed because her nipple is too painful, she may want to express her milk by hand for a day and give it to her baby by cup or spoon for a short period (see the section on "Expression of breast-milk", page 46). Explain to the mother that if the baby is well attached it will remove the milk more effectively than any method of expression, so this should be a temporary measure only.

- Do not generally recommend nipple shields. A nipple shield makes the baby feed ineffectively from the breast. Eventually the milk supply may decrease as there is insufficient stimulation of the nipple.
- Discourage the use of pacifiers. If the mother and her family are resolved to use them, recommend limited use, and only after breastfeeding is well established.
- Reassure the mother that she will experience remarkable improvement in 24–48 hours and that the soreness or crack should be healed within a week. If the soreness persists, this is a sign that the baby is still not well attached (even if it looks correct) or that the mother has a candida albicans infection, or dermatitis.
 1. A candida albicans infection in the baby’s mouth may infect the nipples and make them sore. This soreness is not always easy to recognize but the mother has acute pain during and after a feed. Candida causes small white patches in the baby’s mouth, which cannot be wiped away. The nipples may be infected even when there are no signs in the baby’s mouth, nor on the mother’s nipples. Both the baby and the mother need treatment. Pacifiers and bottle teats can be a route of candida infection which can survive washing and sterilization. Several different medications are useful, such as nystatin drops, gentian violet, miconazole gel or clotrimazole cream. Women who have received antibiotics are more vulnerable to candidiasis.
 2. Dermatitis may also cause painful nipples. It may be an allergic reaction in the mother, for example to soap, cream, detergent, spray or to any tissue getting in contact with the nipple. To treat dermatitis, identify and avoid the irritating substance. A thin coat of hydrocortisone cream (1%) for 2–3 days may be applied after feeds.

**Good attachment prevents
sore and cracked nipples**

Engorgement

Breasts become full between the second and fifth day after birth due to the increased blood supply and activity in the breast tissue as milk production really gets going. If milk is not removed, the breasts feel swollen, hard, hot and painful. This is called engorgement. Fullness is normal, engorgement is preventable.

What you can do

- Check and improve the attachment of the baby at the breast (see the section on “How to achieve good attachment”, page 10).

- Make sure that mother and baby are together all the time.
- Explain to the mother that good attachment is the best way to remove milk and this will relieve the engorgement.
- Encourage the mother to:
 1. Feed the baby whenever it shows signs of hunger. Help the mother to recognize these signs (see page 17).
 2. Avoid pacifiers and supplementation which will prevent the baby from removing the milk effectively as this will worsen the engorgement.
 3. Apply warm water or compresses near the nipples prior to feeding.
 4. If the breasts are swollen and oedematous, cold packs between feeds may help reduce swelling.
 5. Soften the breast by expressing a small amount of milk first, so that the baby can attach well (see the section on “Hand-expression”, page 46).
 6. Massage the breast lightly (stroking towards the nipple while feeding).
 7. Do *not* try to “empty” the breasts by expression, unless there are hard segments with residual milk.
 8. Use a well-fitting, comfortable bra that gives support but does not pressure any part of the breast.
- Reassure the mother that she will experience improvement within 24–48 hours, if the baby is removing the milk through effective suckling. If the engorgement persists, then this is a sign that she needs more help, probably with improved attachment and positioning.

Blocked milk ducts and mastitis

Milk ducts can be blocked if breastfeeding is restricted, if the baby is poorly attached, if the let-down is inhibited or for other reasons that are not well understood.

A blocked duct can become a hard painful lump in the breast. The skin over the lump may become red and tender. The woman may also have a fever.

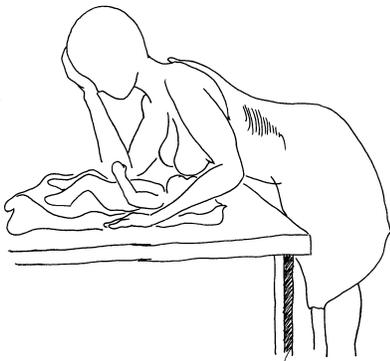
Non-infective mastitis is an inflammation of the breast occurring when milk has leaked into breast tissue. It may develop as a result of engorgement or blocked milk ducts. The inflamed part of the breast becomes red, hot and painful. The woman often develops a fever, up to 40 °C, usually accompanied by a flu-like feeling. With improved drainage of the breast through improved suckling this mastitis can improve in 24 hours.

If the mastitis continues or worsens then the mother may have infective mastitis where bacteria are present.

What you can do

- Explain to the mother that continuing breastfeeding will resolve the problems more quickly than taking the baby off the breast. No harm will come to the baby, even if the mastitis is infective.

- Check and improve the attachment of the baby at the breast (see the section on “How to achieve good attachment”, page 10).
- Encourage the mother to:
 1. Feed the baby whenever it shows signs of hunger.
 1. Stimulate the oxytocin reflex prior to the feed (see section on “Difficulties with the oxytocin reflex”, page 21).
 1. Try different positions in order to get at different parts of the breast. Some mothers have succeeded in getting at blocked ducts by feeding the baby from above, positioned on all fours, or feeding from the top breast when lying down, with the baby on a pillow (see illustrations).
 2. Express gently, after feeding, as much milk as possible from the affected area. Alternatively she can express as much as possible first and then put the baby to the breast.
 3. If she has a blocked duct, she can stroke the affected part very gently (from the blockage towards the nipple) while feeding.
 4. Apply cold compresses or ice cubes in a plastic bag after feeding if this helps the mother feel more comfortable.
 5. If the mother wears a bra make sure it is not tight and does not put pressure on any one part of the breast.
 6. Rest a lot. Keep the baby with her in bed as much as possible. Arrange for household help, if possible.
 7. Encourage her to take adequate fluids and food, for the sake of her own wellbeing.
- Only use antibiotics if it is truly infective mastitis (see overleaf). In all cases continue feeding the baby.



**Good attachment and
unrestricted breastfeeding prevents
engorgement, blocked milk ducts and mastitis**

Infection and abscess

Infective mastitis is rare. Delay in the treatment of both types of mastitis can lead to a breast abscess.

What you can do

- Pay attention if the mother with mastitis has sudden cold shivers.
- If a fever continues for more than 24 hours, even though the milk is extracted frequently from both breasts, treat with antibiotics. The commonest bacterium found in breast infection is *Staphylococcus aureus* so a penicillinase-resistant antibiotic such as flucloxacillin or erythromycin is necessary.
- Encourage the mother to continue breastfeeding. Infected matter in the milk will not harm the baby. Antibiotics may give the baby loose stools, but these will do no harm. Both the breast and the baby will recover more quickly if breastfeeding is continued. The breast-milk will re-establish a desirable microflora in the baby's intestines.

If a soft, hot, painful swelling appears in the breast this may be a breast abscess. It can follow untreated mastitis or appear without mastitis or illness. The latter usually happens with an older baby. Medical attention is necessary.

What you can do

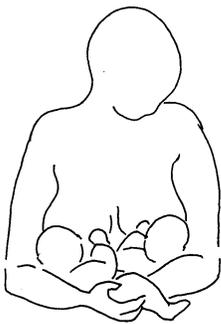
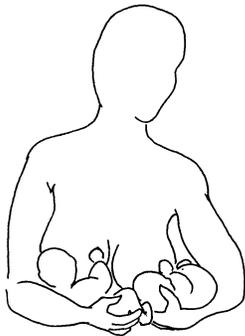
- Treat a distinct abscess with incision and drainage. If the feeding technique has been improved and the mother's fever subsides there should be no need for antibiotics at this stage, but if signs of infection persist treat with antibiotics (see above).
- Encourage the mother to continue frequent breastfeeding. "Resting" the breast will make the condition worse. It is essential to remove the milk from an infected breast. Even with pus, there is no harm to the baby; the antibacterial properties of the milk and the baby's digestive enzymes will deal with it. Pus is easily identified by dripping the milk on a pad of cotton wool. The milk is absorbed; pus is not.
- If the breast-milk is mixed with pus and the mother does not like the idea of the baby taking in pus, help the mother to express milk from the infected breast frequently and very gently. Then discard the milk. "Resting" the breast will make the condition worse.

Special situations

Multiple births

The great majority of women are able to produce enough milk to feed more than one baby without supplements.

What you can do



- Assure the mother that she can breastfeed her twins or triplets. The stimulation of a second or third baby will ensure greater milk production.
- Prepare her for the possibility of feeling that she spends a lot of time breastfeeding, especially during the early weeks.
- Explain to her that if she starts supplementing with breast-milk substitutes her milk supply may decrease because the babies will not stimulate her own milk production so much. If one baby is weak and does not suckle well and supplementation is medically indicated, then her own expressed breast-milk is the best supplement.
- Help the mother work out the best way for her to manage breastfeeding her children. Some prefer to feed one baby at a time, while others prefer to feed from both breasts at the same time. Some mothers alternate breasts between the babies; others let each baby choose a favourite breast.
- Help the mother find feeding positions suitable for her and her babies. It is possible to feed two babies in the “backwards” position or with one “backwards” and the other in the “classical” position (see illustrations).
- Make sure the mother is aware that the same baby does not get only foremilk or only hindmilk at each feed. The smaller baby may be better off having its “own” special breast. In this way the milk in this breast will be tailored especially to the needs of this baby.
- Explain to the mother, if she feels that one twin or triplet suckles less effectively than the other(s), that the “good” suckler can keep both breasts producing well and help its weaker sibling to get plenty of milk.
- Help the mother contact other parents who have successfully breastfed twins or triplets.

Caesarean section

Breastfeeding is certainly possible after a Caesarean section. The health worker should give the mother extra help with the initiation of breastfeeding.

The mother may be sedated and so may the baby. The mother may suffer from blood loss, is less mobile and often in pain. Also, she may feel disappointment or anger. In addition, the baby may sometimes need special care. Successful breastfeeding can help heal the negative feelings some mothers have about their need for a Caesarean section.

What you can do

- Reassure and prepare the mother before the surgery that she can indeed breastfeed. Tell her about other mothers with Caesarean section who have breastfed successfully.
- Put the baby skin-to-skin with the mother immediately after birth, if at all possible. The mother may not consciously remember this event, but her body and the baby will. Even a brief contact is better than none.
- Assist the baby to have the first feed as soon as it starts searching, even if the mother is still sedated.
- Assist the mother to let her baby feed as often and for as long as needed. She may have difficulty in lifting and holding her baby. Make sure someone is always available to help give her baby to her whenever she or the baby wish this. A relative or friend can do this when there is a shortage of staff.
- Encourage the mother to stay skin-to-skin with her baby as much as possible.
- Assist the mother in finding suitable feeding positions. She can feed from both breasts lying on one side if the baby is placed on a pillow (see illustration).
- Offer assistance to the mother, especially with the early feeds, to get the baby well positioned and attached.
- Listen to the mother who may need to talk about her experience again and again. This will help her to re-build confidence that her body can function well.
- If the baby is in a special care unit, the mother needs to know as much as possible about the situation, and to talk about it. Let her stay close to her baby. Even if the baby is in an incubator, it will help for her to look at it or touch it whenever possible.



- Show her how to express her milk and explain how this will help her sick baby.
- Treat the mother like a princess. Only she can breastfeed.

Cleft lip or palate

Most babies with a cleft lip can be breastfed. The baby with a cleft palate may have problems in grasping the breast tissue to form a “teat” and carry out the “milking” action which is the basis of effective suckling. However if the mother has help with directing the breast into the baby’s mouth, sometimes breastfeeding is possible.

The feeding or “training” sessions give mother and baby opportunity for ample skin-to-skin contact and interaction, and promote mother–infant bonding.

What you can do

- Provide the mother with accurate information about the physiology of the baby’s mouth as soon as possible.³
- Offer emotional support. Let her talk, ask questions and express her feelings. Listen attentively and do not push her to make decisions too quickly.
- Encourage and help the mother when she tries to breastfeed. Tell her that her baby may eventually of its own accord find a way.
- When the baby has a cleft lip only, assist the mother to experiment with different feeding positions. Placing a finger over the gap in the lip can sometimes help.
- Encourage the mother to experiment with different positions and find the one which suits her and her baby. Holding the baby in a vertical position is often considered the best way to help the milk go where it should, but several other ways can work.
- Encourage the mother to express her milk and give it to the baby, for example by cup, if breastfeeding is impossible. A baby with a cleft palate at the back of the mouth may need to be fed by tube or through a special long teat.

On some occasions, special individually adjusted prostheses covering the cleft in the palate may be made.

³ Further reading: Herzog-Isler, C. & Honigmann, K. *Give us a little time: How babies with a cleft lip or cleft palate can be breastfed*. Baar (Switzerland), Medela AG, 1996.

Down's syndrome

Children born with Down's syndrome are all different. Many can be breastfed without difficulty. Some start slowly, like pre-term babies.

The mother will need to be patient in the beginning because her baby may need more time to become an effective breastfeeder.

Breastfeeding may help the mother become closer to her baby and learn to interpret its signals better.

What you can do

- Offer emotional support and build the mother's confidence.
- Encourage and help the mother to breastfeed.
- Explain to the mother that babies with Down's syndrome may gain weight very slowly.
- Explain to the mother that the baby may need more time to learn to feed, and she should prepare herself for this possibility.
- Encourage the mother to express her milk and give it to her baby, if the baby does not milk the breast effectively.

**The worse the condition of the baby,
the more important the breast-milk**

Pre-term and low birth-weight babies

Breast-milk changes in composition according to the length of pregnancy. Milk from a mother giving birth prematurely is well suited to the needs of her baby. During the first weeks it has more protein than milk from mothers giving birth at term and has a different pattern of immune protective bodies. With skilled assistance from the health care system, most mothers can produce the amount of milk their babies need.

Pre-term and low birth-weight babies may be too weak to milk the breast effectively. The mother may not be emotionally prepared for breastfeeding if her baby is born very early. Premature delivery may be accompanied by feelings of anxiety, anger and inadequacy. Knowing that her baby is in the neonatal intensive care unit is stressful for the mother and a weak suckling response in her baby can be frustrating. However for many mothers of special-care babies the knowledge that their provision of breast-milk is crucial for a baby's health and survival helps them to feel better.

What you can do⁴

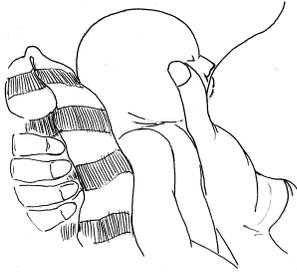
- Explain to the mother that her milk is specially tailored to the needs of her baby. A baby of less than 32 weeks' gestation may need a more energy- and nutrient-dense milk. You can support this with careful management of the expressed breast-milk the mother provides. We know that the foremilk may be higher in protein and that the fat-rich hindmilk is higher in energy. Many mothers can express more milk volume than the baby's requirements and therefore can preferentially give the fat-rich hindmilk to enhance energy intake. However, you must be careful to monitor the baby's protein intake regularly to ensure that it is getting the balance of nutrients. Some very premature babies may need a mineral supplement.

If the mother is too sick to express or is not yet producing enough milk to meet her baby's needs, the best supplement is donated expressed breast-milk (EBM). This should be pasteurized to exclude any risk of infection. Take care that EBM is balanced in the proportion of nutrients, by helping milk donors to express both foremilk and hindmilk.



- Explain to the mother as much as you can about the baby's physiology. Most babies delivered at term go through a sequence of reactions within the first hours. This same sequence may in a premature baby take days, weeks or even months (see the section on "The first feed", page 10).
- Use the "breastfeeding circle" to show the mother the various stages in the sequence of breastfeeding a premature baby (see illustration).
- Prepare the mother to accept that progress is uneven and setbacks may occur.
- Support "kangaroo care": let the mother keep her naked diapered baby skin-to-skin between her breasts as early and as often as possible. "Kangaroo care" stimulates the production and flow of milk, and increases the mother's confidence in caring for and monitoring her baby (see illustration).
- Tell the mother, that her baby benefits from "kangaroo care". It has been shown that kangaroo care results in better breathing, less crying and better growth in babies. Skin-to-skin contact is beneficial even if it is only for a few minutes at a time.
- Let the baby try to suckle as soon as possible. The baby does not need to reach a certain age or weight to nuzzle the breast.
- Explain to the mother how to get her baby well attached. If the baby is too small or weak to stay attached to the breast, the mother may

⁴ Further reading: Lang, S. *Breastfeeding special care babies*. London, Baillière Tindall, 1997.



find it helpful to try to support both the baby's head and her breast (see illustration).

- Encourage the mother to let her baby try the breast as frequently as possible. Breastfeeding will require less physical effort by the baby than bottle-feeding.
- Reassure the mother that suckling will improve as her baby grows stronger.
- Encourage and show the mother how to express her milk as soon as possible after delivery, within the first four hours, if her mental and physical condition allows. This stimulates good early supply.
- Explain to the mother that frequent expression is important for maintaining milk production, when her baby is too weak to milk the breast effectively.
- Encourage the mother to express at least 6–8 times in 24 hours, with one night-time session.
- Let the mother try various methods of milk expression so that she can choose the one that suits her (see the section on “Expression of breast-milk”, page 46).
- Encourage the mother to continue expressing until the milk is only dripping. Explain the importance of the fatty hindmilk.
- Use cups or containers made of plastic for the milk, as milk fat and immunoglobulins adhere to glass.
- Give the expressed breast-milk to the baby, even if it is only a few drops. Involve the mother in the feeding process. Even if the mother cannot always be with the baby *let her know* that her baby has received her milk.
- Give breast-milk substitutes *only* when medically indicated as a supplement to the mother's milk. Banked pasteurized milk from other mothers is the best supplement for a mother's own milk.
- If the baby is too immature or weak to suckle, give the expressed breast-milk or, if necessary, supplements via tube (or pipette) but still let the baby nuzzle and lick the breast so that it associates the smell and contact with the breast with feeding.
- Babies are able to feed by cup from 30–32 weeks of gestation (see the section on “Feeding by cup”, page 48 and Annex 8). This is better for the premature baby than a bottle. The baby uses its tongue to “lap” the milk and this is good preparation for future breastfeeding.

- If the mother is not yet producing enough milk to meet her baby's needs, use a breastfeeding supplementer to deliver the supplement. This will ensure stimulation of breast-milk production by the baby's suckling while temporarily satisfying its hunger with a breast-milk substitute (see the section on "Breastfeeding supplementer", page 45).

**The worse the condition of the baby,
the more important the breast-milk**

Jaundice

Physiological jaundice between two to five days, in the full-term, healthy baby is common and is not a reason to stop breastfeeding. The severity of the condition is often overstated. Breastfeeding is often temporarily discontinued and water or dextrose given. This does not lower peak bilirubin levels and may even cause them to rise. This is because the unconjugated serum bilirubin that is causing the jaundice is not water soluble but fat soluble. Jaundice at the second or third day is more likely to be associated with the restriction of breastfeeding. Any interruption of unrestricted breastfeeding can impede the establishment of milk supply.

Jaundice on the first day is likely to have a pathological cause.

Another rare type of jaundice, called breast-milk jaundice, is characterized by late onset, i.e. after the first week. It is characterized by a drop in the level of unconjugated bilirubin in the blood in response to withholding breastfeeding for one day. Breastfeeding should be continued, however, while blood bilirubin level is monitored.

What you can do

- Help the mother understand that:
 1. Physiological jaundice is a common condition in babies, usually due to immaturity of the intestine and liver.
 2. Moderate hyperbilirubinaemia does not harm a healthy full-term baby.
 3. The yellowness of the skin is due to subcutaneous accumulation of bilirubin.
 4. It usually subsides after a week or two without any treatment.
 5. Breastfeeding stimulates normal digestive function and hence metabolism of bilirubin in the baby.
- Encourage early, unrestricted breastfeeding and pay special attention to the attachment and positioning. Jaundiced babies can be drowsy, especially if they have received phototherapy. Offer the breast fre-

quently; however a jaundiced baby may not want to feed as frequently as is necessary and you cannot force a baby to breastfeed. In such a case, encourage the mother to express her milk and give it to the baby by cup.

- Do not use water, dextrose fluids or other supplements as they may make the baby demand breastfeeding less frequently, and hence worsen the jaundice.
- Discourage the use of pacifiers because they can impede the baby's eagerness for the breast.
- Encourage the mother to expose her baby's skin to direct sunlight, if practicable.
- Observe the jaundiced baby carefully. If the symptoms present within the first 24 hours, or the jaundice becomes very deep, the baby of course needs specialist medical attention.
- Support the mother to continue frequent and effective breastfeeding, even when phototherapy (ultraviolet light) is recommended.
- Consider the rare diagnosis of breast-milk jaundice only if the bilirubin starts to rise when the baby is at least five days old and is getting an adequate amount of breast-milk.
- Make the diagnosis of breast-milk jaundice by excluding other possible pathological causes. Other causes of high bilirubin may be haemolysis, congenital hypothyroidism, pyloric stenosis, urinary tract infection, sepsis, hepatic dysfunction, intestinal obstruction or maternal diabetes.
- Discourage routine interruption of breastfeeding. Breast-milk jaundice peaks between 10 and 21 days and may last for up to 2 months. It is certainly *not* a reason to stop breastfeeding and it is rarely necessary to interrupt even for a few feedings.
- Consider a temporary interruption (24–48 hours) only if serum bilirubin concentration rises to more than 256 $\mu\text{mol/l}$.
- Encourage and help the mother keep up her milk supply by frequent expression, if breastfeeding is temporarily interrupted. The supplement should be given by cup rather than bottle (see the section on "Feeding by cup", page 48).

Diarrhoea

Babies do *not* get diarrhoea from breast-milk. Many breastfed babies have frequent loose stools, but gastroenteritis in any form is rarely seen in breastfed babies. If the baby has got a diarrhoeal illness then it is very im-

portant to continue breastfeeding. The milk will provide anti-infective factors which will fight the organism causing the diarrhoea and will also assist with the rehydration. It will also be providing the most digestible source of nutrients. Even babies who have episodes of vomiting should continue breastfeeding.

What you can do

- Encourage the mother to breastfeed her sick baby frequently and without supplements. The baby who is still suckling effectively needs no extra fluids when it is fed frequently even if it has fever, diarrhoea or vomiting. A baby who is too weak to suckle effectively should be given expressed breast-milk or oral rehydration fluids with a cup and/or spoon, but should still be offered the breast frequently.
- The mother's milk may diminish a little for lack of stimulation. Tell her not to worry, as soon as the baby begins to recover it will start to suckle effectively and the oral rehydration fluids can be gradually stopped and breastfeeding fully re-established.

Allergies

Some babies are allergic to the cow's milk proteins in breast-milk substitutes, especially where there is a family history of allergy. Babies in these families may be susceptible to soya-based products too. Breastfeeding seems to help prevent allergy from becoming manifest in the young baby.

What you can do

- Encourage and help the mother to breastfeed without supplements for at least six months. Even one feed of cow's milk-based or soya-based breast-milk substitute may in the worst case result in a susceptible baby's allergy becoming manifest.
- Encourage the mother to eat any food she likes unless she or her baby have a clear adverse reaction.

Colic

“Colic” is a poorly understood condition, where the baby cries desperately, seems to be in pain, but has no diagnosable pathology. Crying frequently disappears when the baby is around three months of age.

Colic in a breastfed baby almost always makes the mother and those around her raise questions about the quantity and quality of breast-milk. No good scientific explanation for infantile colic has been found and its cause remains unknown. Colic is *not* an indication for interruption of breastfeeding! Most babies who cry a lot do so for no clear reason.

What you can do

- Reassure the mother that she certainly is a good mother. Having a “colicky” baby is difficult for parents, especially with a first baby. They may feel that the baby is rejecting them and that they are not good parents.
- Check that the baby is taking all the milk it needs from the breast by observing a breastfeed. Improve the attachment and positioning if necessary.
- Make sure that the mother lets the baby finish a feed in its own time and that it gets the hindmilk. If the mother makes the baby change breast too soon, the baby may get too much foremilk and this may be the cause of stomach pain.
- Give the mother suggestions for symptomatic relief, and let her see if any of them work for *her* baby. All “colicky” babies seem to be different!



Possible suggestions:

Try various feeding positions. Carry the baby around, if possible with skin-to-skin contact. Many uncomfortable babies like the “colic hold” (see illustrations).

Massage the baby very gently all over the body. The father and other family members can do this.

Let the baby have peace and quiet – some babies seem to be more irritable if they are constantly carried or handled.

Some mothers find that if they cut out cow’s milk from their own diet, the baby’s colic stops. This is especially appropriate in families with a history of allergy. Remember cow’s milk is not essential in the diet. A mother can get the calcium and other nutrients she needs from a variety of other familiar foods. Grains, nuts, pulses and green leaves contain useful amounts of calcium.

Avoid colic medicines as they may contain ingredients unsuitable for babies such as alcohol, sugar or colouring. Even those which are prescribed and judged to be safer have been shown scientifically to be ineffective.

Short, flat or inverted nipples

Breasts, areolas and nipples differ in shape as well as size. Some nipples are long, some short or totally flat and some are inverted. Too many women and health workers worry unnecessarily that the shape of their nipples will affect their ability to breastfeed.

What you can do

- Explain to a mother with worries that she will be able to breastfeed her baby. The shape of the nipple is not important. When the baby is well attached, it milks the breast and does not suck the nipple. Nipples change during pregnancy, and short, flat or seemingly inverted nipples may spontaneously protrude. The baby's milking movements draw the nipple further out. The mother may need extra patience at the early feeds.
- Explain to the mother that preparation of her nipples is not necessary. Neither nipple exercises nor breast shells have been shown to have any effect.
- Ensure that mother and baby have skin-to-skin contact (see the section on page 10) ideally immediately after the birth. If it is not sedated, a baby is able to attach well at its mother's breast irrespective of the shape of her nipples, if allowed to have the first feed on its own initiative.
- Encourage the mother to offer the baby the breast frequently to prevent engorgement. Be calm, patient and confident. Your manner will help build the mother's confidence.
- If her breasts have become full, suggest to the mother that she expresses a little milk just before a feed to make it easier for the baby to grasp the breast tissue around a flat or inverted nipple.
- Discourage the use of a nipple shield. The baby may become so accustomed to a shield that it will refuse to feed from the breast without the shield. Feeding through a shield is not effective. It is harder for the baby to grasp a good mouthful of breast and therefore it may not milk the breast effectively. This can lead to a gradual decrease in milk production because of inadequate stimulation.
- Warn the mother against early introduction of pacifiers and bottles.

Breast surgery

Cosmetic surgery of the breast does not necessarily affect the woman's ability to breastfeed. This depends on the type of surgery and the techniques used. As long as the innervation is intact, and there are some normal mammary gland segments remaining in the breast, these can produce milk.

What you can do

- Assess each woman's case individually, finding out as much as you can about the nature of her particular surgery.

- Encourage the mother to try to breastfeed if she is motivated to do so. The production of milk is initiated regardless of whether or not the baby is put to the breast. So if she wants to, she should try.
- Show the mother how to stimulate the flow of milk and position and attach the baby (see the section “How to achieve good attachment”, page 10, and the section on “Difficulties with the oxytocin reflex”, page 21).
- Reassure the mother that she can breastfeed from one breast only, if surgery has made it impossible in the other.
- If breastfeeding is not possible, comfort her with the information that skin contact and love are conveyed with or without breast-milk.

Maternal medication

Most commonly used medicines taken by the mother do not harm the baby. In most cases it is more harmful to stop breastfeeding than to continue while the mother is taking medication. In the rare cases where a medicine is known to have side effects in the baby, then there is usually a substitute medicine. WHO publishes overviews of drugs and breastfeeding (see Annex 9 and the list of “Relevant resources”, page 64).

What you can do

- Prescribe those medicines that are known to be the least harmful to the baby and have the least effect on milk production.
- Encourage the mother to continue breastfeeding, when you judge that this is safe.
- Study the WHO overview and translate all the relevant information for your health facility. If possible display the information for mothers too. This is important in case they are able to obtain medicines through informal sources.

HIV

Up to about one third of the babies born to mothers with HIV may, according to our current state of knowledge, become infected. Mother-to-infant transmission of HIV may apparently occur through breastfeeding. However, the majority of babies breastfed by HIV-infected mothers do *not* become infected through breastfeeding. In addition, a baby already infected with HIV will of course benefit from breast-milk.

What you can do

- Balance a baby's risk of becoming infected with HIV through breastfeeding against its risk of dying of other causes if not breastfed.
- Encourage breastfeeding as advocated by WHO (see Annex 9 and the list of "Relevant resources", page 64) if infectious diseases and malnutrition are the main cause of infant deaths, i.e. when local conditions and the economic situation make it difficult to manage substitute feeding.
- Only advise an HIV-infected mother against breastfeeding if infectious diseases are not a major cause of death during infancy in your region.
- If the mother's HIV has progressed to AIDS then she must not breastfeed and an alternative feeding method must be found.
- Inform all breastfeeding mothers about safe sexual practices. If a woman contracts HIV while she is lactating, she may be more likely to infect her baby through her milk than a well woman with an established HIV infection. Women have the right to know how to protect themselves and their babies.

Hospitalization

Either the mother or the baby may be hospitalized. This should not stop breastfeeding. Stopping breastfeeding will impede recovery of a sick baby. If the mother is ill, she can usually continue lactation. This is important for her own health because the baby taken off the breast is likely to become ill or miserable and this will be an added burden for her during her recovery.

What you can do

- When the mother herself is hospitalized, support the family or friends to bring the baby to the hospital for breastfeeding if it is not possible to keep the baby near the mother. There are very few conditions where it is not possible to continue breastfeeding.
- When the baby needs hospitalization it must be a priority for the mother to continue breastfeeding. A sick baby needs breast-milk not only as the ideal source of nutrients but to protect it against infection when it is at its most vulnerable. The emotional contact is also important for a sick baby. Look for ways to help the mother with her other responsibilities. The baby will recover more quickly if breastfeeding is not interrupted. Breastfeeding can also help with pain relief.
- Sometimes because of practical problems separation for shorter or longer periods of time is unavoidable. Support the mother to maintain

lactation through regular expression if possible. Liaison with the health staff may be helpful. Prepare the mother to realize that her milk production may decrease and even stop temporarily if breastfeeding is interrupted. However re-lactation is always possible and full breastfeeding can be re-established even after stopping for several weeks (see the following section on “Re-lactation and induced lactation”).

Re-lactation and induced lactation

Any woman who has given birth can *re-lactate*, and *any* woman with ordinary mammary glands can induce milk production in her breasts, even if she has never been pregnant. Many adopted or fostered babies have been breastfed, even by women who have never had a child.

Re-lactation is a little easier than induced lactation. A woman who has been through the process of pregnancy usually has more milk-producing gland tissue. However, the process of breastfeeding in itself stimulates gland proliferation.

What you can do

- Reassure the mother that her baby’s suckling at the breast will produce enough stimulus for her milk production to continue or get started and that, if she really wants to try, you will help her.
- Prepare the mother that in re-lactation it usually takes from 1–7 days for the milk to “come in”, and it may take from 2–6 weeks before she is able to breastfeed exclusively. If lactation is to be induced it may take longer.
- Explain to the mother that during the period when she is building up her milk supply, it will be best if she can find somebody else to help with her responsibilities regarding other children, housekeeping, cooking, etc.
- Explain to the mother that she will need to stay near her baby and offer her breast at least 8–10 times a day. She should sleep with her baby either in the bed or very near so she can pick up any signals of interest. She must not use a pacifier.
- Make sure the mother understands the principles of good attachment and, if necessary, help the mother and baby achieve this.
- Suggest to the mother that she can further stimulate her milk production by hand-expression between feeds.
- Show her your admiration and approval of any progress, no matter how small it is.

- If, at the start, the mother has no, or almost no, milk, the baby will need to be fed in the meantime. At first the baby can be fed sufficient artificial milk (150 ml per kilo per day) in a cup. Each day, reduce the total by 30–50 ml.
- Check the baby's weight and urine to make sure it is getting enough milk and cut out more artificial milk as the breast-milk increases.
- A helpful method of re-establishing or inducing lactation is the breastfeeding supplementer.

Breastfeeding supplementer



If a baby refuses to feed from an “empty” breast or for some reason is too weak to get enough milk while feeding from the breast, a breastfeeding supplementer may be useful. Only suggest a breastfeeding supplementer if you are sure the family has the conditions to keep it absolutely clean and sterilized.

With a breastfeeding supplementer the baby receives additional milk (either the mother's own expressed milk or donated pasteurized breast-milk or artificial milk) by a fine tube, which passes from a container (cup or bottle) to the baby's mouth, while the baby suckles the breast (see illustration).

In this way the baby is satisfied at the breast, and the production of milk is stimulated by the baby's suckling.

What you can do

- Help the mother to use a breastfeeding supplementer if you both agree that this may improve her chances of successful breastfeeding. Show in practical ways how to keep the breastfeeding supplementer absolutely clean.
- Help the mother to regulate the flow of milk from the breastfeeding supplementer so that the baby does not feed too fast and hence stimulate the breast too little. The flow is regulated either by closing the tube a bit with a paper clip, a loose knot or a finger pinch, or by lifting or lowering the container or by attaching the tube to a syringe and pressing the piston.
- Explain to the father and/or another relative or friend of the mother that she may need an extra pair of hands in the beginning during the procedure, so assistance is welcome.

Expression of breast-milk

Expression of breast-milk may be necessary if the mother is separated from her baby; if the baby is too weak to suckle; if the breasts are severely engorged; or to stimulate milk production if the baby cannot do so, e.g. in the case of a cleft palate. Expression can be done with a pump or by hand.

A variety of different breast pumps are available. Electric pumps are largely used in hospitals, but may in some countries be loaned or rented for home use. The more transportable hand-operated breast pumps come in different shapes, some useful and others less so.

Always show the mother how to use and regulate the pump and let her decide whether it is right for her. Be extra careful about keeping the pump clean as the use of a pump may increase the risk of the breast-milk being infected.

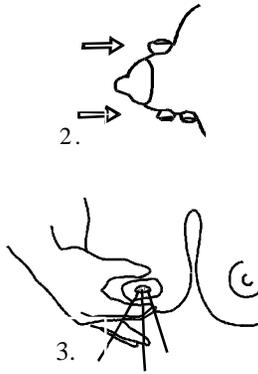
Hand-expression

Many women find hand-expression easier and more convenient when they become used to the technique. Hand-expression is gentle, requires no sterilization of equipment, and is cost-free. Hand-expression stimulates the production and flow of milk quite as well as pumping. The mother's self-esteem is usually strengthened by her being able to express her milk with her own hands. Most importantly, she can do it during an emergency when no pump or electricity is available.

What you can do

- If the mother is shy, ensure that she has some privacy and that people are not coming through the room. Help her to relax and to think of her baby, if it cannot be there. A photo or a piece of the baby's clothing can help induce her oxytocin reflex.
- Explain to the mother how to express her milk:
 1. Prepare a very clean cup or jug if you want to use the milk, and wash your hands thoroughly. Preferably the cup should be made of plastic as milk fat and immune protective antibodies stick to glass surfaces.
 1. Stimulate the let-down of milk (see the section on the oxytocin reflex, page 21).
 2. Lean slightly forward and, if necessary, support the breast with a flat hand against the ribcage.
 3. Place the thumb above and the index and middle fingers below the areola (see illustration 1).





4. Press the fingers inwards towards the chest wall (see illustration 2).
1. Compress the lactiferous sinuses between the fingers, then release. Press and release. Press and release. Press and ... Try to simulate the rhythm of your baby's "milking" (see illustration 3).
1. Be patient, even if no milk comes in the beginning. Do not squeeze, pull or push the breast or the nipple. This will not make the milk flow and may be harmful.
2. Move the hand around to get to all segments – use alternate hands.
3. Repeat the procedure from step 2, until both breasts are soft.

All breastfeeding women should learn and practise the expression technique soon after the birth. Then if there is a crisis such as hospitalization of the child, she will already be confident in this skill.

Storage and re-heating of breast-milk

Expressed breast-milk must be stored in a sterilized, closed container in the coolest place available. It can be kept for 24 hours at 18–20 °C in a shady place, for about 72 hours in a refrigerator (at 4–5 °C) and for about four months in a freezer (at -18– -20 °C).

What you can do

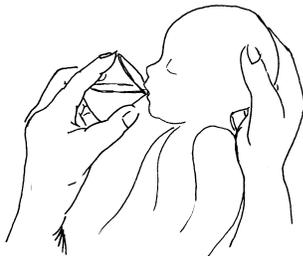
- Encourage the mother to:
 1. Store expressed milk in a shady place or refrigerator. Milk kept cool conserves more cells than freezing, though frozen milk contains sufficient of all the important properties. Stored milk can be frozen up to 24 hours after expression, but no longer.
 2. Freeze milk in small, ready-to-use, portion-size amounts.
 3. Let frozen milk thaw at room temperature. Do not heat the milk as this destroys some anti-infective substances. It is quite all right to give the baby milk that is cooler than milk from the breast. Thawed milk must not be refrozen, but it can be kept refrigerated for use within 48 hours.
 4. If you have not thawed the milk in time and must thaw it quickly, place the container in warm water.
 5. Never heat the milk in a microwave oven. The milk may be boiling in parts, while the container remains cold.

Feeding by cup

The great majority of babies never need anything but the breast for around six months. However, very rarely a baby may need to be given a feed by another method. Expressed breast-milk and supplements are often given by bottle. Some babies can cope with both methods, but many others start to prefer the bottle and unless breastfeeding is well established, they may become less eager for the breast. Feeding by cup is one way to avoid the problem, and this is therefore recommended. Be aware that pre-term and full-term babies cup feed in different ways.

What you can do

- Encourage the mother to feed her milk to her baby by cup if for some reason it cannot be put to the breast.
- Help the mother understand the advantages of cup feeding:
 1. The risk of poor attachment at the breast is less.
 2. The baby experiences using its tongue while feeding.
 3. The baby paces its own intake.
 4. The baby takes only the milk it needs and is less likely to vomit.
 5. The risk of infection is diminished since cups are easier to keep clean than bottles.
- Explain to the mother how to feed by cup:
 1. Place the baby in a semi-upright position on your lap.
 2. Support the baby's back and neck with one arm.
 3. Place the cup at the baby's mouth, so that the milk touches the upper lip (see illustration).
 4. A pre-term baby will at first lap the milk with the tongue (like a kitten), but a full-term baby will sip the milk.
 5. Be patient.
 6. Do not try to make the baby drink a certain amount, let it decide when it has had enough.



Other important matters

A new life

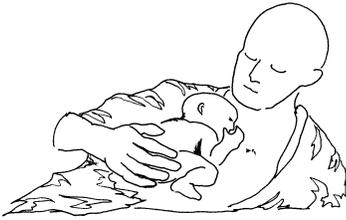
Many mothers are emotionally labile during the first weeks or months of breastfeeding. Even when well prepared the mother may feel overwhelmed by the baby's strong need for her and the responsibility may be frightening. Many new mothers wonder if they can cope with the challenge. Feelings of isolation, frustration and exhaustion may make breastfeeding seem an additional burden for some mothers.

What you can do

- Help the mother understand that a new life with a baby may seem difficult to cope with in the beginning, regardless of how the baby is fed. Successful breastfeeding may make the adjustment easier (see the section on “Why breastfeed?”, page 1).
- Build the mother's confidence by praising her mothering skills. With your encouragement, she is more likely to trust her own common sense and develop a sympathetic understanding of her baby's needs.
- Encourage the mother to:
 1. Use breastfeeding time as resting time. If possible she should breastfeed lying down once or twice during the day. It is fine if she falls asleep with the baby. These naps will make up for any lost sleep at night.
 2. Do only the most basic housework.
 3. Accept all offers of help with household tasks.
 4. Try to avoid seeing too many visitors.
 5. Go out, taking the baby along.
 6. Take some time for herself alone.
 7. Express some milk and leave the baby with a trusted carer for a short while, if she needs to do something on her own.

The father

Some fathers feel left out by the close relationship between mother and baby. The closeness of mother and baby during feeding may make the father associate his feeling of “being outside” more acutely with this situation and he may hint to the mother that he has negative feelings about breastfeeding.



What you can do

- Help the father accept that mothers and babies are close, but not inseparable, regardless of how the baby is fed.
- Help the mother see the father's need to be included in the closed circle and that his inclusion will help his child and himself forge a good long-term relationship.
- Help the father understand the benefits of breastfeeding, and how his emotional and practical support can make all the difference to the health and wellbeing of his child and wife.
- Explain that the quantity and quality of his wife's breast-milk is perfect for their baby and nothing else will be as good.
- Encourage the father to see the new situation as a positive challenge, and that he can cuddle, bathe, change the nappy, talk and sing to his baby. Feeding is only one aspect of a loving relationship.
- Encourage the mother to let the father take care of their baby undisturbed by her and in his own special way.

The grandmother

In societies where breastfeeding is not the norm, many grandmothers will have had negative experiences with breastfeeding. They may have suffered from “the insufficient milk syndrome” and they easily question the quantity and the quality of breast-milk in the younger generation. Even where breastfeeding was normal, many grandmothers promote bottle-feeding as the modern way and relish the idea of being able to bottle-feed their grandchildren.

However, if they are supportive, they can be of tremendous help.

What you can do

- Get the grandmother to tell you about her own breastfeeding experiences, and if necessary to understand what went wrong and why. It may hurt her to accept that her difficulties might have been prevented or solved, but it will console her to feel that it was not her “fault”, and that she is not blamed by you. Armed with new understanding she can be a supporter of breastfeeding in the next generation.
- Encourage the grandmother to offer help with housekeeping, to give the mother more time to concentrate on the baby.
- Tell her that even postmenopausal grandmothers have been known to breastfeed an orphaned grandchild – even if this is not a general recommendation!

The public

In many western cultures, breastfeeding in public places is becoming more widely accepted. In others, it has always been the norm. Some societies however expect the mother to breastfeed discreetly. Some mothers (especially young ones) feel embarrassed by the mere thought of breastfeeding in front of others, be they relatives or strangers.

What you can do

- Help the mother to find ways of breastfeeding with modesty so that she may comfortably breastfeed wherever she may be when her baby demands feeding.
- Challenge unhelpful beliefs, myths, superstitions, misinformation and common gaps in knowledge about breastfeeding, whenever you meet them in your society and among family and friends of your clients.

Mother-to-mother support

Breastfeeding mothers need emotional and practical support from other people. In many societies women do not have a close network of family and friends to support breastfeeding.

What you can do

- Help your client mothers gather in groups both antenatally and in the polyclinic, MCH centre, community centre or other suitable place.
- Suggest to the mother that other women with positive experiences of breastfeeding may be able to give her most of the informed support that she will need.
- Identify local mother-to-mother support groups if they exist in your society, and refer the mother to a group on discharge from hospital or clinic.
- Invite existing mother-to-mother support groups regularly to meetings on feeding and child care and go to their meetings when invited so that you get to know and respect one another. You can all learn from each other.
- Value them as an extension of the service you are providing to mothers.

Food for the mother

The nutritional needs of breastfeeding women are most readily met by local, affordable, culturally appropriate, nutritious food. Breastfeeding women have a very efficient metabolism, and most have laid down fat stores during pregnancy. Therefore perfect milk will be made even on a rather low energy intake.

It has been shown that the composition of breast-milk is very consistent even between women with greatly differing nutrition situations.

What you can do⁵

- Do not give recommendations on the intake of food and drink to the mother, beyond what is said in the following.
- Remember that provided the mother has enough to eat, milk can be made from all kinds of food. And if breastfeeding is unrestricted, the baby will get what it needs.
- Help the mother to identify easily prepared and affordable foods.
- Help the mother to understand that:
 1. She does not need to eat any extra food to make more milk, but she should eat to please herself if she is hungry. If the woman is conspicuously underweight some people may think she is too thin and weak to breastfeed. Explain that she will still make milk, although she needs food for own wellbeing; meeting her additional energy needs is much less expensive than feeding her baby breast-milk substitutes. By caring well for herself, she cares for her baby!
 2. There is no need to avoid certain foods, cultural taboos notwithstanding, but if her baby develops an allergic reaction (see the section on “Allergies”, page 39), then she can try to avoid the suspected allergenic foods. Some mothers note reactions, such as loose stools or wind, in their baby when they eat certain foods. There is no scientific research on this topic, but you can respect the individual mother’s observations even if you are privately sceptical.
 3. She should drink whenever she feels thirsty. There is no need for a lot of extra fluids. If she does not feel thirst then she should observe her urine to see if it gets dark or strong. If it does she should drink more.
 4. She need not drink milk to make milk. If she has been given breast-milk substitutes or powdered milk and is reluctant to

⁵ WHO/UNICEF. *Healthy eating during pregnancy and lactation. A training course*, 1998 (unpublished document EUR/ICP/LVNG 02 07 03).

throw them away, she can use them for the general household diet and drinks.

- Advise mothers who have put on a lot of weight during the pregnancy to avoid high fat foods such as sausages, fatty meat, lard and high calorie beverages such as sugary drinks.
- Advise mothers to use iodized salt, since iodine deficiency is common in most countries and iodine is important for the mental development of her child.
- Discourage excess slimming during lactation. The mother should not try to lose more than 2 kg/month.
- Reassure the mother that she can breastfeed, and that even very undernourished women can produce good milk. Even mothers in famines produce enough good quality milk to sustain their babies' growth.

Environmental pollution

Some breastfeeding mothers worry that their milk is unhealthy for the baby because it has been polluted. This worry is frequently stimulated by the media presenting new findings from “the most recent analysis” and questioning the safety of breast-milk.

What you can do

- Accept that in spite of existing environmental pollution, the World Health Organization has *never* found that the risk outweighs the advantages of human milk. (This does not detract from the importance of cleaning up the environment!)
- Help the mother understand that there is no evidence of adverse effects on child health or development due to contaminated breast-milk.
- If health authorities have issued special warnings against the intake of specific foods, you should make the mother aware of these, preferably in writing to avoid misunderstandings.
- Explain to a worried mother that babies put on a lot of fat during the first year and this dilutes the potential negative effect of fat-soluble contaminants.
- Explain that exposure before birth may have a larger impact than exposure through breast-milk. The main reason for analysing breast-milk for hazardous substances is that it provides samples of human fat, and therefore is a convenient way to monitor population exposure to these substances.

- Explain that breast-milk substitutes also contain pollutants. There are more of some and less of others than in breast-milk. Breastfeeding is always better for the child's development.
- Some regions have a large number of nuclear installations similar to Chernobyl. In these regions it is good advice to the mother that she should use iodized salt in preference to non-iodized. This may help to reduce the uptake of radioactive iodine in case of future nuclear accidents.

Breast care

Physiological changes during pregnancy prepare breasts and nipples for breastfeeding.

What you can do

- Explain to the mother to do nothing but let her nipples dry in the air after feeding, when possible.
- There is no scientific evidence that bras are necessary. If some women in your society do not wear them, do not suggest that they need them. Where women do wear bras, check during pregnancy that the mother has a comfortable bra. Tell her that this same bra may not fit too well as the pregnancy progresses or at the start of lactation. As the breasts are growing, a larger bra with wider straps may give more comfort and support. The bra should never feel tight.
- Help the mother understand that:
 1. Breasts and nipples need no special attention or preparation. "Nipple exercises", "breast massage" and prenatal expression have not been shown to have a positive effect on breastfeeding.
 2. There is no evidence that women with fair skin are more likely to get sore nipples than women with darker skin.
 3. Frequent washing, especially with soap, alcohol or other cleansing agents removes the natural oils that protect the skin of the nipples.
 4. The use of special creams and sprays is unnecessary and may be harmful.
 5. Washing the breasts or nipples before feeding is unnecessary, inconvenient and will remove the protective natural oils. This could lead to sore nipples. Also, the natural smell of the breast may have a positive effect on the baby.
 6. Plastic-coated breast pads may make the skin of the nipples moist and vulnerable to infection.

Sexuality and sexual intercourse

Many women are concerned with body image and sexuality. If they are not concerned themselves they are likely to be confronted with the concerns of others, on their behalf. They may need help to counter their worries.

What you can do

- Help the mother understand that:
 1. Breastfeeding does *not* spoil her figure. Breastfeeding may help the mother to lose excess weight after delivery.
 2. Breastfeeding does *not* cause “sagging” breasts. Changes to breast tissue take place during the pregnancy when glandular tissue proliferates, sometimes replacing some of the fat tissue. However, this change is not apparent while the breasts are full of milk. Mothers who bottle-feed go through the same changes.
 3. The softer breasts of a woman who has given birth should be seen as symbols of pride, not shame. The breasts retain their sexual sensitivity through repeated periods of pregnancy and lactation. Some women are pleased with the way breastfeeding develops their nipples and they feel it enhances the beauty of the breast.
- Encourage the mother to resume sexual intercourse when she wants to, irrespective of breastfeeding. Some women feel particularly sexy while breastfeeding; others do not.
- Prepare the mother to accept that the baby’s milking her breast may in some cases arouse sexual sensations, and that sexual intercourse may stimulate ejection of breast-milk.
- Pay special attention to very young mothers. Some teenage mothers have still to come to terms with their own sexual development. They may find the additional physical changes of pregnancy difficult to cope with and have conflicting feelings about parenting.
- The new experience of breastfeeding makes the baby’s dependence on the mother very clear, and she may need help to accept this. She needs to see that rather than constraining her, breastfeeding is liberating her, because she becomes more secure regarding the baby.
- Breastfeeding may accelerate the process of maturation in a very young mother, and may make it easier for her to accept her baby and to get rid of her fears of being close to it. Successful breastfeeding can help a young mother to feel proud of her body and thus improve her self-esteem.

Menstruation

The majority of women (around 98%) do not menstruate while they are exclusively breastfeeding. Women who are partially breastfeeding; only feeding expressed milk, or those feeding older babies taking solid food, are more likely to menstruate. During the menstrual period the taste of the milk may change, and the baby sometimes seems to refuse the breast. The amount of milk may therefore also temporarily decrease in this period.

What you can do

- Encourage the mother to continue breastfeeding and to maintain her milk production by expression, if the baby refuses the breast.
- Assure her that this discomfort is temporary.
- Prepare her that when the menstrual period is over the baby will feed more often for a while, to get back to normal.

Fertility and contraception

The breastfeeding mother is less likely to get pregnant. The mechanism for this suppression of ovulation is not yet fully understood. It seems that the stimulation of suckling sends a message to the brain which influences the secretion of luteinizing hormone (LH) and gonadotrophin-releasing hormone (GnRH). However the frequency and intensity of breastfeeding stimulation needed to prevent the return of fertility varies from one woman to the next. Using a pacifier or being separated from the baby all day can diminish the effect.

What you can do

- Help the mother understand that the contraceptive effect of breastfeeding is equal to that of an intra-uterine device (IUD) for the first six months after delivery when:
 1. the mother is still amenorrhoeic;
 2. breastfeeding is unsupplemented and frequent;
 3. breastfeeding is carried out all day and at least once during the night.
- Advise the mother to use additional contraception if her baby is more than six months old, if her periods have returned or if breastfeeding is supplemented or restricted in any way.
- Discourage the use by a breastfeeding mother of oral contraceptives based on estrogens alone, as they may reduce the amount of milk.
- Help the mother to identify an alternative, available, acceptable and affordable method of contraception.

A new pregnancy

Breastfeeding during pregnancy is not harmful to either the baby or the fetus. The mother's nutrient intake is preferentially utilized for the fetus and the milk and lastly for the mother herself. For the sake of her own health, she should therefore eat a normal varied diet.

Some pregnant women do not feel like breastfeeding, while others continue to enjoy breastfeeding the older baby throughout the new pregnancy and sometimes even after the new baby is born.

What you can do

- Encourage the pregnant mother to continue breastfeeding, if she and the baby want to, particularly if her baby is less than six months old. The baby will benefit from even a token amount of breast-milk.
- Prepare the mother for the possibility that her nipples may become very tender, especially in the first months, and that her milk production may decrease, so that the baby demands very frequent feeding, or weans itself.
- Explain to the mother that her breast-milk reverts to colostrum during the pregnancy to suit the new baby.
- Support the mother if she decides to breastfeed the siblings.
- Make the mother aware that the new baby should have priority. The older baby should be getting a proportion of its nutrients from solid food.
- Make the mother aware that each baby should get both foremilk and hindmilk at each feed. It may be simpler and safer to let each of them have their own breast. In this way the milk in each of the breasts will be tailor-made to suit the needs of the baby who gets it.
- Help the mother make contact with other mothers in your practice who have become pregnant while breastfeeding, and who have breastfed siblings.
- If the pregnant mother wants to stop breastfeeding, support her wish. Help her to take the baby off the breast gradually.



Work outside the home

Work outside the home is not in itself a barrier to breastfeeding. National maternity protection legislation should make it possible for the mother to manage both work and breastfeeding. Conventions to this effect were formulated by the International Labour Organisation (ILO) as early as 1919.⁶

- Job security after delivery.
- Paid maternity leave for at least 3 months after delivery.
- Paid breastfeeding breaks of 1.5 hours, flexible hours or shorter shifts.
- Child care or crèches near or at the workplace (so that the mother can continue breastfeeding), alternatively a suitable location for expression of her breast-milk (with cold storage facilities).

Source: ILO Convention No. 3 on the Protection of Maternity (adopted 1921) and Recommendation and Revision Nos. 95 and 103, 1952.

What you can do

- Help the mother understand the provisions of the local maternity legislation, and to request her full entitlements if she wants to.
- Encourage the breastfeeding mother to take her baby to work with her, or to go home and feed her baby, or to ask someone to bring the baby to her at work, whatever is possible.
- Use your professional authority to explain to employers why breastfeeding is important. It can be in the employer's interest to support breastfeeding. Explain that the baby is less likely to get ill so that the mother will need to take less time off work. It has also been shown that there is less turnover of staff and thus costs on training are saved. Some doctors write prescriptions to say the baby must be breastfed.
- Encourage the mother to adopt the following practices if she has to leave her baby with a carer, especially if the baby is less than six months old:
 1. Breastfeed without supplements up to the day she returns to work. It is *not* necessary to get the baby "used" to a bottle and/or artificial feeds. Many breastfed babies refuse any other food while the mother is present, but almost all accept alternatives when the mother is away.
 2. Continue breastfeeding, even if she has to be away from her baby for many hours.

⁶ ILO plans to revise Maternity Protection Convention No 3, Recommendation and revision No. 103 (1952), at the 1999 ILO Conference. For more details, contact ILO, route des Morillons, CH-1211 Geneva 22, Switzerland.

3. Express milk during the time at work at least twice during an eight-hour shift. Some mothers also express milk at home when they feel more relaxed. The more they express the more they stimulate milk production. Many mothers can express enough milk to cover the time they are away. The milk is best stored in a cool place, but can also be stored at room temperature if it is given to the baby the next day.
4. Teach the carer how to feed the baby by cup (see the section on “Feeding by cup”, page 48).
5. The baby will adapt to a different pattern and adjust its intake accordingly. The mother’s body will adapt too.
6. Accept that the baby will probably demand quite frequent feeds when it is with the mother both day and night.

Final remarks

International Code of Marketing of Breastmilk Substitutes

Modern marketing techniques (see Annex 10) play a major role in limiting women's ability to make an informed choice about feeding their babies. The WHO International Code of Marketing of Breastmilk Substitutes was developed as a consensus by international health experts to protect babies, families and health workers from commercial pressures which influence decisions about infant and young child feeding.

The aim of this Code is to contribute to the provision of safe and adequate nutrition for infants by the protection and promotion of breastfeeding and by ensuring the proper use of breast-milk substitutes, when these are necessary, on the basis of adequate information and through appropriate marketing and distribution. (Article 1)

The Code is a World Health Assembly Resolution, adopted in 1981 and clarified and strengthened by subsequent Resolutions to the present day. The Code is a tool to reform unethical marketing practices, and it recommends that both companies and governments implement the Code.

The current state of implementation of the Code varies throughout the world. Many health workers are unaware that the Code contains provisions relevant to their work with mothers and babies. It gives detailed suggestions on breastfeeding promotion, and provides a strong mandate for national breastfeeding support policies.

What you can do

- Read and discuss the International Code of Marketing of Breast-milk Substitutes with colleagues, draw their attention to their obligations under the Code.
- Find out to what extent the Code has been implemented in your country.
- Implement the Code in letter and spirit in your daily work and through your professional organization. That means promoting the modern principles of breastfeeding in this booklet.

Ten steps to successful breastfeeding

A joint statement was prepared in 1989 by the WHO and the United Nations Children's Fund (UNICEF): *Protecting, promoting and supporting breastfeeding*. Its aim was to increase awareness of the critical role of health services in promoting breastfeeding, and to describe what should be done to provide mothers with appropriate information and support. It is intended for use by everyone concerned with the provision of maternity services. An outline of the major actions to be taken was presented in ten practical steps.

Ten steps to successful breastfeeding

Every facility providing maternity services and care for newborn infants 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 half an hour of birth.
5. Show mothers how to breastfeed, and how to maintain lactation even if they should be 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 (also called dummies or soothers) to breastfeeding infants.
10. Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or clinic.

As new knowledge has emerged since 1989, some of the steps may need reformulation. This is sometimes done in translations into national languages by Member States, but only after close consultation with WHO/UNICEF.

Step 4 has, for example, been reformulated as follows: “*Let the mother and the baby stay together, skin to skin, from immediately after birth for at least one hour or until the baby is ready for and has had, the first feed.*” In step 5 the following addition has been made: “... even if they should be *temporarily* separated from their infants”.

Step 10 has been modified in some cases.

What you can do⁷

- Make sure that you and all your colleagues give the same accurate information. Work out a joint breastfeeding policy to ensure that you give consistent messages to mothers.
- Identify the major obstacles to implementing the ten steps in your hospital.
- Have a local interdisciplinary team of health workers to find ways to overcome the challenges.

The Baby-Friendly Hospital Initiative

A global initiative, *The Baby-Friendly Hospital Initiative (BFHI)*, was launched by WHO and UNICEF in 1991 at the International Paediatric Association Conference in Ankara. The aim is to put the Ten Steps (see page 61) into practice, with the objective of enabling mothers to breastfeed exclusively for around six months, and to continue breastfeeding, together with family foods, for as long as the mother and baby want.

Maternity homes and hospitals with maternity departments have been chosen for the BFHI for several reasons. First, initiation of breastfeeding most often takes place here and early practices have a profound effect on the establishment and duration of breastfeeding. Second, health workers in hospitals and practices may thus influence other public health facilities as well as private practitioners. Third, the required changes in hospital practice are relatively easy, involve no extra costs and usually little in the way of legal provisions. It has been shown that hospitals save staff time and money by joining the BFHI.

All maternity homes and hospitals with maternity wards are invited to participate.

What you can do

- Find out whether your country has:
 - a national breastfeeding committee
 - a national coordinator for the BFHI
 - a UNICEF country office or national committee and/or a WHO liaison office
 - hospital(s) designated as Baby-Friendly or trying to achieve the designation
 - a system for monitoring breastfeeding rates

⁷ *Protecting infant health. A health workers' guide to the International Code of Marketing of Breastmilk Substitutes.* Penang, International Baby Food Action Network, 1993.

- revised guidelines for procedures in maternity services
 - government action to stop free and low-cost supplies of breast-milk substitutes.
- Ask the National Breastfeeding Committee, the local UNICEF Office, the WHO Liaison Office (if any of these exist) or WHO/UNICEF Europe for further information on the BFHI in your country.

Relevant resources

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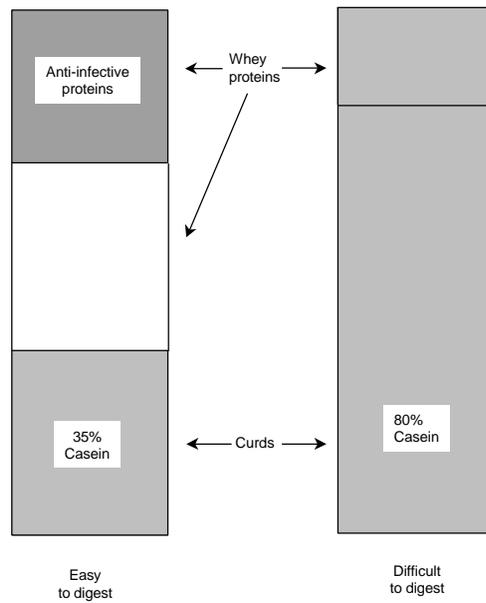
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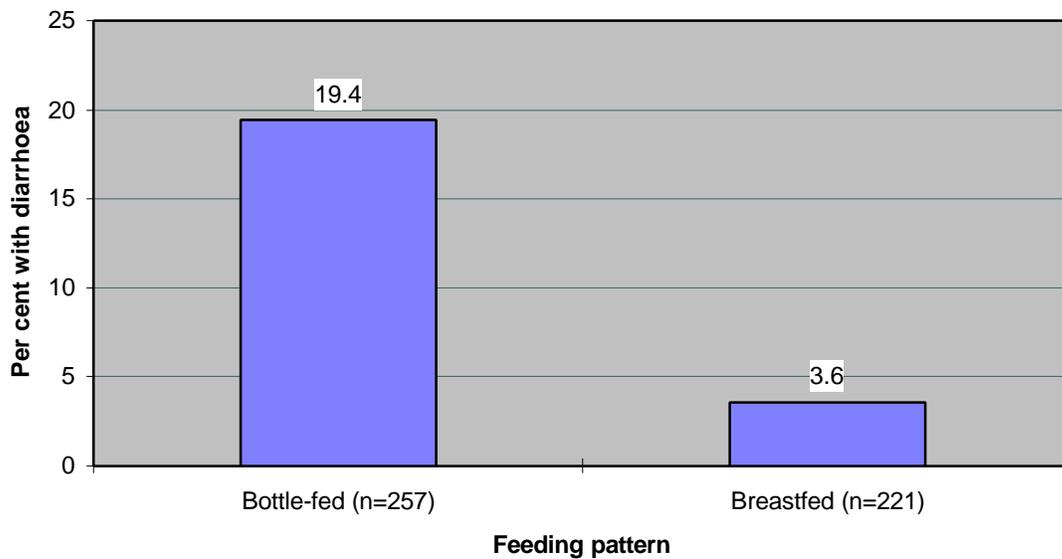
Summary of differences between milks

	HUMAN MILK	ANIMAL MILK	FORMULA
<i>Bacterial contaminants</i>	none	likely	likely when mixed
<i>Anti-infective factors</i>	present	not present	not present
<i>Growth factors</i>	present	not present	not present
<i>Protein</i>	correct amount easy to digest	too much difficult to digest	partly corrected
<i>Fat</i>	enough essential fatty acids lipase to digest	lacks essential fatty acids no lipase	lacks essential fatty acids no lipase
<i>Iron</i>	small amount well absorbed	small amount not well absorbed	extra added not well absorbed
<i>Vitamins</i>	enough	not enough A and C	vitamins added
<i>Water</i>	enough	extra needed	may need extra

Differences in the quality of proteins in different milks



Prevalence of diarrhoea, infants 0–13 weeks by feeding pattern, Scotland



Source: Howie, P.W. et al. Protective effect of breast feeding against infection. *British medical journal* , **300**: 11–16 (1990).

Advantages of breastfeeding

Breastmilk

- Perfect nutrients
- Easily digested
Efficiently used
- Protects against
infection



Breastfeeding

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

Acceptable medical reasons for supplementation

A few medical indications in a maternity facility may require that individual infants be given fluids or food in addition to, or in place of, breast-milk.

It is assumed that severely ill babies, babies in need of surgery, and very low birth weight infants will be in a special care unit. Their feeding will be individually decided, given their particular nutritional requirements and functional capabilities, though breast-milk is recommended whenever possible. These infants in special care are likely to include:

- infants with very low birth weight (less than 1500g) or who are born before 32 weeks' gestational age;
- infants with severe dysmaturity with potentially severe hypoglycaemia, or who require therapy for hypoglycaemia, and who do not improve through increased breastfeeding or by being given breast-milk.

For babies who are well enough to be with their mothers on the maternity ward, there are very few indications for supplements. In order to assess whether a facility is inappropriately using fluids or artificial feeds, any infants receiving supplements must have been diagnosed as:

- infants whose mothers are severely ill (for example, with psychosis, eclampsia or shock);
- infants with inborn errors of metabolism (for example, galactosaemia, phenylketonuria, maple syrup urine disease);
- infants with acute water loss, for example during phototherapy for jaundice, if increased breastfeeding cannot provide adequate hydration;
- infants whose mothers are taking medication which is contraindicated when breastfeeding (for example, cytotoxic drugs, radioactive drugs, and anti-thyroid drugs other than propylthiouracil).

When breastfeeding has to be temporarily delayed or interrupted, mothers should be helped to establish or maintain lactation, for example through manual or hand-pump expression of milk in preparation for the moment when breastfeeding may be begun or resumed.

For a full discussion of this and related issues see: Chapter 3, Health factors which may interfere with breast-feeding. *In: Infant feeding: the physiological basis. Bulletin of the World Health Organization, 67(suppl.) (1989).*

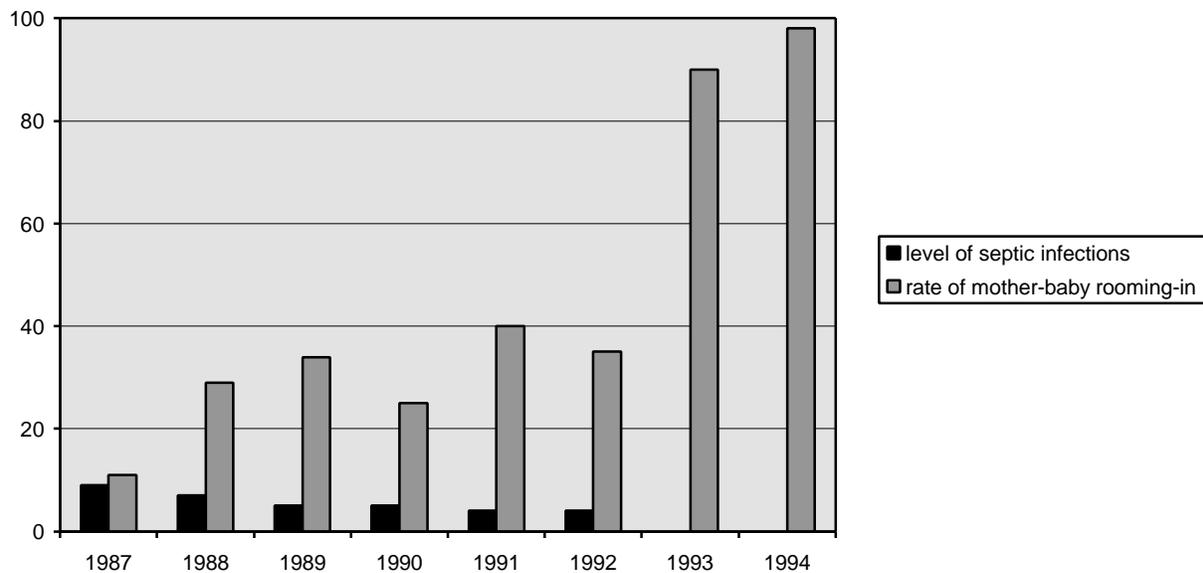
Source: WHO/UNICEF. Baby-Friendly Hospital Initiative. Part II: *Hospital level implementation* . 1992.

Possible contraindications to breastfeeding related to the mother

- A mother who has an active herpes lesion on her breast or nipple, where the baby will come into contact with the lesion, cannot breastfeed on the affected breast; however, her baby can breastfeed after the lesion is healed.
- When a mother has been infected with HIV prior to birth, the risk of diarrhoea and other serious illness from artificial feeding should be balanced against the risk of transmitting HIV to her baby.
- There is a risk of transmitting HIV to a healthy baby if the mother is infected with HIV *after* the baby is born, since the baby was not exposed *in utero*.
- When a mother is infected with HIV and the use of safe alternatives is not possible, breastfeeding by the mother should continue to be the feeding method of choice.
- Mothers who have severe psychosis, eclampsia or shock may not be able to manage breastfeeding for a period of time.
- Mothers who are taking a medication which is contraindicated when breastfeeding (e.g. cytotoxic drugs, radioactive drugs, and anti-thyroid drugs other than propylthiouracil) cannot breastfeed while the drugs are present and active.
- Mothers who specifically refuse to breastfeed for reasons outside the control of the hospital or health care worker will need an alternative feeding method.

Source: *Breastfeeding management and promotion in a Baby-Friendly Hospital* . An 18-hour course for maternity staff. 1993.

Rate of mother-baby rooming-in and level of septic infections



Source: Romanchuk, L., Elektrostal Municipal Maternity Home, & Vartapetova, N., Institute for Preventive Medicine, Moscow.

Methods of feeding LBW babies

Weeks of gestational age	Approximate weights	Oral feeding method
Before 30		nasogastric tube
30–32		cup feed
32+	± 1300 g	breastfeeding possible
36+	± 1800 g	breastfeeding well coordinated

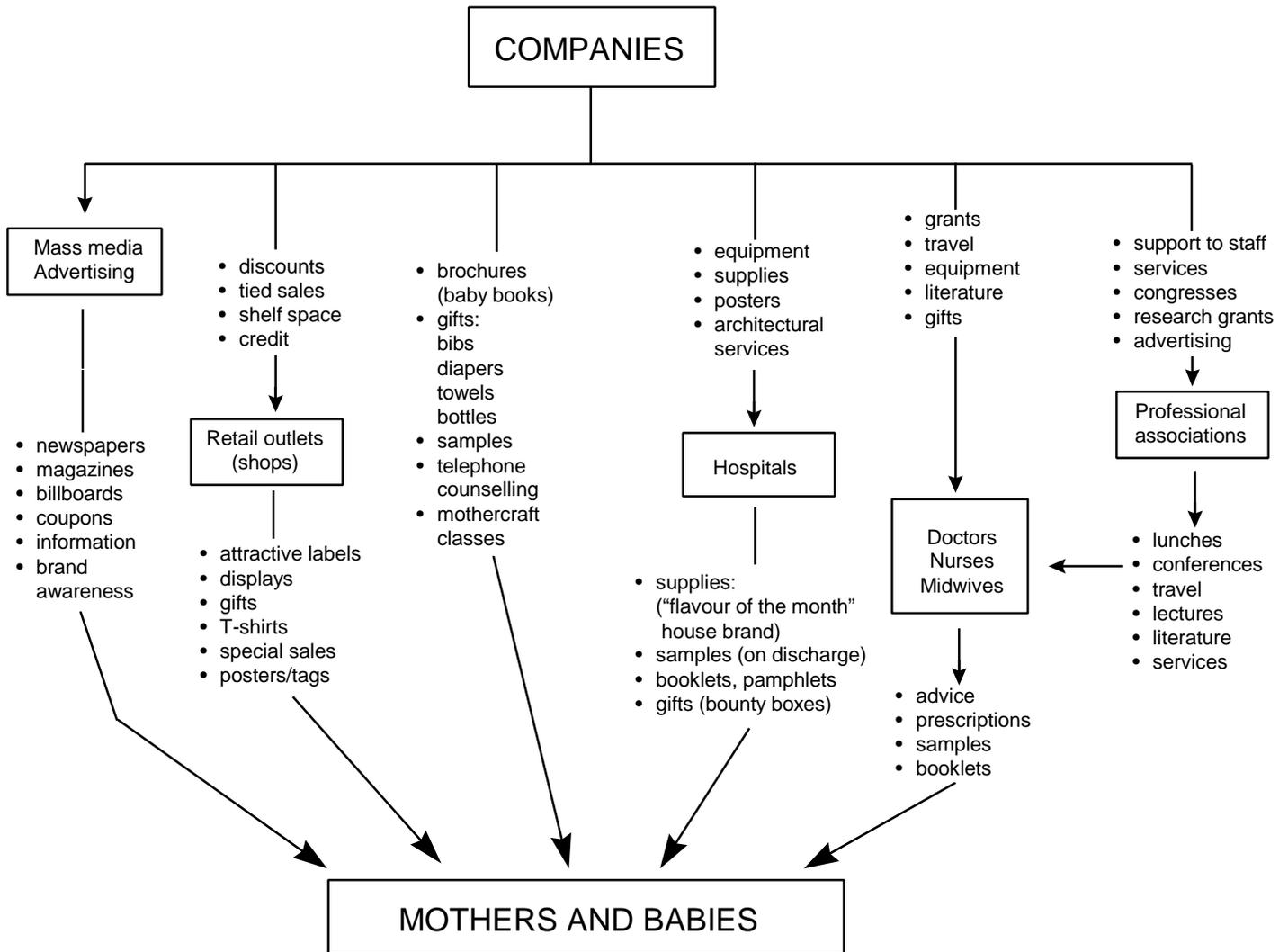
Breastfeeding and maternal medication

Breastfeeding contraindicated	anticancer drugs (antimetabolites); radioactive substances (stop breastfeeding temporarily)
Continue breastfeeding:	
<i>Side effects possible</i> <i>Monitor baby for drowsiness</i>	psychiatric drugs and anticonvulsants
<i>Use alternative drug if possible</i>	chloramphenicol, tetracyclines, metronidazole quinolone antibiotics (e.g. ciprofloxacin)
<i>Monitor baby for jaundice</i>	sulfonamides, dapsone sulfamethoxazole+trimethoprim (cotrimoxazole) sulfadoxine+pyrimethamine (Fansidar)
<i>Use alternative drug</i> <i>(may inhibit lactation)</i>	estrogens, including estrogen-containing contraceptives thiazide diuretics ergometrine
<i>Safe in usual dosage</i> <i>Monitor baby</i>	most commonly used drugs: analgesics and antipyretics: short courses of paracetamol, acetylsalicylic acid, ibuprofen; occasional doses of morphine and pethidine antibiotics: ampicillin, amoxicillin, cloxacillin and other penicillins erythromycin anti-tuberculars, anti-leprotics (see dapsone above) antimalarials (except mefloquine, Fansidar), anthelmintics, antifungals bronchodilators (e.g. salbutamol), corticosteroids antihistamines, antacids, drugs for diabetes most antihypertensives, digoxin nutritional supplements of iodine, iron, vitamins

Adapted from *Breastfeeding and maternal medication. Recommendations for drugs in the Eighth WHO Model List of Essential Drugs*. Geneva, World Health Organization, and New York, United Nations Children's Fund, 1995 (document WHO/CDR/95.11). Annex to *Breastfeeding counselling: A training course*. WHO/UNICEF, 1993.

Understanding marketing

How do companies get to mothers and babies?



Source: Workshops on lactation management and BFHI, St Petersburg, 1993 (EUR/ICP/NUT 150).