Through breastfeeding

There is a bigger chance of passing HIV to the baby during breastfeeding if:

- The mother has cracked nipples or swollen, painful breasts
- The mother is not exclusively breastfeeding for the first six months after the baby is born (She is giving the baby other milk, foods or liquids)
- The mother becomes infected with HIV after the birth of her child and while breastfeeding.

An HIV-positive grandmother can also pass HIV on to a baby if she breastfeeds the baby.

A baby can get HIV if an HIV-positive mother puts her breast milk in the baby's eyes.

What is PMTCT?

- PMTCT stands for **P**revention of **M**other-**T**o-**C**hild **T**ransmission of HIV.
- To prevent HIV from passing from the mother to the baby, the mother must take antiretroviral (ARVs).
- She must take it during pregnancy, childbirth and while she is breastfeeding.
- ARVs will not hurt the baby.

The PMTCT programme has four stages:

1. Primary prevention of HIV (**before pregnancy**)

- Practice safe sex (e.g. using condoms).
- Use contraception to prevent unwanted pregnancies and plan when you want to become pregnant, especially HIV positive women.
- Get tested for HIV.
- Know your partner's HIV status.
- If you are HIV-positive, have regular checks of your CD4 cell count and start ARV treatment when advised. Get information on how to prevent passing HIV on to your baby.
- Have any STIs treated.

2. Antenatal Care (**during pregnancy**)

- Pregnant women must be booked at the clinic on the first day they attend.
- Women who are pregnant and HIV-positive should be identified as early as possible **before 14 weeks (3months) of pregnancy** so that they can enrol in the PMTCT programme and get medicines to prevent passing on HIV to their babies.
- **HIV negative women should get tested for HIV again at 32 weeks** (8 months of pregnancy) to make sure they have not become HIV-positive during the pregnancy.
- The woman's partner should be tested for HIV.
- Always practice safe sex (use a condom) during the pregnancy.
- It is important for the mother to test for an STI as it may be passed on to the baby and may cause serious health problems for the baby. Most STIs, if detected and treated early, can be cured.

ARVs are now recommended for all HIV positive women who are pregnant or breastfeeding. The CD4 count is no longer used to decide on starting ARVs.

3. **Labour and Delivery**

- The mother should go to the clinic as soon as the signs of labour begin.
- If the mother is already on ARVs she must continue taking the medicines given to her by the nurse at the clinic. She must take her medicines with her to hospital.
- If the mother did not test before, or was HIV negative, and now tests HIV positive in labour ward, she must be given ARVs.

4. Postnatal Care **(after birth**)

- All breastfeeding mothers must use condoms correctly every time they have sex, until they have stopped breastfeeding their babies. This is so that they will not get HIV during breastfeeding and risk passing it on to the baby.
- All HIV positive mothers who are breastfeeding must be started on lifelong ARVs.
- All HIV negative mothers must be re-tested at the 6 week infant visit, and then every three months after that. **Mothers who become HIV infected while breastfeeding are at high risk of transmitting HIV to their infants.**
- Babies of HIV positive mothers should receive Nevirapine.

PMTCT Medication: Mother

All pregnant women who are HIV positive	Tenofovir + Efavirenz + Lamivudine (3TC) or Emtricitabine (single dos	Start lifelong ARV's from 14 weeks of pregnancy
Sensitivity to Tenofovir	AZT + Lamivudine (3TC) + Nevirapine	
Mother currently on ARV's	Continue ARV's	
Mother who tests HIV positive in labour	Single dose of Nevirapine Single dose of Truvada + AZT 3 hourly during labour	Start mother on lifelong ARV's before discharge from hospital

PMTCT Medication: Infant

Baby on exclusive formula feeding,	Nevirapine at birth, then daily for 4- 6 weeks*	
Breastfed baby: Mother on lifelong ARV treatment, or started on ARVs during pregnancy and has received more than 8 weeks treatment	Nevirapine at birth, then daily for 4- 6 weeks	Check mother's Viral load before stopping infant Nevirapine.
Breastfed baby: Mother started on ARVs during pregnancy, but for less than 8 weeks before delivery	Nevirapine at birth, then daily for 12 weeks.	Check mother's viral load before stopping infant Nevirapine.
Mother did not get any ARV's before or during delivery	Nevirapine as soon as possible and daily for 6 weeks. Continue as long as any breastfeeding	Assess whether baby is eligible for ARV's within 2 weeks. Mother must be started on ARVs.
Unknown maternal status, orphaned or abandoned baby	HIV test. Give immediate Nevirapine if baby is HIV positive** (i.e. HIV exposed)	Follow up 6 week PCR test for HIV

*New Western Cape policy advises 4 weeks of Nevirapine. Other provinces may still be using Nevirapine for 6 weeks.
**If the baby's HIV test (not PCR) is positive it means that the baby has the mother's antibodies to HIV in its blood. This means that the mother is HIV positive. The baby will have to have PCR test at 6 weeks to check the baby's status.

When can infant Nevirapine be stopped?

- Mothers should only stop giving Nevirapine when told do so by a healthcare professional
- If the baby's PCR test is positive, the baby needs ARVs, so NVP is stopped.
- If the baby is bottle fed, NVP can be stopped at 6 weeks, as there is no risk of HIV being passed on through breast milk.
- If the mother is on ARVs and her viral load is low (below 400), then NVP can be stopped at 6 weeks, as the risk of the baby getting HIV through the breast milk is very low.

SESSION 16: HIV in Home Visits

Time required: 90 minutes

Purpose

- The purpose of this session is to prepare MM for how HIV should be handled in home visits.

Objectives

- At the end of this session, MM will:
  - Have a better understanding of the issues around disclosure.
  - Know how to approach HIV during home visits.
  - Know what to say to mothers depending on their status.
  - What elements of counselling are important when supporting pregnant mothers living with or without HIV.

Materials

- Blackboard or white paper/flipchart and paper
- Markers
- Philani Mentor Mother Training DVD

Group Work: Disclosure — 30 minutes

The trainers will guide this session.

Discussion: HIV in Home Visits — 20 minutes

HIV IN HOME VISITS

Testing:

- Discuss importance of testing.
- Testing with one's partner.

Protecting yourself:

- Discuss safe sex practices.
- Important for HIV negative **and HIV positive** people.
- Find out how much the woman knows about HIV, and give more information as needed.

HIV positive mothers:

- Focus on how to stay healthy and how to protect one's baby.
- If the woman is on ARV's ask about side effects, and discuss adherence.
- If the woman is not on ARV's, explain the future role of ARV's and importance of CD4 count tests
- Find out if mother has joined PMTCT programme.
- Explain the probabilities of mother to child transmission at different stages (pregnancy, birth, breastfeeding).
- Explain that the mother must ensure she takes her own medicine to the clinic when she goes into labour.
- Explain when testing is necessary for baby (6 weeks &18 months).
- Discuss feeding options.
- Find out if she has tested for TB, and if not, encourage her to do so.

DVD Session: PMTCT & Antenatal Clinics: 20 minutes

The trainers will guide this session.

Role Plays: PMTCT 20 minutes

Role Play: PMTCT

MM: You are coming back to visit a pregnant mother. During the last home visit you encouraged her to go and book at the antenatal clinic. At that time, she confided that she was afraid of testing for HIV.
Role-play a follow-up visit. What are the important issues you need to cover? Remember to be sensitive and encouraging.

ZANELE: You are in early pregnancy. You were visited by the MM 1 month ago. She encouraged you to book at the antenatal clinic and to be tested for HIV, even though you were very afraid to do this. You booked at the clinic, and found out that you are HIV positive. You have not told anyone about the result yet, and you are worried about your baby getting HIV. Role-play the next visit with the MM.

Remember not to overload the mother with too much information at one time. Rather cover the important topics over several visits. Always attend to the issues that are worrying the mother at the time.

SECTION H
TUBERCULOSIS

SESSION 17: What is TB? Signs and Symptoms

Time required: 1 hour and 45 minutes

Purpose

- The purpose of this session is to teach trainees about TB and how it can be identified in adults and children.

Objectives

- At the end of this session, MM will be able to:
  - Understand what TB is.
  - Know the social factors that have contributed to the TB epidemic in SA.
  - Know the signs and symptoms of TB in both adults and children.

Materials

- PowerPoint slides
- Board/Flipchart and paper
- Markers
- Adherence cards from clinic

Knowledge and Beliefs about TB — 15 minutes

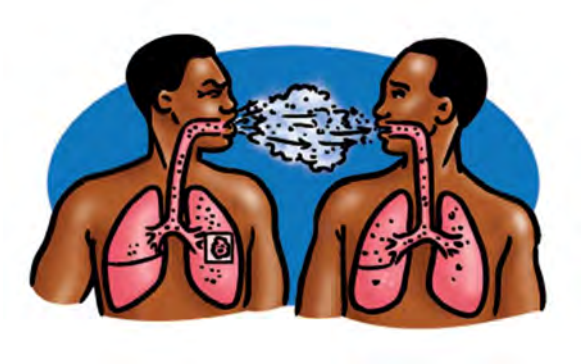
The trainers will guide this session.

Lecture/Discussion: TB and its Symptoms — 70 minutes

LECTURE CONTENT: TB and its symptoms

What is TB?

Human tuberculosis is an infection caused by the bacteria (germ) called Mycobacterium tuberculosis. TB is spread from person to person through the air by droplets which are produced when a person with TB coughs, sneezes or spits. These droplets are very small and are highly infectious. They reach the smallest spaces in the lungs, where the bacteria multiply.



TB is a Socio-economic Disease

TB has been known to humans for thousands of years. It has been around for a long time in South Africa, but the numbers of infections in recent years has increased dramatically, leaving South Africa in the middle of a tuberculosis (TB) epidemic.

Factors contributing to the spread of TB in South Africa:

- **HIV and AIDS -** TB has become worse in places where there is a lot of HIV. HIV weakens the immune system, and thus people are more likely to become sick with TB. 70% of patients with TB are also HIV positive. High levels of active TB in HIV positive people are a high risk to the general community.
- **Housing -** TB spreads easily in overcrowded, unventilated conditions. TB also thrives in damp and dirty conditions. Living in the same house with

someone with undiagnosed, untreated, active TB is not good, especially if you share a room and/or a bed. Children are particularly at risk. Improving ventilation, by opening windows, is very important in reducing the spread of TB.

- **Poverty -** Malnourished or undernourished people (people who do not have enough food to keep their bodies strong and healthy) are at risk of getting TB.
- **Alcoholism and illegal drugs -** Alcohol can make those who drink a lot more vulnerable to TB infection. These kinds of addictions can make people forget to take their medicines. Alcohol and illegal drugs can also damage the liver.
- **Prisons -** Prisoners are at high risk for TB, as prisons are overcrowded with inadequate ventilation. Many prisoners have HIV, which frequently goes untreated.
- **Mines -** Conditions down the mines contribute to TB and poor lung health. Overcrowding in hostels and a very high prevalence of HIV among miners contributes to high rates of TB.

HIV and TB

TB and HIV are a deadly combination, causing many deaths in SA.
10% of people infected with TB will get sick with TB in their lifetime, whereas **50% of HIV positive people will develop TB**. HIV causes an increase in the number of TB cases, and also more cases of extra-pulmonary TB. It is often more difficult to detect in HIV positive people, due to suppressed immunity.

People can be infected with TB although it remains dormant (sleeping) in their bodies; this is known as inactive TB. This means they are not sick and cannot spread the illness to others. The dormant bacteria in these people can become active (awake), especially if they have HIV, and make them sick. People with HIV who have inactive TB can take Isoniazid (INH) – a drug that is used for treating TB. INH prevents reactivation of TB and is useful in patients who have not yet started ARV's. It is given for 6 months.

TB in South Africa

In South Africa, Tuberculosis (TB) attacks one out of every 100 people overall. **The TB problem in South Africa is one of the worst in the world.** About 10 000 people die from TB every year.

TB is the single most deadly infectious disease in our country.
According to the WHO's latest world report, South Africa has the highest incidence of TB in the world (940 cases per 100,000 people). Compare this to the incidence of TB in Africa at 363 cases per 100,000 people. Even if we compare South Africa to the 22 countries in the world most affected by TB, our incidence rate is 5 times higher.

In Khayelitsha, one in every 70 (14 per 1000) people has tested positive for TB. TB is especially bad in the Western Cape, where it is colder and wetter than in other parts of the country. However, TB is bad in every province. TB is often difficult to diagnose, particularly in children.

How can TB be prevented?

- Make sure all babies are vaccinated against TB. BCG vaccine is given at birth and helps protect babies against TB and TB meningitis.
- Wash hands regularly.
- Family and friends who are in close contact with someone who has TB, must watch out for the signs of TB and visit the clinic if they start to cough.
- All children under five years old who come into contact with a person who has TB must be taken to the clinic so that they can be given medicine to prevent TB.
- Build the immune system by eating properly and getting daily exercise.
- You should get tested if you are in close contact with an infected person or if you have been coughing a lot for more than 2 weeks.
- People with TB should cover their nose and mouth when they sneeze or cough to help stop the spread of the disease.
- People with TB should not spit in public.
- People should keep all the windows in their house open to let in the fresh air.

Fresh air and sunlight make it harder for TB germs to stay alive.
The fresh air scatters the germs and the sunlight kills them.

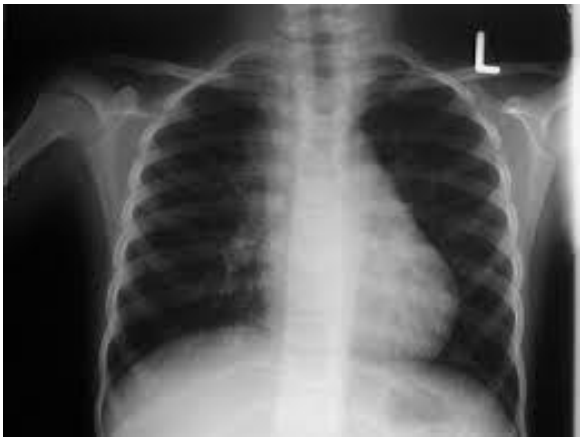
Infection with TB

Primary infection is the first exposure to TB. This usually happens in childhood, and the immune system controls the infection. The person is unaware that they have been exposed to TB. Some bacteria may remain in the glands or scar tissue in the lungs, and can re-activate at a later stage if the person's immunity is depressed. Occasionally, at the time of this first exposure, TB will spread into the blood stream and lungs and cause illness.

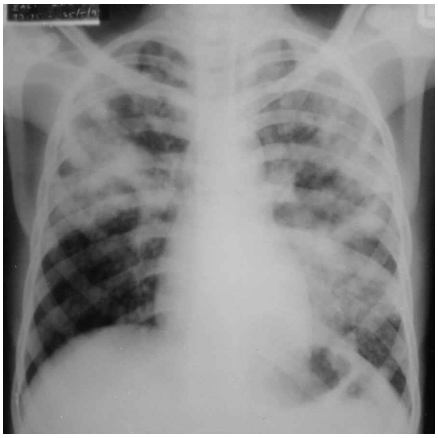
Post-primary TB occurs after re-activation of bacteria from the primary infection or from re-infection from an infectious contact. 80% of TB infection affects the lungs, and is called pulmonary TB. However, TB can affect any part of the body, and is then called extra-pulmonary TB. Pulmonary TB is the infectious form of the disease.

Signs and symptoms of pulmonary TB:

- Coughing for two weeks or more
- Coughing up sputum – a thick liquid the lungs make that can be yellow or green
- Coughing up blood in the sputum
- Chills and fever
- Drenching night sweats
- Weight loss and not feeling hungry
- Problems breathing
- Chest pain
- Feeling tired or weak



A normal chest X-Ray



X-Ray of a person with TB

Extra-Pulmonary TB

- Extra-pulmonary TB is TB that occurs outside of the lungs, in other parts of the body.
- The symptoms of extra-pulmonary TB can also include night sweats, feeling tired, weight loss, not feeling hungry and fevers.
- Extra-pulmonary TB is common in children and people who are HIV-positive.
- Extra-pulmonary TB is often hard to detect because the symptoms are not very easy to spot or pick up with diagnostic tests.

Here are some examples of extra-pulmonary TB and the symptoms they may cause:

Part of the Body	**Symptoms**
Lymph nodes	Large hard glands mainly in the neck. Not painful and may have pus. Inside the chest, glands may block the airways causing wheezing.
Bones and joints	Swelling, pain, tenderness
Brain (meningitis)	Fever, headache, stiff neck, nausea, drowsiness, feeling sleepy, coma
Abdominal cavity	Tiredness, swelling, tenderness, sharp pain, chronic diarrhoea
Spine	Pain, collapsed vertebrae, leg paralysis

TB in Children

Children are at risk of getting TB if they are:

- In close contact with an adult with TB
- Under 5 years of age
- HIV positive
- Malnourished

Young children (under 5 years) tend to get more serious forms of TB, like meningitis and miliary TB. Children can be protected by having BCG vaccination at birth. This does not prevent TB infection, but protects children from the severe forms of TB. Children can also be given INH prophylaxis for 6 months, if they are in close contact with someone with TB or if they are HIV positive.

In any child who has TB it is important to look for people in the household, or close contacts of the child, who may also have TB. All children in the household should be tested for TB. It is also important to exclude HIV infection.

Symptoms in children

The most common symptoms in children are:

- Cough that does not improve after 2 weeks
- Fever that does not settle after 2 weeks
- Unusual tiredness
- Trouble gaining weight

Young children often do not have the usual symptoms of TB, thus it is important to monitor a child's weight gain, which you can do using a Road to Heath Booklet. **Failure to gain weight is a good reason to suspect TB**. Children with TB may also wheeze or have enlarged lymph glands that are not painful. Since children often develop extra-pulmonary TB, you should also be aware of the symptoms of extra-pulmonary TB. These include: swollen lymph glands, meningitis and skin rashes.

TB Meningitis in Children

This is a very serious form of TB that often affects children and HIV-positive adults. If not detected early and treated, this form of TB can develop quickly and have very serious effects like blindness, delayed development or even death.

Signs of TB meningitis:

- **headache**
- **vomiting**
- **convulsions**
- **drowsiness**
- **irritability**
- **neck stiffness**
- **trouble breathing** if going into a coma

Children showing these symptoms need to be treated immediately.

Miliary (disseminated) TB in Children

This occurs when the TB bacilli get into the blood stream and spread all over the body. Signs of miliary TB are high fever and an enlarged spleen. It is more common in children, and can be life threatening.

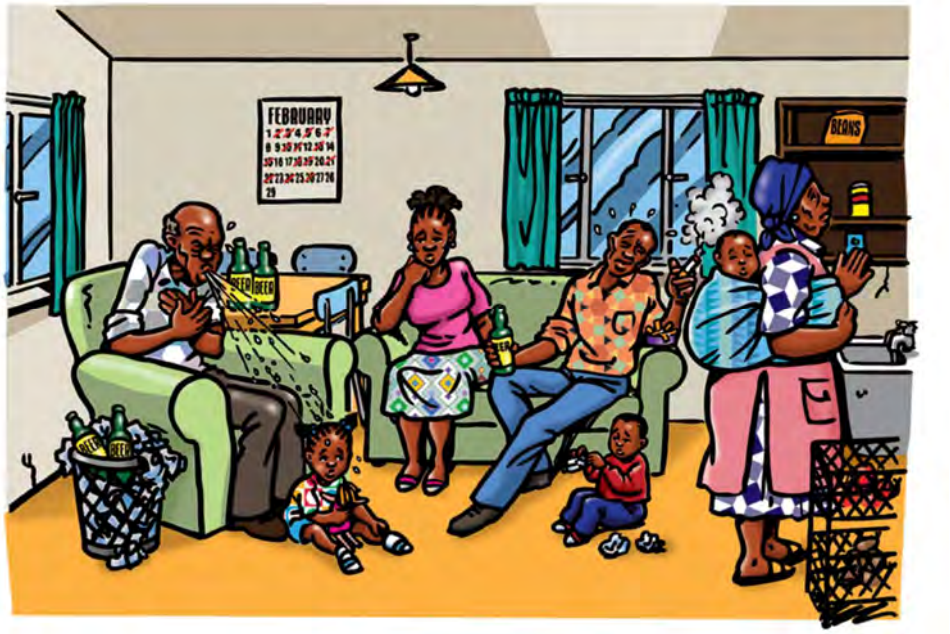
Danger signs in children

These require immediate referral to hospital, as they indicate life-threatening forms of TB:

- Headache, vomiting, drowsiness, neck stiffness, fits (signs of TB meningitis)
- High fever, child very tired and ill
- Swollen abdomen
- Breathlessness and swelling of legs
- Severe wheezing not responding to nebulisation (blockage of wind pipe by swollen glands)
- Sudden onset of bending of the spine and backache (TB of the spine)

Activity: Small Group Discussion 20 minutes

The trainers will guide this session.



SESSION 18: Diagnosing and Treating TB

Time required: 1 hour and 30 minutes

Purpose

- The purpose of this session is for MM's to learn how TB is diagnosed and treated.

Objectives

- At the end of this session, MM will be able to:
  - Understand the importance of getting tested for TB and starting treatment as soon as a diagnosis of TB has been made.
  - Understand what test results are needed before a decision can be made about treatment.
  - Understand the difficulties and importance of adherence to treatment.
  - Know the consequences of not following a full course of treatment.

Materials

- PowerPoint slides
- Board/flipchart and paper
- Markers

Lecture/Discussion: Diagnosing and Treating TB 90 minutes

LECTURE CONTENT: Diagnosing and treating TB

Diagnosing TB

The following methods are used to test for TB:

1. Sputum test (smear microscopy) -This is the most commonly used test available. Patients cough up sputum, and it is analysed to see if it contains TB bacteria. Three samples are taken. If TB bacteria are found, it means the patient has smear-positive TB and must start treatment immediately.

2. TB culture test - TB culture test is the most accurate test for TB, but it takes a long time to get results.
Culture tests should be offered to people who are:

- Smear-negative, but still show signs of TB
- Suspected of having extra-pulmonary TB, if a sample can be collected
- Suspected of having drug-resistant TB

1. GeneXpert test – this is a new test which looks for TB in a sputum sample. It can also tell if the TB is resistant to one of the TB drugs (i.e. if the person has MDR TB). It can give results in 2 days, which is much better than the culture test.

4. Chest X-ray - If you have symptoms of active TB, but are diagnosed smear-negative, you should then have a chest X-ray. Chest X-rays are very important for diagnosing TB in children. They are also useful for patients who have symptoms of TB and who are unable to produce a sputum sample, and for diagnosing extra-pulmonary TB (e.g. pleural or pericardial effusions).

5. Tuberculin skin test – The best TST is the **Mantoux**. A modified form of the TB bacteria is injected into the skin of the forearm. The body will develop a reaction if it has been exposed to TB bacteria, or if you have had a BCG vaccination. It does not tell if you have active TB. The Mantoux is helpful for diagnosing TB in children.

However, a negative Mantoux does not exclude TB.

A negative Mantoux may occur even when there is TB infection, if the patient is unable to mount an immune response due to the following conditions:

- Malnutrition
- HIV infection
- Viral infections - such as measles, chicken pox
- Severe disseminated TB infection

6. Other tests – sometimes a biopsy, a small piece of tissue, will be taken from a part of the body where TB is suspected, e.g. a lymph node. Fluid can also be drained with a needle and syringe and tested for TB.

Diagnosing TB in children

Diagnosing TB in children can be difficult.
All children should be tested for TB if there is someone in the household with TB.
When testing children for TB, the most important tests are the Mantoux and a chest X-ray.
Sometimes, children will have a nasogastric aspirate done to look for TB. A tube is put into the stomach and the fluid drawn out and tested for TB bacilli, as children swallow sputum rather than cough it out.

Sputum test are often negative in children because:

- small children can rarely give good sputum samples
- their TB is extra-pulmonary (not in the lungs)
- the number of bacteria in their body is much less than that in an adult.

The Mantoux test is an injection done into the skin on the forearm. 48-72 hours later (usually 3 days) the child must return to the clinic to measure the skin reaction. A positive result is swelling of 10mm or more, or 5mm or more in an HIV positive child.

Who should be tested for TB?

- A person who has symptoms of TB
- A person who is in close contact with someone who has TB
- All HIV positive people
- All household members, if an adult or child has TB

Treating TB

If the results come back positive or your clinic sister or doctor thinks you have TB based on your symptoms, he or she will tell you to begin treatment immediately. Starting treatment immediately and taking it properly is crucial for your health and survival. If you do not take your medicine correctly and for the full time, you are at risk for getting drug resistant TB which is very difficult to cure and makes you very ill.

There are five important things you must remember to tell your clinic sister or doctor before you start treatment:

1. **You have been treated for TB before -** The treatment for people taking TB drugs for the first time is not the same for people who have already been treated for TB. If you have taken TB drugs before, there is a chance that the TB bacteria in you body have changed and become resistant to those antibiotics. Your treatment will then be different to someone who is being treated for the first time. People who have had TB before usually have to take drugs for a much longer period than people who are being treated for TB for the first time.
2. **You are HIV-positive -** This will help you to be better cared for. If you are diagnosed with TB and don't know your HIV status, you should ask for an HIV test. If you are HIV-positive you should receive cotrimoxazole and have a CD4 test to see if you need ARV's.
3. **You are pregnant -** Tell your doctor if you might be pregnant since some TB drugs can damage unborn babies. The drug Streptomycin can cause deafness in unborn babies.
4. **You are taking oral contraceptives or the birth control pill -** The TB drugs interfere with contraceptives so your doctor may need to adjust the contraceptives while you are taking your TB drugs.
5. **If you are breast feeding –** TB drugs are compatible with breast feeding, and women can safely continue to breast feed. The baby may need to be given INH prophylaxis for 6 months, and the BCG may need to be delayed.

Preparing for treatment

Taking TB drugs is not easy. TB treatment is long and the drugs have side effects that may make you want to stop taking your treatment. If you do not complete your TB treatment, you risk you own life and the lives of people around you. Here are some things you should know to help you to prepare for treatment:

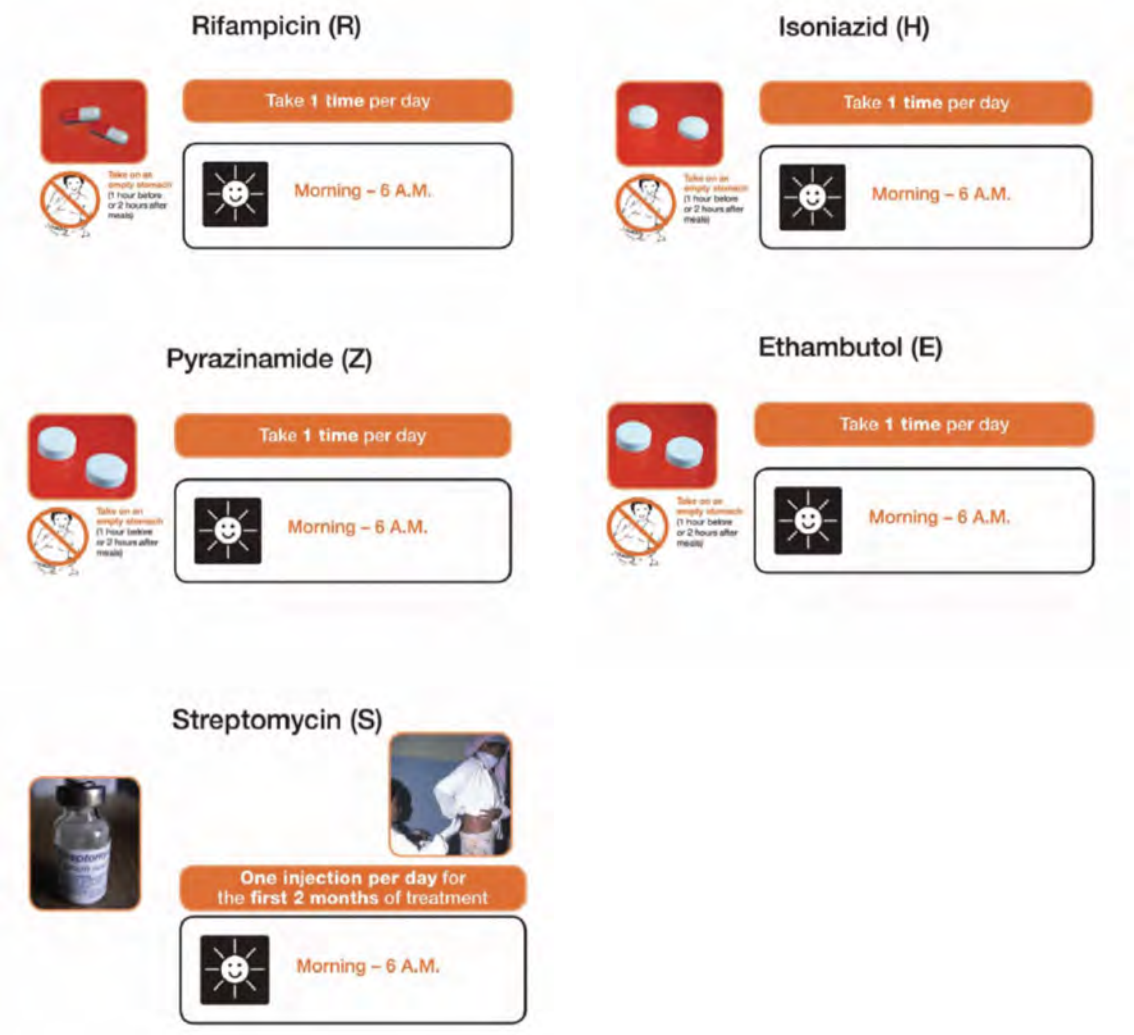
- **Side effects -** All of the TB drugs have side effects. Some side effects, like nausea, are only minor while others, like peripheral neuropathy and hepatitis, can make you very uncomfortable. It is important that you tell your healthcare worker how you are feeling. Sometimes there are other drugs you can take to make the side effects go away.
- **Drug interactions -** If you are taking other medications, like ARV's, they may interact with TB drugs to stop working or to produce more side effects. Again, tell your healthcare worker how you are feeling and make sure he or she knows about all of the medications you are taking, including traditional medicines.
- **Staying healthy -** Like all drugs, TB antibiotics can put a lot of stress on your body. It is important that you do your best to stay healthy. This means eating healthy foods like fruits and vegetables with lots of proteins and vitamins.
- **Alcohol and street drugs -** It is very important that you DO NOT drink alcohol while taking TB drugs. Drinking alcohol while taking TB drugs can make you develop hepatitis and cause liver failure. Street drugs make it difficult to take treatment because when you are high you may forget to take your treatment or just not care.
- **Traditional medicine -** If you start to have symptoms of TB, the decision to consult a traditional healer is your own, but you should also consult a healthcare worker. Many people will talk with a traditional healer first and this often delays the process of diagnosis. The longer you take to be diagnosed by a healthcare worker, the sicker you will become and the more people you will infect.
- **Have support -** TB treatment can be difficult. If you are going to start treatment, talk to someone who has completed TB treatment. They can tell you what to expect and share their experiences. You should also try to find people who can support you through treatment. This is very important.
- **Prophylaxis for family members –** If you have been diagnosed with TB, people close to you like family members and especially children, must be tested for TB as well. All children under 5, and HIV positive people who do

not have active TB should be put on Isoniazid for 6 months to prevent them from getting TB.

TB treatment

The drugs used, and the length of treatment depends on whether the person is being treated for the first time or not, and if they have drug resistant TB.
The minimum length of treatment is **6 months**.

The following drugs are used to treat TB:



There is also a combination tablet called **Rifafour**, which contains Rifampicin, INH, Pyrazinamide and Ethambutol. It is much easier for patients as it is one tablet taken once a day.

Patients need to be monitored during treatment to make sure that they are responding to the TB treatment.

- Sputum is retested after 2 months, 5 months and sometimes 7 months of treatment.
- If the symptoms do not improve, or the repeat sputum smears are positive, cultures will be needed to check for drug resistant TB.

Minor side effects of TB treatment are nausea and abdominal pain, joint pain and burning pain in the feet.
Patients should be warned that Rifampicin causes the urine to become bright orange.
More serious side effects are:

- severe skin rashes
- dizziness
- vomiting
- deafness
- jaundice
- confusion

The Importance of Adherence to Treatment

What is adherence?

Adherence is a word that we are very familiar with from HIV!
It means taking your drugs exactly as they are prescribed:

- taking all doses
- taking treatment regularly
- finishing the full course of treatment

Why do people stop taking treatment?

- They feel better and think they do not need the treatment any longer.
- They are experiencing side effects.
- They cannot get to the clinic to collect their treatment.
- They move away to another area to stay or work and there is no clinic nearby.
- TB treatment is very long. It can be difficult to remain on treatment for many months.
- If they are using alcohol or street drugs, it is difficult to stick to TB treatment.

What happens when people stop taking their TB medicines?
When you do not take your medicines properly, then the TB in your body may become resistant to the medicines. This can make you very ill, and make the TB very difficult to treat.

You may be contagious and be a danger to the people around you.
If you are taking TB treatment, adherence is the best way to protect yourself and the people around you.

Support for patients on TB treatment, and their families, is very important. Mentor mothers can help by providing emotional support, encouragement and giving information when needed.

SESSION 19: Drug Resistant TB (MDR & XDR)

Time required: 45 minutes

Purpose

- The purpose of this session is for MM's to learn how drug resistant TB comes about and about its diagnosis and treatment.

Objectives

- At the end of this session, MM will:
  - Know the two kinds of drug resistant TB.
  - Understand how a person gets drug resistant TB.
  - Understand the critical importance of identifying and treating MDR and XDR correctly.

Materials

- PowerPoint slides
- Board/flipchart and paper
- Markers

Lecture/Discussion: MDR and XDR 45 minutes

LECTURE CONTENT: Drug Resistant TB (MDR & XDR)

What is drug-resistant TB?

Drug resistant tuberculosis means that some of the strongest TB drugs cannot fight the TB bacteria in your body. Drug resistant tuberculosis is a very serious problem in South Africa. It is one of the major reasons TB is such a crisis in this country. We must understand drug-resistant TB so we can get control of this problem and prevent it from becoming worse.

Why does drug resistance happen?

TB becomes resistant to treatment if people do not adhere to their treatment, or if the incorrect treatment is given. As long as poor adherence continues, the problem of drug resistance will only get worse. There is treatment for drug-resistant TB, but this treatment is long and very expensive, which again makes adherence difficult. **Treatment for drug resistant TB is not always successful.**

Forms of drug-resistant TB

There are two forms of drug-resistant TB, Multi-Drug Resistant TB (MDR-TB) and Extensively Drug Resistant TB (XDR-TB). Both are a serious problem in South Africa.

MDR-TB: MDR-TB is a form of TB bacteria that is resistant to the two strongest anti-TB drugs – Isoniazid and Rifampicin. MDR-TB is very difficult to treat.

XDR-TB: XDR-TB is a form of TB bacteria that is resistant to Isoniazid, Rifampicin, **and** other antibiotics used to treat MDR TB. This means that XDR-TB is TB bacteria that cannot be treated with the most powerful first line and second line TB antibiotics. This leaves very few options for effective treatment.

How common is MDR-TB?

In South Africa there are about 15,400 new cases of MDR-TB every year.

How do you get drug resistant -TB?

There are two ways of getting DR-TB.

1. Primary resistance

Just like regular TB, DR-TB gets into the air when someone sick with DR-TB coughs or sneezes and releases droplets filled with DR-TB. When you inhale air filled with DR-TB particles, the bacteria enter your body and you become infected with DR-TB.

2. Acquired or secondary resistance

Acquired resistance occurs when TB drugs are not taken properly, and the TB bacteria in your body mutate and become drug-resistant. Acquired resistance is the result of poor adherence.

Signs and symptoms of DR-TB

DR-TB and regular TB have the same symptoms mentioned above. This makes it difficult for healthcare workers to tell the difference between TB and DR-TB, but there are some other reasons to consider DR-TB.
If you have symptoms of TB, you should suspect MDR-TB if you:

- Have been around someone with DR-TB;
- Have been treated for TB before and did not take your treatment properly;
- Taking regular treatment for first time TB and do not start to feel better after one month;
- Taking first-line treatment and do not become smear-negative after two to three months

Diagnosing MDR-TB and XDR-TB

DR-TB is diagnosed by culture tests or the GeneXpert test. Culture tests take anywhere from 6-16 weeks to give results. This is a very long time, especially if you have a weak immune system. GeneXpert takes 2 days, but is not available in all areas yet.
If you have any of the reasons to suspect drug resistant TB you should tell your healthcare worker right away.

Curing MDR is very difficult

MDR can be cured, but the treatment regimen is very long and very expensive. Treating MDR-TB costs 25 times the amount it costs to treat regular TB. Treating MDR-TB requires several drugs that are less effective than the first line medication and much more toxic, which means there are more side effects. The regimen used to treat MDR-TB is called the second line regimen. Ideally, all patients with MDR-TB should be admitted to hospital for the intensive phase of treatment.

Treating MDR

Adhering to treatment is essential! Not adhering to the regimen means:

- More sickness and death;
- More people getting MDR-TB;
- Lots of money spent on expensive antibiotics and tests;
- XDR and more resistant TB

Treating XDR-TB is very difficult

XDR-TB can be cured in up to 30% of cases. That means **7 out of 10 cases cannot be cured**. The WHO reports that countries with good TB control programmes have been able to cure six out of every ten XDR-TB cases. But six out of ten is not ten out of ten, which means that even good TB programmes are not always successful. This is because XDR is almost impossible to cure in places with lots of HIV and little resources. There is no standard treatment regimen for XDR-TB. How XDR is treated depends on which TB antibiotics the TB bacteria in your body are resistant to. This means if you suspect XDR-TB, drug susceptibility tests need to be done right away. Whether treatment works depends on:

- The antibiotics the TB is resistant to;
- If you are HIV-positive;
- The severity of the disease

XDR-TB is very difficult to cure in people who are HIV-positive.

Isolation

If you have XDR-TB, you are carrying a deadly disease that is transmitted through the air and is basically not treatable. This makes you a very serious danger to yourself and your community. To prevent you from spreading XDR-TB to your community it is likely that your clinic or TB hospital will isolate you or put you in quarantine. You will probably be kept in hospital for at least 6 months. While in quarantine the hospital will be able to monitor your treatment and hopefully stop you from spreading XDR-TB to anyone else.

SESSION 20: TB in Home Visits

Time required: 1 hour

Purpose

- The purpose of this session is to prepare MM for how TB is to be handled in home visit situations.

Objectives

- At the end of this session MM will:
  - Know how to approach TB during home visits.
  - Know what to say to mothers depending on the different circumstances of the household, and on how much the mother being visited knows or does not know about TB.

Materials

- Powerpoint slides
- Board/flipchart and paper
- Markers
- Philani Mentor Mother Training DVD

Discussion: TB in Home Visits — 20 minutes

TB IN HOME VISITS

Ask if the pregnant mother or anyone else in the household is on TB treatment.

<u>If the mother is on TB treatment</u>

- Find out if she has told the doctor or sister at the TB clinic that she is pregnant to make sure the treatment she is taking does not hurt her baby.
- Ask about side effects.
- Discuss importance of adherence and encourage the mother.
- If the treatment will continue after the birth of the child discuss feeding options, and explain that the baby may need INH prophylaxis.
- Ask if she has tested for HIV, and encourage her to do so if she hasn't.

<u>If someone else in the household is on TB treatment</u>,

- Find out if the mother and other family members (especially children) have been tested for TB and put onto prophylactic TB treatment.

<u>If the mother is HIV positive and has not tested for TB</u>

- Encourage her to do so, especially if her CD4 count is low.

<u>If the mother is HIV positive and on TB treatment</u>,

- Find out how much the mother knows about the relationship between HIV and TB and fill in any gaps in knowledge.
- Ask about CD4 counts and plans about ARV treatment.
- Explain interaction between TB drugs and ARV's.

<u>If no one in the household is on TB treatment</u>

- Find out what the mother knows about TB, ask if she or anyone else in the household has symptoms of TB like cough, weight loss, night sweats etc., and refer for TB screening if necessary.

DVD Session: TB in Home Visits — 20 minutes

The trainers will guide this session.

Role Plays: Tuberculosis 20 minutes

Scenarios

Role Play 1

MM: You are doing a follow-up visit to a mother who is in early pregnancy. She also has TB and is on treatment at the clinic. She is very worried about her 4 year old child who is sick. When you enter the home, you see the sick child, who looks thin and small.

Dunyiswa: You are 3 months pregnant. You have also been diagnosed with TB recently, and have started TB treatment at the clinic. The treatment was started before you knew you were pregnant.
You are also worried about your 4 year old child who is sick. He has been coughing for 2 weeks, and is very sweaty and hot at night. He has no appetite.

Role Play 2

MM: In this role play, you want to discuss TB with a mother. (She does not have TB.) Find out how much she knows about TB. Talk to her about the symptoms of TB; how to protect children from getting TB; and the importance of taking treatment correctly, and what happens if people do not take their TB treatment.

Nwabisa: After visiting for a while, your mentor mother starts a discussion about TB. You know about TB because you sister's husband had TB a few years ago. You remember that he had a bad cough that wouldn't go away; night sweats; and he lost a lot of weight. He was ill for a long time before he got treatment. But, he eventually got better. You know he was cured because he had to test his sputum when the treatment was finished, to make sure that the TB was gone.

SECTION I
LABOUR AND DELIVERY

SESSION 21: The Process of Labour and Delivery

Time required: 30 minutes

Purpose

- The purpose of this session is to explain the process of normal labour. This will help the MM in identifying danger signs during labour and delivery and assisting the mother to get urgent care.

Objectives

- At the end of the session the MM will be able to:
  - Explain how one knows when labour starts.
  - Explain in general terms what happens during labour and delivery.

Materials

- Illustrations of pregnancy and the birth process (MM Manuals)
- Video

Presentation and discussion: Labour and delivery 20 minutes

Three Stages of Labour

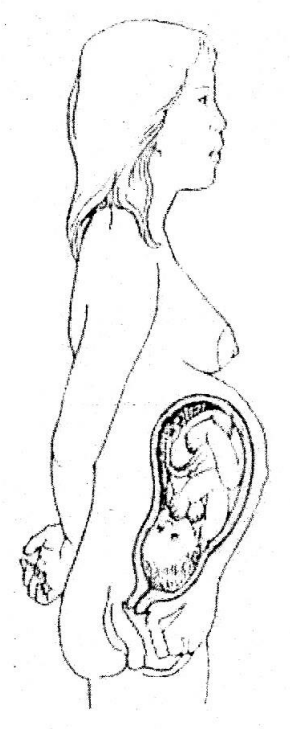
1st Stage: Starts from the beginning of regular pains until the mouth of the womb is fully open. This happens inside the mother's body and cannot be seen.
The bag of waters also breaks. The fluid is usually clear but may be yellow or green or red. *This first part of labour usually lasts about 8 to 12 hours*.

2nd Stage: Contractions push the baby out of the womb, resulting in the delivery of the baby. *This second part of labour usually lasts about 1 hour*.

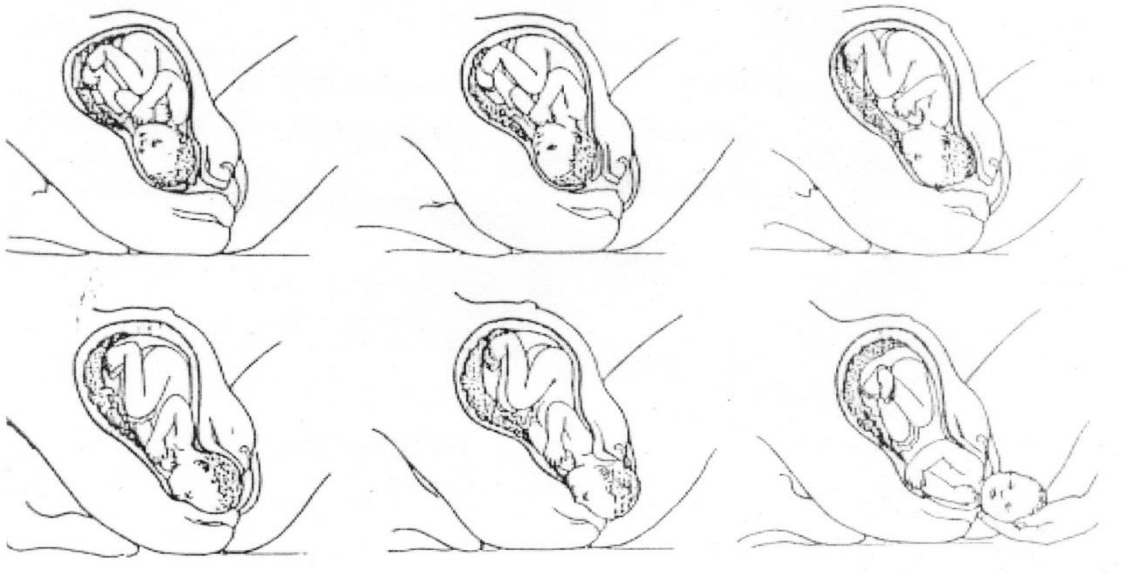
3rd Stage: The contractions cause the placenta to peel off. This is called delivery of the placenta. *This third part of labour usually lasts about 20 to 30 minutes.*

Illustrations of Pregnancy and the Birth Process
From *The Childbirth Picture Book* by Fran Hosken and Marca Williams, Women's International Network News

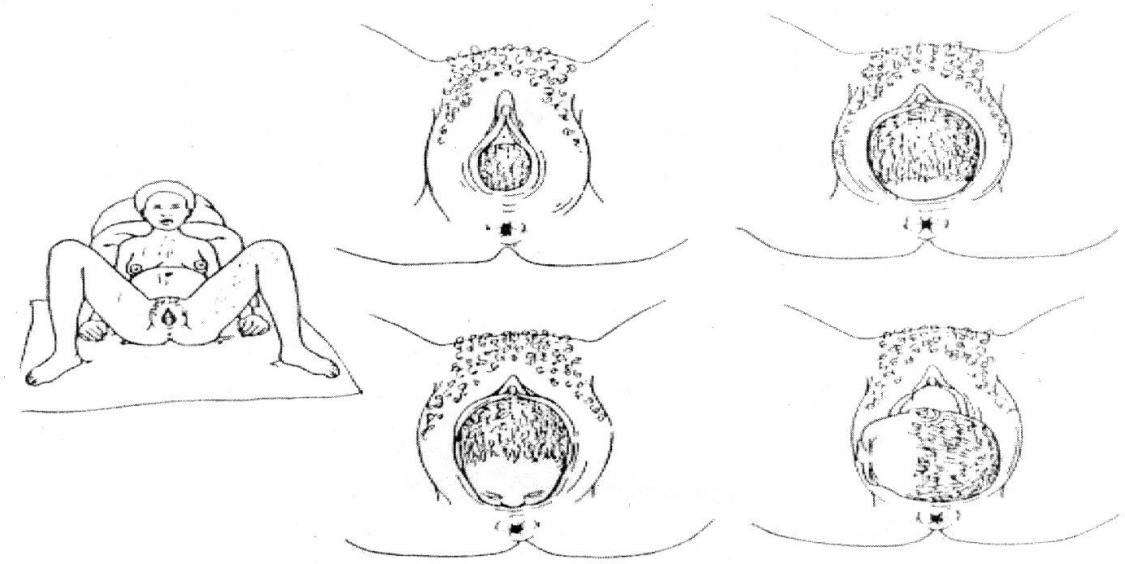
Pregnant Woman Full Term



Process of delivery



How the baby delivers in normal (head) position



For the mother

- 2 large pack of sanitary towels
- 1 roll of toilet paper
- 1 face cloth
- Toothbrush
- Toothpaste
- 1 towel
- 1 bar of soap
- 3 to 4 pairs of panties
- Something to eat and drink
- Pajama's
- Something to eat and drink
- Maternity Case Record
- ARV medication (if HIV positive)

For the baby

- 1 pack of disposable nappies
- 1 face cloth
- 1 bar of baby soap
- 2 baby blankets
- Baby clothes
- Cotton wool

Discussion: Immediate care of a newborn — 5 minutes

If the baby is breathing normally, give the baby to the mother immediately. Put the baby on the mothers' bare chest (skin to skin) and wrap them both in a blanket to keep warm. Ideally breastfeeding should start within the first 30 minutes after delivery. Mother and baby should not be separated from each other unless there is a medical reason. This is known as "rooming in".

Presentation and discussion: Danger signs in labour — 5 minutes

For the mother:

- Excessive bleeding
- Fits or convulsions
- Prolonged Labour
- Retained Placenta
- Baby's hand, foot or cord come out before the head

For the baby:

- Does not breathe or cry at delivery (or weak cry)
- Born very small

SECTION J
INFANT FEEDING

SESSION 22: Your Own Beliefs about Feeding

Time required: 1 hour

Purpose

- The purpose of this session is for MM's to explore their own knowledge and beliefs about breastfeeding and the way that they communicate with others about the issue.

Objectives

- At the end of this session MM's will:
  - Understand their own beliefs about infant feeding.
  - Be able to relate their own beliefs to broader community traditions and beliefs.
  - Be able to openly speak about their own beliefs about infant feeding.
  - Be willing and open to hear the facts about infant feeding so that they can save newborn lives.

Material

- MM manuals

Individual Reflection: Your beliefs about breastfeeding 30 minutes

- Before you can assist women to exclusively breastfeed you need to examine your own beliefs about breastfeeding and address your own concerns.
- Listen to the mother and learn about her concerns before you try to help her.
- A mother will only exclusively breastfeed is she has the confidence to do so and if she believes that this is the right thing to do.

Exclusive breastfeeding

Exclusive breastfeeding means that the baby is fed only breast milk – either directly from the breast or expressed breast milk.
Exclusive breastfeeding is recommended during the first 6 months of life.

Medicine, multivitamin drops or syrup prescribed by a nurse or doctor is allowed. Sugar salt solution given for diarrhoea is allowed.

The baby does not receive:

- water
- other drinks (e.g. juice, tea)
- solid or semi-solid foods
- traditional medicines
- remedies bought at the pharmacy without a prescription from the doctor or nurse.

Exclusive breastfeeding is better than mixed feeding, as it reduces the rate of infections in the baby.

You will learn more about how HIV-negative and HIV-positive women should feed their babies later in this chapter.

Brainstorming activity: Beliefs about breastfeeding 30 minutes

The trainers will guide this session.

SESSION 23: Communication Skills and Counselling to Support Appropriate and Safe Infant and Young Child Feeding

Time required: 2 hours 30 minutes

Purpose

- The purpose of this session is to familiarise the participants with the listening, learning and confidence building skills that can be used to support appropriate and safe infant feeding.

Objectives

- At the end of this session MM's will be able to:
  - Understand the counselling skills that should be used to support women.
  - Use these skills to counsel women so that they feed their children appropriately and safely.

Material

- MM manuals

Key points to remember during this session:

- Good communication and counselling skills are essential to build a mother's confidence.
- Listen to the mother and learn about her concerns before you try to help her.
- A mother will only exclusively breastfeed if she has the confidence to do so and if she believes that this is the right thing to do.
- Counselling and support for a woman's infant feeding choice is one of a MM's main responsibilities.

Activity: Your communication skills 30 minutes

The trainers will guide this session.

Are you married? **Yes/No**

Have you ever been married? **Yes/No**

Do you have a partner? **Yes/No**

What is your main activity during the day?

How many times have you been pregnant?

How many live children have you given birth to?

How many of your children are alive today?

How do you want to feed your baby during the next 4-6 weeks?

Are you planning to give any other liquids (such as tea, water, juice or gripe water to your baby?) **Yes/No**

During pregnancy did you ever discuss with anyone at the clinic what the best way for you to feed your baby is? **Yes/No**

Have you ever been tested for HIV? **Yes/No**

Have you ever discussed your HIV status with anyone? **Yes/No**

What is the main source of water that you use for drinking?

How long does it take you to go to your nearest hospital? **? hours**

Have you given your baby any breast milk since he/she was born? **Yes/No**

In the past 4 days have you given the baby any other liquids? **Yes/No**
What liquids did you give him/her?

Discussion: Communication skills 30 minutes

The trainers will guide the discussion.

Discussion: Counselling 25 minutes

Counselling means more than advising.
Counselling is a helping relationship. When you counsel a mother, you

- listen to her,
- help her to understand the choices that she has to make,
- help her to decide what to do, and
- help her to develop confidence to carry out her decisions.

Counselling is helping people identify the small steps they can take to change their behaviour.

- As a Mentor Mother you should NOT make a decision for a woman, or push her towards a particular course of action.
- As a Mentor Mother you need to accept that a woman may find it difficult to implement her feeding decision. She may have many concerns and may need to discuss issues with other family members. You will need to support and assist women through this process.

IMPORTANT: Remember that as a Mentor Mother you cannot take away all a woman's worries, and you are not responsible for her decisions. You are supporting her to implement her decision.

The principles of counselling must always be observed during your visits.
- Confidentiality,
- Acceptance of the mother,
- Individualisation of her circumstance,
- Non-judgmental attitude,
- Control of your own involvement

Role-play: Counselling and Communication skills 40 minutes

Scenario 1:

Mother: You are 24 years old. This is your first baby. He is 1 month old. You are HIV negative and have been breastfeeding your baby. You are worried that your baby is crying too much. Your mother-in-law says that the baby is hungry and that you should start giving him some weak porridge. You are confused and want to speak to the Mentor Mother about this. You are upset and start crying.

Mentor Mother: This is your first day at work, so you are a little nervous and don't make eye contact. The mother sits opposite you. There is a table in between the 2 of you. You are surprised when she starts crying. You sit still, or move backwards. Half way through the session your cellphone rings, you answer it and then rush to leave the house.

- Helpful non-verbal communication:
    - Keep your head level
    - Use appropriate eye contact
    - Pay attention
    - Remove barriers (e.g. a table between you and the mother)
    - Take time
    - Touch appropriately
- Ask open questions
- Use responses and gestures, which show interest

(e.g. nod, smile, say "Aha" or "Mmm")

- Reflect back what the mother says
- Empathise – show that you understand how she feels
- Avoid judging words

REMEMBER: A mother will only exclusively breastfeed is she has the confidence to do so and if she believes that this is the right thing to do. The counselling and support you give will build the mother's confidence.

Building confidence and giving support

- Accept what a mother thinks and feels
- Recognise and praise what a mother and baby are doing right
- Give practical help
- Give a little, relevant information
- Use simple language
- Make one or two suggestions, not commands

Scenario 2:

Mentor mother:
Replay the same role play, but this time sit, next to the mother. Try to use the counselling skills you have learnt. Show the mother affection when she starts crying. When you cell phone rings you switch it off and continue listening to the mothers concerns. Ask if the mother would like you to speak with her and her mother-in-law.

Activity: Practising Counselling Skills 1 hour

1. **Open ended questions**

Questions 1-4 are “closed” which means that it is easy to answer 'yes' or 'no'. Rewrite a new 'open' question, which requires the mother to tell you more.

'Closed question'	'Open question'
Do you breastfeed your baby?	How are you feeding you baby?
To answer:	
1. Does your baby sleep with you?	
2. Are you often away from your baby?	
3. Does Sara eat porridge?	
4. Do you give fruit to your child often?	

2. Sometimes it is helpful to ‘**reflect back**’ what a mother has said. It may encourage her to explain further. Look at the following statements. Statements 1-3 are some things that mothers might tell you. Underneath are three responses. Choose the response that 'reflects back' what the statement says. For statement 4, make up your own response which 'reflects back' what the mother says.

Example:
My mother says that I don't have enough milk.
a) Do you think you have enough milk?
b) Why don’t you have enough milk?
c) She says that you have a low milk supply?

Minentle does not like to eat thick porridge.
a) Minentle does not seem to enjoy thick porridge?
b) What foods have you tried?
c) It is good to give Minentle thick foods as he is over six months old.

He doesn't seem to want to suckle from me.
a) Has he had any bottle feeds?
b) How long has he been refusing?
c) He seems to be refusing to suckle?

I tried feeding him a bottle, but he spat it out.
a) Why did you try using a bottle?
b) He refused to suck from a bottle?
c) Have you tried to use a cup?

My husband says our baby is old enough to stop breastfeeding now.

3. Statements 1-4 are things that mothers might say. Underneath the statements are three responses that you might make. Underline the words in the mother's statement which shows something about how she feels. Choose the response that is most **empathetic.**

For stories 5 and 6 underline the feeling words, then make up your own empathising response.

Empathising – to show that you understand how she feels.

Example:
My baby wants to feed so often at night that I am <u>exhausted</u>.
a. How many times does he feed altogether?
b. Does he wake up every night?
c. You are really tired with the night feeding.

Jabu has not been eating well for the past week. I am very worried about him.
a. You are anxious because Jabu is not eating?
b. What did Jabu eat yesterday?
c. Children often have times when they do not eat well.

My breast milk looks so thin – I am afraid it is not good.
a. That is the foremilk – it always looks rather watery.
b. You are worried about how your breast milk looks?
c. Well, how much does the baby weigh?

I feel there is no milk in my breasts, and my baby is a day old already.
a. You are upset because your breast milk has not come in yet.
b. Has he started suckling yet?
c. It always takes a few days for breast milk to come in.

I am anxious that if I breastfeed I will pass HIV on to my baby.
a. I can see you are worried about breastfeeding your baby.
b. Would you like me to explain to you how the HIV virus is passed from mothers to babies?
c. What have you heard about other options for feeding your baby?

Andiswa brings Sinovuyo to see you. He is nine months old. Andiswa is worried. She says, “Sinovuyo is still breastfeeding and I feed him three meals a day, but I am so upset, he still looks so thin”.

What would you say to Andiswa to empathise with how she feels?

You visit with Abongile. She is pregnant with her first baby and has found out that she has HIV. She says, “I am so frightened that my mother-in-law might find out”.

What would you say to Abongile to empathise with how she feels?

4. **Using non-judgemental words**

Sometimes, we use words which can make a mother feel that we are judging her. All the words in this table can be "judging words".

JUDGING WORDS			
Well	Normal	Enough	Problem
Good Bad Badly	Correct Proper Right Wrong	Adequate Inadequate Satisfied Plenty of Sufficient	Fail Failure Succeed Success

Fill in the table below. Look at the 'judging word' and find a similar word in your language. Then, try to rewrite the question in a non-judging way.

USING AND AVOIDING JUDGING WORDS			
English	Local language	Judging question	Non-judging question
Well		Doe she suckle well?	
Normal		Are his stools normal?	
Enough		Is he gaining enough weight?	
Problem		Do you have any problems breastfeeding?	

SESSION 24: The Importance of Breastfeeding and the Composition of Breast milk

Time required: 2 hours

Purpose

- The purpose of this session is for participants to understand the importance of breastfeeding and the composition of breast milk.

Objectives

- At the end of this session MM's will:
  - Understand the importance of breastfeeding.
  - Know the composition of breast milk.
  - Understand the risks of not breastfeeding.

Material

- PowerPoint slides
- MM manuals

- Breast milk alone has all that a baby needs to grow during the first 6 months of life.
- Breast milk protects a baby against infection.
- Exclusive breastfeeding has many more benefits than mixed feeding or formula feeding.

LECTURE CONTENT: Breastfeeding 2 hours

Why is breastfeeding important?
Write down the responses.

Exclusive breastfeeding has been identified as the single most effective way of saving the lives of young children in developing countries.

Write the word BREASTFEEDING vertically on a flip chart. Ask participants to use each letter to think of an **advantage of breastfeeding**.

e.g.
B – best for baby
R – reduces illness
E – easy to digest
A - antibodies
S - saves lives
T – temperature is right
F - free
E - emotional bonding
E – environmentally friendly
D – delays pregnancy
I – iron and vitamins
N - nutrients
G – good growth of baby

There are many advantages to breastfeeding:

- Breast milk provides ideal nutrition for the baby.
- Breastfeeding contains antibodies that protect against many infections.
- Breastfeeding provides closeness and contact between the mother and her baby that helps psychological development.
- Breast milk is always available! It is convenient and requires no preparation.

- Breastfeeding is free. The family will not have to spend money on formula milk and fuel, leaving money to buy food for other members of the family.

Advantages of breastfeeding for the mother:

- Early initiation of breastfeeding (soon after delivery) reduces post-delivery bleeding.
- Helps the womb to return to pre-pregnancy position.
- Helps to the mother lose the pregnancy weight.
- Breastfeeding delays the return of mothers' fertility helping to space the next pregnancy.
- She is less likely to become anaemic after childbirth.
- She is less likely to develop cancer of the ovary, uterus and breast.
- She also has a lower risk of developing high blood pressure, diabetes and heart disease.

Breast milk is called a "**living fluid**". Ask participants what they think this means. Explain that the composition of breast milk is not always the same.
It varies:

- according to the age of the baby
- from the beginning to the end of a feed
- between feeds and at different times of the day.
- when the mother is exposed to infections (antibodies are made and protect the baby)
- if the weather is hot, the breast milk will contain more water for the baby's needs.

Breast milk has all that a baby needs to grow and develop during the first 6 months of life.

Breast milk contains:

Fat	Provides energy for growth. Needed for a baby's growing brain and eyes, and for healthy blood vessels
Protein	Building blocks for growth. Human protein is very easy for babies to digest. Anti-infective proteins help to protect a baby against infection.
Lactose	A sugar that provides energy for growth.
Lipase	Helps digest fat (not present in animal milks or formula). The fat in breast milk is more completely digested and better used by a baby's body than the fat in cow's milk or formula.
Vitamins	Contains plenty of vitamin A, B and C.
Iron	Helps the blood carry oxygen. More easily absorbed in breast milk. Baby is protected from iron deficiency anaemia until at least 6 months of age.

Formula milks are made from a variety of products, including animal milks (such as cow's milk), soybean, and vegetable oils. They are less perfect for babies and do not contain certain important substances found in breast milk.

How breast milk protects babies against infections?

- Breast milk is not just a food for babies. It is a living fluid. It protects babies against infections.
- For the first year or so of life, a baby's immune system is not fully developed, and cannot fight infections so a baby needs to be protected by his mother.
- Breast milk contains anti-infective proteins, which help to protect a baby against infection. Breast milk also contains antibodies against infections, which the mother has had in the past.
- Research has shown that breast milk protects against **diarrhoea, ear infections, meningitis and chest infections**.
- The protective effect of exclusive breastfeeding is decreased when other fluids/ feeds are added to the baby's diet.

- Artificial feeds (formula milk) do not contain living substances (antibodies and anti-infective proteins) and so provides much less protection against infection.
- A baby should not be separated from his mother when she has an infection or when the baby is sick, because her breast milk protects him against the infection.

What colostrum is?

- Colostrum is the special breast milk that women produce in the first few days after delivery.
- It is thick and yellowish in colour
- Colostrum contains more protein than later milk.

Read the following 3 statements about colostrum. Ask participants their responses to these statements, and allow 5 minutes for discussion.

1. Colostrum is the best part of the mother's milk
2. Colostrum is not good for the baby and should be discarded
3. Colostrum is the same as milk that comes later on.

Ask participants what the **common beliefs about colostrum in their community are?**

- Colostrum is very good for the baby. It should not be thrown away.
- Colostrum is the baby's first immunisation.
- Colostrum contains more antibodies and anti-infective proteins than mature milk.
- Colostrum has a mild cleansing effect. It helps to clear the baby's gut of meconium (the first rather dark stools). This helps to prevent jaundice (yellowness).
- Colostrum contains substances called growth factors, which help a baby's immature intestine to develop after birth. This helps to prevent the baby from developing allergies and intolerance to other foods.
- Colostrum is rich in vitamin A which helps to reduce the severity of any infections the baby might have.
- Colostrum is ready in the breasts when a baby is born. It is all that babies need before the mature milk comes in.

Babies should not be given any drinks or foods before they start breastfeeding.

After a few days, colostrum changes into mature milk. There is a larger amount of milk, and the breasts feel full, hard and heavy. Some people call this the milk `coming in'.

Mature milk

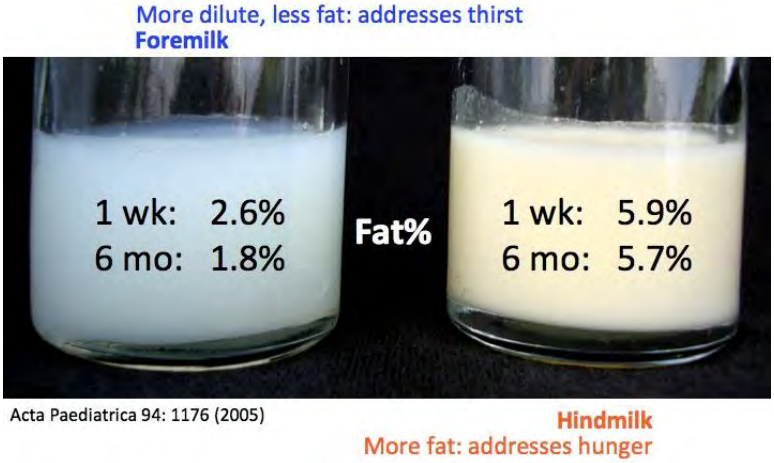
There are two types of mature milk: **foremilk** and **hindmilk.**

Foremilk:

- bluish milk that is produced early in a feed
- produced in larger amounts
- provides plenty of protein, lactose, and other nutrients.
- contains all the water that the baby needs. Babies do not need other drinks of water before they are 6 months old, even in a hot climate. If they satisfy their thirst on water supplements, they may take less breast milk.

Hindmilk:

- the whiter milk that is produced later in a feed
- contains more fat than foremilk which makes it looks whiter
- provides more energy and makes the baby full.



It is important not to take a baby off a breast too quickly. He should be allowed to continue until he has had all that he wants, so that he gets plenty of fat-rich hindmilk.

Mothers sometimes worry that their milk is `too thin'. This is because foremilk is clear or bluish in colour. It is important for a baby to have both foremilk and hindmilk to get a complete `meal' and all the water that he needs.

What are the disadvantages of artificial feeding?

Disadvantages of artificial feeding:

- A baby who does not receive any breast milk has a higher risk of becoming ill with diarrhoea, respiratory, ear, and other infections.
- Diarrhoea may become persistent if babies are intolerant of animal milk.
- He is also more likely to develop allergic conditions such as eczema and asthma.
- A baby receiving formula milk (no breast milk at all) is more likely to die from infections and malnutrition than a breastfed baby.
- He may become malnourished, because he gets too few feeds, or because the feeds are not measured correctly.
- He is more likely to suffer from vitamin A deficiency.
- The risk of some chronic diseases in the child, such as diabetes, is also increased.
- Formula fed babies have a higher risk of obesity in later life.
- Bottle feeding may interfere with bonding.
- There is a lot of work involved in washing and sterilising bottles, and preparing bottles.
- Formula is expensive.

SESSION 25: Helping a Mother Position and Attach her Baby for Breastfeeding

Time required: 1 hour and 15 minutes

Purpose

- The purpose of this session is to give participants the skills so that they can help a mother position and attach the baby for breastfeeding.

Objectives

- At the end of this session MM's should be able to:
  - Help a mother position herself as she puts the baby to the breast.
  - Help a woman to attach her baby correctly to the breast.
  - Identify poor attachment.

Material

- PowerPoint slides
- MM manuals

Lecture/Discussion: Positioning a baby for breastfeeding

30 minutes

- Always observe a mother breastfeeding before you try to help her position and attach her baby.
- Take time to see what she does so that you can understand her situation clearly.
- Good positioning ensures that the mother is comfortable and the baby breastfeeds well. Breast milk has all that a baby needs to grow and develop during the first 6 months of life.

Many mothers and babies are able to breastfeed easily. But some need help. There are some things that a mother and baby have to learn:

- A mother has to learn how to position her baby, so that he can attach well.
- A baby has to learn how to take the breast into his mouth to suckle effectively.

Different positions that can be used for breastfeeding

There are many different positions that the mother can use when breastfeeding. In any position, it is important for:

- the baby to take enough breast tissue into his mouth so that he can suckle effectively.
- the mother to be comfortable, with her back supported. If she is sitting up, it is helpful to have pillows supporting her arm, so that she does not lean forward.

Look at the pictures below so that you learn about some of these positions.

a) Cradle position

b) Cross-cradle position

c) Football or underarm position

d) Lying down position

- The football position is useful for mothers who have a forceful flow of milk; and mothers who have twins.

- The Football and lying down positions are both useful for mothers who have had a Caesarian delivery, as it removes pressure from the wound.

How to help a mother to position her baby

Greet the mother and ask how breastfeeding is going.
Ask the mother to show you how she breastfeeds.
Assess a breastfeed.
Explain what might help, and ask if she would like you to show her.
Make sure that she is comfortable and relaxed.
Sit yourself down in a comfortable position.
Explain how to position her baby, and show her if necessary.
The four key points of positioning are to hold the baby:

- head and body straight; facing the mother's breast
- his nose facing her nipple
- his body close to her body (tummy to tummy)
- his whole body supported, not just his neck and shoulders

Lecture/Discussion: Positioning a baby for breastfeeding
30 minutes

When a baby is well attached, he removes breast milk easily, and it is called effective suckling.

There are three main reflexes which happen automatically without the baby having to learn them:

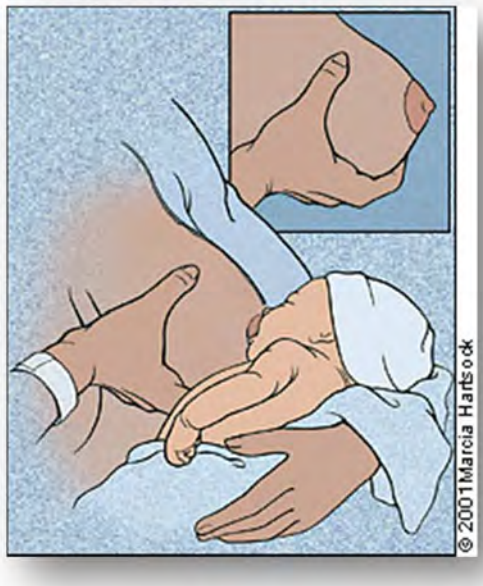
Rooting reflex	When something touches a baby's lips or cheek, he opens his mouth and may turn his head to find it. He puts his tongue down and forward.
Sucking reflex	When something touches a baby's palate, he starts to suck.
Swallowing reflex	When his mouth fills with milk, he swallows.

Offering the breast

Show her how to support her breast (C-hold):

- her fingers against her chest wall below her breast
- her first finger supporting the breast
- her thumb above

Her fingers should not be too near the nipple.



Explain or show her how to help the baby to attach:

- touch her baby's lips with her nipple
- wait until her baby's mouth is wide open
- move her baby quickly onto her breast,
- aim his lower lip below the nipple

Notice how she responds and ask her how her baby's suckling feels.

Look for signs of good attachment.

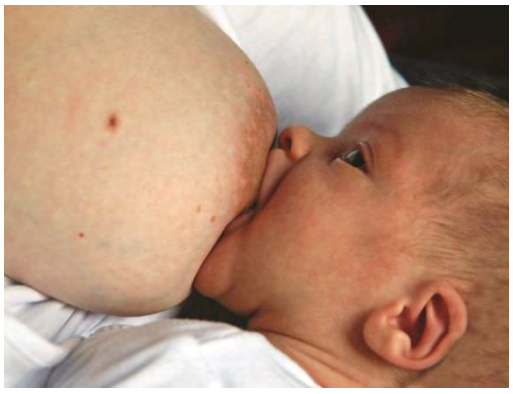
Attaching baby to the breast

- Good attachment prevents sore nipples or cracked nipples and increases milk production.
- It is important for the baby to be well attached to the breast for effective suckling to take place.

Mentor mothers need to be able to identify good and poor attachment when helping mothers to successfully initiate and sustain exclusive breastfeeding.

Rooting reflex – baby opens mouth wide

Attachment: What you see from the outside



Picture 1: Good attachment

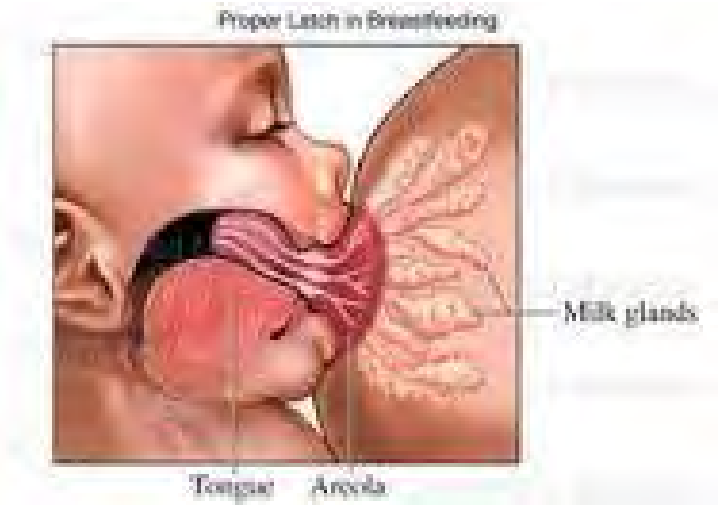
Picture 2: Poor attachment

What differences do you see between pictures 1 and 2?

Picture 1	**Picture 2**
The baby's chin touches the breast.	The baby's chin does not touch the breast.
His mouth is wide open.	His mouth is not wide open, and it points forwards.
His lower lip is turned outwards.	His lower lip is not turned outwards.
You can see more of the areola above his mouth and less below. This shows that he is reaching with his tongue under the milk ducts to press out the milk.	You can see the same amount of areola above and below his mouth, which shows that he is not reaching the milk ducts.

Make sure that participants understand and see the differences between pictures 1 and 2.

Attachment: What happens on the inside



The baby has the nipple well inside his mouth.

Show that the milk ducts are situated under the areola (they collect milk from the milk glands). The baby presses the milk ducts with his tongue, to release the milk.

If a baby is well attached, you also notice effective suckling – that is, slow deep sucks, sometimes pausing; and you may hear swallowing.

Always assess and observe a breastfeed, especially on a newborn baby, to observe attachment.

Poor attachment

- Can make it seem as though a mother is not producing enough milk. In other words she has an apparent poor milk supply. Then, if the situation continues, her breasts may really make less milk.
- Can cause sore or cracked nipples.

Common mistakes that arise when breastfeeding

Holding the baby incorrectly	• too high (sitting with knees too high) • too low (with the baby unsupported, so mother has to lean forward) • too far to one side (putting a small baby too far out in the 'crook' of the arm, instead of the forearm)
Offering the breast incorrectly	• holding the breast with fingers and thumb too close to the areola; • pinching the nipple or areola between your thumb and fingers, and trying to push the nipple into the baby's mouth; • holding the breast in the 'scissors' or 'cigarette' hold.
Holding the breast back from the baby's nose with a finger	• This is not necessary, and can pull the nipple out of the baby's mouth. A baby can breathe well without the breast being held back. • If the mother is worried that the baby is too close to the breast, she can push the baby's buttocks towards her to free the nose.

Practical tips:

- Always observe a mother breastfeeding before you try to help her and give help to a mother only if she has difficulties.
- If the baby is suckling effectively and the mother is comfortable, there is no need to change anything. Some mothers and babies are comfortable in positions that would make breastfeeding difficult.
- Help a mother position her own baby. It does not help if you can get a baby to suckle if the mother will not be able to do it herself.
- Be careful not to 'take over' from her and explain what you want her to do.
- If possible, demonstrate on your own body to show her what you mean.

Group discussion: What causes poor attachment 15 minutes

Why does the use of a feeding bottle cause poor attachment?

Answer:

What support does the mother need to latch a baby correctly? Why would a lack of skilled support cause poor attachment?

Answer:

SESSION 26: How to Assess a Breastfeed

Time required: 1 hour and 45 minutes

Purpose

- The purpose of this session is to teach participants how to effectively assess a breastfeed, and support a mother who is having problems breastfeeding.

Objectives

- At the end of this session MM's should be able to:
  - How to observe and assess a breastfeed.
  - How to assist a mother who is having difficulty breastfeeding.

Material

- PowerPoint slides
- MM manuals

Group discussion: How to Assess a Breastfeed 30 minutes

How to Assess a Breastfeed
(a) Observe the baby.
(b) Observe how baby responds.
(c) Observe how the mother puts her baby on her breast?
(d) Observe how the mother holds her breast during a feed?
(e) Does the baby look well attached to the breast?
(f) Is the baby suckling effectively?
(g) How does the breastfeed finish?
(h) Does the baby seem satisfied?
(i) What is the condition of the mother's breasts?

> If a mother feels good about breastfeeding, and if her baby is positioned so that he can suckle effectively, exclusive breastfeeding is likely to be successful.

(a) **Observe the baby**
Look at his general health, alertness and growth.
Look for signs of conditions which can interfere with breastfeeding such as:

- blocked nose
- difficulty breathing
- thrush
- jaundice
- dehydration
- tongue tie
- cleft lip or palate.

(b) **Observe how baby responds**

- If the baby is young: rooting for the breast when he is ready for a feed. He may turn his head from side to side, open his mouth, put his tongue down and forward, and reach for the breast.
- If the baby is older: turning and reaching for the breast with his hand.

Both these responses show that a baby wants to breastfeed.

- If the baby cries or pulls back or turns away from the mother, it shows that he does not want to breastfeed, and that there may be a problem with breastfeeding.

- Feeding outcomes:

Baby is calm during a feed and relaxed and content after a feed	getting breast milk appropriately
Baby is restless and slips off the breast or refuses to feed	not well attached not getting the breast milk mother may be tempted to give other foods or drinks to the baby

(c) **Observe how the mother puts her baby on her breast**

- Observe the position the mother is using to feed the baby. She should be comfortable and relaxed. Is her back supported? Does she need a pillow to support her arm? She should not be leaning forward.
- Is the baby well supported? The baby's nose should be opposite mother's nipple, and his body close to her body.

(d) **Observe how the mother holds her breast during a feed**

- The mother should support her whole breast with her hand against her whole chest wall (c-hold). This usually helps a baby to suckle effectively, especially if his mother has large breasts.

(e) **Does the baby look well attached to the breast?**

- The baby's chin touches the breast.
- His mouth is wide open.
- His lower lip is turned outwards.
- You can see more of the areola above his mouth and less below.

(f) **Is the baby suckling effectively?**

- The baby should be taking slow deep sucks, showing that he is getting breast milk. He is well attached to the breast, and suckling effectively.
- The baby is swallowing so that you can see or hear it. If a baby swallows, it means that he is getting breast milk.

(g) **How does the breastfeed finish?**

- Does the baby leave the breast by himself, feeling satisfied, or does the mother pull the baby off the breast?
- Always ask how breastfeeding feels to the mother. If she has discomfort or pain in her breasts, then her baby may not be well attached. If she is comfortable, then he is likely to be well attached.

(h) **Does the baby seem satisfied?**

- If a baby releases the breast himself, and looks satisfied and sleepy, this shows that he has had all that he wants from that side. He may or may not want the other side too.
- The exact length of time is not important. Feeds normally vary very much in length. But if breastfeeds are very long or very short, it may mean that there is a problem.
- In the first few days, or with a low-birth-weight baby, breastfeeds may be very long and this is normal.

(i) **What is the condition of the mother's breasts?**

- Breasts which are full before, and soft after a feed, show that the baby is removing breast milk.
- Breasts, which are very full or engorged all the time, show that the baby is probably not removing breast milk effectively.
- Looking at the condition of the nipples and the breast; red skin fissures may show that there is a problem.

Activity: Assessing correct position and attachment 45 minutes

What do you think of this baby's position and attachment?

Slide 25/1 Signs that you can see clearly are: • the baby is close to the breast, and facing it; • his mouth is quite wide open • his lower lip is turned outwards; • his chin is almost touching the breast; • his cheeks are round; • there is more areola above the baby's mouth than below it. **The baby is well attached to the breast.**	**Slide 25/2** Signs that you can see clearly are: • the baby's chin is not touching the breast; • his mouth is wide open and lower lip is turned outwards • There is more areola above than below the breast; • his cheeks are pulled in – although this may be because he is a low birth weight baby. **This baby is well attached.**
Slide 25/3 Signs that you can see clearly are: • the baby is not close to the breast and his body is not close to the breast; • his chin is not touching the breast • his mouth is not wide open, his lips point forward; • there is as much or more areola below the baby's mouth as above it. **The baby is poorly attached.**	**Slide 25/4** Signs that you can see clearly are: • the baby is facing the breast • his head and body are straight • his chin is touching the breast • his mouth is quite wide open • his lower lip is turned in and not outwards • his cheeks are round • there is more areola above the baby's mouth than below it . **This baby is not well attached.**

Slide 25/5 The signs that you can see are: • the baby is close to the breast, although his neck may be twisted; • his chin is not touching the breast • his mouth is not wide open • his lower lip is turned outwards • his cheeks look round • there is more areola below the baby's mouth than above it. **This baby's attachment can be improved.**	**Slide 25/6** The signs that you can see are: • the baby is close to the breast and facing it • however his body is twisted • his lower lip is turned inward • the mother is holding the breast with a scissor grip • the mother's back is not well supported • the mother is not supporting the baby's bottom **The baby is not well attached and the mother is poorly positioned.**
Slide 25/7 Signs you can see are: • the baby is facing the mother • his body is well supported • his chin is touching the breast • his mouth appears to be wide open • difficult to say if his lower lip is turned outwards • there is more areola above than below the baby **This baby is well attached.**	

Role-play: Positioning baby for breastfeeding 30 minutes

Scenario 1:
Mother: You sit comfortably and relaxed, and act being happy and pleased with your baby. You hold baby close, facing your breast, and support his whole body. Look at your baby, and fondle or touch him lovingly. You support your breast with your fingers against your chest wall below your breast, and your thumb above, away from the nipple.

Scenario 2:
Mother: You sit uncomfortably, and act being sad and not interested in your baby. You hold your baby loosely, and not close, with his neck twisted, and you do not support his whole body. You do not look at him or fondle him, but shake or prod him a few times to make him go on breastfeeding. You use a scissor grip to hold her breast.

SESSION 27: Breast Conditions Related to Breastfeeding

Time required: 1 hour and 30 minutes

Purpose

- The purpose of this session is to teach participants about breast conditions, and which mothers need to be referred to the clinic.

Objectives

- At the end of this session participants should be able to:
  - Identify common breast conditions.
  - Give appropriate advice for conditions that can be managed at home.
  - Know when to refer a mother to the clinic for more serous breast conditions.

Material

- PowerPoint slides
- MM manual

Discussion: Breast Conditions 1 hour

There are several common breast conditions, which sometimes cause difficulties with breastfeeding.

1. Full or Engorged breasts
Full breast:
A few days after delivery when her milk has “come in” a mother’s breasts may feel hot and heavy and hard but her milk flows well. This is normal fullness. Sometimes full breasts feel quite lumpy.

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

The heaviness, hardness, or lumpiness decreases after a feed, and the breasts feel softer and more comfortable. In a few days, her breasts will adjust to the baby's needs, and they will feel less full.

The following advice can be given to the mother and will help in reducing the pain:

- Inserting cold cabbage leaves into the bra
- Wearing a bra to support the breasts
- Apply warm and then cold cloths to the breasts
- Let the baby drink as much as possible
- Massaging the breasts gently to stimulate milk flow

Engorgement:
Engorgement means that the breasts are overfull, partly with milk, and partly with increased tissue fluid and blood, which interferes with the flow of milk.

Signs and symptoms:

- Breast is shiny and red, and filled with milk
- breasts feel painful
- milk does not flow well
- the nipple is flat, because the skin is stretched tight (when a nipple is stretched tight and flat like this, it is difficult for a baby to attach to it, and to remove the milk)
- often affects both breasts

Sometimes when breasts are engorged, the skin looks red, and the woman has a fever. This may make you think that she has mastitis. However, the fever usually settles in 24 hours.

It is important to be clear about the difference between full and engorged breasts.

Full breasts	**Engorged breasts**
Hot Heavy Hard Milk is flowing No fever	Painful Swollen Tight, especially the nipple Shiny May look red Milk is NOT flowing Fever

The causes of engorgement are:

- plenty of milk;
- delayed start to breastfeeding;
- poor attachment, so breast milk is not removed effectively;
- reducing the feeding time
- restricting the length of breastfeeds.

How to prevent engorgement:

- let the baby start breastfeeding soon after delivery;
- make sure that the baby is well attached to the breast;
- encourage unrestricted breastfeeding.

How to treat breast engorgement:

- **It is essential to remove milk from the breast**.
- If milk is not removed, mastitis may develop, an abscess may form, and breast milk production will decrease.
- Do not advise a mother to “rest her breast”.
- If the baby is able to suckle, he should feed frequently. This is the best way to remove milk. Help the mother to position her baby, so that he attaches well. Then he suckles effectively, and does not damage the nipple.
- If the baby is not able to suckle, help his mother to express her milk. She may be able to express by hand or she may need to use a breast pump, or a warm bottle. (See session on `Expressing breast milk').

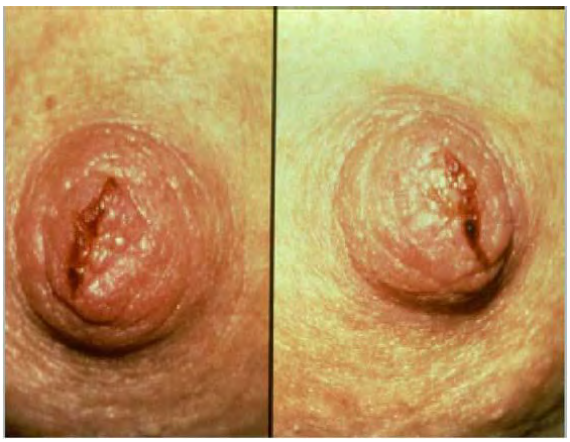
Sometimes it is only necessary to express a little milk to make the breast soft enough for the baby to suckle.

Taking a warm bath or shower, helps the breasts to release milk.

- After a feed, put a cold compress on her breasts. This may help to reduce oedema.
- Build the mother's confidence. Explain that she will soon be able to breastfeed comfortably.

2. Sore or cracked nipples

The most significant cause of sore or cracked nipples is due to **incorrect positioning and latching of the baby at the breast**.



First look for a cause:

- Observe the baby breastfeeding, and check for signs of poor attachment.
- Examine the breasts: look for signs of Candida infection (thrush), engorgement or fissures.

Treatment:

- Explain that the soreness is temporary, and that soon breastfeeding will be completely comfortable.
- Help her to improve her baby's attachment on the unaffected breast.

Often this is all that is necessary.

- She does not need to rest her breast. She should express the breast milk and cup feed or discard the milk if there is a lot of blood coming out during expressing. She should not bleed from the nipple if the technique of expressing breast milk is good.
- Help her to reduce engorgement if necessary.

- Consider referral for treatment if the skin of the nipple and areola is red, shiny, or flaky; or if there is itchiness, deep pain, or if the soreness persists.

If an HIV+ mother has a sore on the nipple or cracked nipples, and the baby suckles from that breast, there may be a higher risk of transmitting HIV to the baby. It is better for the mother to express the breast milk and feed the baby using a cup. If there is blood in the milk, it is better to discard the milk.

Advise the mother:

- to rub a little expressed breast milk over the nipple and areola with her finger. This promotes healing.
- not to wash her breasts more than once a day, and not to use soap, or rub hard with a towel. Breasts do not need to be washed before or after feeds. Washing removes natural oils from the skin, and makes soreness more likely.
- not to use medicated lotions and ointments, because these can irritate the skin, and there is no evidence that they are helpful.

3. Candida infection (Thrush)

Candida infections often follow the use of antibiotics to treat mastitis, or other infections.

Symptoms include:

- burning or stinging, which continues after a feed
- pain which shoots deep into the breast. A mother may say that it feels as though needles are being driven into her breast.
- skin may look red, shiny and flaky.
- the nipple and areola may lose some of their pigmentation or look normal

Suspect Candida if sore nipples persist, even when the baby's attachment is good. **Check the baby for thrush**. He may have white patches inside his cheeks or on his tongue, or he may have a rash on his bottom.

Refer the mother and baby to the clinic for treatment.

Advise the mother to stop using pacifiers (dummies); help her to stop using teats, and nipple shields. If these are used, they should be boiled for 20 minutes daily

4. Mastitis

Mastitis is an infection of the breast tissue.

It is caused by:

- poor drainage of all or part of a breast due to:

- infrequent breastfeeds
- ineffective suckling due to poor attachment
- blocked milk duct
- pressure from tight clothes, usually a bra, especially if she wears it at night; or from lying on the breast, which can block one of the ducts
- pressure of the mother's fingers, which can block milk flow during a breastfeed.
- the lower part of a large breast draining poorly, because of the way in which the breast hangs.

- cracked nipple, which allows infection to enter the breast tissue.
- trauma to the breast which damages breast tissue, for example, a sudden blow, or an accidental kick by an older child.

Symptoms of mastitis:

- Severe pain and fever
- Mother feels sick.
- Part of the breast is swollen and hard and the overlying skin is red.

Mastitis is often confused with engorgement; however engorgement affects the whole breast, and often both breasts. Engorgement is not usually associated with a fever.

Treatment:

- Many **mothers with mastitis need antibiotics**, therefore, refer a mother to the clinic or health centre for treatment.
- Express breast milk frequently and discard the expressed breast milk. It is necessary to express the milk. If the milk stays in the breast, an abscess is more likely.
- Gently massage the affected breast while her baby is suckling from the unaffected one. This helps to remove milk from different parts of the affected breast more equally. Show her how to massage over the blocked area, and over the duct, which leads from the blocked area, right down to the nipple. This helps to remove the block from the duct. She may notice that a plug of thick material comes out with her milk.
- Apply compresses. Warmth is comfortable for some mothers while others prefer cold compresses to reduce swelling.
- Support the breasts well to make her more comfortable. (However, do not bind the breasts tightly, as this may increase her discomfort.)
- Advise her to rest and to get help at home with her duties. Talk to her family if possible about sharing her work. Resting with her baby is a good way to increase the frequency of breastfeeds.
- Relieve pain. Raw cabbage leaves, placed directly on the breast can reduce pain and swelling.
- Usually, blocked duct or mastitis improves within a day when drainage to that part of the breast improves. Start breastfeeding the baby from this breast once it has improved.

5. Breast abscess

A breast abscess is caused by a bacterial infection, which causes pus to collect in the breast tissue. It can follow on from mastitis, especially if is not treated promptly. It can also develop if the mother has cracked nipples.

Symptoms of a breast abscess:

- Pain, redness and swelling in an area of the breast
- Fever

Treatment:

- Refer the mother immediately to clinic or hospital.
- Mother will need antibiotics, and surgery to drain the pus from the breast.
- Advise the mother to stop breast feeding from the affected breast, and to express milk.

Breast conditions such as sore or cracked nipples, mastitis and breast abscesses may increase the risk of HIV transmission through breast milk.

If you see a mother with the following features, refer her to the clinic for treatment:

- Nipples with a deep crack
- Bleeding nipples
- Nipples oozing pus or bleeding
- Breast lump
- Painful breast with fever

Role play: Breast conditions when breastfeeding 30 minutes

The trainers will guide the session.

Scenario 1:
The mother has cracked nipples

Scenario 2:
The mother has hot, heavy, hard breasts but no fever. The milk flows well

Scenario 3:
The mother has painful, swollen breasts that are tight – especially at the nipple and shiny. One of the breasts looks a little red. Milk is not flowing well. The mother does not have a fever.

SESSION 28: How Milk is Produced and Released by the Breast and Expressing Breast Milk

Time required: 70 minutes

Purpose

- To familiarise participants with how breast milk is produced and released by the breast, and how to express breast milk.

Objectives

- At the end of this session MM's will:
  - Know how milk is produced and released.
  - Know when and why expressing breast milk is useful.
  - Be able to help a mother to express breast milk.

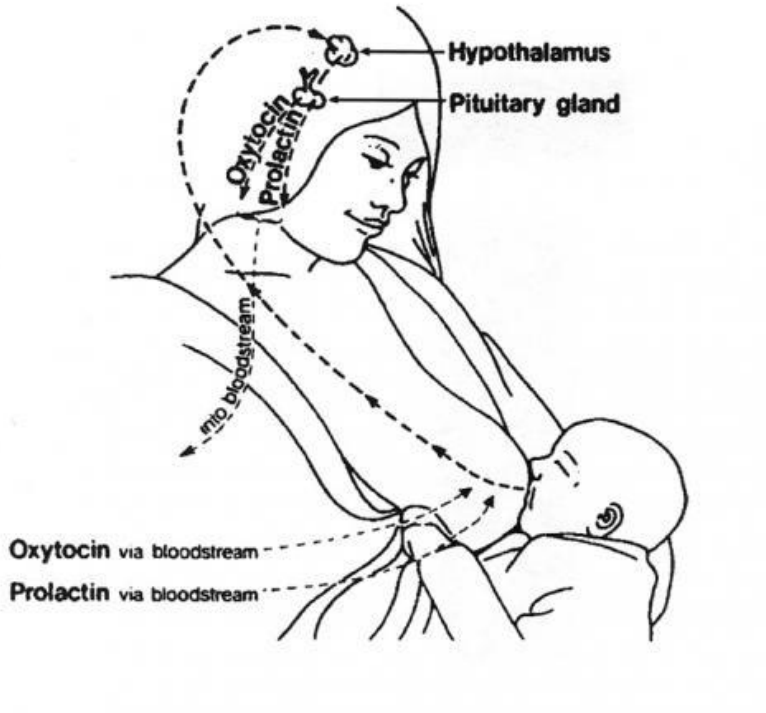
Material

- Balloons for each participant.

Discussion: Milk Production and Release — 10 minutes

- The more a baby suckles the more milk is produced.
- The baby and the feelings of the mother control milk production and release.

Sucking or other stimulation of the breast sends nerve impulses to the brain, causing the release of two hormones: **prolactin** and **oxytocin**.



Prolactin causes the production of milk.

Oxytocin causes the "let-down" reflex, which releases milk at the start of a feed.

Discussion: Expressing Breast Milk 30 minutes

Expressing breast milk is useful:

- when the mother has to go to work or has to go out for the day
- to relieve engorgement
- to relieve blocked duct or milk stasis
- when feeding a baby as he learns cup feeding
- when feeding a baby while he learns to suckle from an inverted nipple
- when feeding a baby who has difficulty in co-ordinating suckling
- when feeding a baby who `refuses', while he learns to enjoy breastfeeding
- when feeding a low-birth-weight baby who cannot breastfeed
- when feeding a sick baby, who cannot suckle enough
- to keep up the supply of breast milk when a mother or baby is ill
- to prevent leaking when a mother is away from her baby
- to help a baby to attach to a full breast
- to prevent the nipple and areola from becoming dry or sore

It is important that the oxytocin reflex works before milk expression to make sure the milk flows from the mother's breasts.

Ask participants if they know **how to stimulate the oxytocin reflex**, to help mothers to express breast milk.

Help the mother psychologically:

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

Help or advise her to:

- Hold her baby with skin-to-skin contact if possible. She can hold her baby on her lap while she expresses. If this is not possible, she can look at the baby. If this is not possible, sometimes even looking at a photograph of her baby helps.
- Take a warm soothing drink (not coffee).
- Warm her breasts. For example, she can apply a warm compress, or warm water, or have a warm shower.
- Stimulate her nipples. She can gently pull or roll her nipples with her fingers.

- Massage or stroke her breasts lightly. Some women find that it helps if they stroke the breast gently with finger tips or with a comb, or gently roll their closed fist over the breast towards the nipple.

Expressing breast milk by hand

- Hand expression is the most useful way to express milk. It needs no appliance, so a woman can do it anywhere, at any time.
- It is easy to hand express when the breasts are soft. It is more difficult when the breasts are engorged and tender. So teach a mother how to express her milk in the first or second day after delivery. Do not wait until the third day, when her breasts are full.
- Choose a cup, glass, jug or jar with a wide mouth.
- Wash the cup in soap and water and pour boiling water into the cup, and leave it for a few minutes. Boiling water will kill most of the germs. When ready to express milk, pour the water out of the cup.
- Teach a mother to do this herself. Do not express her milk for her. Touch her only to show her what to do. Be gentle.
- Before starting, the mother should wash her hands thoroughly.
- She should sit or stand comfortably, and hold the container near her breast.

A woman should express her own breast milk. The breasts are easily hurt if another person tries. If you are showing a woman how to express, show her on your own body as much as possible, while she copies you. If you need to touch her to show her exactly where to press her breast, be very gentle.

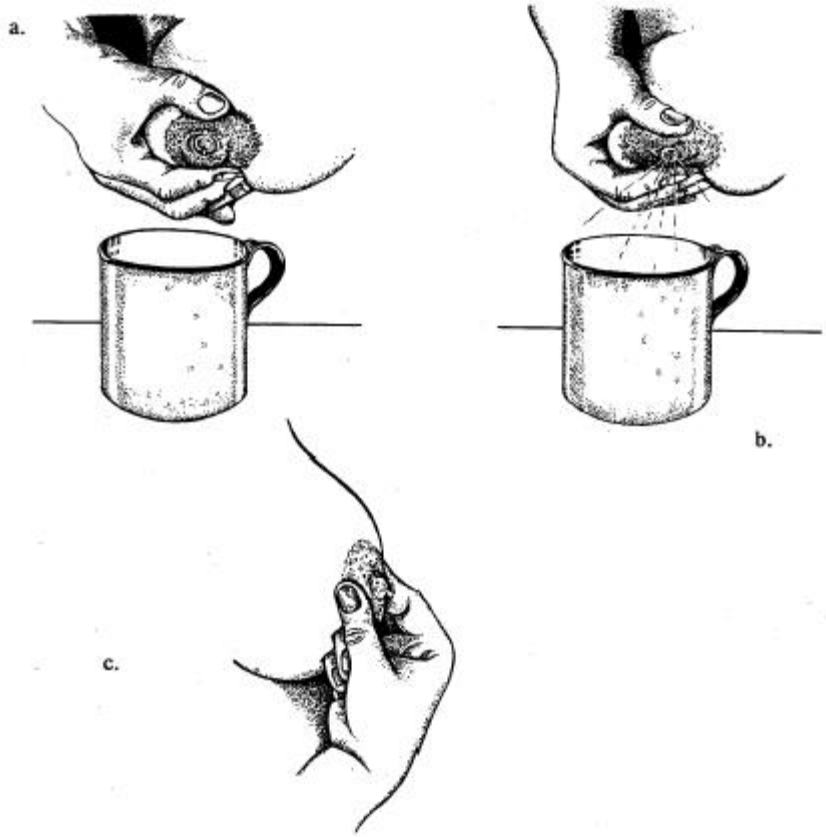
Activity: Expressing breast milk with balloon 30 minutes

1.Blow up a balloon.

2. Put her thumb on her breast above the nipple and areola, and her first finger on the breast below the nipple and areola, (opposite the thumb). She supports the breast with her other fingers.

3. Press her thumb and first finger slightly inwards towards the chest wall. She should avoid pressing too far because that can block the milk ducts.

4. Press her breast behind the nipple and areola between her finger and thumb. She must press on the milk ducts beneath the areola. Sometimes in a lactating breast it is possible to feel the ducts. They are like pods or peanuts. If she can feel them, she can press on them.



5. Press and release, press and release.

a) Place finger and thumb each side of the areola and press inwards towards the chest wall.
b) Press behind the nipple and areola between your finger and thumb
c) Press from the sides to empty all segments.

Tips:

- This should not hurt - if it hurts, the technique is wrong.
- At first no milk may come, but after pressing a few times, milk starts to drip out. It may flow in streams if the oxytocin reflex is active.
- Press the areola in the same way from the sides, to make sure that milk is expressed from all segments of the breast.
- Avoid rubbing or sliding her fingers along the skin. The movement of the fingers should be more like rolling.
- Avoid squeezing the nipple itself. Pressing or pulling the nipple cannot express the milk. It is the same as the baby sucking only the nipple.
- Express one breast for at least 3-5 minutes until the flow slows; then express the other side; and then repeat both sides. She can use either hand for either breast, and change when they tire.
- To express breast milk adequately takes 20 - 30 minutes, especially in the first few days when only a little milk may be produced. It is important not to try to express in a shorter time.

How often should a mother express her breast milk?

It depends on the reason for expressing the milk, but usually as often as the baby would breastfeed.

- *To establish lactation, to feed a low-birth-weight (LBW) or sick newborn:* She should start to express milk on the first day, within six hours of delivery if possible. She may only express a few drops of colostrum at first, but it helps breast milk production to begin, in the same way that a baby suckling soon after delivery helps breast milk production to begin.

She should express as much as she can as often as her baby would breastfeed. This should be at least every 3 hours, including during the night. If she expresses only a few times, or if there are long intervals between expressing, she may not be able to produce enough milk.

- *To keep up her milk supply to feed a sick baby:* She should express at least every 3 hours.
- *To build up her milk supply, if it seems to be decreasing after a few weeks:* Express very often for a few days (every hour), and at least every 3 hours during the night.

- *To leave milk for a baby while she is out at work:* Express as much as possible before she goes to work, and also while at work to help keep up her supply.

- *To relieve symptoms, such as engorgement, or leaking at work:* Express only as much as is necessary.

SESSION 29: Practising Exclusive Breastfeeding

Time required: 2 hours and 20 minutes

Purpose

- This session aims to discuss common concerns and difficulties with exclusive breastfeeding and how these can be addressed.

Objectives

- At the end of this session MM's will be able to:
  - Understand common concerns about exclusive breastfeeding which they are likely to encounter in their work.
  - Know how to address these common concerns.

Material

- MM manuals
- Philani Mentor Mother Training DVD

Exclusive breastfeeding should begin within the first half an hour of birth and should continue on demand – whenever the baby wants to feed, during the day and night – for the first 6 months of life.

Activity: Exclusive Breastfeeding — 1 hour and 15 minutes

The trainers will guide this session.

Common concerns and beliefs / Difficulties with Exclusive Breastfeeding	**Your responses to address women's fears / concerns**
1. Breast milk alone is not enough for the baby's growth.	Breast milk alone contains all the nutrients the baby needs for the first 6 months of life: protein, fatty acids, lactose, vitamins, iron and other minerals. These nutrients in breast milk are easily digestible. Breast milk alone is enough for baby's growth. The baby does not need additional foods or fluids.
2. Breast milk alone is not enough to protect a baby from illness and infection.	
3. Babies need traditional medicines to keep them well.	
4. A mother does not produce enough milk for a growing child.	
5. A young baby with diarrhoea needs traditional medicine to clean the stomach and stop diarrhoea	

Common concerns and beliefs / Difficulties with Exclusive Breastfeeding	**Your responses to address women's fears / concerns**
6. The first milk, colostrum, produced by the mother is bad and should be thrown away.	
7. A baby who cries is not getting enough milk and needs other fluids.	
8. A fat baby is a healthy baby.	
9. Babies need water in the 1st 6 months, especially to quench thirst.	
10. A breastfeeding baby needs enemas to prevent constipation.	
11. Sore nipples are caused because a baby sucks too long.	
12. Breastfeeding spoils a woman's breasts and her shape.	

Common concerns and beliefs / Difficulties with Exclusive Breastfeeding	**Your responses to address women's fears / concerns**
13. Women with small breasts cannot breastfeed	
14.	
15.	
16.	
17.	
18.	
19.	
20.	
21.	

Common concerns and beliefs / Difficulties with Exclusive Breastfeeding	Your responses to address women's fears / concerns
22.	
23.	
24.	

Activity: Breastfeeding scenarios 25 minutes

In a large group discuss the following scenarios and what advice can be given to each mother:

Scenario 1:
Maria and Zinhle are sitting together under the tree. Maria's baby, Themba is 4 months and 3 days old. Zinhle's baby Thabo is 4 months and one week old. Maria is exclusively breastfeeding Themba. Zinhle feeds Thabo some breast milk and some formula milk. The average weight of a 4-month old baby is 6.5kg. Themba weighs 6.6kg and Thabo weighs 8kg. Maria thinks that her baby is not fat enough.

Answer:

Scenario 2:
Zandile is HIV positive. She has a 1 month old baby, Toby. Zandile was counselled about her HIV status, and she has disclosed to her boyfriend and her mother. She does not meet all the AFASS criteria and is thus exclusively breastfeeding Toby.

However when Toby is 3 months Zandile has to go back to work. She will not be able to take Toby with her and does not know how she will breastfeed him. What advice would you give her?

Answer:

DVD Session: Breastfeeding **40 minutes**

The trainers will guide this session.

SESSION 30: Infant Feeding for HIV Positive Women who meet AFASS Criteria and have chosen not to Breastfeed.

Time required: 2 hours

Purpose

- This session teaches participants about avoiding all breastfeeding amongst HIV-positive women who meet the AFASS criteria.

Objectives

- At the end of this session MM's will understand:
  - The AFASS criteria.
  - Why HIV positive women who meet the AFASS criteria should give their babies only formula milk for the first 6 months of life, and should not breastfeed.
  - How to address mothers and family's concerns around exclusive formula feeding.

Material

- PowerPoint slides
- Flipchart Board / flipchart and paper
- Markers

Discussion: Breastfeeding and HIV 30 minutes

HIV can be transmitted during pregnancy, labour and delivery and through breastfeeding. Thus HIV positive women should receive antiretroviral treatment to prevent transmission during pregnancy, labour and delivery and should consider not breastfeeding.

Slide 1:
Of **100 HIV positive women**:

- approximately **30** will transmit HIV to their babies if they do not receive antiretroviral therapy
- **21** women will transmit HIV during pregnancy, labour and delivery
- **9** women will transmit HIV during breastfeeding, (if fed for more than 6 months).
- **70** babies born to HIV positive women will not be infected with HIV.

Slide 2:
In the presence of antiretrovirals:

- approximately **2-5%** of women will transmit HIV to their babies
- **3%** during pregnancy, labour and delivery, and
- **2%** through mixed breastfeeding for more than 6 months.

If women exclusively breastfeed their babies for 6 months then the risk of transmission through breastfeeding is reduced.

Note that in the presence of ARV's and exclusive breastfeeding approximately 98% of babies born to HIV positive women will not be infected with HIV.

Participants may want to colour this into the diagrams below.

The **AFASS** criteria assist with the feeding choice in HIV positive women:

Acceptable	The mother sees no reason why her feeding choice would have any negative social or cultural outcomes or lead to stigma and discrimination.
Feasible	The mother (or family) has adequate time, knowledge, skills and other resources to prepare and feed the baby, and the support to cope with family, community and social pressures.
Affordable	The mother and family can buy the product and everything needed to prepare the feeding option.
Sustainable	Availability of a continuous and uninterrupted supply and dependable system of distribution for all ingredients and commodities needed to safely implement the feeding option, for as long as the baby needs it.
Safe	Formula milk would be correctly and hygienically prepared by clean hands, using clean, safe water and clean utensils. Nutritionally adequate quantities of formula milk would regularly be available. Clean water and fuel would be regularly available. Formula milk would be fed preferably with cups rather than bottles.

If HIV-positive women meet the AFASS criteria they can choose to avoid breastfeeding. If they avoid breastfeeding they should exclusively formula feed for the first 6 months of life.

Exclusive formula feeding means that the baby receives only formula milk and no other foods or fluids. (No water, glucose water, tea, porridge, fruit, vegetables, traditional medicines by mouth or over-the-counter medicine by mouth.)

Discussion: Feeding by HIV positive mothers 30 minutes

1. Discuss the following questions in pairs:

- **Have you seen or heard about mothers giving their babies under the age of 6 months food and other things to taste from their cups and plates?**
- **Have you seen or heard about mothers who avoid breastfeeding their babies but who give them the breast for comfort and not for feeding?**
- **What do you know about breastfeeding and HIV?**
- **Do you know any HIV positive women with babies? How do they feed their babies, or how do you think they feed their babies?**
- **How do you think HIV positive women should feed their babies?**
- **Why do you think that HIV positive women should choose between exclusive breastfeeding and exclusive formula feeding?**
- **What is mixed feeding? Why do we say that HIV positive women should avoid all mixed feeding?**
- **What is meant by avoiding all breastfeeding? What milk can babies drink if they avoid all breastfeeding? If babies avoid all breastfeeding should they receive sugar water? Tea? Porridge? Cereal? Vegetables? Fruit?**
- **What do you understand by the words acceptable and feasible and affordable and sustainable and safe (We call this the AFASS criteria)? Why are these important?**
- **Why do you think HIV-positive women should avoid breastfeeding only if they meet the AFASS criteria?**
- **Why do you think HIV positive women should stop breastfeeding at 6 months (if they meet the AFASS criteria)?**

HIV positive women need to choose between exclusive breastfeeding and exclusive formula feeding.

HIV positive women should avoid mixed feeding (feeding both breast milk and formula milk) as it increases the risk of HIV transmission to the baby.

HIV-positive women who avoid breastfeeding often feed their babies formula milk and other solids, including cereals, fruit and vegetable from as early as 3 weeks of life. All mixed feeding should be avoided.

If avoiding breastfeeding at all times is acceptable, feasible, affordable, sustainable and safe then HIV-positive women should avoid all breastfeeding.

'At all times' means even at night and even when the partner, mother or mother-in-law is around. For their own health, babies who avoid all breastfeeding should be fed only formula milk for 6 months. No cereal, vegetables, tea, juice, fruit or glucose water.

If avoiding all breastfeeding at all times, is not acceptable, feasible, affordable, sustainable and safe then HIV-positive women should exclusively breastfeed for 6 months.

Breastfeeding can be stopped at 6 months if avoiding breastfeeding has become acceptable and feasible and affordable and sustainable and safe.

At 6 months, if AFASS criteria are not met, mothers should continue to breastfeed as well as giving complementary foods. They need to have regular follow-up at the clinic. As soon as AFASS criteria are met all breastfeeding should stop.

HIV positive babies can be breastfed for at least 2 years.

Discussion: Feeding by HIV negative mothers 20 minutes

Feeding by HIV negative women or women of unknown HIV status:

HIV negative women or women of unknown HIV status should exclusively breastfeed for the first 6 months and continue breastfeeding thereafter for at least 2 years.

Breastfeeding mothers who become HIV positive while breastfeeding are at a high risk of transmitting HIV to their infants.

HIV negative women must be tested again for HIV at the 6 week infant visit, and every 3 months after this, if they are breastfeeding.

Activity: Concerns and Difficulties with Formula Feeding 40 minutes

1. On the left hand side of the table are concerns or difficulties or traditional beliefs that may prevent exclusive formula feeding. Think of more concerns, and add these to the blank spaces provided.

2. Discuss these statements as a large group. On the right hand side of the table fill in words, statements or responses that you can think of to address these beliefs, concerns or traditions.

Common concerns and beliefs / Difficulties with Exclusive Formula feeding	**Facts and simple relevant information**
1. Formula milk alone is not enough for the baby's growth.	Formula milk has been especially made for babies. Although it is not exactly like breast milk it contains all that a baby needs for the first 6 months of life if the mother cannot breastfeed
2. Babies need traditional medicines to keep them well.	
3. A young baby with diarrhoea needs traditional medicine to clean the stomach and stop diarrhoea	
4. A baby who cries is not getting enough milk and needs other fluids or cereal or porridge	
5. A fat baby is a healthy baby.	

Common concerns and beliefs / Difficulties with Exclusive Formula feeding	**Facts and simple relevant information**
6. Babies need water in the 1st 6 months, especially to quench thirst.	
7.	
8.	
9.	
10.	
11.	
12.	
13.	
14.	

Common concerns and beliefs / Difficulties with Exclusive Formula feeding	**Facts and simple relevant information**
15.	
16.	
17.	
18.	
19.	
20.	

SESSION 31: Safe Formula Feeding

Time required: 2 hours

Purpose

- The purpose of this session is to teach participants how to support HIV-positive women who meet the AFASS criteria and have chosen not to breastfeed.

Objectives

- At the end of this session MM's will understand:
  - Be able to safely prepare formula milk.
  - Be able to advise a mother on how to feed formula milk using a cup.

Material

- Tin of the common formula milk that mothers use
- Utensils
- Water
- Cup
- Bottle
- Cleaning brush
- Kettle to boil water
- Measuring jug
- Teaspoon
- Permanent marker pen

Formula milk should be prepared hygienically using clean utensils and clean water to prevent illnesses such as diarrhoea.

It is important to mix the correct amount of formula powder and water together. If the milk is too weak (has too much water) the baby will not grow properly. If the milk is too strong the baby will not be able to digest it properly.

Babies should receive the recommended amount of formula milk at regular intervals so that they grow.

Formula milk should be fed using a cup rather than a bottle because cups are easier to clean and have been associated with fewer illnesses compared to bottles.

If exclusively formula fed babies become ill with diarrhoea they should be given oral rehydration fluid after the first loose stool and frequently thereafter (small amounts every 15 – 30 minutes).

Discussion: Formula Feeding — 1 hour and 10 minutes

1. **How often should a baby be fed with formula?**

Babies need frequent feeding, about 8 or more times a day (24 hours) during the first 2 months. This means feeding a baby every 3 hours, day and night. Babies need frequent feeding because their stomachs are small.
Formula milk can be reduced after 2 months to about 6 times a day.

Babies who are very small, and babies less than 2 months old, need night feeds. Some babies wake for a feed. Other babies may need to be awakened for a feed.

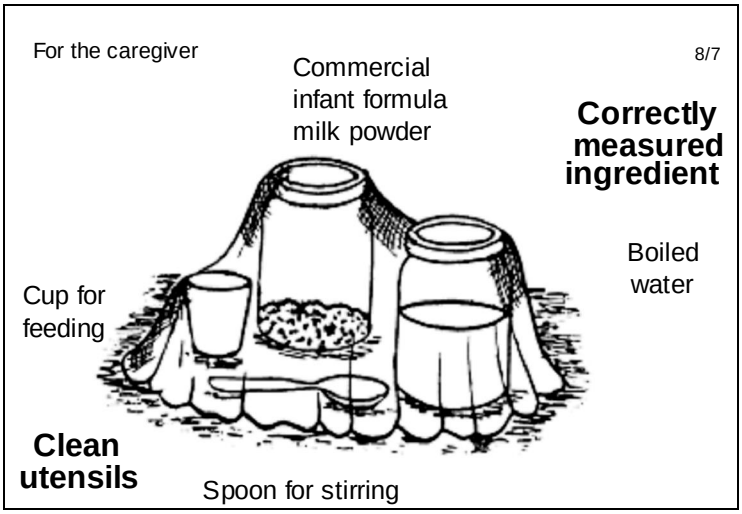
Approximate amount of formula needed per day:

Age in months	Weight in kilos	Approx. amount of formula per 24 hours	Approx. number of feeds*
1	3	450 - 600 ml	8 x 75 ml
2	4	600 - 800 ml	7 x 100 ml
3	5	750 ml	6 x 125 ml
4		900 ml	6 x 150 ml
5	6	1050 ml	6 x 175 ml
6		1200 ml	6 x 200 ml

*Includes rounding up or down for ease of measurement

2. A baby who is not breastfed is at increased risk of illness for two reasons:
   - Formula milk may be contaminated with bacteria that can cause infection.
   - The baby lacks the protection provided by the breast milk.

3. Safe preparation of formula feeds requires:
   - Clean hands
   - Clean utensils
   - Safe water
   - Safe storage



Always wash hands

- after using the toilet, after cleaning the baby's bottom, after disposing of children's stools; and after washing nappies and soiled cloths;
- after handling foods which may be contaminated (e.g. raw meat and poultry products) and after touching animals;
- before preparing or serving food,
- before eating, and before feeding children.

It is important to wash your hands thoroughly

- with soap or ash;
- with plenty of clean running or poured water;
- front, back, between the fingers, under the nails.

Let your hands dry in the air or dry them with a clean cloth. It is best not to dry them on your clothing or a shared towel.

Where should you prepare formula feeds? What do you need?
How do you clean bottles, teats and cups?

You need to keep both the utensils that you use, and the surface on which you prepare feeds, as clean as possible.

- Use a clean table or mat, that you can clean each time you use it.
- Wash utensils with cold water immediately after use to remove milk before it dries, and then wash with hot water and soap. If you can, use a soft brush to reach all the corners.
- Teats need to be turned inside out and scrubbed using salt or abrasive. They should then be boiled or soaked to sterilise.
- Keep utensils covered to keep off insects and dust until you use them.
- Use a clean cup to give any drink to a baby.

Utensils needed for bottle feeding are:

- Bottles and Teats
- Cups
- Bottle brush
- Pot for boiling bottle or non-metallic container for soaking the bottle in bleach.

What are the common ways of sterilising bottles in informal settlements?
How often do mothers usually sterilise bottles?
What common infection do babies get if the teats are not sterilised?

Bottles and teats are more difficult to clean than cups.
At least once a day they should be sterilized. This takes more time, attention and fuel.

How to sterilise bottles and teats:
a) **Boil bottles**:
Bring water to the boil in a large pot. There should be enough water to cover the bottles. Add bottles and teats and boil for 5 minutes. Remove bottles and teats and place on a clean dishcloth and allow to air dry.

b) **Soak in bleach**:
Fill a container with water. Add bleach (1 capful to 5 litres water). Allow bottles and teats to soak for 1 hour. Remove and rinse in previously boiled water. Air dry on a clean dishcloth. Make a new solution of bleach every day.

What kind of water should be used to prepare formula milk?
How do you prepare safe water for formula feeds?

Safe water is especially important for babies.
Preparing safe water:

- Bring the water to a rolling boil briefly before use. This will kill most harmful germs. (A rolling boil is when the surface of the water is moving vigorously. It only has to "roll" for a second or two.)
- Put the boiled water in a clean, covered container and allow to cool. The best kind of container has a narrow top, and a tap through which the water comes out. This prevents people dipping cups and hands into the water, which can make it dirty.
- If the water has been stored for more than a day, re-boil it before use.

How should a mother store formula milk?
How long can prepared formula milk be left standing for?
What should be done with left over milk? Should it be used for the next feed?

- Commercial baby formula powder must be kept dry to prevent growth of germs, especially in humid conditions.
- If a mother does not have a refrigerator, she must make feeds freshly each time.
- When a feed has been prepared with formula, it should be used within one hour, like fresh milk. If a baby does not finish the feed, she should give it to an older child or use in cooking.
- If a mother has a refrigerator, all the formula for one day can be made at one time and stored in the refrigerator in a sterilized container with a tight lid. For each feed, some of the formula is poured into a feeding cup.
- Some families keep hot water in a thermos flask. This is safe for water. But it is NOT safe to keep warm milk or formula in a thermos flask. Bacteria grow when milk is kept warm.

Discuss with the mother or other caregiver how the household routine works - whether the mother cooks once or twice a day, whether she can prepare feeds many times a day, how often she goes to market and what facilities she has for storage. Help her to find ways of preparing the baby's food in a clean and safe way.

4. Correct measurements for preparing formula milk.

Ask participants to answer the following questions and write down their answers on a flip chart:

What utensils and equipment do you need to prepare formula milk?
What can be used to measure the water?
What can be used to measure the formula powder?
Is it important to follow the instructions on the tin? Why?
Why should we not mix more powder with water?
Why should we not mix less powder with the water if we are running out of formula?

a) Measuring water

It is important to show the caregiver the amounts to use according to the age of the baby at the time. Show her new amounts as the baby gets older and takes more at each feed.

If a mother does not have a bottle or measuring jug marked with amounts, how can she measure the water?
A mother can use any container from home to measure water. You can mark the container for her so that she is able to measure the correct amount of water.
The container should be:

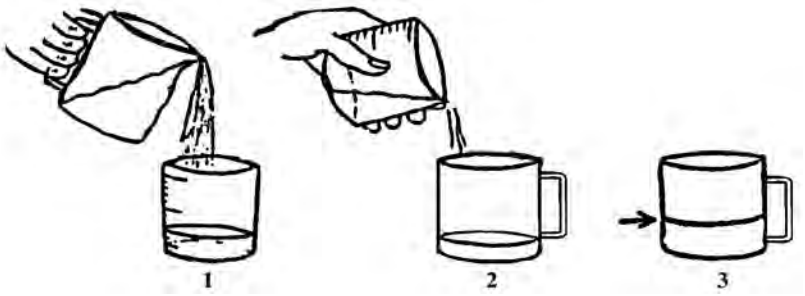
- easily available
- easy to clean and sterilize
- see-through
- able to be marked with paint, permanent marker, or by scratching a line on it; or used as a measure simply by filling it to the top.

Before a mother can use a container as a measure you need to mark the amount on the container, or show her how full it needs to be to measure the amount that she has to use.

You can measure the correct amount of water using your measuring jug. Pour the water into the mother's measure, and make a mark at the level it reaches.

For example: If you are making formula milk for a 3 month old baby:
1. Check how much milk the baby needs for every feed. *(125ml)*
2. Put water into your measure, to reach the 125 ml mark.
3. Pour the 125 ml water from your measure into the mother's container.
4. Help the mother to mark the level that the water reaches. For the measure to be accurate, the line should be thin and straight, not thick or sloped.

Figure 1 Mark a measure



b) Measuring formula milk powder

- Commercial baby formula does not need the addition of sugar or micronutrients. They are already mixed into the milk powder. Thus all you have to measure is the formula powder.
- Usually commercial baby formula comes with a special measure (called a scoop) in the tin of powder. This should be used only for that brand of baby formula) Different brands may have different size measures.

- Scoops always have to be levelled. Use a clean knife or the handle of a spoon. Do not use heaped scoops.

Commercial baby formula recipe:

(LOCAL BRAND) needs:
125 ml water + level scoops of commercial baby formula powder to make 125 ml formula feed.

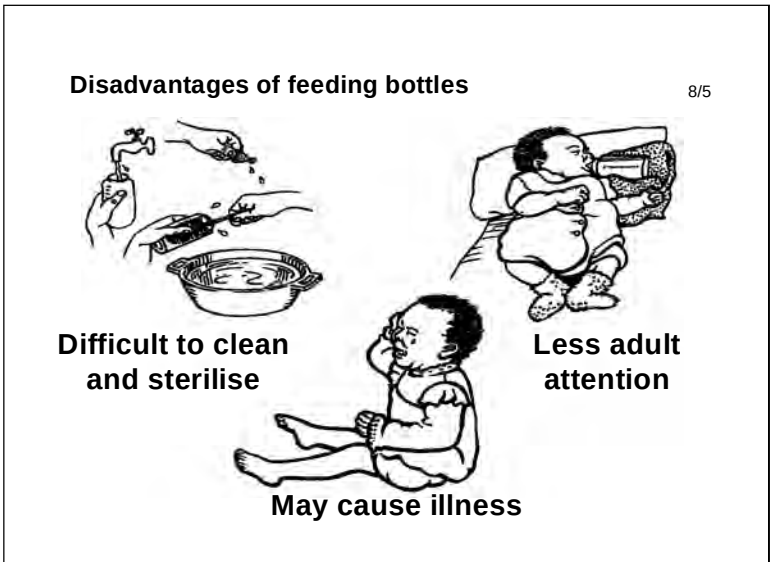
Example 1: To make **Infacare** use 1 scoop for every 25 ml of water.
Thus, to prepare 125 ml of milk you will add 5 scoops to 125 ml water.

Example 2: To make **Pre-Nan** use 1 scoop for every 30 ml water.
Thus, to prepare 120 ml of milk you will add 4 scoops to 120 ml water.

5. Cup feeding a young baby

Why are cups recommended for feeding babies instead of bottles?
What are some of the disadvantages of bottle feeding?
Can a newborn baby be fed from a cup?

Disadvantages of bottle feeding:

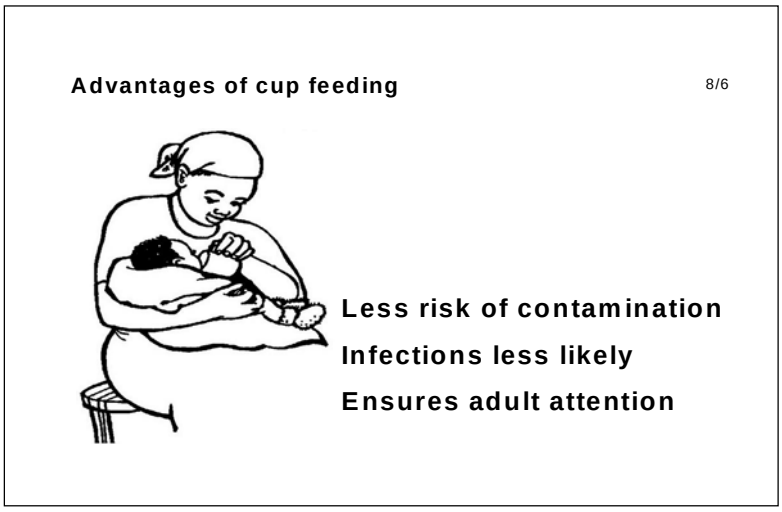


- Bottles are difficult to clean, and easily contaminated with harmful bacteria, particularly if milk is left in a bottle for long periods allowing bacteria time to breed.
- Bottles and contaminated milk can make babies ill with diarrhoea.
- Ear infections are more common with bottle-feeding.
- Bottle-feeding is associated with tooth decay, leading to pain as well as later eating difficulties.
- A bottle may be propped for a baby to feed itself, or given to a young sibling to feed the baby, so the baby has less adult attention and social contact.

Mothers may consider use of a bottle easier for themselves because it can be carried around, propped for the baby or given by a sibling. You may need to explain to a mother that these advantages to them are actually disadvantages to the baby.

What are the advantages of cup feeding a young baby?

- Cups are easily available in every household.
- Cups are easy to clean so the risk of contamination is less than with bottles.
- Cup feeding is associated with less risk of diarrhoea, ear infections and tooth decay.
- A cup cannot be propped up beside the baby. The caregiver has to hold the baby and pay attention. This ensures social contact during feeding and adult attention if the baby is having any difficulties.
- A cup does not need to be boiled, in the way that a bottle does. To clean a cup, wash it and scrub it in hot soapy water each time it is used. If possible, dip the cup into boiling water, or pour boiling water over it just before use, but this is not essential. An open, smooth surfaced cup is easiest to clean. Avoid tight spouts, lids, or rough surfaces where milk could stick and allow bacteria to grow.
- Small and preterm babies can be cup fed, as well as older babies.
- Spoon-feeding is acceptable. However it is slow for large amounts of milk. There is a risk that a caregiver may become tired and stop giving the feed before the baby has taken enough milk.



How do you cup feed a baby?

- Hold the baby closely, sitting upright or semi-upright on your lap.
- Hold the small cup of milk to the baby's lips; it just touches the lower lip.
- Tip the cup so that the milk just reaches the baby's lips.
- The cup rests lightly on the baby's lower lip, and the edges of the cup touch the outer part of the baby's upper lip.
- The baby becomes alert, and opens his mouth and eyes.
- A low birth weight (LBW) baby starts to take the milk into his mouth with his tongue.
- A full term or older baby sucks the milk, spilling some of it.
- DO NOT POUR the milk into the baby's mouth. Just hold the cup to his lips and let him take the milk himself.
- When the baby has had enough, he closes his mouth and will not take any more. If he has not taken the calculated amount, he may take more next time, or you may need to feed him more often.
- Measure his intake over 24 hours - not just at each feed.

If mothers are not used to cup feeding, they need information about it, and they need to see babies feeding by cup. The method needs to be taught in a way that gives them confidence to do it themselves.

Discussion: Preparing formula milk 30 minutes

Now that you have discussed the way to prepare formula milk and the requirements for safe formula feeding, you will be divided into groups of 4-5 people. Each group should practice preparing formula milk for a baby aged 1 week or 2 weeks or 4 weeks or 5 weeks.

Each group must measure the water and formula milk powder according to the requirements of each baby. One member of the group can read the instructions on the tin so that the group is guided by the recommendations.

Discussion: Comforting a baby who is not breastfeeding 20 minutes

Babies who are not breastfed are at risk of not getting enough attention, so a special effort needs to be made.

Mothers and other family members may expect to put a crying baby to the breast to comfort him. If a mother is HIV-positive and not breastfeeding, she will need to find other ways of comforting her baby.

Babies often cry because they are lonely and need someone to give them attention, not only because they are hungry. So they can be comforted in other ways than by suckling.

What are other ways of comforting a baby?
Massage, swaddling, carrying, rocking, singing or talking to the baby, and sleeping with the baby can all help to comfort him or her.

Sucking is very comforting to a baby. He can suck on his mother's forearm or her clean finger. This also ensures that he has contact with his mother.

If pacifiers (dummies) are used commonly or if participants mention them as a way to comfort babies, make these points:

- A pacifier does not make a good substitute for contact with another person.
- A baby who needs comfort or attention needs contact with another person, not to be left alone with a pacifier in his mouth.

- Pacifiers can carry infection and can increase the risk of a child having diarrhoea, respiratory illnesses, and thrush.
- Dipping a pacifier in honey or sugar can cause dental problems. Honey has also been associated with outbreaks of botulism in babies, causing a number of deaths.

SESSION 32: Teaching Formula Feeding to Mothers

Time required: 1 hour

Purpose

- The purpose of this session is to teach participants how to teach formula milk preparation to HIV positive women who meet the AFASS criteria and have chosen not to breastfeed.

Objectives

- At the end of this session MM's should be able to teach a mother how to safely formula feed.

Material

- PowerPoint slides
- Flipchart Board / flipchart and paper
- Markers

Role play: Teaching a mother to prepare a formula feed 45 minutes

Telling a woman how to prepare a feed or letting her watch you prepare a feed is not enough. You need to give her supportive teaching, and gently supervise her preparing one or more feeds herself, to ensure that she can do it adequately.

The trainer and a Mentor Mother or volunteer will perform these role-plays. There are two role-plays, demonstrating two ways of teaching a mother to prepare a feed.

Demonstration 1:
The mother sits uncomfortably on a stool or chair on one side of the table, and the health worker stands on the other side of the table facing the mother.

Mrs L is HIV-positive and following counselling she decided not to breastfeed. Her baby was born last night. A Mentor Mother is teaching Mrs L how to prepare the feeds.

MM: Gives Mrs L a sheet of written instructions	Now Mrs L, if you are paying attention, I will show you how to prepare your baby's feed properly. It is all written down on this paper, so that you will remember what to do. Now, first make sure that everything is clean including your hands. Do you always wash your hands with soap and hot water before handling the baby's food?
Mrs L:	(meekly) Yes, ma'am.

MM: Puts the utensils on a clean cloth on the table Very quickly measure using measuring cup and unexplained measures	Good. Well now, collect all the things you need - milk, water, pot, spoon, and cup. Make sure that the place you put them on is clean. You can put them on a clean cloth like this. Measure the ingredients like this. Make sure you use warm previously boiled water. You must use the quantities that are written down on the label. Don't add too much water or too much milk powder or you will make your baby ill. You can understand the instructions on the tin, can't you?
Mrs L:	(Meekly) Yes, ma'am.
MM: If possible show a hot plate or way of heating that the mother would not have at home	(Mentor Mother measures and mix the feed.) Now, you mix the milk well and let it cool. You leave it to cool and then feed your baby using a cup, the way you saw the nurse do it at the earlier feed. Don't use a bottle. It is too difficult to clean and will make your baby ill.
Mrs L:	(Meekly) Yes, ma'am.
MM:	Now you should be able to prepare the feeds properly. Take your baby to the health centre next week so that the nurse there can check that he is putting on weight and that you are feeding him properly and doing everything right.
Mrs L:	(Meekly) Yes, ma'am.

Demonstration 2:

Mrs M is HIV-positive and following Counselling she decided not to breastfeed. Her baby was born last night. A Mentor Mother is helping Mrs M to learn how to prepare the feeds herself.

MM:	Good morning Mrs M. What a lovely baby you have. Would you like to sit down while we talk?
Mrs M: (sits)	Thank you.
MM: (also sits)	When we talked before the baby was born, you decided to use baby formula for feeding your baby. How do you feel about that decision now?
Mrs M:	Yes, that is what I think would be best, because I discussed it with my husband.
MM:	Fine. You saw the nurse prepare the baby's feed when you were in the hospital. Would you like me to go through it again, to see if you can remember it all?
Mrs M:	Yes please – I am not sure about how much milk powder to mix.
MM:	OK – it is a bit complicated, so let's do it step by step. *(MM Gives Mrs M paper with written instructions and pictures.)* The instructions are also written on this paper, with some pictures, to help you remember when you go home. We'll look at the paper later. You remember that we talked about using a jar to measure the water, and the scoop to measure the formula powder. Were you able to bring a jar with you?
Mrs M:	Yes, here it is…
MM:	Very good. We will mark the jar so that you can use it for measuring. Let's do that. This is my measure, with the right amount of water in it. I will put the water into your measuring jar. You see where it comes to? Let us mark that on your jar, like this. Is it all right for me to make a mark? It should stay there, and not come off. *(Marks cup with permanent marker or cuts with a knife.)*
Mrs M:	Yes, I can keep that jar to use as a measure.

MM:	Now you can use your jar to measure the right amount of water. *(MM tips water out of mother's cup.)* Now please fill the jar with water to the line, to show me. *(Mrs M fills jar to the line.)* Good. That's just right – now we can start to make the feed. Now, to start, you need to make sure everything is clean. How will you do this?
Mrs M:	I will have a clean place to prepare the feed *(spreads a cloth)*, a clean pot, cup, spoon and my measuring jar and clean hands *(washes her hands)*.
MM:	Good. Clean hands, clean utensils and a clean place are important. What will you do then?
Mrs M:	I will need to measure the milk powder. How will I do that?
MM:	There's a scoop provided with each tin. You need to use that scoop all the time.
Mrs M:	So I put in ….. scoops of milk powder to water that measures to this level (…ml). *(Measures according to the instructions on the label and puts into the cup.)* Then I mix well.
MM:	*(Shows mother a piece of paper with directions.)* You are using your measuring jar well, but can we go over it again? Let us look at the pictures and the instructions on the label *(they look at the label together)*.
Mrs M:	Oh yes. That's important – I must get that right. *(She reads the instructions again)*
MM:	Very good – you are correct and you have measured very well! Let's practise measuring the powder again.
Mrs M:	Like this? *(Shows a levelled scoop and puts back in tin)*
MM:	Yes, that's right. While the milk is cooling, tell me about how you found cup feeding your baby this morning.
Mrs M:	Well, it was a little difficult. Some of the milk ran out of his mouth and that bothered me. Then he didn't finish all the feed.
MM:	Yes, it can be a little difficult the first time. You are both learning how to do it. And they do take different amounts at different feeds. When your baby is ready to feed, we will do it together.
Mrs M:	Thank you. Then I can ask if I don't understand.

MM:	Ask anytime that you want to. You will be able to prepare feeds and cup feed your baby well very soon.

Activity: When to teach preparation of formula milk 15 minutes

The trainers will guide the session.

SESSION 33: Common Baby Feeding Difficulties

Time required: 1 hour and 30 minutes

Purpose

- The purpose of this session is to teach participants how to help mothers with common feeding difficulties.

Objectives

- At the end of this session MM's will understand the common causes of feeding difficulties and what can be done to help mothers overcome them.

Material

- PowerPoint slides
- Flipchart Board / flipchart and paper
- Markers
- Copies of the RtHB

Discussion: Common Infant Feeding Difficulties

1 hour and 15 minutes

Common baby feeding difficulties:

- Refusal to feed
- Not getting enough milk
- Crying

1. Refusal to feed

Ask participants **why they think a baby may refuse to feed**.

Reason for refusal	**Explanation**
Illness	The baby may attach to the breast, but suckles less than before. A formula fed baby may take a very small amount of feed than is recommended.
Pain	• Pressure on a bruise from forceps or vacuum extraction. The baby may cry and fight as his mother tries to feed him. • Blocked Nose • Sore mouth (Candida infection (thrush), an older baby teething). The baby suckles a few times, and then stops and cries.
Sedation	A baby may be sleepy because of: • drugs that his mother was given during labour; • drugs that she is taking for psychiatric treatment
Difficulty with the feeding technique	Sometimes feeding has become unpleasant or frustrating for a baby.
Has a change upset the baby?	Babies have strong feelings and if they are upset they may refuse to feed. They may not cry but simply refuse to suckle/feed. This is the commonest when a baby is aged 3-12 months. He suddenly refuses several feeds. This behaviour is sometimes called a 'nursing strike'. • Separation from his mother when she starts a job • A new carer, or too many carers • A change in the family routine (moving house, visiting relatives) • A change in his mothers smell, (different soap or different food)

	• Illness of his mother or a breast infection

If there is difficulty with the feeding technique, look for possible causes:

- Feeding from a bottle or sucking on a pacifier (dummy).
- Not getting much milk because of poor attachment or engorgement, or poor cup feeding technique.
- Pressure on the baby's head by his mother or a helper positioning him roughly with poor technique. The pressure makes him want to fight.
- His mother holding or shaking the breast, or shaking the baby, which interferes with attachment. If formula feeding, the mother may shake the cup.
- Restriction of feeds, for example feeding only at certain time.
- Too much milk coming too fast due to oversupply. For breastfeeding babies, the baby may suckle for a minute and then come off choking or crying when the ejection reflex starts. This may happen several times during a feed. The mother may notice milk spraying out as he comes off the breast.
- For cup fed babies, mothers who have not mastered the cup feeding technique tend to pour the milk into the baby's mouth.
- Early difficulty co-ordinating suckling. (Some babies take longer than others to learn to suckle effectively).
- Refusal of one breast only: Sometimes a baby refuses one breast but not the other. This is because the problem affects one side more than the other.

Is it apparent or real refusal?

Sometimes a baby behaves in a way, which makes his mother thinks that he is refusing to feed. However he is not really refusing.

- When a newborn baby is rooting, he moves his head from side to side as if he is saying 'no'. However this is normal behaviour.
- Between 4 and 8 months of age babies are easily distracted for example when they hear a noise. They may suddenly stop feeding. It is a sign that they are alert.

What can you do to help?

a) Treat or remove the cause if possible:

Cause	Intervention
Illness	Refer the baby to the clinic for treatment.
Pain	• help the mother to find a way to hold the baby without pressing on a painful place • treat thrush with gentian violet or nystatin • for a blocked nose suggest saline drops or breast milk to clear it; and short feeds, more often than usual for a few days.
Sedation	If the mother is on regular medication, try to find an alternative.
Feeding Technique	Look for problems with positioning, latching and cup feeding, and assist mother as appropriate.
Oversupply of milk: Poor attachment Poor cup feeding Giving both breasts at every feed Too much milk	This happens when too much milk comes too fast, for both cup and breastfed babies. • For breastfed babies, if a baby suckles ineffectively, he may feed frequently, or for a long time, and stimulate the breast so that it produces more milk than he needs. Assist mother to improve attachment. • Help mother to improve cup feeding technique. • Oversupply may result if a mother tries to make her baby feed from both breasts at each feed, when he does not need to. Suggest that she lets the baby suckle from only one breast at each feed. Let the baby continue at that breast until he finishes by himself, so that he gets plenty of fat enriched hind-milk. At the next feed give him the other breast. • For breastfeeding mothers, suggest she express some milk before a feed; lie on her back to feed (if milk flows upwards it is slower); or hold her breast with the scissor hold to slow the flow.
Changes which upset a baby	Discuss the need to reduce separation and changes if possible. Suggest that she stops using a new soap, perfume or food.
Apparent refusal	• Explain to her that rooting is normal. If breastfeeding, she can hold her baby at her breast to explore her

	nipple. Help her to hold baby closer, so that it is easier for him to attach. • If there is a distraction, suggest that she try to feed the baby somewhere quieter for a while. The problem usually passes.

b) Help the mother and baby to enjoy feeding again

This is difficult and can be hard work. You cannot force a baby to feed. The mother needs help to feel happy with her baby and to enjoy feeding. They have to learn to enjoy close contact again. She needs you to build her confidence, and to give her support.

Tips to help the mother to do these things:

Keep her baby close to her all the time.

- She should care for her baby herself as much of the time as possible.
- Ask grandmothers and other helpers to help in other ways, such as doing the housework, and caring for older children.
- She should hold her baby often, and give plenty of skin-to-skin contact at times other than feeding times. She should sleep with him next to her.
- If the mother is employed, she should take leave from her employment.
- It may help if you discuss the situation with the baby's father, grandparents, and other helpful people.

For a breastfed baby, offer breast whenever the baby is willing to suckle.

- She should not hurry to feed again, but offer her breast if her baby does show an interest.
- He may be more willing to suckle when he is sleepy or after a cup feed, than when he is very hungry.
- She can offer her breast in different positions.
- If she feels her ejection reflex working, she can offer her breast then.

For a formula fed baby, make a small amount of feed and offer a freshly made formula feed more frequently.

She can express her breast milk and feed it to her baby from a cup, until he is able to breastfeed again.

She should avoid shaking the breast or the cup if formula feeding.
She should avoid pressing the back of the baby's head.

2. Not enough milk

- One of the commonest reasons for mixed feeding is that the mother thinks that she does not have enough milk.

- Many breastfeeding mothers think that they do not have enough milk. However, almost all mothers can produce enough breast milk for one or even two babies. They can almost all produce more than their baby needs.

- Sometimes a baby does not get enough breast milk. This is usually because he is not suckling enough or not suckling effectively. It is rarely because his mother cannot produce enough.

- It is more important to think not about how much milk a baby is getting, but rather about how much the mother can produce.

- Mothers using formula may experience the problem of not enough milk for different reasons as well, and they may also think that their babies are not getting enough milk.

A useful rule of thumb is this: in the first six months of life a baby should gain at least 600 grams in weight each month.

> **Note:** It is normal for a newborn to loose weight in the first week of life. A baby usually regains their birth weight at 10 days of age.

If a baby is not growing well, he may be ill, or he may not be getting enough food. A breastfed or formula fed baby may not be getting enough milk.

Only two signs reliably show that a baby is not getting enough milk. These are:

a) Poor weight gain:

- Less than 600g a month
- Less than birth weight after 2 weeks
- The baby does not follow his/her growth lines on the growth chart.

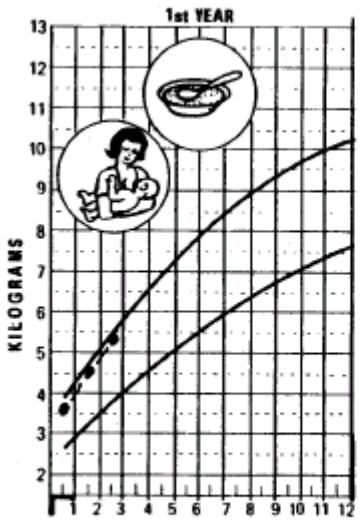
b) Passing small amounts of concentrated urine (yellow and strong smelling), less than 6 times a day.

If the baby is gaining enough weight he is getting enough milk.

If no weight record is available you cannot get an immediate answer.

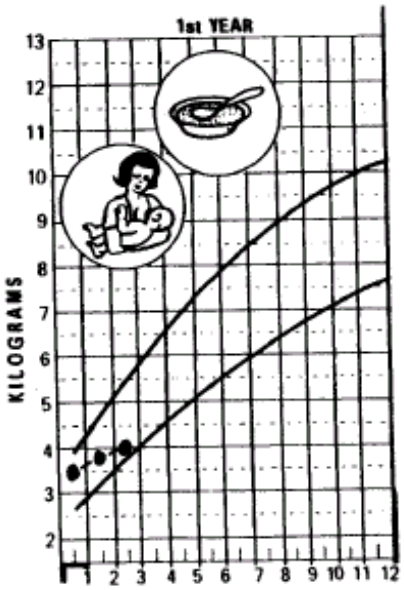
The following examples illustrate how growth charts can be used to determine whether a baby is getting enough milk.
Use the slides to illustrate the examples:

Example 1:



The baby is growing well.

Example 2:



This baby is not growing well. His weight is not increasing according to a recommended line. In fact he is dropping from one line to another. The mother should practice EBF on demand, at least 8 times per 24 hours.