Learning about the first 1000 days

A facilitator's guide for food security & livelihoods NGO staff

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Contents

Topic 3 229 Complementary feeding

Introduction

Development of the guide

This guide was developed thanks to the multi-donor trust fund, Livelihoods and Food Security(LIFT), which recognises that integrating nutrition into LIFT food security and livelihood programming can maximise programme impact. The Leveraging Essential Nutrition Actions to Reduce Malnutrition (LEARN) project was born to address the need for technical assistance in nutrition to implementing partners (IPs). The LIFT programme level outcomes of the LEARN II project are increased nutrition integration capacity and functionality of LIFT IPs and increased capacity of LIFT, LIFT IPs and other civil society actors to advocate for evidence-based nutrition policies and programming that prioritize the first 1000 days. The LEARN II project achieves these outcomes through three project outcomes:

1. Increased number of IPs that utilise state of the art technical resources and support from LEARN to integrate nutrition into their programs
2. Strengthened networks for collaboration, information-sharing and advocacy among programmatic and strategic partners, including SUN networks
3. LIFT Fund Management Office (FMO) equipped with nutrition evidence to inform programme and policy-advocacy decisions

Purpose of the guide

Learning about the first 1000 days builds on the development and successful launch in 2015 of the toolkit Learning about Nutrition that focused on integrating nutrition, food security and livelihoods programming in Myanmar. Learning about Nutrition built the nutrition

knowledge and facilitation skills of project staff working for non-government organisations (NGOs) working in livelihood and food security programs. It also created a demand for more knowledge and skills, especially focused on maternal and child nutrition.

Learning about the first 1000 days is a response to that demand and continues to build on the knowledge and skills related to nutrition for NGOs working in livelihood and food security programs. The facilitator's guide focuses on participatory learning activities and key behaviours related to women's and children's nutritional needs during the first 1000 days 'window of opportunity'. This period, from conception to age two, is when the body and brain of a child are developing at an incredibly fast pace and good nutrition can have lifelong impacts. The information provided focuses on the Myanmar nutrition context and aims to support selected NGO staff to better integrate nutrition into their programs and activities, including understanding how to support community agents to conduct community sessions where relevant.

Please note that this guide is not intended to train NGO staff to be health and nutrition experts or counsellors. NGO staff who are not qualified should not attempt to give tailored health or nutrition advice or counselling to individuals, but rather to refer these individuals to the health care system where they can be supported by a qualified professional. Qualified professionals include basic health professional as well as community health workers and auxiliary midwives, who are based in the communities they serve. Community members themselves, trained as peer facilitators, or simply motivated to support nutrition, can also provide some key support and advice to other families and help connect them with available facility and community services.

A number of government-endorsed messages are detailed in this facilitator's guide and NGO staff can reinforce these behaviours that qualified professionals promote, both to the target population (women during the first 1000 days period) as well as their families and community members who support them.

Why this period is important

From the time a mother becomes pregnant until her child's second birthday is a period of time that lasts approximately 1000 days. Globally, these first 1000 days (from conception to age two) are referred to as a "window of opportunity" to prevent the irreversible consequences of undernutrition.

Consider all that happens in the first 1000 days of life: At day number one, when you were conceived, you were invisible to the naked eye. By around day 1000, however, you were an eating, talking, walking two-year-old human being. At no other time in life does so much growth and development happen in such a short period of time. Fueling this growth is nutrition, and the better the nutrition consumed the better the start children will have in life.

A strong evidence base has led to global consensus that good nutrition and responsive care makes it possible for children to reach their full physical and intellectual potential in life. Children who are adequately nourished and cared for responsively during the first 1000 days are sick less often and perform better in school than those who were undernourished as children.

Damage done during the first two years from nutritional inadequacies is largely irreversible. Poor nutrition during this time has a devastating impact on the child's future potential, even if a child's nutrition status improves after the age of two. This is because so much brain and physical development happens during the first 1000 days, both before and after a child is born.

Data tell us that children in Myanmar are being held back from reaching their full potential. According to the 2015-2016 Myanmar Demographic and Health Survey (MDHS), 29% of children under age 5 were stunted (short for their age), a sign of not receiving adequate nutrition over a long period or by recurrent and chronic illness. That means nearly three out of every ten children in Myanmar are malnourished and according to international growth standards, shorter than he or she should be due to poor nutrition. The MDHS also found that 7% of children under age 5 were wasted (low-weight for their height), a sign of inadequate food intake or recent illness.

Although poverty is a significant contributing factor to poor nutrition, even children in the wealthiest households in Myanmar are undernourished. Among the poorest households in Myanmar, two out of five children are stunted (38%); in the wealthiest households, one in six children is stunted (16%).

Preventing undernutrition

Fortunately, undernutrition, including low birth weight, stunting, wasting, and micronutrient deficiencies, is preventable. The proportions of children who are stunted and underweight both decline with increasing mother's education and increasing household wealth. This means that mothers who are well-educated and live in financially-secure households have better nourished children. To ensure that mothers and their children thrive, caregivers, families, communities and governments need to take specific steps to support them.

Firstly, women who are pregnant must be well-nourished, consuming adequate amounts of a variety of foods, as well as taking rest. It is hard work for a woman's body to build a human being. Maternal undernutrition both before and during pregnancy can lead to growth restriction in the womb that increases the risk of death in the first week after birth and of stunting by two years of age. Insufficient

intake of nutritious foods can lead to micronutrient deficiencies, such as anaemia which is most commonly caused by insufficient intake of foods with iron. In the MDHS 2015 -2016, over half of pregnant women (57%) had anaemia, with 29% classified as having mild anaemia and 28% having moderate anaemia.

Maternal undernutrition can also lead to low birth weight (LBW) babies, or those below 2.5 kilograms. LBW is an important measurement because it not only indicates the nutritional status of the child, but also tells us about the health of the mother. Better nourished women are more likely to give birth to healthy infants. Unfortunately, birth weight data is not always available, particularly for babies born outside of health facilities. In the five years preceding the MDHS 2015-2016, only 45% of live births had recorded a birth weight. Among these, 8% were LBW babies. This could be an underestimate since children born outside of a health facility are less likely to have their birth recorded and more likely to be born into poverty. Mothers who give birth when they are younger (under 20 years old) are more likely to give birth to a child who is too small. Also, mothers who are not educated are more likely to have a low birthweight baby. This means that ensuring that girls are educated through secondary school, and also supporting them to wait until they are ready to have a child, are important ways to help prevent child undernutrition.

Secondly, mothers should be encouraged to breastfeed their babies, starting within one hour of delivery, and exclusively until six months of age. Throughout the pregnancy, a mother has shared all the essential nutrients with her child. Now, after delivery, the mother's breast milk contains everything a child needs for the first six months of life, including water, nutrients, and antibodies to prevent and fight diseases. Even though introducing food or water to a child before six months of age is dangerous to the health of the child, most children are not exclusively breastfed. In fact, only 51% of infants in Myanmar are exclusively breastfed at any time during the first six months. Half of women have already stopped breastfeeding by the time their child is about two and a half months old.

Thirdly, mothers who are breastfeeding should be encouraged to eat more food and a wider variety of food as they have an even greater nutritional need than pregnant women do. The body of a breastfeeding woman prioritises the nutritional needs of her infant, and so if a woman does not consume a sufficient quantity of diverse foods, her own body may suffer. In the MDHS 2015 -2016, nearly half of breastfeeding women (47%) were anaemic, with 38% classified as mildly anaemic and 8% as moderately anaemic. Of particular concern are food restrictions, based on food taboos which are practised among women throughout Myanmar in the first days or weeks after childbirth. Although the specific food taboos vary across the country, many foods containing key vitamins and minerals such as iron, protein and vitamin A are restricted, despite the fact that a mother so desperately needs these nutrients after childbirth.

Lastly, caregivers should begin supplementing breast milk with appropriate complementary foods only when a child turns six months old. New foods should be introduced gradually in increasing amounts to feed a child's growing mind and body. Diverse foods that contain a variety of nutrients will make the child stronger. As a child's teeth come in and stomach grows, the texture and quantity of food fed to a child should change over time, so when a child is one year old, he or she should be eating all the same types of food that the family eats. According to the MDHS results, only 16% of children in Myanmar age 6-23 months met the minimum standards of all three infant and young child feeding (IYCF) practices. These include whether or not the child is breastfed, whether a child is given a sufficient number of food groups in a day, and whether a child is fed frequently enough in a day, based on their age. In Myanmar, only 25% of children are fed the correct number of food groups in a day, and only 58% have been fed the minimum number of times appropriate for their age.

Every child deserves a fair start in life. Giving the right nutrition to children, especially in the 1,000 days' "window of opportunity", lays the foundation that will last the rest of their lives.

Changing behaviours and social norms through nutrition-sensitive activities

Good maternal and child nutrition depends upon people adopting certain globally-accepted positive behaviours. Some examples of positive behaviours that can affect nutrition include:

1. Pregnant women consume foods from all four star food groups at every meal
2. Caregivers wash their hands with soap and water at the five critical times every day
3. Mothers exclusively breastfeed their infants for six months.
4. Husbands motivate their pregnant wives to attend eight antenatal care sessions during pregnancy.
5. etc.

These are only a few of the many important behaviours promoted by the government, UN, and NGOs in Myanmar.

In some cases in Myanmar and other countries, cultural norms and practices can contradict recommended behaviours, which creates a challenge for the government, UN and NGOs in supporting better health and nutrition outcomes. Understanding why people do—or do not—practice a certain behaviour creates challenges and opportunities for implementing better and more cost-effective programs and services. When it comes to nutrition and health programs, it is critical for NGO staff to understand what behaviour change is, and how it can be integrated into programming to affect change.

Many maternal and child nutrition interventions fail to improve nutrition because they are based on incorrect assumptions about why people do not practice a certain behaviour. All too often, we simply give people information about health and nutrition issues, assuming that this will lead to positive changes their behaviour. However, evidence suggests that simply increasing knowledge and awareness of good nutrition practices rarely leads to sustained behaviour change. For example, a woman may fail to attend the recommended eight antenatal care visits because she does not have the resources to pay for transportation; simply educating her about the importance of these visits will not change her financial situation. Therefore, to be successful the NGO would have to rethink the type of activities they will implement or approach they will take in order to create an environment where the woman is able to overcome her challenges. A successful intervention needs to address the most important factors, including knowledge, attitudes and beliefs and/or the social, economic, and political environment, that influence promoted behaviours. These factors are not the same for every behaviour, so each specific behaviour must be explored independently.

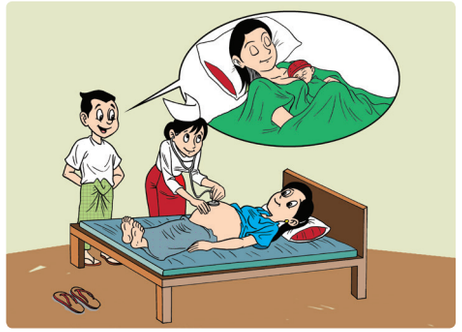
In many cases, developing activities to assist caregivers to change their behaviours and social norms includes developing and disseminating information, education and communication (IEC) materials to improve knowledge. All too often, single messages are targeted to single audiences, usually mothers. When these IEC materials are delivered, it is expected that they will spur the target audiences to put this knowledge into practice. However, we know from years of development interventions that we must do more than create IEC materials and educate people to facilitate behaviour change.

The process a person goes through to change a behaviour and then make this behaviour a habit in their lives can be explained in five steps. These are (1) pre-awareness; (2) awareness and contemplation; (3) preparation and decision-making; (4) action; and (5) maintenance.

Completing all five steps of the process is important for a behaviour to be fully adopted. A woman who has achieved step 2 (awareness) may be aware that she should exclusively breastfeed, which means only giving breastmilk with no other foods or liquids for the first six months after her baby is born. Perhaps she attended a mother's group session and the community health worker discussed this issue. However, perhaps her baby was having a difficult time latching on to her breast immediately after birth, or perhaps her baby often cried and she did not have the confidence that she could produce enough milk for her baby. Or, maybe her mother-in-law told her that rice porridge at two months would make the child stronger and she didn't want to create a conflict within the family. Or, perhaps she had to go back to work at a factory or in a paddy field before the baby was six months old, and she did not know that her breast milk could be expressed, stored safely, and fed to the baby by a caregiver when she was at work. There are many reasons why someone might be aware that they should practice a behaviour, but for some reason it is too difficult or does not seem possible to do it.

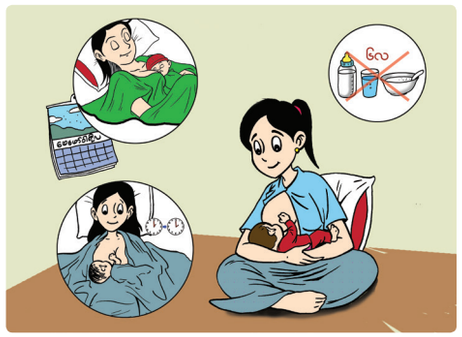
Therefore, instead of only increasing awareness or contemplation at the individual or family level, a more effective approach is to focus on

Pre-awareness



Awareness

Preparedness



Action

Maintenance

Visual aid: Stages of behaviour change

a comprehensive social and behaviour change approach that explores the factors that drive behaviours – both barriers and supports – at multiple levels: individuals, families, influential community members, service providers, and policy makers. This facilitator guide focuses on key behaviours through participatory activities that are tailored to the specific Myanmar context. The participatory activities were selected based on the criteria of feasibility, acceptability and relevance and promote small doable actions based on the knowledge and experiences of those who directly (caregivers) or indirectly (family members, community members) influence nutritional status.

This guide focuses on a 'nutrition-sensitive approach', that can be integrated into food security and livelihoods activities. Some examples of ways that food security and livelihoods projects can promote doable actions include:

1. Target households with pregnant and breastfeeding women and children less than two years old, since they are the most vulnerable to malnutrition.
2. Incorporate basic nutrition, health and hygiene education, including cooking demonstrations, into agriculture programs.
3. Increase the range, production and consumption of nutritious varieties of local foods by establishing home and/or school gardens.
4. Encourage consumption of a wide range of nutritious foods which are produced or collected from forests, rivers, seas, mangroves and other wild areas that do not cost any money.
5. Improve market access for smallholders to grow and sell nutritious foods in their local communities.
6. Improve food processing, preservation and storage to allow for access to nutritious foods year-round.
7. Manage natural resources to improve agricultural productivity through soil, water and biodiversity conservation to make a wider range of diverse foods available to communities in both the short and long term.

8. Provide time and labour-saving solutions for agricultural tasks, particularly those most commonly done by women, to allow more time for responsive caregiving.
9. Introduce bio-fortified crops into agricultural research and programmes that disseminate this technology.
10. Promote consumption of animal products in livestock and fisheries interventions, particularly among pregnant and lactating women and 6 to 23-month-old children.
11. Implement safety net and social protection mechanisms that support and protect nutrition outcomes, such as:
    - Cash transfer amounts, based on the cost of a nutritious diet, along with nutrition education and counselling to support them to spend the money on healthy foods
    - Cash transfers that are conditional on the timely use of health or nutrition services
    - Fresh food vouchers

When delivering food security and livelihoods projects, it is important to follow the "do no harm" principle by ensuring that project activities do not unintentionally have a negative impact on women or children, either directly or indirectly. For example, in a vocational training for women, ensure that the programme is respectful of her time as she may already have a heavy workload and a number of domestic responsibilities. Ensure arrangements have been made to support women who are breastfeeding to do so, such as dedicating space and time for them to breastfeed. In an animal husbandry project, ensure that a clean, safe environment for young children is maintained by not allowing animals to drop faeces near the household. Young children may touch or put these in their mouth that can lead to the transmission of parasites or other illnesses that can undermine a child's health and nutrition status.

Adults learn best when...	So facilitators should...
they are involved in setting learning goals, content and activities	make sure that everyone is clear about the goals for the training and what outcomes they should expect
they feel relaxed about experimenting, making mistakes, and taking risks	• Create an atmosphere that is supportive and comfortable for learning • make the activities stimulating and enjoyable • use introductory exercises, trust-building exercises and icebreakers • provide a lot of opportunities for practice • allow people to learn from their mistakes
they trust one another and are respected	• develop a trusting, respectful learning environment • dress and behave appropriately
the lesson content is relevant to their needs and daily lives	use real life situations and realistic examples and problems
they are actively involved in the learning process (learning by doing)	include activities which require active participation by the learner involving their ideas, attitudes, feelings, and beliefs
their own personal learning style is accommodated	• adapt the training to the characteristics, literacy level, environment and needs of the participants • use a range of different facilitation techniques • create an atmosphere of respect and understanding for the participants
their own experiences and knowledge are included in the training	• discourage the participants from seeing the facilitator as an expert • encourage the participants to share their own knowledge and experiences • build on this by adding extra information and skills which they need

Table 0.1 Guidelines for designing a participatory learning programme

Using the facilitator guide

Key uses of the facilitator guide

... As a training guide to build the capacity of NGO staff who are or who want to integrate nutrition into their food security and livelihoods programmes.

... As a reference guide for trained NGO workers as they design programme activities and monitor and support community agents who conduct community-level programme activities.

Guiding principles for adult learning

In this guide, learning is understood as a process of acquiring knowledge, attitudes and skills needed to change behaviours that improve and promote best practices in nutrition for better health and well-being. This guide takes a participatory approach to adult learning. Adult learning is a style of learning for adults which is based on participation rather than in a formal educational institution such as a school, college or university.

Participatory learning focuses on the needs and experiences of participants and has been shown to be effective. When leading a participatory adult learning session, facilitators must find out as much as possible about the existing needs and experience of the participants (NGO staff). The process of learning is just as important as the content, so the facilitator should adapt the activities accordingly. The following guidelines can help a facilitator when using a participatory adult learning process:

To be effective, a participatory learning session must assist, guide and support participants while they learn, reflect and act. Facilitators lead the learning process. They are not teachers or experts who are

delivering information. They should ensure participants understand the correct key messages from each session, alert participants to any harmful beliefs and practices that are brought to light during the activities, and provide the knowledge and skills to enable the uptake of key behaviours.

Format of the facilitator guide

Training Topics

The guide is divided into four topics:

Topic 1: Motherhood: Preparing for the Journey

Topic 2: Breastfeeding: Immediate, exclusive & continued

Topic 3: Complementary feeding

Topic 4: Safeguarding a child's health

In the training for NGO staff, topics should be covered in sequential order because each session introduces and explains concepts and provides definitions that are then used in the subsequent sessions.

If trained NGO staff are using the guide to facilitate sessions for community groups, they can identify isolated topics, sessions and even specific participatory activities that are relevant for that particular target group. All material can be adapted for a specific context.

Sessions

Each topic has a number of sessions. Each session begins with a background section to build the capacity of NGO staff. It then includes a participatory activity with a variety of steps. These steps include ordered tasks for the facilitator to do when conducting the training.

The participatory activities begin with a summary of:

Purpose	What is the purpose of the steps
Time	How long will all the steps take*
Materials	What items are required for the activity
Methods	What learning methods are used
Instructions	How to facilitate each step

At the end of each session is a focused discussion period to reflect on the learning process. First, a recall of what the participants have learned so as to reinforce some of the most important information presented. During the training for NGO staff, the facilitator should correct any misconceptions or incorrect information. Secondly, how the knowledge gained can lead to identification of key messages that can be highlighted to promote behaviour change. These key messages are presented as bullet points in bold text.

Learning methods

Activities in this guide rely on many different learning methods, led both by participants and facilitators. Some of the learning methods here may be familiar to you from **Learning about nutrition**, while others may be new to you.

Agree or disagree/Debate

Statements about a topic, with which participants must either agree with or disagree, are useful in presenting information, stimulating discussion and correcting misconceptions about topics.

* Time estimates for the whole activity and for each step are based on enrolment of 20-24 participants. If there are more participants, the time allocated to an activity will need to be increased.

Buzz groups
The facilitator poses a question, problem or issue and then asks groups of two or three participants who are sitting together to quickly share ideas. This can be done without breaking up the plenary formation.

Brainstorming
Participants are encouraged to give ideas spontaneously on a particular question, problem or issue while the facilitator writes every idea given on a flip chart. No idea is considered unrealistic before the follow-up discussion. This activity makes participants feel valued, confident, and trusted.

Card collection and clustering
The facilitator poses a question, problem or issue and then distributes coloured cards/post-it notes to the participants. The participants write their ideas on the cards, which are then collected and shuffled. The facilitator displays and reads each card without asking who wrote it. Volunteers then pin the cards on a flip chart/board, putting them in clusters of associated or linked ideas. These clusters are then identified and can be prioritized by participants.

Case Studies
This is a participatory, discussion-based way of learning where participants analyse a real-world situation (a case).

Chalk Talk
A Chalk Talk is a silent activity that provides all participants the opportunity to reflect on what they know, and then share their thinking and wonderings while connecting to the thoughts of their fellow participants.

Collective Ranking
In a situation where the group must prioritize or narrow down a field of topics or issues, the participants are given three objects (sticky notes, beans, buttons, etc.) that they can use to vote for the three most important issues. The top three most popular issues are then selected and ranked according to the number of votes they have received.

Community Mapping
The facilitator asks the participants to draw a map which highlights physical structures, organizations, people, and institutions.

Compass Points
The facilitator provides the participants with four directions to explore. These are North (Need to Know), South (Suggestion), East (Excited) and West (Worrisome). The purpose of this is to help participants methodically process, explore and evaluate an idea or proposition. The categories can be adapted to better suit the activity.

Competition
A game or activity with a challenge for an individual or group to win over another by answering questions about a topic or demonstrating skills.

Connect, Extend & Challenge
The facilitator asks participants to make thoughtful connections between old knowledge and new knowledge, and to evaluate their levels of comprehension. The participants respond to the questions: How is the new information connected to what you already know? What new ideas did you get that extended or pushed your thinking in new directions? What is still challenging or confusing for you to understand?

“Dear Expert” Letter
The facilitator gives the participants a letter from someone who has questions for or needs advice from an “expert” on a problem or issue. The participants must act as an expert and respond to the letter, applying their newly acquired knowledge to the situation.

Demonstration
A practical exhibition and explanation of how something works or is performed.

Discussion
This is the foundation of information exchange. The facilitator should encourage discussion by giving sufficient time for the participants to think about the topic and then engage with others. The facilitator can probe with questions to get the discussion started and then moderate the discussion, ensuring all voices are heard.

Energisers
One-or-two-minute short, fun activities to get all of the participants to stretch, move around and laugh when energy levels begin to run low, especially after lunch. The facilitator can make up an energiser (such as getting participants to sing a song, do a dance or perform silly actions), or ask participants if they know any energisers that they would like to perform.

Gallery Walk
During a gallery walk, participants (either individually or in their groups) walk around the training space to review text or images created by their peers. In some cases, the participants are given the opportunity to write or post feedback for the authors of the work.

Game
These are entertaining ways to help participants think about issues and problems while having fun. Games may use picture cards or other props.

Group exercise
This method involves problem solving activities and practical work. Small groups of 3 to 5 participants allow everyone to contribute their opinions and ideas. The small group helps shy participants have the confidence to speak out and to try new activities.

Mapping Trends
The facilitator maps the actions of the participants by asking them to take one step forward if they have completed a particular task or have experience in something. The facilitator asks a number of questions to distinguish between those participants who have more and less experience in a given area.

Opinion Spectrum
This learning method encourages participants to decide where to stand on a visible or invisibile line, representing a spectrum, in order to demonstrate how strongly they feel about a topic or question. This allows the facilitator and participants to understand where people's opinions fall along a spectrum.

Picture Code
The facilitator shows the participants an image or series of images to be analysed. Participants are first encouraged to explain what they see before interpreting or drawing conclusions.

Presentation
After certain group exercises or other activities, one member of the group can volunteer to present to the whole group (plenary). The facilitator should ensure that the same people do not volunteer all the time and encourage other participants from other groups to ask questions. The facilitator can summarize main points by writing them on the flip chart.

Role play
Participants read a script or develop their own script on a particular topic and then act out different parts and characters. This can help them explore issues and challenges and see things from other people's point of view.

Stepping Stones
Participants demonstrate their knowledge or skills of the steps required to achieve a particular outcome.

Storytelling
This method characterizes and personalizes a situation demonstrating correct or incorrect behaviours. After the story, the facilitator can ask the participants questions about what happened in the story to ensure that the correct message was received.

Timeline
The facilitator draws a line with time intervals and asks the participants to recall what has happened or to imagine what will happen in those periods.

Visualisation
A visual exercise which represents how something works.

Topic 1

Motherhood: Preparing for the journey

Purpose

To enable participants to understand physical changes to the body during pregnancy, the additional nutrition needs of women during pregnancy and while breastfeeding, what health services are available to mothers and babies during the first 1000 days, and how families and communities can support women as they prepare for the journey of motherhood.

Topic overview

Notes to facilitator

- Read each session topic thoroughly to become familiar with the content.
- The participatory activities describe what will be done with participants during the session. The steps are a guide for the training that can be adapted to meet the needs of the participants and the training environment. The ideal group size is 15-20 people, but no more than 25.
- Use introductory exercises, trust builders, ice breakers and energizers to help participants to get to know one another.
- The facilitator should use as many participatory methods as possible to keep the activities active and interested.
- Review and correct any incorrect information given by the participants. If you are unsure of any answer, tell the participants that you are not sure, and either follow up later after finding the answer, or encourage a participant to find the answer and report back to the group.
- At the end of the activity ensure the participants reflect on what they have learnt and review all the key messages and behaviours.
- Again, do not put the number on the card titles, as this will give away the answers!

Session 1.1

Stages of pregnancy

Background 1.1

What to expect in the first three trimesters?

The total period of pregnancy is normally 40 weeks, however not all women give birth after exactly 40 weeks. A pregnancy is divided into three time periods, or trimesters:

- 1st trimester = 0-13 weeks
- 2nd trimester = 14-27 weeks
- 3rd trimester = 28 to 40 weeks

The gestational age of the foetus is the number of weeks that a baby has been in the uterus. A baby is considered to be “full term”, or ready to give birth, between 37 and 42 weeks. If a woman gives birth before this, the baby is considered to be “preterm”. If a woman does not give birth at the end of her 42nd week of pregnancy, she is considered to be “post-term”.

Birth period	Gestational age	What does it mean?
Preterm	Less than 37 weeks	Preterm infants, also known as premature, are born before the 37th week of pregnancy. They often suffer from complicated medical problems and have a low-birthweight. Many of the reflexes needed for breastfeeding may not be fully developed. All these difficulties can make breastfeeding a premature baby challenging, but breast milk is extremely important to these tiny babies and breastfeeding is possible from as early as 28 weeks gestation. Preterm infants are more likely to be stunted. The earlier the baby is born, the higher the risk of medical complications, disability and death. Avoiding a pre-term birth is one reason why it is important for a mother to be well-nourished, healthy during her pregnancy and complete 8 ANC visits at the health centre.
Full term	37 to 42 weeks	This is the ideal time to give birth because a baby is fully developed. Technically,40 weeks is considered to be the normal period of pregnancy. The “due date” for a delivery is the end of the 40th week. During this window of time, the baby is fully developed and more likely to be normal-birthweight. The mother is most likely to have a healthy birth.
Post-term	43 or more weeks	The baby is overdue at this point and a woman should be sure to go to a health facility to consult with a health professional.

Stage 1:

The first trimester (weeks 0-13)

A missed period, or when menstrual period stops, is often the first clue that a woman might be pregnant. Pregnancy is counted from the first day of a women’s last normal period because each time a woman has a period, her body is preparing for possible conception, or pregnancy.

Mother – what to expect during the 1st trimester

During the first trimester a women’s body undergoes many changes. Hormonal changes affect almost every organ system in the body even in the very first weeks of pregnancy. Just as each woman is different, so is each pregnancy. Some common changes include.

- Extreme tiredness
- Tender, swollen breasts and nipples might stick out
- Cravings or distaste for certain foods
- Mood swings due to hormonal changes in the body, fatigue or physical stress
- Constipation (trouble having bowel movements)
- Need to pass urine more often
- Headache
- Heartburn
- Weight gain or loss

In the first trimester hormone changes also can cause nausea and vomiting. This is called ‘morning sickness’, although it can occur at any time of day. An empty stomach can make it worse, so a woman should eat a little bit of food at a time, but eat often. Try bland food like crackers and rice and avoid strong smells or spices.

Most of these symptoms listed above that a woman might experience during pregnancy are normal, even if not very comfortable. It's normal to have some nausea and vomiting during the first trimester, but if a pregnant woman can't keep any water or fluids down for more than 12 hours, she should go to the nearest health care facility.

A pregnant woman's body is also preparing to breastfeed the baby growing inside. From the fifth or sixth week of pregnancy, the breasts become fuller and nipples become more tender. Nipples and the darker-coloured area around them, called the areolae, may enlarge and darkened, and the small bumps on the areolae, the Montgomery glands, become more prominent.

Foetus – Developments during the 1st trimester

Gestational age is the age of the pregnancy from the last normal menstrual period. When the foetus's gestational age is four to five weeks the foetus is now an embryo and one-twenty-fifth inch long, which is about the size of a poppy seed. The brain, spinal cord and heart have begun to form and arm and leg buds appear.

At eight weeks the foetus looks more like a human and is about the size of a grape. The foetus is nearly one inch long and weighs less than one-eighth ounce. All major organs and external body structures have begun to form. The foetus's heart beats with a regular rhythm. The arms and legs grow longer, and fingers and toes have begun to form. The sex organs begin to form. The eyes have moved forward on the face and eyelids have formed. The umbilical cord is clearly visible.

At 12 weeks the foetus is the size of a pea pod. It is about 3 inches long and weighs almost an ounce. The nerves and muscles begin to work together. The foetus can make a fist. The external sex organs show if your baby is a boy or girl. Eyelids close to protect the developing eyes. They will not open again until the 28th week. Head growth has slowed.

Stage 2:

The second trimester (weeks 14-27)

Mother – What to expect during the second trimester

Many women find the second trimester of pregnancy easier than the first. Symptoms like morning sickness and fatigue might decrease or go away. But, as the baby continues to grow and the pregnant woman's body adapts to make room for the growing baby, she may experience a number of changes in her body, such as:

- Body aches, such as back, abdomen, groin, or thigh pain
- Stretch marks on abdomen, breasts, thighs, or buttocks
- Darkening of the skin around nipples
- A line on the skin running from belly button to pubic hairline
- Patches of darker skin, usually over the cheeks, forehead, nose, or upper lip. Patches often match on both sides of the face. This is sometimes called the mask of pregnancy.
- Itching on the abdomen, palms, and soles of the feet
- Minor swelling of the ankles, fingers, and face

The above changes are normal, but a pregnant woman should see her health care provider if she has any sudden or extreme swelling in the legs and water retention. These could be symptoms of preeclampsia, which is a complication of pregnancy that is dangerous both for the woman and child. Preeclampsia usually begins after 20 weeks of pregnancy. One warning sign of preelcampsia is when a woman whose blood pressure had previously been normal becomes high.

Starting about the third month of pregnancy, the pregnant woman's hormones cause the development of many milk ducts and gland-producing cells in the breast to prepare for milk production. The breasts become substantially larger as the glandular tissue necessary

to produce milk forms. Before the end of the second trimester, the breasts are fully capable of producing breastmilk and the highly nutritious colostrum, the first milk the mother produces, will be ready as soon as the baby starts to suck.

Foetus – Developments during the second trimester

At 16 weeks the foetus is about the size of an avocado. It reaches a length of about 4 to 5 inches and weighs almost three ounces. Muscle tissue and bone continue to form, creating a more complete skeleton. Skin begins to form. Meconium, or a baby's first stool, develops in the intestinal tract. The foetus begins making sucking motions with the mouth, the sucking reflex to prepare for breastfeeding.

At 20 weeks, halfway through the pregnancy, the foetus is about the size of a mango. It is six inches long and weighs about nine ounces. The foetus is more active and the mother might feel a slight fluttering movement. Eyebrows, eyelashes, fingernails, and toenails have formed. The foetus can even scratch itself and can hear and swallow.

At 24 weeks the foetus is about 12 inches long and weighs about 11⁄2 pounds, or about the size of a cantaloupe. The foetus stores fat. Bone marrow has begun to make blood cells. Taste buds form on the tongue. Footprints and fingerprints have formed. Real hair begins to grow on the foetus's head. The lungs are formed, but do not work. The foetus sleeps and wakes regularly. If the baby is a boy, his testicles begin to move from the abdomen into the scrotum. If the baby is a girl her uterus and ovaries are in place, and a lifetime supplyvt of eggs have formed in the ovaries.

Stage 3:

The third trimester (weeks 28-40)

Mother – What to expect during the 3rd trimester

During the third trimester, the pregnant woman will gain weight, typically about one pound a week. Some of the same discomforts experienced in the second trimester will continue. Many women find it hard to breathe (shortness of breath) and have to urinate even more often. This is because the baby is getting bigger and it is putting more pressure on her organs. Other body changes include:

- Heartburn
- Haemorrhoids (veins around the anus that are swollen and itchy)
- Navel, or belly button, may stick out
- Trouble sleeping (can't find a comfortable position)
- The baby "dropping", or moving lower in the abdomen

A pregnant woman may experience "false labour" contractions known as Braxton-Hicks contractions. These contractions begin to soften and thin the cervix, preparing it for the delivery of the baby. These are irregular, do not occur more often as time passes, and do not become stronger or more intense, unlike true labour contractions.

As in the 2nd trimester, a woman should be aware of any the danger signs in pregnancy. If any sudden or extreme swelling occurs or a lot of weight is gained quickly, a pregnant woman should visit a health care provider as these can be signs of preeclampsia.

As the pregnant woman nears her 'due date', the date when the baby is supposed to be born, her breasts become tender and may leak the pre-milk called colostrum. The cervix becomes thinner and softer, a natural process called effacing, that helps the birth canal (vagina) to open during the birthing process.

Foetus – Developments during the 3rd trimester

At 32 weeks the baby is gaining weight quickly, about one-half pound a week. The foetus is the size of a coconut. It is about 15 to 17 inches long and weighs about 4 to 41/2 pounds. The foetus's bones are fully formed, but still soft. The foetus's kicks and jabs are forceful. The eyes can open and close and sense changes in light. Lungs are not fully formed, but practice "breathing" movements occur. The foetus's body begins to store vital minerals, such as iron and calcium.

At 36 weeks the foetus is as large as a papaya, or about 16 to 19 inches long, weighing about 6 to 61/2 pounds. Body fat increases. The foetus is getting bigger and has less space to move around. Movements are less forceful but the mother might feel stretches and wiggles.

At 39 weeks, the foetus is considered full-term and is about the size of a jack fruit. The foetus's organs are ready to function on their own. As the due date for birth nears, the foetus usually turns into a head-down position in the womb for birth. In about 1 out of 25 full term births, a baby's buttocks and/or feet will be positioned to be delivered first, which is called a 'breech presentation'. Delivering a baby in breech position can be dangerous and as a result usually requires a caesarean section (C-section) in which a baby is delivered through the abdomen during a surgical procedure in a health facility. A health professional can detect the position of the foetus, and this is one reason why it is important to go to a health facility for antenatal care during pregnancy.

At birth, most babies will weigh between 6 pounds 2 ounces and 7 pounds 2 ounces and be 19 to 21 inches long, or about the size of a watermelon. However, healthy babies come in many different sizes.

Staying healthy during pregnancy

In order to stay healthy during pregnancy, there are a few DO's and DON'Ts that every woman should follow.

DO eat an extra meal

Nutrition during pregnancy provides the essential building blocks for a baby's brain development, healthy growth and a strong immune system. Pregnant women need to eat a larger quantity of nutritious food than usual each day because they are feeding themselves and their growing babies. Pregnant women should eat an extra meal of the most nutritious foods available to be well nourished and strong for childbirth. This extra food will build the reserve in the mother's body to prepare for breastfeeding and childbirth. The extra food will not make the baby too big, but rather strong and healthy.

DO attend antenatal care (ANC) sessions at eight recommended times

According to Myanmar's National Guidelines for Antenatal Care For Service Providers (MoHS 2018), as soon as a woman suspects she is pregnant (after a missed menstrual period), she should go to the nearest health facility, or visit a midwife or Auxiliary Midwife (AMW). Then she should continue to receive ANC care at week 20, week 26, week 30, week 34, week 36, week 38, and week 40.

DO take iron and folic acid tablets

During the 1st trimester pregnant women should continue to take iron and folic acid (a B vitamin) each day. She should go to the health centre or pharmacy to get an iron and folic acid supplement. Neural tube defects, which are a problem with the brain, spine, or spinal cord, can happen in the first few weeks of pregnancy and folic acid can help prevent this. Additionally, pre-conceptional and intake of folic acid supplements while pregnant might prevent congenital heart disease and oral clefts, as well as preterm births. She can get these tablets from a health professional or the pharmacy.

Folic acid also helps prevent folate-deficiency anaemia, when healthy red blood cells, or haemoglobin, are decreased in a pregnant women's body. Iron helps prevent iron-deficiency anaemia. Both types of anaemia can cause general weakness and many other symptoms including headaches, shortness of breath, dizziness, cold hands and feet, and brittle nails.

Pregnant women should always take iron folic acid tablets (IFA) tablets with food to avoid nausea and vomiting, stomach pain, or constipation. They should also drink a lot of water to avoid becoming constipated. When pregnant women are taking the IFA tables, their stools may appear very dark or black, but this is normal.

DO take a deworming tablet

Another cause of anaemia are parasites, or intestinal worms, including roundworms, whipworms and hookworms. Worm infestation can happen from eating contaminated food or liquids. This is one reason why it is important to drink clean water, wash hands at critical times (before preparing meal, before eating meal and after using toilet), and safely prepare and store food. People also can be infected by worms by going barefoot, as the worms can enter through the skin or through a small cut. All pregnant women should wear shoes to prevent infection.

These parasites can cause digestion problems, such as diarrhoea, that prevent the absorption of nutrients from food or cause internal bleeding. Pregnant women should deworm using a single-dose of mebendazole after the first trimester (when three months pregnant) whether or not they are showing symptoms of parasites as a precautionary measure (MoHS 2018). Be careful not to take any medicine containing albendazole as it could damage the foetus. Government health centres provide one deworming tablet to pregnant women and offer education on how to avoid parasites to prevent anaemia.

DO practice good hygiene and sanitation

To keep healthy and prevent both respiratory illness and diarrhoea pregnant women should practice good hygiene and sanitation. They should use a sanitary latrine, drink clean water from safe sources, wash their hands with water and soap before preparing food, before eating or feeding family members and after using the toilet and cleaning a child's bottom. They should also prepare food in a clean environment and store food and water safely to avoid contamination. For more information, please refer to Session 4.4. Also, see relevant sessions under Topic 4 in the Learning About Nutrition facilitation guide.

DO sleep under an insecticide-treated mosquito net

Pregnant women and their babies are at risk for malaria, which is an infection that can cause anaemia in the mother, leading to a low-birth weight baby. In serious cases, it can lead to death. Intermittent preventive treatment for malaria should be given at each antenatal care visit after the first trimester. Pregnant women should sleep under an insecticide-treated mosquito net to protect herself from being bitten. If a pregnant mother has a fever she should be tested for malaria, and if positive, be treated immediately.

DO pay attention to emotional health

In addition to limiting physical stress, a woman who is pregnant needs to pay attention to her emotional health. Pregnancy can be a stressful time. A woman may be experiencing fatigue, and her hormones are changing during this time. Both of these can affect her emotions. Loved ones and community members should support women who are pregnant, whether it is giving them a seat on a crowded bus, reminding them to go to their next ANC appointment, asking if they need any help, or simply asking them how they are feeling. Pregnant women should also be encouraged to reach out for help because people may not always be aware of each individual's specific feelings and needs.

DO NOT lift heavy loads or stand-up too long

Women should avoid lifting heavy objects while pregnant because the skeletal and muscle system changes during the stages of pregnancy and the woman can be more susceptible to strains. For some women, lifting heavy objects can lead to an increased risk of premature labour and low birth weight. Work that requires hours of standing might be dangerous for the baby due to disrupting the flow of blood. Too much standing might also increase the risk of the mother developing high blood pressure, as well as the risk of premature birth. For this reason, it is important for family and others to support pregnant women by ensuring that they are not working too hard. This might entail relieving pregnant women of certain duties, such as hauling water, working in the field, and moving heavy loads, among others.

DO NOT drink alcohol during pregnancy

Throughout the entire pregnancy a woman should not drink any alcohol, which can cause foetal alcohol spectrum disorders (FASDs), a term for the range of disorders that can happen in a baby whose mother drank alcohol during pregnancy. These disorders include serious birth defects, learning problems and behavioural disorders. No amount of alcohol intake should be considered safe. All forms of alcohol, such as beer, wine, and liquor, pose a risk.

DO NOT smoke tobacco, take illicit drugs, or chew betel nut

In general, smoking tobacco, taking illicit drugs and chewing betel nut are unhealthy habits. However, it is even worse to use them while pregnant because the foetus is extremely sensitive to these substances; if the mother consumes too much the child can suffer life-long consequences. Smoking tobacco and chewing betel nut are known to cause cancer and tooth decay. It is particularly dangerous for a pregnant woman to smoke cigarettes or cigars because it can cause decreased foetal breathing, premature birth, a low birth weight baby, respiratory disorders, and sudden infant death syndrome. A pregnant woman should try to make her home smoke free and avoid breathing in ‘second-hand’ smoke, which comes from another person

Learning about the first 1000 days

smoking nearby. Chewing betel nut has many health associated risks. Betel quids often contain tobacco and other harmful ingredients. For women who take illicit drugs, their babies can suffer from a number of serious consequences ranging from behavioural problems to developmental problems to birth defects. In more severe cases, they can cause stillborn births. Partners and loved ones should help support pregnant women by not using these substances in their presence and by encouraging women not to use them.

Learning Activity 1.1

A Healthy Pregnancy

Purpose

To enable the participants to identify a pregnant woman's physical changes during the three stages of pregnancy and the growth of the baby inside the womb and to recognize healthy and unhealthy practices that could affect the mother and child's wellbeing.

Time

1 hr 15 minutes

Materials

- Flip chart
- Permanent pens
- Visual aids: pictures of foetus
- Cards - Description of Pregnant Woman (see activity below for text)
- Cards - Description of Foetus (see activity below for text)
- Cards- Do's and Don'ts During Pregnancy (see activity below for text)
- Visual aids 1.1

Learning Methods

- Timetline
- Agree or Disagree
- Reflection

Instructions

Step 1 Timeline

Stages of pregnancy 30 mins

1. Welcome participants to the start of the first 1000 days journey! Explain the significance of the first 1000 days to the participants.
2. Divide the participants into small groups of three to four people. Give the participants three sets of cards. One set of cards has images of foetuses in utero on them. The second set of cards has a description of physical changes for the foetus during gestation, and the third set of cards has a description of physical changes during pregnancy for the mother.
3. Ask the participants to put each set of cards in order of chronology (starting with the images of the foetus, then the physical changes of the foetus and mother). Give the participants fifteen minutes to put the cards in order.
4. Now, the facilitator should draw a line on the floor marked with 3 intervals, 1st, 2nd and 3rd.
5. Explain to the participants that the line shows a journey of a pregnant woman, representing the first, second and third trimester.
6. Ask one group to volunteer to step forward with their images of the growing foetus. Ask them which images belong to the first trimester (the beginning of pregnancy). Be sure that all participants can see the images. Repeat this process with the second and third trimesters.
7. Ask the other groups if they agree with the placement of the images.

8. Now, move on to the "Description of Foetus" cards. Ask a different group to explain to the group how they organised their cards explaining the physical changes in the foetus during gestation. Which cards belong to the first trimester? The second? Third? Place the cards along the floor in the appropriate place, according to trimester.
9. If the participants have forgotten to share any important information, the facilitator should fill in these gaps and clarify any misunderstandings. If the participants have given any wrong information, the facilitator should discuss and correct these errors.
10. Repeat this process with a third group for the "Description of Pregnant Woman" cards depicting a woman's physical changes during pregnancy. Again, have the participants place the cards along the floor in the appropriate place, according to trimester.
11. Now, ask the participants to reflect on the physical growth and changes that happen during each trimester. How does this relate to food intake? To good hygiene practices?
12. If the participants have forgotten to share any important information, the facilitator should clear up these gaps and correct

First Trimester

5 weeks

12 weeks

Second Trimester

16 weeks

20 weeks

Third Trimester

32 weeks

40 weeks

Visual aids: Pictures of foetuses

Do not put the number on the card titles, as this will give away the correct order of the cards!

Cards - Description of Foetus:

Card 1:

- 5 weeks- The baby's brain, spinal cord and heart have begun to form
- 12 weeks- The baby can make a fist; the external sex organs show if the baby is a boy or a girl; Eye lids close.

Card 2:

- 16 weeks- The baby makes suckling motion with the mouth – for breastfeeding
- 20 weeks- The baby can scratch, hear and swallow.

Card 3:

- 32 weeks- The baby practices "breathing movements"
- 39 weeks- Full-term; The baby's organs are ready to function on their own.
- At birth- Most babies will weigh between 6 pounds 2 ounces and 7 pounds and 2 ounces and be 19 to 21 inches long.

Again, do not put the number on the card titles, as this will give away the correct order of the cards!

Cards - Description of Mother:

Card 1:

- Extreme tiredness
- Tender, swollen breasts and nipples
- Cravings or distaste for certain foods
- Mood swings due to hormonal changes in the body
- Headache, heartburn, constipation, needing to pass urine more often.
- Morning sickness (nausea, vomiting)

Card 2:

- Body aches, such as back, abdomen, groin or thigh pain
- Stretch marks on abdomen, breasts, thighs or buttocks
- Darkening of skin around nipples
- Line on the skin running from belly button to pubic hairline
- Patches of darken skin, usually over the cheeks, forehead, nose, or upper lip (Known as "the mask of pregnancy")
- Minor swelling of the ankles, fingers, and face.

Card 3:

- Heartburn
- Haemorrhoids (veins around the anus that are swollen or itchy)
- Navel, or belly button, may stick out
- Trouble sleeping (can't find a comfortable position)
- The baby "dropping", or moving lower in the abdomen
- Braxton-Hicks contractions, or "false labour" contractions

Step 2 Agree or Disagree

Staying Healthy During Pregnancy 30 mins

Label one corner of training room **“DO”** and another corner of the training room as **“DON’t DO”**.

1. The facilitator will explain that this activity will focus on best practices during pregnancy.
2. Ask all the participants to stand in the middle of the room.
3. The facilitator will read the statements of what the pregnant mother should do or should not do.
4. Tell the participants to listen to each statement and then move to “Do” corner if they think that the pregnant mother should do that action or activity or move to the “Don’t Do” corner if they think that the pregnant mother should not do that action or activity.
5. The facilitator will read each statement and then ask the participants to move.
6. To make the activity more challenging for the participants and ensure that everyone is listening closely, the facilitator can try to trick the participants by adapting the wording of a statement, making a negative statement positive or vice versa.
7. When all participants have chosen a corner, the facilitator will ask why they made that decision.
8. The facilitator should encourage opinions from other participants before reinforcing the correct answers.
9. Continue until all the statements are read, sides have been chosen, and decisions have been thoroughly discussed.

Cards – Do’s and Don’ts During Pregnancy:

Eat an Extra Meal:

DO! Nutrition during pregnancy provides the essential building blocks for a baby’s brain development. Pregnant women need to eat a larger quantity of nutritious food than usual each day because they are feeding themselves and their growing babies.

Take Iron and Folic Acid Tablets:

DO! During the 1st trimester pregnant women should continue to take iron and folic acid (a B vitamin) each day. She should go to the health centre or pharmacy to get iron and of folic acid supplements. Neural tube defects, which are a problem with the brain, spine, or spinal cord, can happen in the first few weeks of pregnancy. Folic acid can help prevent this.

Drink Alcohol During Pregnancy

DON’T DO! Throughout the entire pregnancy, a woman should not drink any alcohol, which can cause foetal alcohol spectrum disorders (FASDs). These disorders include serious birth defects, learning problems, and behavioral disorders. No amount of alcohol intake is considered safe!

Take a Deworming Tablet:

DO! Another cause of anaemia are parasites, or intestinal worms, including roundworms, whipworms, and hookworms. Worm infestations can happen from eating contaminated foods or liquids. All pregnant women should wear shoes to prevent infection.

Practice Good Sanitation and Hygiene:

DO! To keep healthy and prevent respiratory illness and diarrhoea, pregnant women should practice good hygiene and sanitation. They should use a sanitary latrine, drink clean water from safe sources, wash their hands with water and soap before preparing food, before eating or feeding family members, and after using the toilet and cleaning a baby’s bottom.

Lift Heavy Loads or Stand-up Too Long

DON’T DO! Women should avoid lifting heavy objects while pregnant. Because of skeletal and muscle system changes during the stages of pregnancy, women are more susceptible to strains. For some women, lifting

heavy objects can lead to an increased risk of premature labour and low birth weight. Too much standing can also increase the risk of the mother developing high blood pressure, as well as the risk of premature birth.

Smoke, Take Illicit Drugs, or Chew Betel Nut

DON'T DO! In general, smoking tobacco, taking illicit drugs, and chewing betel nut are unhealthy habits. However, it is even worse to use them while pregnant because the foetus is extremely sensitive to these substances. If the mother consumes too much the child can suffer life-long consequences.

Attend Antenatal Care (ANC) Sessions at Eight Recommended Times

DO! As soon as a woman suspects she is pregnant (after a missed menstrual period), she should go to the nearest health facility, or visit a midwife or Auxiliary Midwife (AMW). Then, in her second and third trimesters she should continue to receive ANC care at week 20, week 26, week 30, week 34, week 36, week 38, and week 40.

Sleep Under an Insecticide-Treated Mosquito Net:

DO! Pregnant women and their babies are at risk for malaria, which is an infection that can cause anaemia in the mother, leading to a low-birth weight baby. In serious cases, it can lead to death. Pregnant women should sleep under and insecticide-treated mosquito net to protect herself from being bitten. If a pregnant mother has a fever she should be tested for malaria, and if positive, be treated immediately.

Pay Attention to Emotional Health:

DO! In addition to limiting physical stress, a woman who is pregnant needs to pay attention to her emotional health. Pregnancy can be a stressful time. A woman may be experiencing fatigue, and her hormones are changing during this time. Both of these can affect her emotions. Loved ones and community members should support women who are pregnant, whether it is giving them a seat on a crowded bus, reminding them to go to their next ANC appointment, asking if they need any help, or simply asking how they are feeling.

Step 3 — Reflection

Reflect on the learning process — 15 mins

1. Ask the participants what they have learned from these activities.
2. Discuss why it is important to know about the stages of pregnancy for a pregnant woman, the stages of gestation for a baby, and best practices during pregnancy.
3. What key behaviours should women do to prevent babies from being born undernourished?

Key messages to remember:

Before pregnancy:

- All women capable of becoming pregnant, even if not trying to become pregnant, should consume folic acid supplements to prevent possible birth defects and pre-term births.

During Pregnancy:

- Eat an extra meal of the most nutritious foods available every day to be well nourished and strong for childbirth.
- Take micronutrient supplements, including folic acid and iron tablets, or any others recommended by a health professional, every day.
- Deworm with a single-dose of mebendazole after the first trimester to avoid parasites, which can cause anaemia.
- Practice good hygiene and sanitation every day to keep healthy and prevent both respiratory illness and diarrhoea.
- Sleep under an insecticide-treated mosquito net every night to prevent malaria.
- Stop drinking alcohol, which can cause foetal alcohol spectrum disorders (FASDs)
- Stop smoking, chewing betel nut, and avoid 'second-hand' smoke to prevent low-birth-weight babies

Session 1.2

Maternal nutrition

Background 1.2

Eating for two: Nutrition while pregnant and breastfeeding

What a woman eats during pregnancy and while breastfeeding affects her own health as well as the health and development of her baby. If a woman is undernourished when pregnant, she is more likely to have a low birth weight baby who might develop health problems and be stunted, plus have learning problems. To prepare for breastfeeding a pregnant woman needs to build up her reserves of calories by consuming about 500 more calories per day than she did before she was pregnant. To 'eat for two' a pregnant woman should aim to eat one extra balanced meal every day that includes all 4****food groups. Eating this extra meal every day during pregnancy contributes to her nutritional reserves, which can be thought of as a nutritional bank account for the woman to draw upon when her body needs it. After she has given birth and starts breastfeeding, she should eat two additional healthy small meals or snacks because the production of breastmilk requires so many nutrients from the mother. In fact, a woman who is breastfeeding needs to eat even more than a woman who is pregnant. Healthy snack foods include fruit, such as a bananas or avocados, hard-boiled eggs, boiled sweet potatoes, unsweetened yogurt, peanuts or sunflower seeds. A breastfeeding mother should also drink plenty of water each day.

A pregnant or breastfeeding woman's healthy or unhealthy food choices, such as eating a limited variety of foods or too many processed snack foods, can also affect the baby's future food choices in later life. In the womb, during gestation, babies can taste food flavours in the amniotic fluid. Flavours of food can also be passed through breastmilk. A mother's balanced diet prepares the baby for accepting a range of local food flavours when beginning complementary feeding after six months.

Undernourished mothers and breastfeeding

There is a common misconception in Myanmar that a mother who is thin or malnourished cannot produce enough breastmilk for her baby. However, this is not true. Although eating an adequate and diverse diet is ideal for mother and baby by improving the nutritional quality of her breastmilk, even a thin or malnourished mother can produce enough breastmilk to feed her baby. The amount of fat, protein and carbohydrate is fairly constant in all mothers. A mother's diet, however, can affect the quality of the milk, including the type of fat and the amount of water-soluble vitamins available in the breast milk. Breastmilk composition also changes with the stage of lactation, age of the infant, and from feed to feed during the day, including the length of the feed. No matter the nutritional status of the mother, breastfeeding is always better for the baby's health and development than feeding him/her BMS or any alternative foods.

For the quality of their breastmilk and to maintain their own health and nutrition, mothers who are breastfeeding should eat more food and eat a variety of food to maintain their own health. They need a balanced diet containing the all of the 4**** food groups: body-building animal foods (meat, fish, eggs, milk products), body-building legumes (beans, nuts, oilseeds), energy-giving staples (rice, noodles), and protective fruits and vegetables (especially Vitamin-A-rich vegetables including orange/red fruits and vegetables, and green leafy vegetables).

The four star**** food groups

It is not only the quantity of the food that we eat which is important, especially for pregnant and breastfeeding women, but also the quality and type of food that we eat. One important marker of our diet quality is the diversity of the foods we eat. When we eat food from all the recommended groups every day, we are more likely to be getting the nutrients we need.

In 2016, the Ministry of Health and Sports (MoHS) adopted the UNICEF Community-based Infant and Young Child Feeding (cIYCF) nutritional guidelines that emphasized the terminology of four stars**** food groups. This new recommendation builds on the previously endorsed three food groups: body building foods, energy giving foods and disease preventing foods. The newer four stars**** food grouping split the body building foods into two groups. These are animal-based protein and plant-based protein (specifically beans and legumes).

It is important that at every meal pregnant women, breastfeeding mothers and children aged six months or older eat foods from each of the four-star**** groups to make a nutritious and balanced diet. For additional information and activities on this topic, see Topics 1 and 2 in the Learning About Nutrition facilitation guide.

Star 1*

Animal-based protein foods (body-building): flesh foods such as beef, pork, chicken, fish, organs, eggs, milk, and milk products such as yogurt.

Flesh foods such as beef, pork, chicken, fish and organs are sources of high-quality protein and are also rich in iron and other B-vitamins — all of which are needed in higher amounts during pregnancy and while breastfeeding.

Eggs contain almost every nutrient that a pregnant or breastfeeding woman needs: protein, fat, vitamins and minerals, including choline. Low choline intake during pregnancy may increase the risk of neural tube defects and lead to decreased brain function. A single whole egg contains about 25% of the recommended daily intake of choline, a nutrient important for pregnant women.

Milk products contain high quality proteins, plus calcium, phosphorus, B-vitamins magnesium and zinc. Women who are lactose intolerant, or have trouble digesting dairy foods, may be able to tolerate soymilk or yogurt, which contains more calcium than milk.

Eating foods rich in vitamin C (like citrus, papaya, and tomatoes) alongside meat and other iron-rich foods helps the body absorb the iron in the food. At the same time, avoid drinking tea before, during or immediately after a meal because it can interfere with the body's ability to absorb iron.

Star 2**

Staples (energy giving): grains such as rice, wheat, maize, and tubers such as potatoes.

White rice is a staple in Myanmar with important cultural significance. Although its husk, bran, and much of the germ has been removed, some of the commercial brands of white rice available in Myanmar have now been enriched to restore the nutrients lost during processing. However, white rice is less nutritious than brown rice (unmilled) and fortified rice. Brown rice still has the husk, bran and germ, containing important nutrients which are removed from the grain when rice is polished to produce white rice. Fortified rice has been fortified with key nutrients, is healthier than normal rice but it tastes the same. Rice is low in fat and sodium, and free of cholesterol, and trans fats. Rice also contains phosphorous, manganese, selenium and magnesium. It is easy to digest and is good for morning sickness during the first trimester. Although rice does have some nutritional value, if eaten in excess it can contribute to undernutrition, particularly among young children who fill up on rice instead of eating a variety of diverse foods. Sometimes, consider replacing the white rice at your meal with brown rice, maize, potatoes, or other healthy energy-giving foods, along with foods from the other food groups, of course!

To prevent losing the Vitamin B1 which can be found in rice, don't wash rice more than once. Also, if water remains in the rice pot after cooking, don't throw it away because this drains important nutrients away. Instead, try adding it to your soup, porridge, or curry.

Star 3***

Plant-based protein food (body building): Beans, lentils, soybean (tofu) peas, chick peas, peanuts and seeds, such as sesame and sunflower.

Legumes are good sources of plant-based fibre, protein, iron, calcium, magnesium, potassium and folate, all of which the body needs more of during pregnancy. Folate (B9) is one of the B-vitamins. It is very important for the health of the mother and foetus, especially during the first trimester as having a deficiency in folate has been linked with an increased risk of neural tube defects and low birth weight.

A handful of chickpeas can provide from 65–90% of the recommended daily allowance of folate.

Star 4****

Fruits and vegetables (disease preventing): mango, papaya, passion

fruit, avocado, carrots, pumpkin, tomato, cabbage, spinach, roselle, kale, gourd, and many others.

Fruits and vegetables come in many different colours. During the first 1000 days period, it is particularly important to eat those fruits and vegetables which are yellow, orange, and dark green in colour. These are rich in Vitamin A, which is essential for healthy skin, mucus membranes, the immune system, good eye health and vision of the mother and healthy development of the baby. Colostrum, which is the breast milk released in the first two days after delivery, contains a large amount of Vitamin A. Beta-carotene is the red-orange pigment found in yellow and orange plants and fruits such as mangos and carrots. Beta-carotene is converted into Vitamin A in the body. Pregnant women are generally advised to increase their vitamin A intake by 10–40%.

Pumpkins are an excellent source of beta-carotene. A serving of pumpkin will provide all of the Vitamin A needed to fulfil the recommended daily allowance. Pumpkin also contain fibre, which may increase fullness, reduce blood sugar spikes and improve digestion.

Dark green vegetables, such as kale, spinach, watercress and roselle contain nutrients such as vitamin A, iron, folate, calcium, potassium and Vitamin C. These nutrients may reduce the risk of a low birth weight baby. Due to their high fibre content, these vegetables may also help prevent constipation, a common problem among pregnant women.

When cooking dark green leafy vegetables, such as spinach, roselle, watercress or kale, add them to the pot at the very end of the cooking process. Cooking them for too long causes them to lose some of their valuable nutrients.

Micronutrient intake for pregnant and breastfeeding women

Foods in all the 4**** food groups contain the three 'macronutrients', which are protein, carbohydrates and fats. They also contain 'micronutrients'. These are substances, usually minerals or vitamins, that a human only needs in very small amounts. The WHO calls them "magic wands" because they are essential for proper growth and development. As tiny as the amounts needed are, the lack of these substances in women who are pregnant or breastfeeding is a threat to both the woman and her baby. The Myanmar Ministry of Health and Sports has identified four micronutrient deficiencies that can affect mothers who are breastfeeding and their babies: Iodine Deficiency Disorders, Vitamin A Deficiency, Vitamin B1 (Thiamine) Deficiency and Iron Deficiency Anaemia. Vitamin B9 (Folate) Deficiency as another threat to women who are or who may become pregnant. Women and their families need to be aware of both the cause and the impact of these deficiencies, sources of foods that can be used to prevent them, and supplementary treatment available if necessary.

Everyone should be able to get all the recommended nutrients from the food they eat if their diet is balanced diet and includes an adequate quantity of food from the 4****food groups. Although nutrients are better absorbed by the body when they are obtained through food rather than tablets, sometimes it is difficult for a pregnant or breastfeeding woman to get enough micronutrients from food. Therefore, it is important for pregnant and breastfeeding women to take supplements as a protective measure.

When a mother's body is producing milk, her diet can influence the composition of breast milk. Group I micronutrients, including iodine, Vitamin A and Vitamin B1, are important because their secretion into milk is rapidly and/or substantially reduced when the mother's supply is reduced or depleted. If the mother can increase these micronutrients in her daily diet, or by supplementation, the quality of the breast milk is improved, which improves the health of the baby.

In contrast, a mother's intake of Group II micronutrients, including folate and iron, improves the mother's health, however it does not affect breast milk.

Iron

One critical nutrient for pregnant and breastfeeding women, adolescents, and young children. Iron is naturally present in many foods and is added to some food products to 'fortify' them.

Iron is important for healthy blood, proper functioning of muscles and the brain. Insufficient iron intake can result in a condition called iron deficiency anaemia. Although low iron intake is not the only cause of anaemia, it is the most common cause. A mother's iron stores are not used in breast milk production, since very little iron is excreted through breast milk. Although maternal iron requirements usually decline just after childbirth up to six weeks, iron stores tend to remain low for several months after childbirth, especially if the mother was anaemic during pregnancy, had significant blood loss during the delivery, or does not consume a sufficient quantity in her daily diet. Mothers with low iron stores may experience fatigue, weakness, dizziness, drowsiness and depression, which could affect how she cares for her baby. In Myanmar MoHS provide oral iron supplements, either alone or in combination with folic acid supplementation, to women for 6–12 weeks after delivery to reduce the risk of anaemia. Breastfeeding mothers should eat chicken, fresh and dried fish, eggs, legumes, dark green leafy vegetables, and Vitamin-A-rich vegetables. Sometimes anaemia can lead to strange cravings to eat items that aren't food, such as dirt or clay. Pica is the practice of craving non-food items that have little or no nutritional value. Pica cravings are most commonly seen in.

Sometimes anaemia can lead to strange cravings to eat items that aren't food, such as dirt or clay. Pica is the practice of craving non-food items that have little or no nutritional value. Pica cravings are most commonly seen in children and occur in approximately 25-30% of all children; pica cravings in pregnant women are even less common. There is currently no identified cause, but a link with iron deficiency and anaemia has been found. It could be the body's attempt to obtain minerals that are missing through normal food consumption.

Iron
Role of iron • Iron is a mineral and an essential component of red blood cells (haemoglobin) that support the transfer of oxygen from the lungs to body tissues and muscles. It is necessary for growth, development and normal cellular functioning.
Consequences of deficiency • The amount of iron that women need increases during pregnancy because of the increase of red blood cell production to meet the needs of the baby. • Iron deficiency during pregnancy causes anaemia and increases the risk of maternal and infant mortality, premature birth, and low birthweight babies. • While an insufficient supply of iron does not affect her breastmilk, it compromises the health of the mother.
How to avoid a deficiency • Women need to take iron folic acid tablets (IFA) throughout pregnancy and after delivery to avoid iron deficiency anaemia caused by increased iron demands to produce extra haemoglobin. • The Myanmar MoHS provides supplementary IFA tablets during pregnancy and while breastfeeding, and offers education on eating iron-rich foods.
Food sources of iron • The best sources of iron are foods from the Star 1* food group, including beef, pork, chicken, and fish. It is easiest for the body to absorb iron from these foods. • However, other sources include fortified grain products from the Star 2** food group, nuts and beans, from the Star 3*** food group, and dark green leafy vegetables from the Star 4**** food group.

Table 1.2: Iron

Folate/Folic Acid (Vitamin B9)

It is important for women of reproductive age to consume adequate quantities of folate/folic acid.

Folate/Folic Acid (Vitamin B9)
Role of folic acid • Folate plays a vital role in embryo development, healthy pregnancies, and infant survival rates. This vitamin is used to make red blood cells for the extra blood a woman's body needs during pregnancy and while breastfeeding. • In particular, folate is critical during the early stages of pregnancy (the first 28 days after conception) when the embryo's spinal cord is developing.
Consequences of deficiency • The absence of folate increases the possibility of a neural tube defect (a defect in the development of the spinal cord). Folate deficiency can Spina bifida, a condition in which the spinal cord does not close properly. Neural tube defects in a foetus usually develop in the first 28 days of pregnancy, often before a woman even knows that she is pregnant. • Also, because folate helps support the development of red blood cells, a deficiency of iron can lead to a type of anaemia. A person with anaemia may feel tired, weak and unable to concentrate.
How to avoid a deficiency • Because neural tube defects in a foetus usually develop before a woman even knows that she is pregnant, it is important for all women of childbearing age to be sure they are getting enough folate by eating foods containing folate every day. • Although the best source of folate is food, a woman who is pregnant or breastfeeding should also take folic acid supplements, which are a form of folate, as an extra measure to be sure they are getting all the folate they need for healthy growth of a foetus. In fact, it is a good idea for all women of childbearing age to take folic acid supplements if there is even a slight possibility that they could become pregnant.
Food sources of folic acid • Leafy green and dark green vegetables like spinach, morning glory, kale and broccoli from the Star 4**** food group are rich in folate. • Other excellent sources of folate are liver (especially from chickens), as well as legumes such as chickpeas, beans and lentils.

Table 1.2: Folate/Folic Acid (Vitamin B9)

Thiamine (Vitamin B1)

Although almost all food items contain thiamine and approximately 1 mg of thiamine daily is sufficient to prevent thiamine deficiency. In 2009, the prevalence of Vitamin B1 deficiency in Myanmar was 4.4% among breastfeeding mothers. Infant Beri Beri, or Vitamin B1 (Thiamine) deficiency, is the only serious form of malnutrition that occurs in breast-fed infants receiving adequate quantities of milk if the mother is thiamine-deficient.

Thiamine (Vitamin B1)
Role of thiamine • Thiamine (B1) plays a critical role in the growth, development and function of human cells. It plays an important role in transferring the energy from the food we eat to our bodies. **Consequences of deficiency** • Insufficient Thiamine intake can affect the nervous system of the pregnant woman causing tingling, numbness of hands and feet and weakness in the legs. It can also cause circulation system problems, including enlargement of the heart and heart palpitations, which cause breathlessness and tiredness. • During breastfeeding the requirement of thiamine is increased, and a deficiency can develop within 2-3 months of an insufficient intake. This can quickly result in low concentrations of the micronutrient in breast milk. In a baby, thiamine deficiency can affect the nervous system, the cardiovascular system, and the gastrointestinal tract, resulting in disability and death.

Thiamine (Vitamin B1)
How to avoid a deficiency • Vitamin B1 (Thiamine) deficiency occurs where the mother's daily diet contains too few animal products or legumes, and instead consists mainly of milled white cereals, including large amounts of polished rice, rice that is washed vigorously multiple times before cooking, or rice cooked using the traditional boiling and spilling method. It also occurs when the diet contains raw fermented fish and shellfish as these foods can alter the structure and absorbability of thiamine. • Other risk factors for thiamine deficiency include drinking large quantities of tea and chewing betel nuts, both of which interfere with absorption of thiamine. Eating too many processed, high carbohydrate foods such as sweetened drinks and products made from refined wheat flour are also risk factors. • In Myanmar, Vitamin B1 supplementation (10 mg daily dose) is given during the ninth month of pregnancy and then to breastfeeding women up to three months after delivery. • To keep losses of thiamine at a minimum, mothers should eat fortified rice, and not rinse the rice multiple times or vigorously before cooking. For vegetables: wash before cutting them into small pieces because washing vegetables after cutting causes them to lose some of their nutrient content. Also, when cooking use the minimum amount of water and do not discard any leftover liquid, but instead drink it because it contains key nutrients. Additionally, cook on a high temperature for as short of time possible and cover the pot with a lid to shorten cooking time. Breastfeeding mothers should add legumes (pulses, beans, groundnuts and oilseeds) to their rice staple to add extra thiamine to the meal. **Food sources of thiamine** • Good sources of Vitamin B1 include brown rice, animal products such as pork and fish, and legumes, including beans, nuts, seeds and tofu.

Table 1.2: Thiamine (Vitamin B1)

Vitamin A

Vitamin A plays an important role in vision, growth, physical development, and immune function. If a mother cannot meet the increased vitamin A requirements during breastfeeding through her diet, her body will attempt to compensate for the low levels of vitamin A in the breast milk by drawing on the vitamin A reserves in the mother's liver. Deficiency of vitamin A increases the risk of night blindness and other eye conditions. Breastfeeding mothers should take vitamin A supplements as soon as possible after the delivery. In Myanmar, the MOHS recommends one dose of vitamin A (200,000 IU) to every breastfeeding mother within 42 days after delivery. However, only 35% of women age 15-49 who gave birth between 2010-2015, received vitamin A supplementation during the first two months after delivery. Breastfeeding mothers should also eat eggs and Vitamin-A-rich vegetables.

Iodine

Another important micronutrient is iodine. Of women who delivered their last child between 2010 – 2015, 81% lived in households that used iodized salt. Myanmar is working toward iodine deficiency disorders elimination (IDDE) through universal salt iodization (USI). The recent Myanmar Micronutrient and Food Consumption Survey MMFCS 2017-2018 found that eighty-five percent of households in Myanmar are using iodized salt; however, only a third of households are using adequately iodized salt (that is, that there is sufficient iodine content in the salt). All food should be cooked with iodized salt, adding it to the pot at the end of cooking since iodine can be damaged during the cooking process.

Vitamin A
Role of vitamin A • Vitamin A is important for the health and function of eyes, teeth and bones, skin, mucous membranes and organs. It is also important for immune function, and foetal growth and development.
Consequences of deficiency • Young children and women, especially those who are breastfeeding, are at highest risk of vitamin A deficiency (VAD). • Vitamin A deficiency is the leading cause of preventable blindness in children and significantly increases the risk of severe illness, and even death, from common childhood infections, such as diarrhoeal disease and measles. In pregnant women VAD causes night blindness and may increase the risk of maternal mortality.
How to avoid a deficiency • Breastfeeding mothers need to consume enough vitamin A both for themselves and their baby, as vitamin A is passed to her child through her breastmilk. Pregnant women are most at risk during their third trimester of pregnancy. This is due to the fast rate of foetal development, as well as the increase in blood production during this life period. • In most cases, enough vitamin A can be acquired from eating a healthy, diverse and balanced diet. However, to avoid deficiency, in Myanmar vitamin A supplements are given to breastfeeding women within one month after delivery. They are also given to children between 6-11 months, and to children between one and five years old every six months.
Food sources of vitamin A • Foods from the Star 1* food group are particularly good sources of vitamin A. These include liver and liver oil, eel, fish, dairy products and eggs. • In addition, vitamin A is found in dark green and red, orange and yellow vegetables and fruit. This includes greens such as kale as well as tomatoes, carrots, pumpkins and mango, among many other foods in the Star 4**** group.

Table 1.2: Vitamin A

Iodine
Role of iodine • Iodine is necessary for the formation of thyroid hormones that support foetal and postnatal life brain development.
Consequences of deficiency • Iodine prevents goiter and other thyroid-related health problems among children and adults. • If a breastfeeding mother is not consuming enough iodine, the amount of iodine in her breast milk will be reduced or depleted, which can endanger her child. An adequate concentration in breast milk is needed to continually replenish neonatal thyroid hormones to prevent impaired neurological development in babies who are breastfed.
How to avoid a deficiency • Ensure the salt you consume is iodized. Iodized salt has iodine added to it in order to help prevent iodine deficiencies. • Pregnant and breastfeeding women need iodine daily. The WHO recommends 250 µg per day. The best way to add iodine to the diet is to add iodized salt to your meals. Just a half a teaspoon (3 grams) of iodized salt each day is enough to avoid a deficiency.
Food sources of iodine • Natural food sources of iodine include fish, shellfish, seaweed, milk products and eggs from the Star 1* food group. • Iodized salt has iodine added to it.

Table 1.2: Iodine

Food restrictions during pregnancy and while breastfeeding

Traditional dietary restrictions and food taboos

In many communities in Myanmar there are traditions where a woman who has just given birth are told not to eat specific foods or to limit or restrict other foods. In Rakhine State, during the first few days after delivery, a woman is fed only white rice and salt with a small amount of fish. Vegetables are only served after six days. Pregnant women are forbidden to eat bananas because it is believed that will cause the baby to grow too large and cause a difficult delivery. Also, eating sticky rice is thought to cause placenta retention. The same two taboos are practiced in southern Chin State. Also in southern Chin State, a woman is fed only white rice and clear soup for the first week. Overall, many communities in Myanmar believe that sour, spicy or hot foods, and vegetables or meat that comes from the ground should be avoided during pregnancy. Some women even fear that not following these food restrictions or dietary practices when breastfeeding will cause harm to the baby, or miscarriage when pregnant. However, the reality is that many of these food taboos and dietary restrictions are not based in fact and are contrary to global and MoHS guidelines. Overtime, if a pregnant or breastfeeding woman restricts her diet and does not have an adequate intake of protein, carbohydrates and fats, or micronutrients such as iron or vitamin A from eating a variety of the 4 star**** food groups, the mother will have less energy, making it difficult to care for herself and her baby.

The MoHS recommends that pregnant and breastfeeding women consumer greater quantities of food than they did before they were pregnant. However, research in both the Delta and Dry Zones found that many people are not aware (or do not believe) that pregnant women should consume increased quantities of nutritious foods during pregnancy. The majority of mothers reported making changes to their diets (practicing dietary restrictions and food taboos) as soon as they became aware they were pregnant.

Although most of these taboos and restrictions are not based on fact, it can be difficult to change people's beliefs and behaviours. Therefore, if a particular food is limited or restricted for traditional reasons, the midwife or AMW could help the mother and partner/family members to discuss possible solutions on how to substitute a taboo food for another with the same macronutrients (protein, carbohydrates and fats) and/or micronutrients (iodine, iron and vitamin A). Ideally, however, a woman who is pregnant or breastfeeding will eat many different nutritious foods without restriction so that her body can get all the nutrients it needs.

Foods to limit or avoid during pregnancy and while breastfeeding

Gaining weight during pregnancy is normal, but those kilograms should be gained safely from healthy food from the four star**** food groups. After giving birth, breastfeeding mothers should continue to consume healthy foods to nourish their children through the breastmilk they produce. Certain foods and drinks should be limited, while others should be avoided completely.

Drinks that should be limited include caffeine, which is found in coffee, tea, energy drinks and soft drinks. Caffeine is absorbed quickly and passes easily into the placenta and unborn baby where high levels can build up. High levels of caffeine (more than 200 grams/day) can restrict an unborn baby's growth and lead to low birth weight. Caffeine can also be passed to the child through breastmilk. Drinks that should be avoided include alcohol. This is discussed earlier in Session 1.1.

Foods that should be avoided include any raw or undercooked fish, especially shellfish, and raw, undercooked or processed meat, such as packaged sausages. These foods can cause infections, including Norovirus, Vibrio, Salmonella, and Listeria. Pregnant women are especially susceptible to Listeria infections, which can be passed to the baby through the placenta. This can lead to premature delivery, miscarriage or stillbirth. Because Listeria grows in cold temperatures, refrigerated foods and leftovers should be reheated until very hot. All fish and meat should be cooked thoroughly.

Raw eggs can be contaminated with Salmonella, that can cause fever, nausea, vomiting, stomach cramps and diarrhoea. In severe cases, cramping in the uterus could lead to premature birth or stillbirth. Pregnant women should always cook eggs thoroughly.

Processed food is generally low in nutrients, and high in sugar, salt, calories, artificial colouring, and added fats. Common commercial processed foods and drinks include crisps, sweets, jelly, cakes and sugary drinks such as juice, Ovaltine, 3-in-1 coffee or tea and soft drinks. Eating processed food satisfies immediate hunger, filling people's stomachs with unhealthy foods instead of nutritious foods from the 4**** food groups. Processed food has also been linked to developing gestational diabetes, which increases the risk of having a baby with long-term health issues. To control gestational diabetes, a woman should eat a healthy balanced diet and exercise regularly if she is not already active in her daily routine.

Learning Activity 1.2

Maternal nutrition for optimal health

Purpose

To enable the participants to understand that if a woman who is pregnant or breastfeeding consumes extra calories from each of the 4 star**** food groups, along with taking micronutrient supplements recommended by a health professional, then she will protect both her health and that of her child.

Time

2 hours 45 minutes

Materials

- 2 clear glasses with drinking water
- A pinch of iodized salt
- A spoon
- Flip charts (whole pieces of paper and smaller pieces)
- Permanent pens
- Pins or tape
- Scissors

Materials

- Sticky notes (or small pieces of paper and tape)
- Visual aids for 4 star**** food groups
- Visual aid of micronutrients
- 5 large cards, each with statements containing a food taboo relating to pregnant or breastfeeding women which is common in the community

Learning Methods

- Visualisation
- Discussion
- Group Exercise
- Presentation
- Card Collection and Clustering
- Reflection

Notes to facilitator

Participants should already be familiar with the basic concepts of macro and micro-nutrients and a balanced diet, presented in Learning About Nutrition in Topics 1 and 2. Session 1.2 includes some basic information on micronutrients (vitamins and minerals) and macronutrients (carbohydrates, fats and proteins). Session 1.3, 2.1 and 2.2 include basic information about a balanced diet. Please refer to these sessions for additional background information and corresponding activities.

Instructions

Step 1 Visualisation & Discussion

Invisible micronutrients — 15 minutes

1. Find a volunteer. Ask the volunteer to help you do a taste test. Ask him/her to close his/her eyes.
2. While the volunteer's eyes are closed, pour two glasses of water. Put a pinch of iodized salt into one of the glasses of water and stir until it is completely dissolved. Ask the volunteer to open his/her eyes and examine the two cups of water for the differences in content and smell. Then ask the volunteer to drink a sip of each and ask him/her about the difference in taste.
3. Ask the other participants to describe how much iodized salt you put into the cup. Explain that such a small quantity made such a difference in taste. This is similar to micronutrients (e.g., iodine in the salt that you have demonstrated), that are needed in small quantities, but which make a big difference and are essential to the health of an individual.
4. Tell the participants that when we don't get enough of these micronutrients, we can suffer from micronutrient malnutrition. This is sometimes referred to as "invisible malnutrition" because it affects your body, but you can't always see the deficiency with your eyes. Ask the participants:
5. Can anyone name any micronutrients?
6. Where can you get these micronutrients?
7. Tell the participants that the best way to get the micronutrients they need is to consume a diverse and balanced diet with four star**** meals. Ask the participants to name the four star**** food groups. What do they know about these groups?
8. Explain to the participants that during certain periods of life (such as when a woman is pregnant or breastfeeding) a mother needs extra nutrients.

Step 2 Group Exercise & Presentation

Micronutrient advertisement 1 hour

1. Divide the participants into five groups. Explain to the participants that five micronutrients, in particular, are important for pregnant women. Ask the participants if they know what these nutrients are.
2. While it is true that all nutrients are important, those "problem" micronutrients which pregnant and breastfeeding women sometimes get too little of are: Iron, Vitamin A, Iodine, Thiamine/B1 and Folate/B9.
3. Inform the participants that each group will be assigned one of these nutrients. Then, they will be asked to develop and perform some type of advertisement for this particular nutrient. Their goal is to persuade pregnant and breastfeeding women to consume this particular micronutrient. They will have 30 minutes to work in their groups.
4. This can be a television, radio, or print advertisement. Their advertisement should be creative, appealing and catchy. It can be funny or dramatic.
5. Refer each group to "Micronutrient intake for pregnant and breastfeeding women" in Session 1.2 to find information about their nutrient.
6. The advertisement should contain the following key information:
    - Why this particular vitamin or mineral is important
    - What the consequences of a deficiency are
    - How to prevent a deficiency, including foods to consume

7. For those groups who want to create a print advertisement, the facilitator will provide the participants with materials (such as flip chart paper, markers, tape, glitter, scissors, and any other available art materials.)
8. Ask the participants to consider the following questions to help stimulate their creativity as they develop their advertisements. Also provide the groups with a printout (or write the questions on a flip chart).

    Questions to consider for effective communication

    - Who is your specific target audience (Who are you trying to persuade?)
    - What mode of communication would be most effective for your target audience?
    - What specific action do you want your target audience to take?
    - What messages might appeal to this audience?
    - How can you appeal to your target audience's emotions? What motivates them? What do they like or dislike? Who do they care about? What do they think is funny?
    - What might be preventing them from consuming this nutrient? What could make it easier for them to consume this nutrient?
    - How can you make the information simple and understandable to the target audience?
9. Each group should perform or present their advertisement to the others.

Step 3 Card Collection & Clustering

Charting food taboos and dietary restrictions

1 hour 15 minutes

1. Tell the participants that across the regions of Myanmar there are traditions where pregnant women are told not to eat specific foods or to limit or restrict other foods.
2. The widespread existence of some food taboos and dietary restrictions are harmful to pregnant and breastfeeding women because believing in them can prevent them from eating healthy and nutritious foods. In cases where there is limited access to diverse foods, then following food taboos or dietary restrictions may mean these individuals are eating a less balanced or less nutritious diet.
3. Following some taboos has a more serious implication on this population than others. For example, a belief in some parts of Myanmar is that A pregnant mother should not eat too much food or the foetus will be too big. However, this directly conflicts with the Ministry of Health and Sports' recommendation that pregnant women should eat more food than before they were pregnant. Another example is that in some parts of Southern Chin State, a belief exists that if pregnant and breastfeeding women eat beans they will experience bowel discomfort and should therefore avoid all beans. However, beans are an important and low-cost source of protein and iron. Women may not be able to afford meat or other good sources of protein and iron, and therefore eliminating beans from their diet for could put them at risk of deficiency.
4. Other food taboos relate to rare foods which are not a regular part of the diet and are uncommonly eaten, or foods which can be easily replaced, and therefore avoiding them does not have serious implications on the population of pregnant and breastfeeding women. For example, one taboo exists that mothers who eat papaya will miscarry. As long as a mother is eating other fruits and vegetables, eliminating papaya from her diet is not going to result in a nutrition problem.

5. Prepare a large piece of paper with the following chart or create them on the floor using tape. Use sticky notes or paper to label four quadrants as follows:

Widespread / Not widespread ↓	Not restrictive →	Very restrictive →
Not widespread	Taboos in this quadrant are not restrictive and not widespread, and therefore are unlikely to be harmful for pregnant and breastfeeding women.	Taboos in this quadrant are not widespread, but for those who practice them they may be harmful.
Widespread	Taboos in this quadrant are widespread, but are not restrictive so they are unlikely to be harmful for pregnant and breastfeeding women.	Taboos in this quadrant are very restrictive and widespread, and therefore are likely to be harmful for pregnant and breastfeeding women.

6. Distribute sticky notes or cards and tape to each participate. Ask each person to write down one or two dietary restrictions or food taboos for pregnant or breastfeeding women in their community. Participants should only write one taboo or restriction on each piece of paper.
7. When they are finished, asked them to tape their paper in the quadrant where it belongs on the chart on the wall.
8. Once everyone has placed their paper or papers in the place which they feel is most appropriate, ask the other participants to come look at the taboos or restrictions and where they are placed.
9. Do the other participants agree with where these taboos or restrictions are placed? Discuss and rearrange as necessary.

10. After, divide the participants into groups of 3-4 people. Ask each group to pick one taboo or dietary restriction to discuss in depth. They should pick a taboo which they believe is harmful to the community. Each group should select a different taboo. Give the groups 15 minutes.

11. Ask each group to discuss the following questions for the taboo they have selected:

    - What is harmful or not about this taboo or restriction?
    - How widespread is this belief? Is it occasionally or regularly practiced?
    - Could practicing this taboo or restriction impact a mother's nutrition?
    - Are there alternative foods a mother could eat to replace this "taboo" food, therefore limiting the negative impact of the practice? Is this an important part of the community's diet (either year-round, or seasonally)?
    - Is there a difference in belief between the older and younger generation?
    - What would need to happen for people's attitudes and practices to shift with regards to this food taboo or restriction? What role should community-based organisations and non-governmental organisations play? Health professionals? Others?

Step 4 Reflection

Reflect on the learning process

15 mins

1. Ask the participants what they have learnt from these activities.
2. Discuss why it is important to know about consuming a balanced variety of food, including key macronutrients and micronutrients during pregnancy for both pregnant women and unborn babies.
3. What key behaviours could prevent undernourished babies being born in the community?

Key messages to remember:

Being pregnant or breastfeeding increases a woman's demand for good nutrition. The five micronutrients that are especially important for pregnant and breastfeeding women are iron, iodine, vitamin B1 (thiamine), vitamin A and folate/folic acid.

Foods in the four star**** food groups contain three macronutrients (protein, carbohydrates, fats) and micronutrients (vitamins and minerals).

Eating a diverse diet composed of all four star**** food groups helps people get the macro and micronutrients they need.

While it is best to get vitamins and minerals naturally from foods, certain vulnerable groups should take certain supplements as a protective measure.

All women capable of becoming pregnant, even if not trying to become pregnant, should take a folic acid supplement to prevent birth defects and pre-term births. Pregnant and breastfeeding women can get these tablets at the health centre when they go for ante and postnatal care visits.

Pregnant and breastfeeding women should take Vitamin B1 supplements, provided by the health centre, starting the last month of pregnancy until 3 months after childbirth.

Breastfeeding women should take Vitamin A supplements, provided by the health centre, within two weeks after delivery.

Identify taboo foods that negatively affect nutritional intake, and summarize the solutions discussed to address these taboos.

Session 1.3

Health services during the first 1000 days

Background 1.3

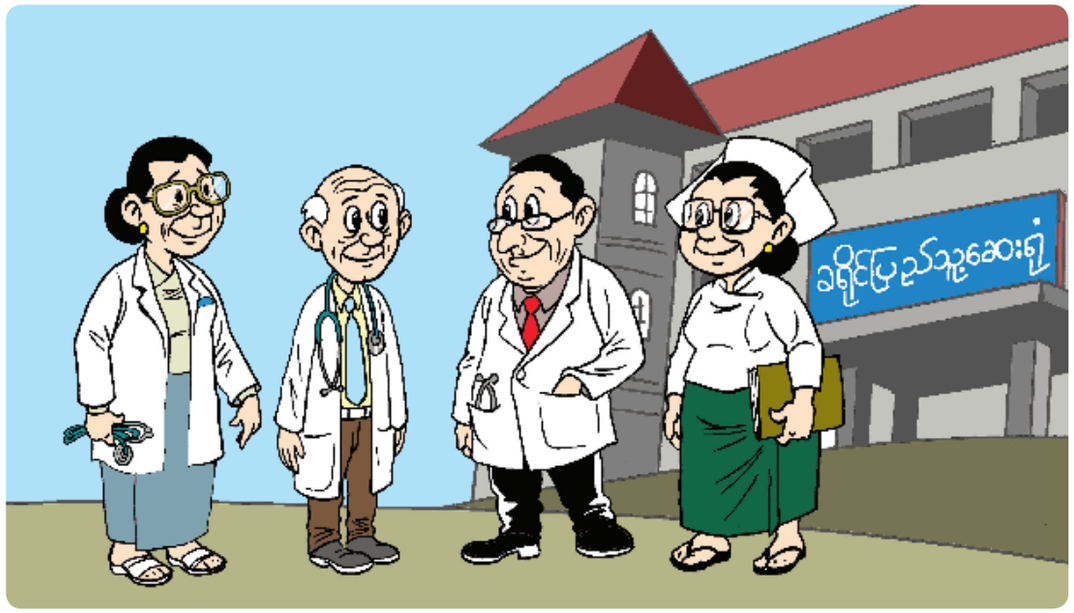
Life Cycle Approach

In Myanmar, the 2017 – 2021 MoHS National Strategic Plan promotes the Life Cycle Approach, including reproductive, maternal, neonatal, and child health (RMNCH+). Midwives and auxiliary midwives (AMW) are trained in communication skills, early detection, treatment and referral of selected complications, conducting a clean and safe birth and handling selected emergency situations, providing comprehensive, postpartum care, post-abortion care, and care from birth to two months of age. In addition they are trained in counselling on family life, planned pregnancies and positive parenting. Standard Myanmar national guidelines for pregnancy, childbirth, postpartum and newborn care have also been developed that provide detailed information on each of these services.

Antenatal care

Antenatal care (ANC) is a special type of care given to a pregnant woman starting from the time of conception up to the delivery of the baby. It prepares the pregnant women for a successful labour and delivery process by helping her maintain good health during pregnancy. ANC provides a means of preventing and detecting problems with the pregnancy at an early stage when they are easily treatable and can avert maternal complications at delivery.

According to Myanmar's National Guidelines for Antenatal Care For Service Providers (published in May 2018), Myanmar Ministry of Health and Sports (MoHS), along with the World Health Organisation (WHO), recommends that pregnant women receive a minimum of eight



Visual aid 1.3: Maternal and Naonatal Health Care Providers

antenatal care visits from skilled providers to ensure that problems are identified and managed. A woman should go to the nearest health facility, or visit the midwife or AMW, as soon as she suspects she is pregnant. After that, she should schedule visits at week 20, week 26, week 30, week 34, week 36, week 38, and week 40.

Specific ANC services include:

Physical examination:

- checking size and position of the foetus.
- checking for multiple births (twins, triplets, etc.)
- measuring blood pressure to identify high risk pregnancies
- taking blood and urine samples to test for anaemia and infections.
- growth monitoring: weighing and measuring the size of the uterus to assess foetal growth and development

Counselling on:

- danger signs during pregnancy
- eating more food and consuming a diverse diet
- what to avoid, including alcohol, smoking, and drugs
- getting adequate rest, required immunizations at the right time, and taking any prescribed medicine
- consuming iodized salt
- use of insecticide treated bed nets
- household hygiene practices, hand washing and food hygiene
- prevention and education on STI and HIV/AIDS transmission
- benefits of delivery at a health facility
- making a birth plan of action and an emergency plan should a sudden complication occur
- accessing government schemes and services
- importance of skin-to-skin contact and breastfeeding immediately after birth

Provision of:

- Iron/folic acid and other recommended supplements where necessary
- deworming treatment

To make sure a pregnant woman is gaining the correct amount of weight, a skilled provider will monitor her weight gain at each ANC visit. Pregnant women need to gain weight to support the growing baby's muscles, bones, skin and organs during foetal development. The ideal number of kilograms a woman should gain during pregnancy is determined by her pre-pregnancy body mass index (BMI), the measure of a woman's weight in relation to height. Therefore, it is important for women to know their weight before becoming pregnant.

During the first three months of pregnancy, a woman should gain one or two kilograms, regardless of their pre-pregnancy BMI. A steady weight gain in a pregnant woman from about four months of pregnancy shows that she is healthy and the baby is also growing normally.

Utilising ANC services can also ensure identification of a high-risk pregnancy. This is defined as a pregnancy in which some conditions put the mother or the developing foetus, or both, at a higher-than-normal risk of developing complications during the pregnancy or delivery. This can happen due to complications related to the mother or the baby. High risk pregnancies should be regularly monitored through regular visits to a health facility where ANC services are available. Creating a plan of action for birth should be done in advance to avoid last minute stresses, including arranging for money, transportation, blood transfusion, and any specialist care.

Safe and clean delivery

Many maternal and neonatal deaths are avoidable or preventable. Although childbirth is a natural process and occurs normally for most women, some pregnant women face challenges during delivery. The government recommends institutional delivery, defined as deliveries that take place in a health facility. Although every delivery should be done at a health facility, home delivery is still common. Of live births since 2010, 37% were delivered in a health facility and 63% were delivered at home. Giving birth at home puts both mother and child at risk.

Many women cannot access maternity services due to distance to health facilities, costs for medical services and products, or local customs and traditional practices. Many homes are not suitably

hygienic for childbirth. In fact, home delivery increases the chance of infant and maternal sickness and death. According to the MoHS, for any delivery there are six things that need to be clean:

- Clean surface (delivery place e.g. bed, floor etc.)
- Clean hands of birth attendants and sterilized gloves
- Clean and sterilized blade or scissors to cut umbilical cord
- Clean and sterilized threads or tie for umbilical cord
- Clean towels, wrap and clothes for the baby
- Clean cloth or clothes for the mother

In those cases where a child is born at home, a solution of 7.1% Chlorhexidine Digluconate should be applied to the umbilicus for 7 days to help prevent neonatal sepsis, which is a dangerous infection.

For high-risk cases, institutional delivery is the only option. Medical assistance at a hospital/health facility by skilled birth attendants improves the chances of a normal and safe delivery. Institutions have round-the-clock help for the mother and baby, with medical equipment and supplies, and can quickly respond to emergency procedures such as caesarean sections. If there is a need for an emergency procedure, to ensure the availability of transfusable blood at the time of delivery, the pregnant woman should find out what blood group she has in advance as part of her birth and emergency plan.

Some of the danger signals during delivery include:

- Irregular, fast, or very slow foetal heart beats (foetal distress). The normal range is 120 to 160 heart beats per minute.
- Labour taking more than normal time in any stage (prolonged labour). In Myanmar, the MoHS recommends that a mother who is giving birth at home should immediately seek medical attention if delivery does not occur within 12 hours of the start of labour pain. Prolonged labour could be result of sideways position, breech position (feet first), large size of baby, small size of the pelvis, or cervix not opening.
- Head or shoulders not coming out (obstructed labour).
- Umbilical cord coming out before the baby (cord prolapse).

- Yellow or foul-smelling liquor (Meconium stained liquor) that indicates an infection.
- Placenta not expelled completely (incomplete/retained placenta) within one hour of delivery. If the placenta does not come and it is removed forcibly, there is a danger of haemorrhage.

After the baby is born (within the first month), additional danger signs for the mother and infant include:

- The mother experiences vaginal bleeding after delivery. Bleeding is considered to be excessive if a mother's underwear is soaked within a period of five minutes.
- Mother experiences severe headaches, blurred vision, seizures or convulsions, or severe weakness.
- The baby is rapidly breathing or has difficulty breathing.
- The baby is smaller than normal (weighing 2.4 kg or less).
- The baby refuses to breastfeed or breastfeeds fewer than five times per day.

- Bleeding from the umbilicus, the skin around the navel turns red, or pus discharged from the navel.
- Baby has jaundice (yellowing of the skin and eyes) or pale skin.
- The baby makes no movement, moves only when stimulated, or is weak or stiff.

Postnatal care

The postnatal care (PNC) period is a critical period as a high proportion of deaths of mothers and new born take place at this time.

The term "postnatal" refers to the period from birth up to 6 weeks (42 days). In Myanmar, the probability of dying within the first month of life, was 25 deaths per 1,000 live births. By one year the number rises to 40 deaths, most of which occur in rural areas.

The MoHS recommends the following PNC actions:

- Provide PNC in first 24 hours for every birth
- Keep women at the health facility for at least 24 hours after giving birth
- Visit women and babies with home births within the first 24 hours.
- Provide the mother and baby weighing at least 2.5 kg (normal birthweight) three postnatal visits to check on medical and psychosocial issues:
  - First visit – As early as possible (within 24 hours after delivery)
  - Second visit – three days after delivery
  - Third visit – 7 days after delivery
- Provide the mother and baby weighing between 2 – 2.4 kg, defined as low birth weight (LBW) baby four postnatal visits:
  - First visit – As early as possible (within 24 hours after delivery
  - Second visit – two to three days after delivery
  - Third visit – within 7 to 14 days after delivery
  - Fourth visit – within six weeks after delivery
- Offer home visits by midwives and AMWs to follow-up on medical and psychosocial support issues identified and make referrals.
- Provide family planning options, including combined oral contraceptive pills, implants, intrauterine devices (IUDs), injectables and pills taken orally, which allow women and their family to decide

on both the number of children they might have, and the spacing, or time between births, of their children.

The PNC period is also a critical opportunity to promote and to provide support for early essential newborn care.Home visits can help prepare the mother and family members for how to meet the needs of the new baby: to eat well to grow and be healthy and strong; to be protected from illness and injury; to receive good medical care when sick; and to have adults who give them love and affection. At each visit, the midwife or AMW can provide guidance on coping strategies for dealing with day-to-day matters and how husbands or partners and family members can support the new mother and baby.

During these home visits the midwife or AMW can support the mother to exclusively breastfeed the baby by identifying and solving common problems that can interfere with successful exclusive breastfeeding. She can observe a feed and then praise the mother to build her confidence, and reassure the mother that she has enough breast milk for her baby's needs.

She can also teach mothers how to express milk to relieve breast engorgement or to prepare for going back to work.

Preconception health and birth spacing

Every woman should think about her health and nutrition before she becomes pregnant. Because it is impossible to know exactly when a woman will become pregnant, and because a woman's health at the moment she becomes pregnant has an important effect on her future child's wellbeing, it is important for a woman to be healthy before she even starts thinking about becoming pregnant. The ideal time period for a woman to have a baby, in terms of her own physical health as well as that of the child, is between the ages of 18 and 35 years old. Women younger than 18 or older than 35 face greater risks during their pregnancy.

After having a child, it is important for her and her partner to practice birth-spacing. This means waiting 2-3 years after the birth of a previous child before trying to get pregnant again. Every time a woman goes through the thousand-day period, her body uses a significant amount of nutrients to nourish her child during pregnancy and while

breastfeeding. If a woman becomes pregnant too soon after the birth of her previous child, she may not may not have recovered her nutritional status and rebuilt the necessary storage of nutrients to support a healthy pregnancy. Becoming pregnant too soon, then, creates a burden on her own nutrition and health status and can have negative impacts on the foetus. This is called maternal depletion. In fact, the children of women who do not practice birth spacing are more likely to be malnourished, be born pre-term, and be low birthweight. Also, in Myanmar many women stop breastfeeding when they become pregnant, which means that their child does not benefit from the full two years or more of breastfeeding and may not reach their full nutritional potential. A woman should consider talking to her partner about the benefits of practicing birth spacing and make a joint decision about a good time to become pregnant. According to 2015/2016 DHS data, over half of married women in Myanmar (52.2%) use some method of contraception. Some of the most common ways to prevent pregnancy in Myanmar include the use of daily contraceptive pills, intrauterine devices, condoms, and 3 monthly hormonal injections. Most types of contraception, when used correctly and consistently, are 99% (or more) effective. Breastfeeding is also a form of contraception, however only when it meets all of the following four criteria: (1) the child is less than six months old; (2) the child is breastfed exclusively; (3) the child is breastfed on demand; and (4) a woman's period has not yet returned. This is called the Lactational Amenorrhea Method (LAM). These, as well as other methods of birth spacing, can be discussed with a health professional.

Before considering becoming pregnant, it is important to keep in mind that some lifestyle habits and health problems can harm the unborn baby. Likewise, positive lifestyle habits can help ensure that the mother is prepared for a healthy journey the moment she conceives.

A woman who is of reproductive age, or capable of becoming pregnant, should take the following actions to prevent problems during pregnancy, to decrease the chance of her child developing a disability, and to ensure a safe delivery.

- Practice birth spacing, which is waiting anywhere from two to three years after a child is born to become pregnant again.

- Consume a diverse and balanced diet and maintain a healthy weight.
- Go to the clinic or pharmacy and ask a health professional for iron and folic acid (a B vitamin) supplements in order to lower the risk of birth defects of the baby's brain and spine, heart disease, cleft lip and palate, and preterm births.
- Refrain from smoking, chewing betel nut, illicit drugs and limit or avoid drinking alcohol.
- Be aware if she has any health condition, such as HIV/AIDS, diabetes, epilepsy, asthma, oral health problems or obesity, or is taking any medications, and ask a health professional how this could affect pregnancy.
- Be sure vaccinations, especially tetanus, are up-to-date.
- Avoid contact with toxic substances, materials, or chemicals at home or at work.
- Avoid coming into contact with animal urine and faeces.
- Limit emotional stress

Preconception care, including birth-spacing and taking care of her mental, emotional and physical wellbeing, can help a woman have a full, healthy pregnancy when she and her partner are ready for it.

Accessing government services and schemes

Myanmar's health service delivery system provides an essential package of reproductive, maternal, newborn and child health (RMNCH+) care through the Life Cycle Approach at both the facility and community level. The cornerstone of good quality maternal health care is having enough professionals with adequate knowledge and skills in midwifery to meet the community's needs. In Myanmar, nurses, midwives and community health volunteers, including auxiliary midwives, play a pivotal role in providing care in communities across the country.

There are many barriers to women seeking timely and complete RMNCH+ care services. Identified barriers include women who have limited knowledge of birth processes and complications and limited decision-making within the household. In some households, husbands make the decisions around health care, such as when to become pregnant, how often pregnancies should occur, and what type of

services can be accessed when pregnant. Having limited decision-making power can be disempowering for women; it is important for husbands and wives to discuss health related issues and make important decisions jointly.

Information on such factors is particularly important in understanding and addressing the barriers women face in seeking care during pregnancy and at the time of delivery. To ensure quality care, facility-based services and the cadre of trained and skilled service providers need to be readily identified. Pregnant women, newly delivered mothers, and mothers of children younger than 24 months need to know what services are provided. Then, they need to know who can provide those services among the cadre of trained government health personnel and how to access them. Aside from services provided at the health care facilities, it is important to know what community-based personnel and services exist, (eg. community health volunteers, local mother's groups, village health committees), and who is involved.

Through the MoHS, support for maternal, neonatal and child care services, including nutrition support, is available. The Ministry of Health and Sports is committed to achieving UHC by 2030. Currently, the services available to mothers and their families during the first 1000 days include the following routine services in public health facilities:

1. Prenatal or antenatal care services, during which time midwives monitor a mother and foetus during to ensure a healthy pregnancy and support preparation for delivery. Some of the services provided during the eight recommended ANC visits include counselling, provision of iron and folic acid supplements, immunizations, screening for health problems through checking blood pressure, urine analysis, weighing, testing for sexually transmitted diseases, and obstetric examination.

2. Facility-based child delivery at a hospital or clinic where mothers and babies have access to trained medical personnel, medications and equipment in case there are any problems during or after delivery.

3. Postnatal care services support mother and baby in the postnatal period from birth until the child is six weeks old. This period poses substantial risks and hazards for maternal and neonatal health in Myanmar. During this vulnerable time for mother and baby, midwives help protect

mothers and their babies from health threats by assessing mothers and babies after childbirth, providing counselling services, psychosocial support, and provision of relevant vaccinations and supplements.

4. Birth spacing and contraceptive methods counselling to women and their partners. Health professionals will advise couples on the advantages and disadvantages of different available options, including oral contraceptive pills, contraceptive injections, intrauterine contraceptive devices, intradermal contraceptive implant (under the skin) and condoms.

5. Immunizations through the government's Expanded Programme on Immunizations for children at birth, two months, four months, six months, nine months and 18 months. For mothers, immunizations are provided at the first antenatal care visit and then four weeks later for the second dose.

6. Growth monitoring for children under five. This is done both at the health facility and community levels. Each child should have an individual growth chart which tracks their progress and ensures that they are a healthy weight and height for their age. Children who are not growing normally are provided additional nutrition counselling and support.

7. Nutrition counselling on maternal nutrition, breastfeeding and complementary feeding during ANC visits, PNC visits and growth monitoring sessions.

8. Treatment of children with moderate and severe acute malnutrition. The government is implementing the Integrated Management of Acute Malnutrition (IMAM) protocol, which provides a package of service and treatment to children who are suffering from malnutrition.

9. Provision of nutrition supplements, including Vitamin A supplements to breastfeeding women within one month after delivery, to children between 6-11 months, and to children between one and five years old every six months. Provision of vitamin B1 tablets for women from the nine months of pregnancy to three months after delivery.

10. Deworming tablets for pregnant women (third month of pregnancy), breastfeeding women and children between two and nine years old every six months.

11. Consultation and treatment of common and rare illnesses, including acute respiratory infections, diarrhoea, sexually transmitted diseases, bacterial and parasitic infections, malaria, dengue, tuberculosis, hepatitis, among many others.

In addition to the above public services, another example of support for maternal and child health and nutrition is the Maternal and Child Cash Transfer Programme, available in Chin, Rakhine, Kayin, and Kayah States as well as the Naga Region at the time this guide was published, which provides women who are pregnant and their children under two years old with a monthly cash transfer. The purpose of the cash is to support nutrition and health needs during these first 1000 days. In addition to cash, mothers receive nutrition education and support through mother to mother support groups.

Yet another example of support for maternal health care services is the 3 Millennium Development Goal Fund (3MDG) Emergency Obstetric Care (EmOC) scheme that is available in approximately 330 townships in Myanmar. Referrals are made when an emergency is identified by basic health staff or other health care providers. The village health committees then advance travel costs and assist in the arrangements for transport of the patient and one attendant to the nearest hospital able to provide comprehensive emergency obstetric care.

Learning Activity 1.3a

The Importance of Maternal and Neonatal services

Purpose

To enable participants to understand and identify components of ANC, birth and PNC services, to help participants understand the importance of utilising these services to ensure the wellbeing of both the mother and her infant.

Time

2 hour 15 min

Materials

- Flip charts
- Permanent pens
- A4 paper
- Visual aid 1.3
- Handouts of Maternal and Reproductive Health Session 6- Standardized Health Messages
- Case study situation cards

Learning methods:

- Buzz Groupst
- Stepping Stones
- Case Studies
- Community Mapping
- Reflection

Instructions

Step 1 Buzz Groups & Stepping Stones

Stepping stones to a healthy baby 30 mins

1. Divide participants into buzz groups of 3-4 people.
2. Ask participants the following questions: what do women who are expecting do to care for their baby? In your community, what of services do women seek out? What services are available?
3. Draw a line dividing the training room into two halves, front and back
4. Tell participants to stand on the line.
5. Make a statement about an ANC-related behaviour or service.
6. Participants can either use their own experience or else they can imagine themselves to be a woman in the community where they work. Tell the participants that if they practiced the behaviour or received a service read aloud by the facilitator, they should move one step forward.
7. Tell the participants if they did not practice that behaviour, they should move one step backwards.
8. After all the statements have been read, ask participants to note the different spaces (gaps) between each of the participants.
9. Ask participants to think about and discuss why these gaps occurred.
10. Ask participants to share some of the reasons.
11. Explain to participants that all the statements that were read aloud are important steps that all pregnant women and the postnatal mothers should follow to be healthy and have a healthy baby.

Statements:

1. You went to receive care from the nearest health facility, midwife, or AMW as soon as you suspected you were pregnant.
2. You received blood and urine samples to test for anaemia and infections.
3. You were counselled on eating more food and consuming a diverse diet.
4. You were counselled on what to avoid, including alcohol, smoking, and drugs.
5. You were counselled on the benefits of delivery at a health facility, and making a birth plan of action and an emergency plan should a sudden complication occur.
6. You were counselled on the importance of skin-to-skin contact and breastfeeding immediately after birth.
7. You were provided iron and folic acid supplements.
8. You were provided a deworming treatment.
9. You were counselled on the importance of steady weight gain, ensuring that you are healthy and the baby is growing normally.
10. You visited the health facility, midwife, or AMW at least two times
11. You visited the health facility, midwife, or AMW at least four times
12. You visited the health facility, midwife, or AMW all eight times.
13. You received blood pressure and weight measurement at every visit.

Step 2 — Case Studies

Identifying factors that promote post natal care services — 45 mins

1. Display the Visual Aid for components of a PNC visit.
2. Divide participants into small groups of three or four participants.
3. Give each group one of the case study situation cards, the content for which is written below.
4. Ask the participants to read the situation and then discuss with their group members:
    - What are some of the feelings, beliefs or social factors that might have prevented this mother, partner or family member from seeking out PNC?
    - What are some of the feelings, beliefs or social factors that might have supported this mother, partner or family member to seeking out PNC?
    - What activities could be done to increase awareness of and promote demand and access to PNC services in your communities?
5. Allow 15 minutes for discussion.
6. Next, ask each group to share the situation and discussion points with the whole group. Allow other group members to contribute
7. The facilitator should summarize all important points related to PNC services.

Case Study Situation Cards

Case 1

A five-day old newborn, Sein Tun, was bleeding from his umbilica cord. The grandmother applied some turmeric powder, which in many villages is a traditional treatment, believed to have antiseptic properties to halt the bleeding. However, the bleeding did not stop Then she tied a piece of cloth around the cord and the bleeding stopped. After few days, Sein Tun developed high fever and there was pus on his umbilical cord.

Case 2

A newly delivered mother only started breastfeeding her baby, Win Yadanar, after two days of delivery. She did not feed the baby regularly. After ten days, the new mother began to complain of pain in her breasts. She also started running a fever. She stopped feeding Win Yadanar, as she feared that feeding would only increase her pain.

Case 3

A grandmother started giving a ten-day-old baby, Maung Saw Tin, sugar water, honey and cow's milk, along with breastfeeding, as she felt that breast milk alone was insufficient for proper growth. A few days later Maung Saw Tin developed loose stools and vomited profusely. The mother stopped breastfeeding him, thinking that it was making the problem worse, and he was given only sugar water.

Case 4

Kamala returned home from the hospital after her delivery. Soon after her return she started complaining of headaches and blurred vision. Her husband got her some headache tablets from a local pharmacy. Her headache subsided, but then returned the next day.

Her husband then took her to a local traditional healer who did not examine her, but gave her some tablets and ointment for headache, advising them to not to worry. The next day, Kamala had convulsions and became unconscious.

Case 5

Thiri Shway delivered at a health facility and returned home on the same day. After three days the Midwife came to visit her at home. Thiri Shway reported heavy bleeding. Both Midwife and Auxiliary Midwife tried to stop her bleeding, but when it was not under control, they called a vehicle to take Thiri Shway to the nearby facility. She was taken to the Primary Health Centre (PHC) where the Medical Officer gave her injections and tablets and the bleeding soon stopped.

Step 3 Community Mapping

Health services and schemes available 45 mins

1. Display the Visual Aid linked to Myanmar's health service delivery systems. Identify each type of health facility and identify each type of health worker.
2. Ask the participants if these services and health personnel are available in their communities.
3. Divide the participants in groups, according to the communities they work in. Tell the participants that each group should draw a map for their community. Note to facilitator: If all the participants are from or work in the same community (such as in a community learning session) then you also have the option of conducting the mapping exercise as a group, using a large flip chart in front of the room. In this case, ask for one or two volunteers to draw, and other participants will give input.

4. Ask each group to draw a map, which should include images which represent the following information:
    - Where is the closest health facility? (Include other landmarks in the community as a reference, such as schools, roads, etc.)
    - Which cadre of Health Care Worker is available there?
    - Where is the closest referral health facility?
    - Which cadre of Health Care Worker is available there?
    - What services does the health facility provide to support nutrition during the first 1000 days period? Draw images to represent these services that are available to the community.
    - What is/are the local community group(s) focused on MNCH?
    - How do women in the community get to the health facility? (This may include pictures of a boat, motorbike, money, petrol, etc.)
5. After the maps are completed, ask the participants what they think of these services. Are they sufficient? How easy are they for people to access?
6. Are there services to which people should have access but do not? Why or why not?

Step 4 — Reflection

Reflect on the learning process — 15 mins

1. Ask the participants what they have learnt from these activities.
2. Discuss whether women in the communities they work are getting the support they need from the government and community groups. What is working well and what is not?
3. What can be done to improve women's access to and utilisation of government schemes and services?

Learning about the first 1000 days

Key messages to remember:

- Pregnant women should attend ANC as soon as they are aware they are pregnant, as early as possible.
- Pregnant women must go to a minimum of 8 ANC check-ups during pregnancy.
- Pregnant women, their partners and families should be able to recognize danger signs during pregnancy and seek immediate the medical attention of a trained health care provider.
- A mother should attend a total of three postnatal visits for normal-weight infants and four postnatal visits for low-birthweight infants between the first 1- 42 days (six weeks after delivery) to monitor the mental and physical health mother and baby.
- Provide the mother and baby weighing at least 2.5 kg (normal birthweight) three postnatal visits to check on medical and psychosocial issues.
- Provide the mother and baby weighing between 2 – 2.4 kg, defined as low birth weight (LBW) baby four postnatal visits.
- Pregnant women, their partners and families should know about and seek access to all those government schemes supporting maternal and neonatal health which are relevant to them.

Learning Activity 1.3b

Planning for the journey of parenthood together

Purpose

To enable the participants to discuss and identify the benefits and challenges of birth spacing.

Time

1 hour 20 minutes

Materials

- Flip Chart
- Pen
- Pieces of paper or cards, half of them with scenario for those who will play Actor A printed and the other half with scenario for those who will play Actor B (role play activity)
- Glass or cup
- Water to fill the cup
- Empty water pitcher

Learning methods:

- Buzz Groupst
- Visualisation
- Discussion
- Role Play
- Brainstorming
- Reflection

Instructions

Step 1 — Buzz Groups

Birth spacing: Opening up the conversation — 15 mins

1. Explain to the participants that pregnancy is the beginning of the first 1000 days period. It is the foundation of a healthy journey, setting the course not only for the child's first two years, but for the rest of his or her life.
2. Divide participants into buzz groups of two. Tell them they will have about five minutes to discuss the following questions:
   - What do you think is the best age to have children? Why?
   - What is birth spacing?
   - Is this something you should be concerned about? Why or why not?
3. Invite the participants to share their responses with others in plenary. Remind the participants

Step 2 — Visualisation & Discussion

Maternal depletion visualisation — 15 mins

1. To illustrate the concept of maternal depletion, show the participants a full glass of water. Explain to the participants that a mother's nutrition is like this glass of water. The glass symbolizes the woman and the water symbolizes her health and nutritional status.

2. When she goes through pregnancy and childbirth, many demands are made of a woman's body. Pour out the glass of water into a pitcher. Show the participants an empty glass, which symbolizes the mother's body after pregnancy and childbirth.

3. A woman's body needs time to regain strength and health. As the facilitator speaks, gradually fill the glass of water. Tell the participants that it takes about two to three years after childbirth for a mother to recover, or for the glass to be refilled. If a mother gets pregnant again too early, her body may not yet be fully prepared to go through the 1000 Days process again. When a mother gets pregnant before her health and nutritional status is restored, this is called "maternal depletion". A mother's body needs rest and time to become "refilled".

4. Next, ask each discussion group (from Step 1) to join another discussion group, forming groups of four. Give them 5 minutes to discuss the following questions:
   - What are the different methods that can be used for birth spacing that you know?
   - What are the most common methods used in your community?
   - Are the methods accessible to people who need them? What actors provide this service in the community where you work?
   - If you wanted to know more about birth spacing options, who would you talk to?
   - Why would you talk to that person? What are other good sources of information?

Step 3 — Role Play

A conversation about birth spacing — 20 mins

1. Divide the participants into pairs, one male and one female (if possible).

2. Ask them to imagine that they are having a conversation with their partner about birth spacing. If the gender balance permits, ask

men and women to reverse gender roles for this activity. So, the men (Actors A) will play the role of woman. Women (Actors B) will play the role of men. Actor A and Actor B should not see each other's cards.

3. Give everyone a piece of paper or card with the role play scenario for A or B. Actors A should not see the B paper and vice versa. Participants will act out the following scenarios in their pairs:
   - **Actor A:** You recently gave birth to your first child, Chit Cho Hla. She is beautiful and healthy! The midwife suggested you think about birth spacing and wait at least two years before becoming pregnant again. She told you that waiting two years is healthier for you and your baby. It gives your body time to recover, allows you to breastfeed Chit Cho Hla until she is two years old, and gives you more time to take care of her. You also think it will be better financially to have some time to save money before having another child. Children are expensive! You want to talk with your husband about waiting to have another child, but you are unsure what he will think about it and whether he will approve. You also want to find out whether he has an opinion on what type of birth spacing method to use.
   - **Actor B:** Your wife just gave birth to your first child, Chit Cho Hla. She is beautiful and healthy! Your wife wants to talk with you about birth spacing. You don't know much about it, but you do not want to appear ignorant. In general, you are feeling unsure about it. You've heard about some of the methods of birth spacing from your friends, but do not know about all of them, and you want to learn more about the advantages and disadvantages of the methods.

4. Invite the participants to spread out so that they are not distracted by others' conversations.

5. Tell the participants that they will be asked to role-play their conversation in front of the entire group.

6. After they have had time to do the role-play, bring participants together to discuss. Ask 1-2 groups to volunteer to role-play their conversation in front of the entire group.

7. Ask the entire group what they thought of the role plays they just witnessed. Ask them to compare and contrast the role plays they did in their small groups, and the role plays that performed for everyone. Did they discuss similar issues? Were the conversations in the role-plays that were performed realistic? Do they represent the views of people in the communities they work in? Why or why not? Were any important issues missing?

Step 4 — Brainstorming

The pains and gains of birth spacing — 15 mins

1. On a large paper, draw a T-Chart with "Pains" and "Gains" written on either side. Ask participants the following:
2. What are the gains or benefits that come from talking about birth spacing? What are the gains or benefits that come from birth spacing?
   - What are the pains or difficulties of talking with your partner about birth spacing? What are some of the difficulties of birth spacing?
3. Write down all participants' ideas. Consider no idea incorrect or unrealistic.
4. At the end of the conversation, correct any misconceptions or misinformation that may have arisen, such as that women who use birth control will bear children with abnormalities, or that women who take the pill will lose weight. Note that each person is different, and some birth spacing methods work for some people but not for others. Therefore, it is important to choose the method that works best for them.

Pains	Gains
Possible examples . . .	Possible examples . . .
Family pressures	Ensuring a healthy mother and family
Limited options or poor knowledge about birth spacing options	Ability to develop open communication about physical intimacy
Social stigma	Greater intimacy
Creating new habits	Mother is able to breastfeed each child for the full 2+ years
Feeling uncomfortable talking about physical intimacy	Awareness of options to enable couple to make a choice
Poor access to contraceptives	Able to decide whether or not it's a good time to welcome a child into the world
Uncomfortable or undesirable contraceptives	Able to financially plan for a child in advance
Cost of contraceptives	
Concern that other partner will not be supportive of birth spacing or will disagree	

Table 1.3b: The pains and gains of birth spacing

Step 5 Reflection

Reflect on the learning process 15 mins

1. Ask the participants what they have learnt from these activities.
2. Is this a controversial or sensitive topic? Why?
3. Do men and women both have sufficient knowledge about this topic? Does one gender have less access to this information than another?
4. What can be done to make people feel more comfortable talking about birth spacing?
5. Did they reveal any misconceptions in their communities about birth spacing?
6. What role do women usually play in decisions related to birth spacing? And men?
7. Why is birth spacing important for women's and children's health?

Key messages to remember:

- Both men and women should be educated about birth spacing and the advantages and disadvantages of available birth spacing options.
- Couples should talk to each other about important decisions related to contraceptive use, becoming pregnant and birth spacing.
- Couples should wait to become pregnant until they mutually decide they are ready to have a baby.
- For her optimal health and safety, a woman should try to avoid becoming pregnant before she is 18 years of age.
- Couples should wait 2-3 years after the birth of one baby to become pregnant again for optimal maternal and child health.
- Most types of contraception, when used correctly and consistently, are 99% (or more) effective.
- Breastfeeding is a form of contraception only when it meets all of the following four criteria: (1) the child is less than six months old; (2) the child is breastfed exclusively; (3) the child is breastfed on demand; and (4) a woman's period has not yet returned. This is called the Lactational Amenorrhea Method (LAM).

Session 1.4

Family and community support during the first 1000 days

Background 1.4

Committing to the journey

Excited. Nervous. Stressed. Joyful. Worried. These are all emotions that a parent may experience during the first 1000 days period. Parents may ask themselves, how am I going to manage financially? Will my baby be healthy? New parents may wonder, am I doing the right things to prepare for my baby? Will I be a good parent? Pregnancy is a life changing event full of physical and emotional changes. Understanding these changes can help a mother and her partner have a positive experience.

Every parent wants what is best for their child. Thankfully, we know what actions it takes for a mother and her baby to have the greatest chance of a healthy first 1000 days journey. There are key health and nutrition behaviours a mother should practice, but she needs the active support of her loved ones so that she does not feel alone, particularly when things are difficult. Knowing what positive behaviours should be practiced, discussing them with her partner ahead of time, and making the commitment to practicing them at the beginning of the journey helps to prepare a family for success. The journey isn't always easy,

and sometimes parents may question their decisions or stumble along the way, but the important thing is to keep learning and trying with the support of trained health professionals and loved ones.

Having a positive 1000 Days journey requires active preparation. Researchers who study human behaviour have proven that people are more likely to follow through on behaviours if they commit, ahead of time, to practicing a given behaviour. Pteople are also more likely to succeed in practicing the behaviour if they have friends and loved ones supporting their efforts. One way of committing to a behaviour is for a person to tell friends and family about her intention. For example, she can tell them that she plans to breastfeed exclusively for six months. Or, that she plans to eat food from all four **** food groups every day. Another tactic is for a person to make a public commitment on social media, such as Facebook, about the behaviour she intends to practice. This helps create social accountability, encouraging the mother to maintain the behaviour because she knows people are there to follow and support her.

If you or someone you know is pregnant, consider writing a letter to your baby. You can use this letter as a template and personalize it, if you wish. If you want to share your commitment with friends and family, you can post the letter on Facebook. This might also help inspire other mothers to do the same!

Pledge: A mother's commitment to her future child

Dear Future Child,

I [NAME], commit to following the first 1000 days journey. The reason I am committing to this journey is because I want you to reach your full potential emotionally, physically, intellectually, and socially. For this reason, I promise to:

- **Get the support of trained health professionals along the way, starting today.** I will visit a health facility for antenatal care, and again for postnatal care visits after you are born.
- **Eat a healthy diet** with enough food from all four **** food groups every day to make sure that my body has what it needs to feed both of us.
- **Ask for help from my friends and family when I need it.** This includes asking for emotional support when I am feeling tired, worried or sad. I know that my emotional health is just as important as my physical health.
- **Give birth at a health facility,** not at home, to help ensure that your delivery into this world is a safe one.
- **Put you to my breast as soon as you are born.** My milk is a precious gift, made especially for you, and it is your first food and medicine. I only want the best for you.
- **Exclusively breastfeed until you reach six months.** I know that this means not giving you any other food, water, or infant formula milk. Nothing can replace my own breastmilk. My breastmilk will make you smarter, stronger, and healthier than any tinned alternative. That's a scientific fact that no one can dispute.
- **Give you healthy foods when you turn six months old, alongside continued breastfeeding.** This means giving you foods from all four *** food groups and continuing to breastfeed you until you are two years old or more in order to help protect you from illness.
- **[Insert any additional commitments]**

We are excited to meet you!

Love,
Your mother

Fathers, grandmothers, aunts and friends can do the same. Feel free to adapt the letter so that it is personalized.

Pledge: A father's commitment to his future child

Dear Future Child,

I [NAME], commit to following the first 1000 days journey. As your father, I have an important role to play. The reason I am committing to this journey is because I want your mother to be healthy and safe, and I want you to reach your full potential. For this reason, I promise to:

- **Help your mother get the support of trained health professionals along the way, starting today.** I will help encourage her to go to her antenatal and postnatal care visits and help her solve any problems that prevent her from going. I will help her remember when it is time for a visit, and I will help make sure that she has the means to get to the health facility for care.
- **Make sure your mother has enough food from all four **** food groups** every day to make sure that her body has what it needs to feed both you and her.
- **Provide relief to her when she needs it.** I will be a strong and true partner, helping your mother with house chores, especially (but not only!) when she is feeling tired or ill. This journey is physically exhausting for your mother, and she needs help along the way.
- **Let her know that she is not alone.** Your mother's body is going through a number of changes which can affect her mood, and if she wants to talk about how she is feeling, I will be there to listen patiently. I know that her emotional health is just as important as her physical health.
- **Develope a plan, with her, to make sure she gives birth at a health facility.** I want to do my part to ensure that your delivery into this world is a safe one. I understand that this might require making special transportation arrangements in case you come at night or on a holiday and saving some extra money in case of an emergency.
- **Support her to breastfeed.** I will help protect her from the pressures to give you water or food until you are six months old. I will also help protect her from the pressure to give you infant formula. I know that nothing will make you smarter, stronger or healthier than breastmilk in the first two years of life. That is a scientific fact that no one can dispute.
- **[Insert any additional commitments]**

We are excited to meet you!

Love,
Your Father

Planning for birth and beyond

Once a woman discovers that she is pregnant, the best way to maintain a healthy pregnancy and prepare for a healthy and safe delivery is to go for ANC services at the eight recommended times throughout the pregnancy. Women who seek healthcare during the prenatal period are more likely to be prepared for a safe delivery. In addition to going for ANC services, it can be useful for the woman and her partner to make a clear plan of action for the time of delivery and immediately after. This is called a Birth Plan. A plan can relieve women and their partners of some of the stress surrounding childbirth, because they will have prepared for various scenarios. Ideally, childbirth is an uneventful process. However, a number of complications may occur, and it is best to be prepared in case one does.

As part of the planning process, an important decision for a woman and her partner to make is where a woman will give birth. It is always important to give birth at a health facility, even if mother and foetus are in good health during the pregnancy. For those who do not live close to a health facility, giving birth at a health facility will require advance planning and preparation. There are a number of issues a mother and her partner may want to discuss as part of the Birth Plan.

It is also a good idea to make a plan to ensure that a mother is supported to breastfeed. For some mothers, breastfeeding is easy and it feels natural for her and the baby. In other cases, mothers face challenges in breastfeeding, which can undermine their confidence and cause them to question whether they have the ability to breastfeed or to produce enough breast milk for their baby. Additionally, there are a number of societal pressures on women not to breastfeed and instead use breast milk substitute. Sometimes this pressure to use breast milk substitute comes from hospital staff and other times it comes from friends, husbands, Facebook or advertisements from companies. Sometimes, a mother has to go back to work and she feels that she has no choice but to use breast milk substitute. However, it is possible for working women to continue to breastfeed. The most important thing for a mother to know that if she is committed to breastfeeding, she has the greatest chance of success if she seeks the support of trained health staff, her family and loved ones to help her do what's best for her baby.

The breastfeeding journey begins when a mother puts her baby to her breast. This should take place within the first hour of birth. At some health facilities this does not automatically happen, so a woman and her partner may need to request that the health staff give the baby to the mother immediately after birth. It helps if the baby's father, as well as other friends and family members, are educated about WHO and MoHS breastfeeding recommendations so that he and other family members can support the baby's mother.

Sometimes older and younger generations have different opinions on how to care for children. It is important to discuss plans regarding childbirth, feeding practices, and other child care behaviours ahead of time with family members—before the baby is born. There are a number of traditional practices, some of which are beneficial and some of which are not. Practices such as not touching cold water and avoiding eating certain foods for a period of time could compromise the health of the mother and baby. While not touching cold water is not itself harmful, it becomes problematic if it prevents a mother from practicing good hygiene behaviours, like handwashing. At the same time, there are other longstanding traditional practices, including breastfeeding, that bring benefits to the child. Discussing these issues early helps to avoid any stress and conflict after the child is born, given that this is a tiring and emotional period of time.

Maternal mental health

In addition to practical support with household chores and other work duties, it is equally important that women receive physical, emotional, and informational support by family, community, and health professionals. This psychological and social (together known as psychosocial) support is especially necessary before, during, and just after childbirth. Whether a woman feels like she is alone or supported has been shown to impact the physical health and wellbeing of mother and child.

This is because not only is a mother is going through a life-changing event which creates powerful emotions, but also a mother's body generates a number of hormones before, during and after childbirth. The hormones that are produced during this period can affect her emotions in ways that are sometimes unpredictable. The level of hormones, which are chemical substances that act like messengers in the body, naturally increases tenfold

during pregnancy. Hormones, which are made in one part of the body, travel to other parts of the body to control how cells and organs do their work. High levels of two hormones, progesterone and estrogen, are important for a healthy pregnancy. These are the main pregnancy hormones, which can

Questions to discuss before giving birth

1. What is my due date?
2. At which health facility will I give birth?
3. If the facility is far away, can I make lodging arrangements near the hospital in my late stages of pregnancy, before I give birth? (Can I stay with a friend or family member who lives near the health facility?)
4. Who will go with me when I give birth?
5. How will I get to the hospital at the time of delivery? Is transportation available both day and night? Does transportation cost money, and if so do we have money to get to the hospital?
6. Who can help me make sure that my baby is put to my breast within the first hour of childbirth?
7. Do I have money in case of an emergency? For example, have I saved money in case me or my baby has a health problem during the delivery?
8. When I return home after delivery, who will help me with housework such as cooking, laundry and caring for my other children?
9. What support do I need in order to exclusively breastfeed for the first six months? If I have trouble, where can I go for help?
10. How can I follow healthy nutrition and hygiene practices during pregnancy and while breastfeeding? How can I be sure to eat a diverse diet with foods from all four star*** food groups? How can I be sure to eat a higher quantity of food than normal?

increase suddenly and dramatically, and are the cause of some common unwanted side-effects in the mother when they act on the brain. Until the mother's body has adapted to the higher levels of these hormones, mood swings are common.

Another hormone which is released during childbirth and while breastfeeding is oxytocin, sometimes referred to as the "love hormone". This hormone is associated with feelings of bonding and motherhood. Also during childbirth, pain-relieving hormones are released which can also induce feelings of happiness in the mother. A sudden rush of energy-giving hormones (adrenaline and noradrenaline) give the mother a surge of energy just before giving birth when contractions are strongest. While hormones serve important functions during pregnancy and while breastfeeding, these higher levels of hormones can affect a woman's mood.

A high number of mothers (between 30 to 75 per cent) experience a feeling of sadness or moodiness, known as the "baby blues" which may last for a few days up to a week or two. In most cases, this phase passes quickly. In some cases, however, a more serious condition known as maternal depression can develop. Maternal depression is a form of major depression that develops in a woman during pregnancy and up to one year after giving birth. Most commonly, maternal depression occurs in the first four weeks after delivery—this is called postpartum depression. Little is known about maternal depression in Myanmar, but globally about 10 to 15 per cent of mothers experience postpartum depression. According to the WHO, the figure is thought to be even higher than this (at 18.5%) in low and lower-middle income countries, such as Myanmar.

Maternal depression has no single cause. It is not a character flaw or weakness, but rather a complication of giving birth for some women. Emotional, social, and physical changes (hormonal) that occur before or after a woman has given birth can all be possible causes for depression during this period.

Families and friends can support mothers by providing reassurance and support to them during the first 1000 days period. Families should also educate themselves on the warming signs for maternal depression so that they can act if necessary. It is better to act early rather than waiting for a woman's condition to worsen. If a woman has the "baby blues", she may simply need the love, support, help and patience of her family members during this temporary period. However, if they suspect that the condition is serious, they should take the woman to a trained health professional for medical support.

Emotional, social and physical causes of maternal depression

Emotional causes:

After childbirth, a mother may be sleep deprived and overwhelmed. She may be feeling anxious, nervous about taking care of a new baby or lose confidence in herself.

Social causes:

A woman's role in her family, community and society can change when she has a child. A number of social stressors can contribute to maternal depression. These include loss of self-identify, lack of emotional support from her loved ones, unhappiness about becoming pregnant, financial concerns, conflict and domestic abuse, among many other possible factors. In Myanmar, some post-natal rituals and traditional beliefs, such as isolating the mother for long periods, viewing women as untouchable immediately after childbirth, and restricting intake of certain taboo foods can create added stress on postpartum mothers.

Physical causes:

During pregnancy, a woman's hormones increase tenfold. Then, after she gives birth, her hormone levels drop dramatically in a short period of time, making her feel tired. These chemical changes can trigger depression. Not breastfeeding (feeding infant formula) has also been shown in some studies to be a cause of postpartum depression.

One of the many reasons a woman should breastfeed is that it can also help prevent postpartum depression. There are many possible reasons for this, one of which is that when a woman breastfeeds she releases oxytocin, a hormone which stimulates feelings of love and relaxation in a mother. Breastfeeding

may also reduce stress and enhance a mother's sleep. Skin to skin contact immediately after childbirth (see Topic 2) can help reduce a mother's stress immediately after childbirth. It lowers her heart rate, increases her pain threshold, reduces anxiety, and releases oxytocin, the "love hormone".

Warning signs for maternal depression	
Symptoms of the Baby Blues Duration: One to two weeks	**Symptoms of Maternal Depression** Duration: More than two weeks
Mood swings	Depressed mood or severe mood swings
Anxiety	Severe anxiety and panic attacks
Sadness	Difficulty bonding with your baby
Irritability	Excessive crying
Feeling overwhelmed	Withdrawing from family and friends
Crying	Hopelessness, feelings of worthlessness, shame, guilt, or fear that you're not a good mother
Reduced concentration	Diminished ability to think clearly, concentrate or make decisions
Appetite problems	Loss of appetite or eating much more than usual
Trouble sleeping	Inability to sleep (insomnia) or sleeping too much
	Restlessness
	Overwhelming fatigue or loss of energy
	Reduced interest and pleasure in activities you used to enjoy
	Intense irritability and anger
	Thoughts of harming yourself or your baby
	Recurrent thoughts of death or suicide

Table 1.4: Warning signs for maternal depression

Learning Activity 1.4a

Emotional and physical support for mothers

Purpose

To enable participants to discuss and prepare for the emotional and social changes that occur with parenting, and to stress the importance of community support for new parents as they commit to behaviours that promote the health and well-being of their baby.

Time

2 hour 10 minutes

Materials

- Large flip chart
- Sticky notes
- Blue and green markers
- Visual aid: Baby Blues vs. Maternal Depression
- Water to fill the cup
- Case study cards

Learning methods

- Group Exercise
- Gallery Walk
- Mapping Trends
- Presentation
- Case Studies
- Storytelling
- Visualisation
- Reflection

Step 1 Group Exercise & Gallery Walk

Division of labour

20 mins

1. Divide people into three groups: Home, Farm and Community. Ask each group to brainstorm a list of all the tasks, chores and responsibilities that exist in each of these three categories, regardless of who in the family does them, in order to maintain a household.
2. If you are working in an urban context or a place where families do not have or work on farms, please adapt the categories. For example, instead of "Farm" the category could be "Outside work to earn money" instead. Make sure the categories are relevant to the participants.
3. Give the participants a few (but not too many) examples in each category. Some examples include:

Home	Farm	Community
Reading the newspaper	Planting potatoes	Shopping for food
Listening to the radio	Harvesting rice	Banking
Cleaning the house	Milking cows	Attending meetings
Feeding the family	Gathering eggs	Selling at the market
Caring for elderly parents or relatives	Plowing or preparing seed bed	Taking children to the health facility
Resting or napping	Feeding animals	
Preparing and cooking meals	Other?	Other?
Cleaning up after meals		
Gathering firewood or fuel		
Getting water		
Making repairs to the house		
Breastfeeding children (day and night)		
Caring for children (bathing, clothing, supervising, etc.)		
Other?		

4. Ask the participants to tape pieces of paper (or sticky notes) with the responsibilities on a piece of flip chart paper. At the top, each group should write the respective domain—Home, Farm or Community.
5. The facilitator should go around to the groups to probe and ask if anything is missing. Once the groups are done, ask the groups to look back at the lists they have created.
6. Now, ask them to think about who does each task the majority of the time. If women or girls do the task the majority of the time, please put a red tick next to the task; if boys or men do the task the majority of the time, please put a green tick next to the task. In some cases, both men and women will do a chore, but think about who is primarily responsible for the task, especially in terms of time and effort spent.
7. Gallery walk—allow the other teams to have sticky notes to add on tasks which they think have been forgotten, and add a red (primarily female task) or green (primarily male task) tick.

While the participants are doing Step 2 (below, "Home and childcare responsibility trends"), one of the facilitators should separate the male and female tasks on a piece of flip chart. On a large piece of paper, on one side put "primarily male tasks" (those with green tick marks) and on the other side put "primarily female tasks" (those with red tick marks). The group will return to these at the end of Step 2 below.

Step 2 — Mapping Trend

Home and childcare responsibility trends — 20 mins

1. Explain to the participants that they will now be discussing home and childcare responsibilities. Invite all participants to come to the front of the room. If there is not sufficient space in the training venue, take the participants outside or to a larger space.
2. Explain to the participants that you will be asking them a series of questions. If they have regularly practiced the chore or responsibility you will read aloud, ask them to take one small step forward. If they have not, however, regularly practiced this chore or responsibility, ask them to remain where they are.
3. Ask the group the first question, have you ever cooked food for your family regularly? Only those who have regularly cooked should take one step forward.
4. Then, ask the group, have you cleaned the house regularly? Again, those who have regularly performed this chore should take one additional small step forward. Repeat this process for the remaining questions. The participants should be standing in different places, depending on how many of the chores they practice or do not practice.
5. Have you washed clothes for your family?
6. Fed children?
7. Bought food for your family from the market?
8. Bathed children?
9. Disposed of child's foeces?
10. Wiped children's bottoms after they use the toilet?

11. Ask the participants what they observe about where group members are standing. Do they notice any trends? What is the gender balance? Why? Is this similar to the communities where you work?

12. Ask the participants to reflect on the "Division of labour" activity (above) as well as the domestic chores activity. Ask, what do you think of the division of responsibilities in the communities where you work? Encourage the participants to look at the flip chart with male and female tasks in the Home, on the Farm, and in the Community.

13. Explain to the participants that in many cultures, including most parts of Myanmar, women are responsible for most domestic and childcare chores, even when they are also doing outside work.

14. When a woman becomes pregnant or has young children, do her responsibilities change? Why or why not? Should this change? Why or why not? If it does, who should take on the additional responsibilities?

15. Are there any tasks that the participants could or should be shared between men and women that are currently done mainly by individuals of one gender? If there is consensus, the facilitator should move tasks from one gender to another on the flip charts.

Step 3 — Presentation

Baby blues or maternal depression?

15 mins

1. In a whole group setting, ask participants the following question: what feelings do new parents experience when they welcome a baby home? Write down everything that participants say on large flip chart. Include the following, if not mentioned by participants:

   - A sense of joy and empowerment.
   - Intense love for the new baby.
   - Extreme fatigue as they complete new tasks with little sleep.
   - Stress over changes in their routines.
   - Anxiety that they may not be good parents.
   - Being overwhelmed by the constant demands of an infant.
   - Physical discomfort and/or pain from delivery.
   - Isolation from family, friends, and work colleagues.
   - Concern regarding finances.

2. Tell the participants that while it is normal to experience emotions, sometimes women experience more extreme versions of these emotions before or after they give birth. A mother's body generates a number of hormones before, during and after childbirth. The level of a woman's hormones, which are chemical substances that act like messengers in the body, naturally increases tenfold during pregnancy. These often affect her emotions in ways that are sometimes unpredictable. Some women are affected more than others.

3. Next, refer to the "Warning signs for maternal depression" table under the Maternal mental health section Session 1.4 to explain to participants the symptoms of "baby blues" and maternal depression. Note that baby blues is more common than maternal depression, though maternal depression affects around one in ten mothers globally (the rate in Myanmar is not known). Be sure to note that maternal depression is both longer in duration as well as more severe than baby blues.

4. Explain to participants that maternal depression and baby blues can have emotional causes, social causes and physical causes—or some combination of these.

Step 4 Case Studies

Maternal mental health: Case studies 40 mins

1. Participants will get into groups of 2 or 3. Each group will be given
   1. Participants will get into groups of 2 or 3. Each group will be given a scenario card and blank chart paper. They will have 15 minutes to complete the task.
2. For each scenario, ask participants to answer the following questions about their scenario in a small group: (1) What is the main problem(s) faced by their character? (2) What are some things your character could do at home to resolve the problem(s) s/he is facing? (3) What support does your partner need, and how can they get it? Ask participants to write the responses on their flip chart paper.

Case study cards:

Ma Nyein Nyein Oo is a 26-year-old mother of a healthy 3-week-old baby boy named Phoe Thar. Ko Aung Zaya is her husband of 2 years. Since their marriage, they have been living in Monywar, which is far away from both their families. While it was unexpected, when Ma Nyein Nyein Oo discovered she was pregnant, she was thrilled. Ko Aung Zaya, however, was angry about it because he did not feel ready to be a father. After Ma Nyein Nyein Oo told Ko Aung Zaya about the pregnancy, he became verbally abusive towards her. Since the birth of Phoe Thar, Ma Nyein Nyein Oo is feeling very alone and isolated. Ko Aung Zaya works long hours, stays out late and rarely interacts with the baby. Last night, the baby began to cry just as he came in the door. He grabbed Ma Nyein Nyein Oo, shoved her and yelled, "Make that kid shut up!"

Ma Phyu Sin is on maternity leave from her job. As a first-time mother at 41 years of age, Ma Phyu Sin was very excited about this pregnancy. After a 30-hour labour, Ma Phyu Sin had an emergency Caesarean birth. Since the birth of her baby, Sabai, she has not been sleeping well due to pain from the surgery. She is also very worried about Sabai's health, her own health, and what would become of the baby if something happened to her. She has become

obsessed with keeping things in order around the house. Since having a baby is something that Ma Phyu Sin has wanted for a long time, her husband, Ko San Lin, doesn't understand why she does not seem to be enjoying her maternity leave. Ko San Lin is rarely home and spends long hours at his job. Ma Phyu Sin resents the fact that he is away so much. She feels alone, overwhelmed and worries about her ability to be the best mother for her baby.

Ma L. Khun is a 22-year-old, first-time mother of a premature baby girl, Mai Mai, who was born at 35 weeks. She arrived in Lashio, when she was 7 months pregnant, accompanied by her husband's parents. Ma L. Khun is sharing a house with them. Her in-laws have very little money and are not aware of resources in the community. Ma L. Khun does not speak very much Myanmar. Her husband, Khun Jar, remains in Kachin State for at least another month. Mai Mai was discharged from the Special Care Nursery a few days ago. Unfortunately, breastfeeding is not going well because, as a preemie, Mai Mai tires easily at the breast. Ma L. Khun is very anxious about caring for her tiny, fragile baby.

Aye Aye is a 30-year-old single mom who has a two-year-old son named Ko Ko. She has returned home 24 hours after the birth of her second son, Maung Maung. Aye Aye had a vaginal delivery with no complications. She was able to breastfeed Maung Maung right after delivery, which gave him a great start. However, today Maung Maung seems to be having difficulty breastfeeding. Even though he seems hungry, and is crying a lot, he still will not take the breast. Since this morning, Maung Maung hasn't had a wet or dirty diaper. Aye Aye is starting to panic. She is also experiencing pain – her breasts are hard, and her nipples are cracked and bleeding. Aye Aye is very tired, upset and breaks down into tears regularly throughout the day.

Naw Lu Lu is a 16-year-old who has a healthy 4-week-old baby boy named Saw Ler Moo. During her pregnancy, Naw Lu Lu dropped out of school and went to work to earn money for her own hostel room. Her mother allowed Naw Lu Lu to stay at home during the pregnancy, but she is now pressuring her to move out as soon as possible. Naw Lu Lu's boyfriend has not been very supportive throughout the pregnancy or since Saw Ler Moo was born. Naw Lu Lu would like to go back to school, but she cannot afford rent and childcare.

Nan Kham is a 28-year-old woman who recently came to Mu Se as a refugee claimant, when she was 8 months pregnant. Her husband, Sai Lin, is still in Moe Meik but hopes to join Nam Kham in Mu Se once she gains refugee status. Since she does not have friends or family to stay with, Nam Kham has been living in a shelter in Mu Se. Two weeks ago, she delivered healthy twins – a girl named Nam Hom and a boy named Sai Tee. The three of them returned to the shelter once Nam Kham left the hospital. For now, she eats her meals at the shelter but she is very worried about how she will pay for food, rent and baby supplies for Nan Hom and Sai Tee once she has to leave.

3. Invite groups to share what they discussed.

Step 5 Storytelling & Visualisation

Mental health experiences

20 mins

1. Keeping the participants in plenary, encourage participants to tell stories about their personal experiences if they have not already done so. Ask them: how is mental health viewed in your community? Do you know anyone who has suffered from mental illness, such as maternal depression? Ask the participants: if someone you care about suffers from mental illness, what are some things you can do for them?
2. Bring a chair to the front of the room. Ask the participants how many legs does a chair need to stand and be stable? What happens if a chair has only one leg? What might these legs symbolize in this mental health context? (Answers may include that the legs symbolize oneself, family, friends, health workers, or others...)
3. Remind the participants that humans are social beings who rely on one another for physical and emotional support. This need is especially great during difficult times in life and when we are experiencing changes in life, such as during the first 1000 days period.

Step 6 Reflection

Reflect on the learning process

10 mins

1. Ask the participants what they have learnt from these activities.
2. Discuss how emotional and physical support for women during the first 1000 days affects a mother's health and nutrition. How does this link to child health and nutrition?
3. Is it difficult to talk about mental health in your community? What could be done to help facilitate greater understanding of these

Key messages to remember:

It is important to discuss plans regarding childbirth, feeding practices, and other child care behaviours ahead of time with family members.

A mother's body generates a number of hormones before, during and after childbirth. These often affect her emotions in ways that are sometimes unpredictable, and until the mother's body has adapted to the higher levels of these hormones, mood swings are common.

A high number of mothers experience a feeling of sadness or moodiness, which may last for a few days up to a week or two. In some cases, a more serious condition called maternal depression can develop.

If friends or family suspect that a woman has maternal depression, they should take the woman to a trained health professional for medical support and at the same time continue to provide her with love, patience and support.

Learning Activity 1.4b

Supporting facility-based childbirth

Purpose

To help participants analyse the reasons why some women do not give birth in health facilities, despite home births being less safe, and to have access to a tool to promote facility-based childbirth in the communities where they work.

Time

1 hour 40 minutes

Materials

- Masking tape
- Flip charts
- Permanent pens

Learning methods:

- Competition
- Compass Points
- Reflection

Step 1 — Competition

Giving birth safely: The arm wrestle exercise — 30 mins

1. Ask each participant to find a partner and sit across from him/her at a table. Tell the participants that they are going to play a game called arm wrestling. Explain that this game is a test of arm strength. Each pair should find a space where they are able join one hand in the air between them with their elbows resting on the table.
2. Tell each pair to decide which participant will represent HF and which will represent HB. Do not yet tell them what these letters stand for.
3. Pick a volunteer and demonstrate the game at the front of the room, in a hand link position with both elbows of the two participants on the table. Explain to the participants that the objective of the game is to get the back of your partner's hand to touch the table. Whoever gets their partner's hand to touch the table wins.
4. Ask all participants to assume the arm wrestling position. When everyone is set up and ready, the facilitator should say, "Go!"
5. Let them play the game one or two more times.
6. At the end, reveal to the participants that HB stands for "Home Birth" and "HF" stands for Health Facility. In their pairs, who won? What was the competition like?
7. Explain to the participants that whether to give birth at home or at a health facility is an issue that health workers and families "wrestle" with all over Myanmar. There are forces that families encounter which push or lead them to give birth at home. What are these challenges and what can be done to overcome them? What factors push or lead women to give birth at home? What factors push or lead women to give birth in a health facility? The facilitator should list all the participants ideas on a large flip chart paper.

8. Do most of the women in your community give birth in a health facility or at home? Why?
9. What is the danger of giving birth at home? Why is it important to encourage woman to give birth at a health facility?
10. Is this game a good way to think about this issue? Why or why not?

Step 2 — Compass Points

Creating a birth plan of action template

1 hour

1. How do people in your community prepare for a new baby? In what ways do families prepare? Tell them that in this activity you will be thinking about how to prepare and support pregnant women in their community to give birth safely at a health facility by creating a birth plan of action tool.
2. Ask the participants if they know what a birth plan of action is? If not, explain to them that it is a tool to help families prepare for childbirth. Birth plans of action are tailored to the needs of an individual's unique situation.
3. Tell them that the tool needs to be adapted to the community context, so they will need to divide the group according to the communities they work with or project area. Try to put participants together who either work in the same communities, or whose communities are most similar.
4. Once they have divided into groups, ask them to discuss and record two things:

- The characteristics of the community and its people. These features can relate to physical features of the community (eg. it is very mountainous, road infrastructure is bad, it is peri-urban, etc.) or to the people in the community (eg. the majority of the population is Muslim, most people speak Karen, many husbands have migrated outside the community for work, etc.)
- What you know about childbirth in the community. How do women typically give birth and why? If any barriers from the previous exercise apply, include them here (eg. many women do not want to give birth at the hospital because they heard that the staff are rude to the patients, most women who give birth at home use professional birth attendants, etc.

Necessary background information (example):	
Characteristics of the community (physical features, people, culture)	Examples: • poor road infrastructure, especially in rainy season • majority Christian population • main language spoken is Karen • most men in the community have migrated to Thailand for work
What we know about childbirth in the community	Examples: • many women do not want to give birth at the hospital because they heard that the staff are rude to women • most women who give birth at home use traditional birth attendants • many women work right up until the date they give birth

Table 1.4b: Necessary background information

Table 1.4b: Necessary background information

5. On large pieces of flip chart paper, tell them to provide the following information for North, South, East and West:

The Birth Plan of Action Compass

Birth Plan
(EAST) Potential Benefits or Strenths (example: planning things ahead of time will give the mother peace of mind and reduce stress in the event of an emergency)
(NORTH) Critical information to include in the tool (example: baby's due date, midwife's phone number, transportation options to health facility during day and night, Whether the mother plans to practice early initiation of breastfeeding, What chores other family members will take on to help the mother After the baby is born, etc.)
(SOUTH) Recommendations to consider when creating a birth plan of action template for your pregnant women in your community (example: the tool should be developed in a way that is suitable for low-literacy audiences)
(WEST) Potential Weaknesses (example: husbands may not approve of the plan – need to find a way to involve them)

Table 1.4b: Birth Plan

Step 3 — Reflection

Reflect on the learning process — 10 mins

1. Ask the participants what they have learnt from these activities.
2. What is the relationship between safe, healthy births and nutrition?

Key messages to remember:

A Birth Plan of Action can relieve women and their partners of some of the stress surrounding childbirth, because they will have prepared for various scenarios. It is always important to give birth at a health facility, even if mother and foetus are in good health during the pregnancy.

Topic 2

Breastfeeding: Immediate, exclusive & continued

Purpose

To enable participants to understand the many benefits that breastfeeding provides to children and mothers, and to understand the role that families and communities play in supporting breastfeeding.

Notes to facilitator

Read each session topic thoroughly to become familiar with the content.

- The participatory activities describe what will be done with participants during the session. The steps are a guide for the training that can be adapted to meet the needs of the participants and the training environment. The ideal group size is 15-20 people, but no more than 25.
- Use introductory exercises, trust builders, ice breakers and energizers to help participants to get to know one another.
- The facilitator should use as many participatory methods as possible to keep the participants active and interested.
- Review and correct any incorrect information given by the participants. If you are unsure of any answer, tell the participants that you are not sure, and either follow up later after finding the answer, or encourage a participant to find the answer and report back to the group.
- At the end of the activity ensure the participants reflect on what they have learnt and review all the key messages and behaviours.

Session 2.1

Breast milk production

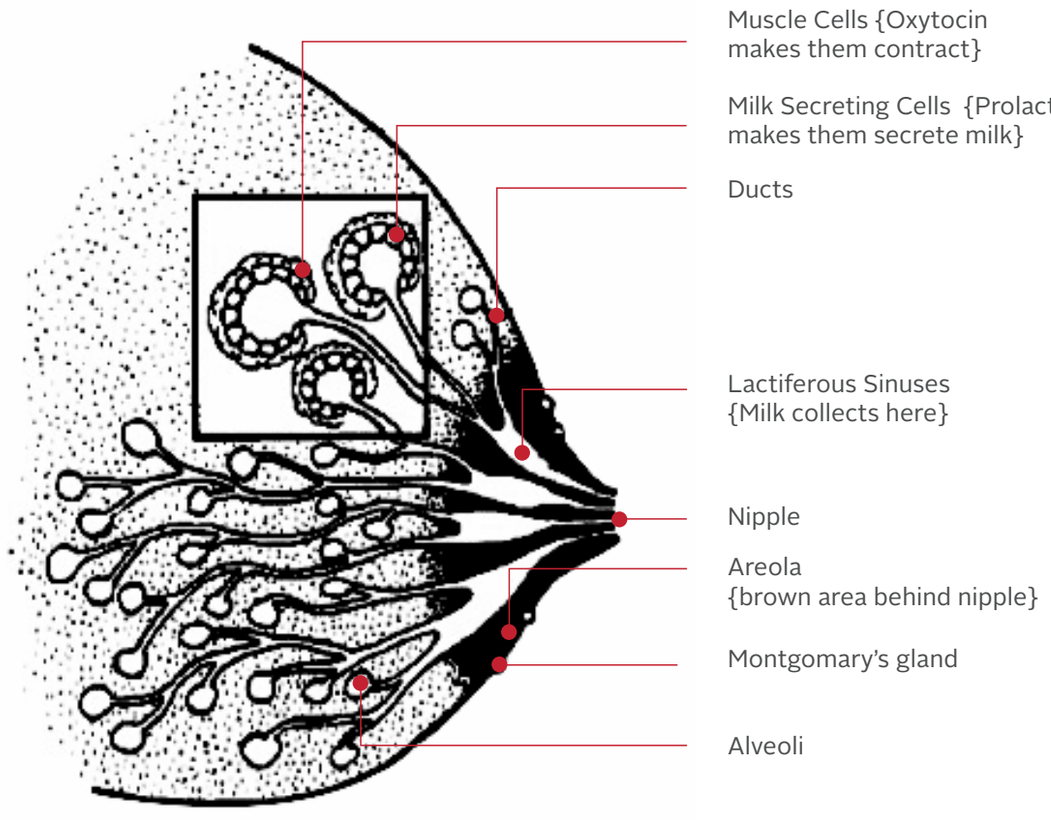
Background 2.1

Can you guess what the world's most nutritious food is? It costs nothing, so even the poorest family can access it. It does not need to be grown or imported. It is available everywhere in all seasons. It does not need to be refrigerated or packaged, which means it has no negative impact on the environment. It is always at the right temperature and does not need to be washed, chopped or cooked, so it takes no time to prepare. It protects against certain infections and diseases, so it is also a type of medicine. On top of this, it fuels brain development and stimulates emotional comfort.

This miracle food is breast milk, and there is no substitute.

Breastfeeding is a universally available, low-tech, high impact, cost-effective solution for saving babies' lives - it is the closest thing the world has to a magic bullet for child survival. Breastfeeding is not simply feeding the baby, but a natural process of ensuring the optimal development of physical, emotional, social and psychological development for the baby. Breastfeeding helps promote healthier children who are better adjusted socially, emotionally and psychologically with better learning abilities to empower communities and countries.

To maximize the benefits of breastfeeding to mother and child, health experts recommend that a mother breastfeed her child immediately after birth, exclusively for the first six months of the child's life, and then continue breastfeeding until the child is two years or older. Breastfeeding children gives them the best start in life.Breastfeeding children gives them the best start in life.



Visual aid 2.1.1 Anatomy of breast

Breast milk composition

Breast milk contains water, macronutrients, including proteins, fats, and carbohydrates, plus micronutrients such as vitamins and minerals. Breast milk also contains anti-infective substances that help prevent infection in babies. These include:

- White blood cells to fight bacteria and viruses
- Immunoglobulin A and oligosaccharides to help prevent microorganisms from entering the baby's gut
- Bifidus factor to prevent the growth of harmful bacteria
- Lactoferrin to kill bacteria or prevent them from growing
- Epidermal growth factor to help the baby's stomach mature and to improve food absorption, and prevents germs entering the baby's body

There are two types of mature breast milk: foremilk and hindmilk. Foremilk occurs at the beginning of the feed and contains water, vitamins, protein and 1.7% fat. This foremilk satisfies the baby's thirst and meets all the baby's fluid requirements. No additional fluids are needed, even in a hot climate, for the first six months. Hindmilk comes at the end of the feed and contains 5.5% fat; this satisfies the baby's hunger. In order to ensure that a child receives both foremilk and hindmilk, a mother should allow her baby to completely empty one breast before moving on to feed from the second breast.

How breasts make milk

The outer and inner parts of the breast are designed to make breastfeeding successful for mother and baby. The outer parts of the breasts include the nipple, areola and Montgomery Glands. The inner parts of the breasts include the glandular tissue, fibrous tissue, fatty tissue, nerves, and blood/lymph system. Although breasts come in many shapes and sizes, this does not determine a mother's ability to produce breast milk.

Nipples contain 5-10 duct openings that allow for milk flow. Like breasts, there are many shapes and sizes of nipples: small, large, long, flat, inverted (turned inward) or split (bifurcated). Breastfeeding success cannot be judged by nipple appearance since nipples change during pregnancy and breastfeeding. During feeding, nipples can extend 2-3 times in length.

With correct positioning and attachment nearly all mothers can breastfeed successfully. Mothers with small and large nipples can be taught special attachment, or latching on, techniques. Sometimes, nipples appear flat after delivery because of intravenous fluids in hospital deliveries. Milk flows adequately from bifurcated nipples. Concerns about inverted nipples depends on the degree of inversion. Some inverted nipples evert with stimulation and during breastfeeding, while others retract, so these mothers might need special assistance.

The area of skin that is darker surrounding the nipple is the areola. The areola may be small or large, round or oval. During pregnancy, areolas may grow in diameter, and may remain larger, and sometimes darker, after pregnancy. Small bumps on the areola are the Montgomery's glands that lie just below the surface. These glands produce oil that prevents nipple from cracking. The smell of the oil also attracts the baby to suck at the breast.

The glandular tissue, embedded in the breasts' fatty tissue, makes breast milk in individual glands called alveoli. The alveoli multiply and increase in size during pregnancy and breastfeeding and form clusters called lobules. The alveoli is made up of milk-making cell (alveolus) which are surrounded by muscular cells that contract to push out the milk when the baby sucks. Each nipple duct is connected to system that starts from the largest ducts nearest the nipple to the smallest ducts connected to the lobules. When the baby sucks, the nerves on the nipple and inside the breasts signals the brain to produce oxytocin, which is a hormone that causes the muscular cells to squeeze out milk into the small ducts to the ductal system and the nipple duct openings.

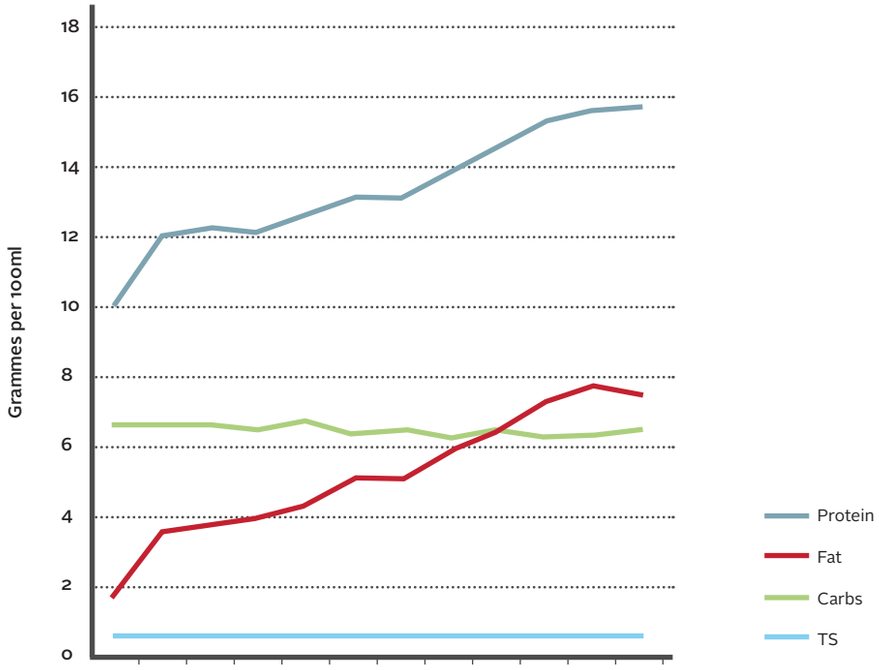
The fibrous tissue in the breasts holds and supports the glandular tissue embedded in the breasts' fatty tissue. Larger size breasts have more fat and larger storage capacity. Fatty tissue supplies the fuel source for the milk-producing cells. The nerve system increases sensation, so more milk is produced when the baby sucks.

Stages of breast milk production

During the first two weeks after delivery, breast milk changes from colostrum, transitional milk and mature milk. Colostrum is the first stage. It is a thick, yellowish substance and lasts for two to four days after childbirth. The reason the colostrum is yellow is because it contains high amounts of beta carotene, or Vitamin A. Because colostrum is so nutritious and healthy, it is sometimes referred to as the baby's first immunization. Colostrum is high in protein, vitamins, minerals and disease-fighting antibodies, including a high concentration of immunoglobulins, that protect the baby from bacterial and viral illnesses. Just one teaspoon of colostrum contains 4 billion bacteria and virus-fighting cells. Colostrum is the perfect food for a newborn baby. Mothers usually produce just a small amount of colostrum, but this is enough for the baby as the baby's stomach is very small. During the first few days babies should breastfeed every two to three hours to keep their stomach full.

Colostrum also acts as a laxative for the baby. Bilirubin, a yellow pigment made during the normal breakdown of red blood cells, accumulates in the baby's stools, and if it isn't excreted, it re-circulates in the baby's system. Passing stools frequently helps lower bilirubin levels to avoid jaundice.

Visual aid 2.1.6 Foremilk and hindmilk



Visual aid 2.1.7 Constituents of the breast milk from start to finish of the feed

Transitional milk replaces colostrum within two to four days after childbirth. The transition milk stage lasts about two weeks. This creamy transitional milk contains high levels of fat, lactose, vitamins and more calories than the colostrum. The breast milk's whiteness comes from its fat content. The mother produces a larger quantity of transitional milk than colostrum, as the child's stomach is now increasing in size and needs more.

Mature milk appears near the end of the second week after childbirth. Although mature milk is thinner and consists of 90 percent water and 10 percent carbohydrates, proteins and fats, it shouldn't be thought of as 'thin' or 'watery'. Mature milk contains the all the energy necessary for growth of the baby. The mother produces more mature milk than transitional milk as the child's stomach increases in size.

Breast milk supply = baby's demand

Although there might be some uncommon medical conditions that could cause low-milk supply, the majority of mothers can successfully breastfeed. A mother's diet, intake of liquids, or intake of most prescribed medicines do not affect the amount of milk that the breasts produce. The only factor that influences the amount of milk that the breast produces is the amount of milk that leaves the breast. The more the baby suckles at the breast, the more milk will be produced to refill the breast. This is why a mother with twins is able to breastfeed—greater demand from two babies will stimulate the production of more breast milk. However, If the baby does not remove enough breast milk, less milk will be produced in that breast. Therefore, the mother's supply of milk is matched to the infant's demand for milk.

To produce enough milk supply for the baby, a mother should follow the baby's cues of hunger. She should not time each feeding by watching the clock. Most babies will breastfeed at least 140 minutes per day, averaging 10-30 minutes per feeding session. A mother should let the baby empty the first breast by watching for the finishing signal of self-detaching ('coming off' or 'unlatching') from the breast naturally. This allows the baby to get both the foremilk (to satisfy thirst) and hindmilk (to receive all nutrients and fat). After the first breast is empty the mother should switch to the second breast.

Sometimes one breast stops making milk while the other breast continues, for example, if a baby suckles only on one side. This is because milk production is controlled individually in each of the breasts by a substance called the feedback inhibitor of lactation, that is present in the breast milk. If a baby does not, or cannot, completely suck all the milk from a breast, the feedback inhibitor of lactation stops the production of breast milk. This helps protect the breast from being too full, or engorgement. If all the breast milk is removed, then the

Learning about the first 1000 days

inhibitor is also removed, and production of breast milk resumes. If the baby cannot or refuses to suckle, then breast milk must be removed by expressing the milk, either manually or with a breast pump.

If a mother breastfeeds a newborn baby every two or three hours, day and night, she will produce enough breast milk to match the baby's stomach size. The average intake of an exclusively breastfed baby ranges from 710 grams per day for the first two months up to 900 grams per day at 9–11 months of age.

A growth spurt often happens at approximately four to six weeks, three months and six months of age. This is a time when the baby is growing quickly and breastfeeding frequency needs to be increased.

Learning Activity 2.1

All about breastmilk

Purpose

To enable participants to understand the anatomy of the breast, how the breast develops milk in three stages and changes in composition, and how breast milk is produced according to supply and demand.

Time

1 hr 45 mins

Materials

- Flip charts
- Permanent pens
- Handout with the table: “Ingredients in Breast Milk versus Formula”
- Three cards with baby’s age and urine output information
- Handout on types of breast milk
- Marbles (5 CC size)
- Ping pong balls (25 CC)
- Plastic chicken eggs (45-60 CC)
- Visual aids

Method

- Group Exercise
- Competition
- Picture Code
- Visualisation
- Discussion

Instructions

Step 1 Group Exercise

Anatomy of a breast

30 mins

1. Divide the plenary group into small groups.
2. Give each group two pieces of blank flip chart paper and some permanent pens.
3. Ask each group to draw a picture of a woman’s breast as seen from the front.
4. Then ask each group to draw a picture of a woman’s breast showing a side (cross-sectional) view and internal structure.
5. After 20 minutes, ask each group, one by one, to display their pictures at the front of the training room and to describe what they drew.
6. Summarize the presentations after all groups have finished their presentations.
7. Display the visual aids of a cross-section picture of the mother’s breast showing nipple, areola and tubercles. (Visual Aid 2.1.1)
8. Compare the participants’ drawings with the visual aids, noting similarities and differences.
9. Explain the function of tubercles, the underlying dilated ducts under the areola.
10. Highlight the Montgomery glands on the areola. These glands produce oil that prevents nipple from cracking. The smell of the oil also attracts the baby to suck at the breast.
11. Using the picture, also explain the milk let-down reflux and how the retained milk in the dilated ducts can inhibit the milk producing hormones.
12. Ask the participants how the knowledge about the structure of a mother’s breast could help breast feeding to be successful.

Step 2 Competition

Composition of breast milk competition 20 mins

1. Ask the participants to look at the handout with the table "Ingredients in Breast Milk versus Formula". The ingredients, or constituents of breast milk are written in the table. Tell the participants to notice which of the constituents found in breast milk are not contained in infant formula.
2. Tell the participants that all of the different components of breast milk help the baby to be healthy.
3. Display the visual aid of the gut wall of a baby under six months' old who is exclusively breastfed and who is not exclusively breast fed. (Visual Aid 2.1.3a, 2.1.3b)
4. Ask the participants what the difference between the two pictures is.
5. The first picture shows how oligosaccharide sugar in the breast milk protects the gut wall from pathogens.
6. The second picture shows how pathogens easily enter into the gut wall because there is no protecting oligosaccharide sugar in BMS because it is made using powered cow's milk.
7. Tell the participants that breast milk is the only suitable food for the child of under six months old as it protects them from diseases.
8. Now, tell the participants to get ready for a competition. Divide the participants into groups of 4 or 5. Ask members of each group to sit together. If possible, give each team a bell or item that makes a sound.
9. Tell the groups that you will be asking them a series of questions. They should sound the bell (or alternative item) as soon as they know the answer to the question.
10. The facilitator will ask the group to provide the answer. If the team gets the answer right, they will receive two points. If they get the answer wrong, however, they will lose two points.

11. At the end of the game, tally up the points to see which team has the most points.

The facilitator can ask any questions s/he likes, but here are some possible examples:

Q1: What is the name of the component in breast milk that helps fight cancer cells?
A1: HAMLET cells and TNF, or Tumor Necrotising Factor.

Q2: What fats are found in breast milk?
A2: Triglycerides, cholesterol and fatty acids, including polyunsaturated fatty acids like DHA. These are important for brain growth.

Q3: What is found in infant formula that is found to cause allergies in some children?
A3: Cow's milk protein. (This can cause allergy and activate the immune system to cause diseases like Type 1 diabetes)

Q4: What ingredient is found in higher quantities in infant formula than breast milk?
A4: Minerals

Ask the team the bonus question for one extra point (no points deducted if the response is wrong):

Bonus question : Why is it not good that a higher quantity of minerals are in infant formula than breast milk?

Bonus answer : It can be hard on the baby's kidneys and it promotes the growth of bad bacteria in the intestine.

Q6: Name 12 ingredients in breast milk that are not found in infant formula?
A6: Melatonin, immune factors, white blood cells, antibodies, prebiotics, HAMLET cells/TNF, prolactin, lactoferrin, human milk stem cells, beta-endorphins, erythropoietin and Human Milk Growth Factors (I, II and III)

Q7: Why don't breastfed babies need water?
A7: Because it is already an ingredient in a mother's breast milk.

Q8: Which two categories of micronutrients are in a mother's breast milk?
A8: Vitamins and minerals.

Ask the team the bonus question for one extra point
(no points deducted if the response is wrong):

Bonus question : Do babies better absorb vitamins and minerals from a mother's breast milk or infant formula better?
Bonus answer : Mother's breast milk

Q9: What ingredient in breast milk helps a baby produce soft stools?
A9: Protein

Ingredients in breast milk vs. formula

Ingredients	Breast Milk	Formula
Industrial chemicals from processing process	None	Many
Docosahexaenoic Acid (DHA)	Natural fatty acid needed for brain development, learning and vision in children	Artificial (Made from seaweed/mushrooms)
Arachidonic Acid (ARA)	Natural fatty acid needed for infant growth, development and health	Artificial (Made from seaweed/mushrooms)
Melatonin	Helps babies sleep	None

Ingredients	Breast Milk	Formula
Immune factors (IF)	Numerous IFs are anti-viral, anti-bacterial, anti-fungal and anti-parasitic to support the child's immune system against disease. Anti-viral, anti-bacterial, anti-parasitic to support immune system. Cytokines and leucokines support the immune system.	None
Antibodies	Protect against illness	None
Secretory immunoglobulin A (sIgA)	Antibody that protects baby from illness and disease and destroys disease-causing bacteria	Some (however it is a non-human additive and may not be effective)
White blood cells	Destroy and kill dangerous bacteria	None
Prebiotics	Contains more than 100 different types of human milk oligosaccharides (HMOs), which help growth of good bacteria	None
Probiotics	Contains milk microbiota, which helps develop the immune system, including bifidus factor to prevent the growth of harmful bacteria	Artificially made
Antioxidant properties	Prevents cell and tissue damage	Significantly lower than breast milk
HAMLET cells and Tumor Necrotizing Factors (TNF)	Helps fight cancer cells	None

Ingredients	Breast Milk	Formula
Prolactin	Hormone to promote mother-child bonding	None
Lactoferrin	A protein that binds to iron to prevent bacterial growth and fight anaemia.	None
Human milk stem cell	Developmental benefit for child's organs, including the brain,liver and kidneys	None
Beta-Endorphins	Natural pain-killer (hormone) believed to help newborns deal with the stress of birth and adjust to life outside of the womb	None
Erythropoietin (EPO)	Hormone to help stimulate production of red blood cells in newborn	None
Insulin	Hormone for growth and gut health	Barely detectible, if at all.
Carrageenan	None	Present in some formulas, this substance has been shown to cause inflammation of the intestines and is also a cause of colon tumours.
Artificial colours, flavours, thickeners and preservatives.	None	Create toxins in the body
Minerals	All the necessary minerals come from the mother's body in the right amounts	Higher than breastmilk. Some formulas contain higher amounts than necessary for babies, which can be hard on baby's kidneys and generally harmful to their health. High levels of iron in formula promote the growth of bad bacteria in the intestine.
Vitamine	All the necessary vitamins in the right amounts. They are the most absorbable form of vitamins that baby can use.	Artificially produced
Fat	Easily digested to promote growth. Includes cholesterol and triglycerides, made of 167 fatty acids for brain growth.	Contains vegetable oils and processed oils not found in nature. Palm oil (in some formulas) lowers absorption of calcium
Carbohydrate	Contains lactose for brain development.Contains special carbohydrates which decrease bacterial growth in the gut.	Contains maltodextrin which is a processed and unnatural ingredient in milk. Some contain sugar and corn syrup solids.
Protein	Right amount needed by baby to promote optimal growth and soft stools.	Contains cow milk protein, which can cause allergy and activate the immune system to cause diseases like Type 1 Diabetes.
Water	Made by mother's body	Possible contamination sources
Epidermal Growth Factors	Helps baby's gut lining mature and grow	Artificial ingredients thought to cause gut lining injury in some children
Human Milk Growth Factors I, II and III (HMGF)	Present	None
Digestive Enzymes	Enzymes to digest protein, fat and carbohydrate for easier digestion and absorption.	None. This makes it more difficult for the baby to absorb the protein, fat and carbohydrates in formula

Table 2.1 Ingredients of Breast Milk versus Formula

Learning about the first 1000 days

Step 3 — Picture Code & Group Exercise

Types of breast milk — 15 mins

1. Ask the participants if they know how many types of breast milk there are?
2. Display the picture of the three types of breast milk at the front of the training room. (Visual Aid 2.1.2)
3. Ask them what differences they see?
4. Explain there are three types of milk that change according to the age of baby, time of day, and the length of the nursing session. The biggest change in breast milk composition occurs in the first two weeks.
5. Ask the participants to form three groups.
6. Assign each group one type of breast milk: colostrum, transitional, and mature.
7. Give each group the table of types of breast milk.
8. Ask each group to think about and discuss their assigned type of breast milk by looking at the table they received.
9. After five minutes ask a volunteer from each group to describe about one type of breast milk
10. Ask all participants to make suggestions and comments related to the baby's age, the milk's appearance, and its specific benefits.
11. Summarize and clarify all outstanding questions and comments.

Age	type	appearance
Birth to 2-3 days	Colostrum	Clear to yellow orange Less than 25 ml first day
3-5 days	Transitional milk	Whitish yellow About 75 ml by third day
	Mature milk	Whiter and larger amount according to baby's need

Table Topic 2.2 Types of Breast milk

Step 4 — Visualisation & Discussion

Supply and demand — 20 mins

1. Ask the participants to think about how much milk a human breast produces.
2. Ask participants to think about and discuss if a mother eats more food and drinks more liquids, will she produce more milk?
3. Probe until participants respond that milk production depends only on the frequent removal of milk from the breast - the more breast milk removed from the breast, the more breast milk the mother makes.
4. Ask the participants if breast milk alone is enough to satisfy a baby's hunger and support a baby's growth.
5. Ask the participants to think about and discuss how big a baby's stomach is one day after it is born.
6. Either show a picture of a marble or distribute some marbles (5 CC size) to the group. (Visual Aid 2.1.4)
7. Explain that this is the estimated size of the baby's stomach one day after it is born.
8. Ask the participants to think about and discuss if the amount of colostrum produced by the mother one or two days after the baby is born is enough for a marble-sized stomach?
9. Ask the participants to think about and discuss what would happen if other food was given to the newborn baby. Could the baby's small stomach hold any other food other than colostrum?
10. Assure the participants that the amount of colostrum for the first few days is enough for the baby and no other liquid or food is needed.
11. Ask the participants to think about and discuss how big a baby's stomach is three days after it is born.
12. Either show a picture of a ping pong ball or distribute some ping pong balls to the group. (Visual 2.1.4)

13. Ask the participants to think about and discuss if the amount of transitional milk produced by the mother three or four days after the baby is born is enough for a ping pong ball size stomach?
14. Ask the participants to think about and discuss what would happen if other food was given to the baby. Could the baby's small stomach hold any other food other than transitional milk?
15. Assure the participants that the amount of transitional milk is enough for the baby and no other liquid or food is needed.
16. Ask the participants to think about and discuss how big a baby's stomach is 10 days after it is born.
17. Either show a picture of a chicken egg (45 – 60 CC size) or distribute some plastic eggs to the group. (Figure 2.1.4)
18. Ask the participants to think about and discuss if the amount of mature milk produced by the mother 10 days after the baby is born is enough for an egg size stomach?

19. Ask the participants to think about and discuss what would happen if other food was given to the 10-day old baby. Could the baby's small stomach hold any other food other than mature breast milk?
20. Assure the participants that the amount of mature breast milk is enough for the baby and no other liquid or food is needed.

Step 5 — Reflection

Reflect on the learning process — 10 mins

1. Ask the participants what they have learned from these activities.
2. Discuss why it is important to know about how breast milk develops, its composition, and how much milk is produced over time to satisfy the baby's thirst and hunger.
3. How could this knowledge help support exclusive breastfeeding in the community?

Key messages to remember:

Initiate colostrum feeding during the first hour aftert child birth

- Do not use any water, BMS, or other liquids or foods during the first six months.
- Breastfeed the baby on demand; whenever the baby gives hunger cues
- Empty one breast before moving the child to feed on the other breast
- Do not wipe or wash a mother's nipples before breastfeeding, which can strip the nipple of important natural oils.
- Build a mother's confidence to breastfeed her child—it is only in rare cases that a mother is physically unable to breastfeed.
- Refer a woman to a qualified, trained health worker if she is having problems breastfeeding.

Session 2.2

Early initiation of breastfeeding

Background 2.2

Breast is Best

Early initiation of breastfeeding means that the infant is put to the mother's breast in the first hour after birth. This is also known as immediate breastfeeding. The Ministry of Health and Sports (MOHS) supports this recommendation made by the World Health Organization's (WHO). Early initiation of breastfeeding ensures that the baby receives the colostrum, or 'first milk', which is rich in protective factors. Babies not breastfed within the first hour are at a higher risk of death, infections and diseases and can have more problems with breastfeeding. The MOHS also supports the WHO Baby Friendly Hospital Initiative (BFHI) that promotes early initiation of breastfeeding, along with other baby friendly actions, such as skin to skin contact.

Starting in the late stages of pregnancy, a mother's body begins to produce her first milk, known as colostrum, which she should feed to her baby immediately after birth. Colostrum is a thick, yellowish liquid. Though a mother produces only a very small amount of this "liquid gold", it is critical for the health and nutrition of the baby. Some refer to it as a child's first and most important immunization because it has a high concentration of disease-fighting antibodies which protect the infant. Because the baby's stomach is tiny, the small quantity of colostrum that comes from the mother's breast in the first couple days after birth is sufficient for the baby.

Skin to skin contact

Immediately after birth babies should be placed in skin-to-skin contact with their mothers for at least an hour. Skin to skin means the baby is naked, not wrapped in a blanket. Immediately after birth the baby should be dried off, but not washed, and put on the mother. The WHO recommends waiting 24 hours to wash a new infant. The baby may be placed vertically on the mother's bare abdomen or chest and be left to find his/her way to the breast, while the mother provides necessary support. This is baby's first journey in the outside world and the mother and baby should be left in peace to enjoy each other's company.

Skin to skin contact provides a natural habitat for a newborn. It is Myanmar custom to swaddle the baby tightly and have the hands covered. However, when a baby is swaddled, or his/her hands are covered with gloves, the baby cannot interact with his mother the way nature intended. Skin to skin contact lets the mother and the baby exchange sensory information that stimulates and elicits baby behaviour, such as rooting and searching for the mother's breasts. It helps the baby stay calm, breathe more naturally, stay warm, and maintain normal blood sugar levels. Additionally, skin to skin contact immediately after birth allows the baby to be colonized by the same bacteria as the mother. This, plus breastfeeding, can prevent infections, illnesses and allergic reactions.

Skin to skin is beneficial not only for the babies born vaginally, at term and in good health, but also for babies born by caesarean delivery, and for premature babies. For premature babies, skin to skin contact can decrease rapid breathing into the normal range and help the level of blood sugar normalize. For all babies the skin to skin contact stimulates the five senses of hearing, seeing, smelling, touching and tasting.

1. **Hearing:** The mother's heartbeat slows the baby's heart rate down. The baby feels safe and secure and is less stressed.
2. **Visual acuity:** The mother looks at her baby and the baby looks back into the mother's eyes, encouraging visual acuity.

3. **Smell: The baby's hands should not be cleaned after delivery to** maintain the smell of the amniotic fluid that is similar to the smell from the mother's nipple. The smell of the oil from the Montgomery glands on the mother's breast attracts the baby to suck at the breast.
4. **Touch:** The mother's breasts act like a thermometer, sensing the baby's temperature and adapting its temperature with the environment, keeping the baby's temperature at a normal level.
5. **Taste:** During gestation, the baby's taste preferences have been conditioned by the mother's diet. The mother's breastmilk taste/ flavour is similar to the amniotic fluids in the womb.

Breastfeeding in the first hour

Skin to skin contact increases the likelihood of early initiation of breastfeeding. The skin-to-skin contact helps the 'let-down' of the colostrum milk, the first thick, yellowish milk that protects baby from illness. Within seconds of an infant stimulating the sensory nerve

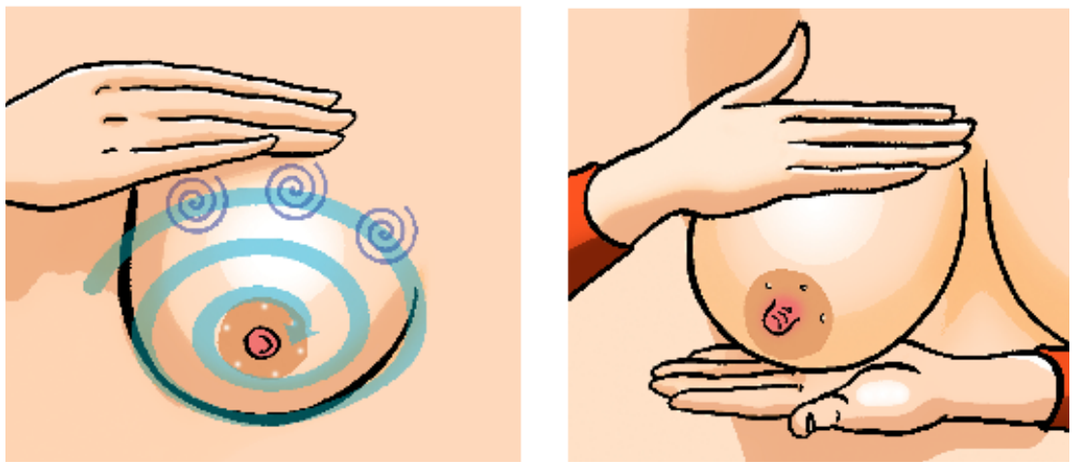
Visual aid 2.2.3 Milk "let down" process

endings around the nipple by sucking, the mother's brain will produce two hormones that act as signals for the mother's body: one signal (prolactin hormone) makes the milk forming glands produce the milk; the other signal (oxytocin hormone) makes the muscles surrounding the milk forming gland squeeze to push the milk forward, causing milk ejection, or milk 'let-down'.

Immediate breastfeeding within one hour of birth will also help to expel the placenta and reduce bleeding after delivery. Some factors can affect milk let-down including tiredness, stress, pain, embarrassment, lack of confidence and lack of encouragement and support. This is why it is important for the mother to try to rest and relax and ask for help when she needs it, and for her loved ones to provide support and encouragement to her.

All mothers should practice breast massage following delivery to promote milk production. Massaging the breasts, along with hand expression of milk, releases fullness and decreases engorgement issues. Mothers should wash their hands before starting breast massage. There are many techniques of breast massage, but it should always be a soothing, relaxing experience and not a painful/uncomfortable one.

Babies born weighing less than 2.5 kg are low-birth-weight (LBW) babies. They are at increased risk of early growth retardation, infectious disease, developmental delay and death. LBW babies who are able to



Visual aid 2.2.9 Breast Massage

breastfeed should be put to the breast as soon as possible after birth when they are clinically stable. These small babies need more frequent feeding, both day and night, as their stomachs are very small. It is important to also track how much time the baby is latching on at each feeding.

When a mother holds the newborn skin-to-skin immediately after birth this also leads to bonding, helping babies interact with their mothers. The BFHI promotes rooming-in practices, allowing mothers and infants to remain together 24 hours a day, to increase bonding.

Responsive breastfeeding

When mothers are breastfeeding responsively, they feed their baby on demand, or as often as the baby wants. After delivery mothers need to breastfeed as often as the baby wants—at least 8 to 12 times during a 24-hour period. A mother should breastfeed both day and night to build up her milk supply and satisfy her child. Breastfeeding on demand helps milk production - the more a baby suckles, the more milk is made. Breastfeeding on demand is also linked to infant-led responsive feeding, allowing the baby to regulate intake according to its needs. It means letting the baby 'finish' the feed in his or her own time, not according to the clock.

Hunger signs

Every baby is different and has different needs at different stages of development. Some babies may want to feed more often and cry more to let the mother know s/he is hungry. Babies should be fed before they start crying. Early signs that a baby wants to breastfeed are restlessness, opening mouth, turning head from side to side and sticking out their tongues. Mid-signs of hunger are sucking on fingers or fists, puckering their lips as if to suck, and moving the mouth in the direction where it is touched (rooting reflex). Crying and agitation are late signs of hunger.

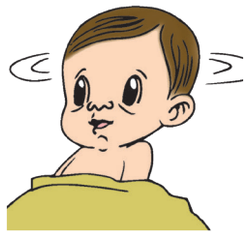
Breastfeeding satisfies both the mother and baby's physical and emotional needs, including love, comfort and reassurance. Responsive breastfeeding involves a mother responding to her baby's cues, as well as her own desire to feed her baby. When a mother is breastfeeding her baby, she should

look closely into her baby's eyes, smile at the baby, softly talk or sing to baby, and hold the baby close. These responsive feeding practices of close contact and individual attention help the baby feel secure and loved, which is important for growth and social development. Bonding with a baby means breastfeeding can be used to comfort the baby, not just to satisfy hunger.

EARLY CUES ("I'm hungry")

Stirring

Mouth opening



Turning head/ Seeking Rooting

MID CUES ("I'm really hungry")

Stretching

Increasing physical movement

Hand to mouth

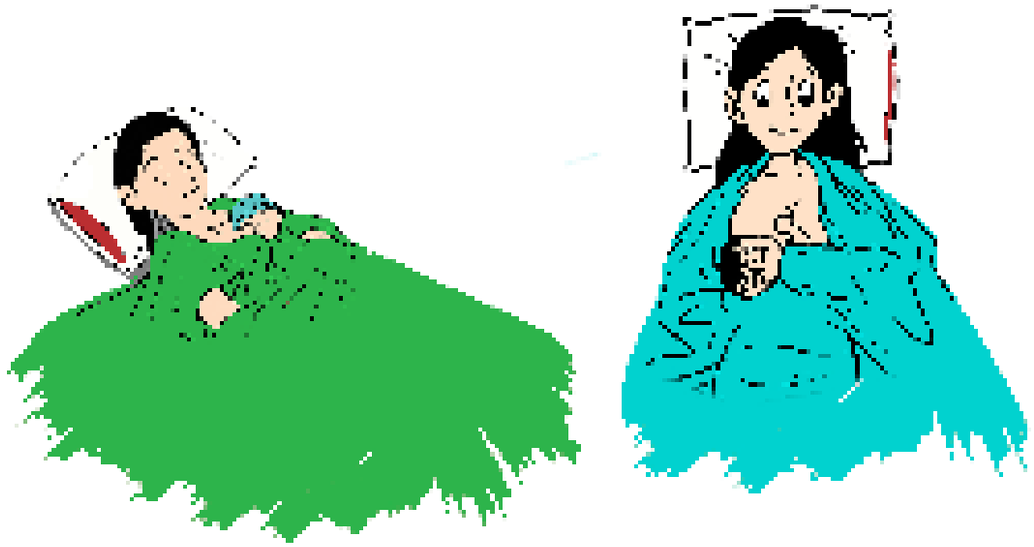
LATE CUES ("Calm me, then feed me")

Crying

Agitated body movement

Colour turning red

Visual aid 2.2.4 Hunger signs of a baby



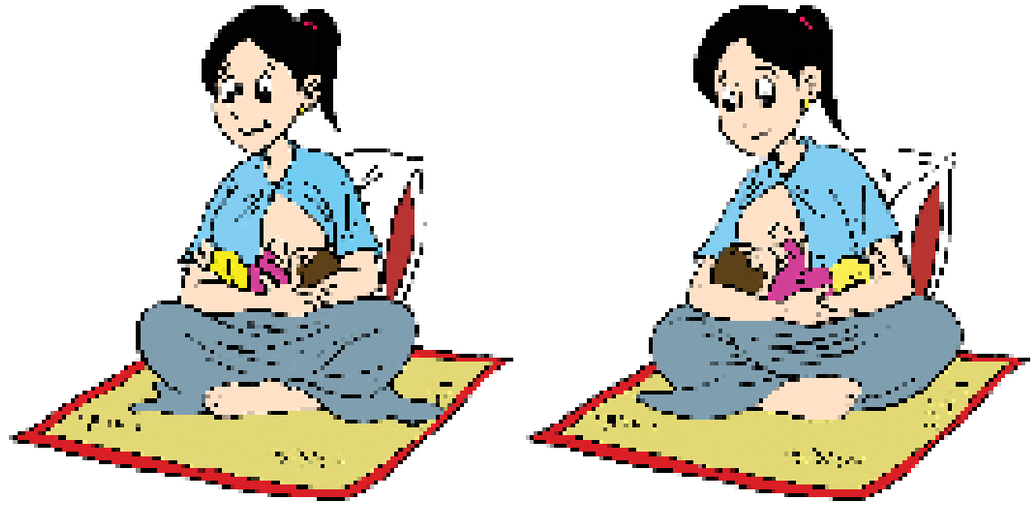
Visual aid 2.2.8 Breastfeeding practices

Breastfeeding after a Cesarean Section

The WHO recommends that Cesarean Sections (C-Sections) should only be performed when medically necessary. Sometimes it can be more difficult for mothers who have had a C-Section to breastfeed than women who have had a natural vaginal delivery. There are many reasons for this, including that a mother may be feeling uncomfortable or in pain, stressed, the child may have trouble suckling, a mother's milk production may be delayed, and/ or the mother and child may be separated after the operation. Nevertheless, it is possible for a woman who has had a C-Section to breastfeed exclusively.

Here are a few tips for mothers who have had a C-Section to help make breastfeeding successful:

- Communicate your breastfeeding wishes to the doctor or midwife ahead of time. Tell them that you want to breastfeed within the first hour of birth, even if you have a C-Section.



- Make skin to skin contact as soon as possible after the procedure to stimulate the flow of colostrum.
- Encourage the infant to nurse, even if the child is sleepy. The sooner a child latches to the breast, the better.
- Even if colostrum is not immediately available after a C-Section, encourage the child to keep suckling which will release hormones to stimulate the production of colostrum, and later breast milk.
- Find a comfortable position to breastfeed. You may have to experiment with a few different positions to find the one that is most comfortable, since your abdomen may be in pain.
- Stay well rested and drink plenty of fluids.
- If you or your baby is having trouble breastfeeding right after birth, try frequent (every two hours from start to start) hand expressing or pumping
- Ask for help if you need it.

Learning Activity 2.2

The Best Start

Purpose

To enable the participants to understand when, why and how to do early initiation of breastfeeding successfully.

Time

1 hr 25 mins

Materials

- ... Flip charts
- ... Permanent pens
- ... Small paper cards
- ... Different colour sticky notes
- ... Recommended feeding and care practices cards
- ... Nine questions and answers game sheet
- ... Visual aids 2.2.1, 2.2.2, 2.2.3, 2.2.4, 2.2.5, 2.2.6, 2.2.7

Method

- ... Buzz group
- ... Group activity
- ... Game
- ... Discussion
- ... Reflection

Instructions

Step 1 Picture Code & Group Exercise

Skin to skin contact 15 mins

1. Display the picture of the mother and baby making skin-to-skin contact.(Visual Aid 2.2.1)
2. Ask the participants to describe what they see.
3. Ask the participants what the five senses are.
4. Write these on a flipchart at the front of the training room.(The five senses are sight, sound, smell, touch, taste)
5. Ask the participants to get into five groups. Assign a 'sense' to each group and ask the members to think about and discuss how these five senses are developed by skin to skin contact of mother and baby with early initiation of breastfeeding.
6. After 5 minutes ask each group, one by one, to share their ideas.
7. Ask all participants to make suggestions and comments about the presentations.
8. Summarize and clarify all outstanding questions and comments.

Step 2 Presentation & Discussion

Facilitate early initiation of breastfeeding 30 mins

1. Ask the participants to think about and discuss when a baby should start breastfeeding.
2. Clarify that a baby should start breastfeeding within 1 hour after delivery.
3. Ask the participants to think about and discuss why early initiation of breastfeeding is important for the baby.

4. Tell the participants that the mother's breasts have been preparing to produce colostrum since the 12th week of pregnancy, so the colostrum is ready as soon as the baby starts to suck.
5. Display the graph depicting prolactin levels at the front of the training room. (Visual Aid 2.2.2)
6. Clarify that early breastfeeding promotes prolactin, the milk forming hormone. Delaying the first breastfeed can decrease the milk supply. Breastfeeding soon after delivery and during day one allows sufficient breast milk to be produced for the baby. When breastfeeding is continued during day two, etc., prolactin is steadily increased resulting in increased breast milk.

Step 3 — Presentation & Discussion

Breast milk let down and signs of hunger — 15 mins

1. Display the diagram illustrating breast milk let-down (Visual Aid 2.2.3)
2. Clarify the process of how two hormones, prolactin (makes the milk forming glands produce the milk) and oxytocin (makes the muscles surrounding the milk forming gland squeeze to push the milk forward) cause milk ejection, or milk 'let-down'.
3. Ask the participants to think about and discuss what factors can affect milk let-down.
4. Tell the participants that new mothers usually feel this reflex when they see the baby, hear the baby or when they start nursing.
5. Tell the participants that some babies may give a range of cues to let the mother know s/he is hungry.
6. Ask the participants to think about and discuss what the cues are that a baby is hungry?

7. On a flip chart make three columns labeled as:

   ... Early cues = I'm hungry
   ... Mid cues = I'm really hungry
   ... Late cues = I'm so hungry I am upset

8. Ask participant to identify the different cues a baby might give.
9. Write down all the suggestions in the three columns.
10. After all suggestions have been made, display the visual aid that illustrates all these cues. (Visual Aid 2.2.4)
11. Display the picture of mother eating while baby breastfeeds.(Visual Aid 2.2.5)Ask the participants to describe what they see.
12. Clarify that the mother is eating her lunch while the baby is breast feeding, which is like having a family meal together. The mother is also eating to refill her strength to breastfeed.

Step 4 — Presentation

Finish one breast first before switching — 5 mins

1. Show the picture of foremilk and hind milk (Visual Aid 2.2.6) and the picture of the graph showing the contents of the milk from the start to finishing of the feed. (Visual Aid 2.2.7)
2. Ask what they observe and the relation between the two pictures.
3. Explain the contents of the fore milk and hind milk by using the pictures and the importance of finishing one breast first before switching.

This Q&A Game can be used as a "wrap up" activity at the end of the breastfeeding section of the training to review the material learnt.

Step 5 Game

Q & A game

20 mins

1. Before the activity begins, set up three flip charts in different areas of the training room.
2. Write three questions on each flip chart, but cover them up until the game starts.
3. Divide the participants into 5 groups.
4. Give each group nine sticky notes all the same colour. Each group will have a different colour of sticky notes.
5. Tell the participants that they will need to answer as many of the nine questions a quickly as possible. They can answer the questions in any order by writing the answer on one of their sticky notes. Then they should put the sticky note on the appropriate flip chart next to the appropriate question.
6. Tell them to write on the sticky side so that no other groups can see the answers when the sticky note is put on the flip chart.
7. Tell the participants that the group who finishes answering all nine questions the fastest will get an additional 4 marks, the second fastest group will get additional 3 marks, the third fastest group will get additional 2 marks and the fourth fastest group will get an additional 1 mark. Correct answers will also earn the marks described in game table.
8. Uncover all of the questions on the flip charts and tell the participants they now have 10 minutes to answer as many of the nine questions as possible.
9. After 10 minutes, tell everyone to stop writing.
10. Review each question and the co-facilitator will check the answers and give the marks.
11. Add up all marks and congratulate the winning team.

Sample game questions

- What are the two signals for the mother's body for the milk "let-down"?
- How does early initiation of breast feeding prevent from post-partum haemorrhage?
- What are the 3 benefits of skin-to-skin contact?

- What are the 3 things that help a baby to initiate early breast feeding?
- What is the benefit of mother eating while the baby breast feeds?
- Please state the 3 hunger signs of a baby.
- Describe 3 benefits of the early initiation of breast feeding for the baby?
- Why does baby need to finish one breast and come off by him/herself before switching to the other breast?
- Describe 5 ingredients of the breast milk?

Step 5 Reflection

Reflect on the learning process

10 mins

1. Ask the participants what they have learned from these activities.
2. Discuss why it is important to know about recommended feeding and care practices.
3. How could this knowledge ensure that early initiation of breastfeeding can be done successfully?Recall the birth plan of action activity. How could ensuring successful early initiation of breastfeeding be included in a birth plan of action?

Key messages to remember:

- Place baby skin-to-skin with mother immediately after birth. Keep baby close to mom and do not separate them.
- Initiate breastfeeding within the first hour of birth.
- Minimize swaddling and the use of hand gloves to improve breastfeeding.
- Practice responsive care practices: Look closely into baby's eyes; Smile at baby; softly talk or sing to baby as s/he breastfeeds; and hold baby close.
- Practice responsive feeding practices: Breastfeed frequently and breastfeed on demand when baby gives hunger cues.
- Feed baby often day and night (at least 8-12 times per day).
- Let baby finish one breast and come off by him/herself before switching to the other breast.

Session 2.3

Breast is best: The benefits of breastfeeding

Background 2.3

Defining exclusive breastfeeding

When we speak of nutrition in the first six months of a human being's life, the MoHS, WHO, UNICEF, World Bank, scientists and all major donors agree on a clear recommendation. This recommendation is that mothers should breastfeed exclusively for the first six months of life. Exclusive breastfeeding means giving the child breast milk only, with no other food or liquid until the child turns six months old. Children who consume breast milk substitute at any point in the first six months are not considered to be exclusively breastfed. Even breast milk substitute tins and packages state that breast milk is best for children. Medications are acceptable only when prescribed by a health professional. The Myanmar National Strategy (2011-2016) on Infant and Young Child Feeding (IYCF) encourages mothers to exclusively breastfeed until the child is six months old, without any water, other fluids, or food. This is a behaviour that is one of the seven essential nutrition actions that WHO endorses as a proven action that should be adopted to reduce the risk of undernutrition and to promote healthy growth and development.

Recall from Session 2.3 in the Learning About Nutrition facilitation guide that exclusive breastfeeding should be practiced until the child reaches his or her six-month birthday. Once a child is six months old, it is time to introduce food and liquid other than breastmilk. For a baby, breast milk contains all the nutrients a baby needs up to the age of six months (month zero to the end of month five). In Myanmar, 51% of infants are exclusively breastfed during the first six months, with a median duration of exclusive breastfeeding until 2.3 months . In other words, about half of Myanmar's babies are no longer exclusively breastfed after they are about two and half months old. This is far short of the recommended six months.

The benefits of exclusive and continued breastfeeding

One of the most valuable gifts a mother can give to her child is the gift of breastfeeding. Breast milk, which costs nothing, is the perfect food for infants. This fact is indisputable, based on years of rigorous global evidence. Breast milk contains all the necessary food, water, disease-fighting antibodies, and other factors important for an infant's protection, growth and development in the first six months. After six months, when a child is introduced to complementary foods, breast milk is still a critical part of the child's diet up to two years and beyond. Similar to blood, breast milk is life-giving and cannot be replicated. To date, despite what companies selling breastmilk substitutes lead us to believe, no breast milk substitute has been able to create a formula that perfectly imitates breast milk. This is in part due to the fact that scientists have not yet discovered all the components of breast milk. In that sense, breast milk is still somewhat of a mystery to scientists. Like a fingerprint, a mother's breast milk is personalised to her infant. Not only is breast milk tailored to the infant, but breast milk changes over the course of a single feed, over time, and even changes based on the sex and the age of a child.

Exclusive breastfeeding in the first six months is directly linked to the good health and better survival rates of a baby. It strengthens the immune system to protect the child against infections and diseases. In Myanmar, two of the most common illnesses that affect children under two years old are acute respiratory infection (ARI) and diarrhoea. Babies not exclusively breastfed are 15 times more likely to die from pneumonia, a complication of ARI.

Children and their mothers experience numerous benefits from breastfeeding, even after breastfeeding has ended. As you will learn in this section, breastfeeding is an important part of a mother's healing after childbirth, supporting both her physical and emotional wellbeing. It reduces postpartum haemorrhaging and reduces the likelihood of developing certain types of cancer. The act of breastfeeding also allows mothers and their infants to bond, promoting emotional development, cognitive development, pain relief, and physical comfort for the baby. For mothers, breastfeeding reduces stress, reduces the likelihood of developing postpartum depression, and helps mothers avoid anger or other negative moods.

The importance of breastfeeding continues long past the six-month mark. Breast milk continues to be a critical source of nutrients as a child transitions from breastfeeding to food. Breastfeeding helps ensure that the child receives all the nutrition he or she needs during this critical period of physical, social, psychological and cognitive development. Breastfeeding also continues to boost a child's immunity, as breastfeeding is protective for the child's health for as long as breastfeeding continues. For the mother, continued breastfeeding has been shown to reduce the risk of breast, uterine and ovarian cancers, rheumatoid arthritis, high blood pressure, heart disease and diabetes. Breastfeeding for longer periods of time yields greater benefits to the mother.

In addition to benefits to the mother and child, there are a number of positive benefits of breastfeeding for the mother, the family, the community, and even the country in both the short and long term.

For the baby, in the short-term, if breastfeeding begins immediately after birth, s/he will bond with the mother during the first skin-to-skin contact, reducing stress. The first breastmilk, colostrum, known as the "first immunization", will provide a high concentration of nutrients and antibodies to protect the baby from diseases, including diarrhoea and respiratory infections. Breast milk is easy to digest and contains enough water for the baby, even in warm weather. Suckling helps develop jaw, teeth and facial structure. Breast milk covers all the baby's needs for growth and development during the first six months and prevents conditions linked to malnutrition such as stunting and wasting. Long-term benefits for the child include a reduced risk of diabetes, heart disease, cancer, asthma, obesity and dental decay later in life, along with better social skills and higher scores in school due to bonding with the mother during breastfeeding. It is particularly important for preterm infants to receive the health-giving benefits of a mother's breast milk.

For the mother, breastfeeding contributes to her health and well-being in many ways. The hormone oxytocin released during breastfeeding stimulates uterine contractions and facilitates the expulsion of placenta so the uterus returns to its regular size more quickly, reducing the risk

of bleeding after delivery. The release of oxytocin also reduces stress in the mother. Physiological effects of bonding with the baby while breastfeeding decreases the risk of post-partum depression. In the long term, breastfeeding reduces the risk of ovarian, uterine, breast and thyroid cancers, the risk of type-2 diabetes, and osteoporosis. Breastfeeding is also convenient for the mother because she can feed her baby anytime and anywhere without needing to prepare a bottle.

For the family, breastfeeding is more economical and less work. No money is needed to buy other food such as breast milk substitute, bottles, a refrigerator to store formula, or fuel to boil water to sterilise bottles or cook other food. Time is saved because there is no need to collect water and fuel, or to shop for other food. There are no utensils to wash when breastfeeding. The baby is healthier so there are fewer medical expenses due to diarrhoea and respiratory infections.

For the community/nation, breastfeeding helps babies stay healthy, so savings can be made in health care delivery services related to treatment of childhood illnesses, such as diarrhoea and ARI. Because breastmilk also has longer term health benefits for children and mothers (reducing the risk of diabetes, heart disease, cancer, asthma, obesity and dental decay later in life for the child and reduced postpartum haemorrhaging, osteoporosis and certain types of cancer among mothers), these costs to the health system are also spared. Breast milk is a natural renewable resource and protects the environment as no trees or plants are needed for firewood to boil water to sterilise bottles or cook other food, and there is no waste from tins and cartons of breast milk substitutes. Not importing breast milk substitute and utensils necessary for its preparation saves money necessary for inspection and regulatory issues, so increases the nation's financial resources. Children who grow up to reach their full health and intellectual capacity have the greatest potential to be productive members of Myanmar society.

The risks of not breastfeeding

Not breastfeeding is associated with health risks for mothers as well as for babies. Women who do not breastfeed have a higher risk of certain

types of cancer, including breast and ovarian cancer. Health problems related to the type of fat that accumulates in women's bodies during pregnancy, which breastfeeding mothers can more quickly utilise than women who are using breast milk substitutes, can put women at risk for heart disease and stroke. Another concern about not shedding these fat stores is their potential to increase the risk of diabetes later in life.

When a baby is given liquids, such as water, and/or foods in addition to breast milk, this is called mixed feeding. Mixed feeding a baby before six months of age is unnecessary and is discouraged. As breast milk is 87% water, the infant's water needs are met with breast milk. Giving water before six months introduces bacteria into the baby's gut and fills the stomach up. This leads to fewer feedings in the day, leading to mothers producing less milk. Mixed feeding, with breast milk substitutes (BMS), such as infant formula or cereals, leads to a greater risk of illness, including malnutrition, and of impaired social and cognitive development.

Specific examples of the negative health and growth development consequences for the baby of not breastfeeding include:

Greater risk of illness

- Baby doesn't receive the 'first immunization' from the colostrum
- Replacement foods and BMS have no antibodies to protect against illness, especially respiratory infections
- The lining of the baby's gut could be damaged by replacement foods
- Feeding with BMS will not give skin to skin contact and thus not help colonise the baby with optimal friendly skin bacteria
- BMS can be improperly prepared or stored, which can lead to serious illness
- Frequent diarrhoea due to BMS being prepared with contaminated water
- Frequent diarrhoea due to unsuitable replacement foods
- If the mother is HIV positive, the virus could enter the lining of the baby's gut as the gut could be damaged by replacement foods
- Possible heart disease, diabetes, cancer, asthma, and dental decay later in life

Greater risk of malnutrition

- As the baby suckles less, the mother produces less milk.
- Replacement foods often have little nutritional value, i.e, rice porridge or gruel
- BMS is more difficult to digest than breast milk
- Lack of nutritious food leads to retarded growth; under-weight, stunting, wasting
- Greater risk of being overweight and obese later in life

Greater risk of impaired social and cognitive development, and educational attainment

- Poorer bonding between mother and infant
- Lower scores on intelligence tests
- Lower ability to learn at school

Breastfeeding when a mother is ill

Many mothers, caregivers and extended family members think that if a mother is ill, she should stop breastfeeding. However, there are only a few very serious illnesses that might require a mother to stop breastfeeding. The best thing a mother can do for the baby when she is sick with a cold, flu, or other mild virus, is to continue to breastfeed. By the time the mother feels ill her body has already started producing antibodies for the baby's protection. The breastmilk will not transmit the illness to baby. Instead, as it has antibodies that are specific to the mother's illness, it will strengthen the baby's immune system and prevent the baby from getting sick. Most medications are also safe to take while breastfeeding. Even for those that are not recommended there is almost always an alternative medication that is safe. When a mother feels ill, she usually doesn't breastfeed enough to keep an adequate milk supply. To avoid a decreased milk supply, a mother should continue to nurse often and drink plenty of fluids to avoid dehydration.

Learning Activity 2.3

Exclusive breastfeeding

Purpose

To enable the participants to understand the benefits of exclusive breastfeeding for the first six months and the risks of not exclusively breastfeeding.

Time

1 hr 30 mins

Materials

- Flip charts
- Permanent pens
- Handout of risks of not exclusively breastfeeding
- Three bottles
  - one bottle filled with white beans representing breast milk
  - one bottle filled with black beans representing bacteria from water, BMS or mixed feeding
  - one bottle filled with mixed white and black beans.
- Visual aids 2.3.1, 2.3.2

Method

- Picture code
- Group exercises Visualisation
- Reflection

Instructions

Step 1 — Picture code

Benefits of exclusive breastfeeding — 45 mins

1. Display the picture of a baby with the only labels of the body parts. (Visual Aid 2.3.1)
2. Give each participant a handout of the same picture.
3. Divide the participants into 4 groups.
4. Ask groups to think about the benefits of breastfeeding to the child's health. What are the benefits? What body parts and systems benefit from breastfeeding? If the benefit applies to a specific body part, write it in the relevant location on the picture.
5. After 15 minutes, ask the first group to share their ideas with the larger group. Then, ask the second group if they have any additional information to share. Repeat this process for the third and fourth groups.
6. Clarify all answers and emphasize that exclusive breastfeeding benefits the entire infant.
7. Display the picture of the toddler. (Visual Aid 2.3.2)
8. The facilitator should already have the benefits to the toddler written up on pieces of paper. Now, the facilitator distributes these pieces of paper with the benefits of breastfeeding to the toddler to random participants. Ask those participants with pieces of paper to come forward (one by one) to stick the benefit to the picture in the relevant place, as the facilitator discusses each benefit.
9. Summarize and clarify all outstanding questions and comments. Reinforce the point that the benefits of exclusive breastfeeding do not only affect the child's health in the first 1000 days period, but it also brings benefits to a child throughout his or her life.

Step 2 — Group exercise

Risks of not exclusively breast feeding — 30 mins

1. Ask the participants what might be some of the risks for babies who are not exclusively breastfed and for the mothers who do not breastfeed?
2. Divide participants into four groups. Give each of them a topic:
   - … Greater risk of illness and/or death
   - … Greater risk of malnutrition
   - … Greater risk of impaired social and cognitive development
   - … Risks for mothers who do not breastfeed
3. Distribute the handout of risks of not exclusively breast feeding.
4. Ask the participants to review the handout and think about the risks related to their topic and compose a song using the message written on the handouts.
5. After 15 minutes, ask each group, one by one, to sing the song they have composed.
6. Encourage other groups to comments and make suggestions.

Handout of risks of not exclusively breastfeeding

For the child who is not breastfed

- Baby doesn't receive the 'first immunization' from the colostrum.
- The lining of the baby's gut could be damaged by replacement foods
- The baby is not colonized with friendly bacteria because Breast Milk Substitutes (BMS) does not give skin to skin contact.
- Serious illness if BMS is not properly prepared or stored.
- Frequent diarrhea due to BMS being prepared with contaminated water or unsuitable replacement foods.
- Increased respiratory infections.
- Possible heart disease, diabetes, cancer, asthma and dental decay later in life.
- Increased risk of Diabetes I and II (64%)
- Increased risk of Obesity (20%)
- Increased risk of Ear infection (100%)
- Increased risk of Eczema (47%)
- Increased risk of Asthma (35%-67%)
- If the mother is HIV positive, the virus could enter the lining of the baby's gut as the gut could be damaged by replacement foods
- Possible heart disease, diabetes, cancer, asthma, and dental decay later in life
- Greater risk of malnutrition
- As the baby suckles less, the mother makes less milk.
- Replacement foods often have little nutritional value, i.e, rice porridge or gruel
- BMS is more difficult to digest than breast milk
- Lack of nutritious food leads to retarded growth; under-weight, stunting, wasting
- Greater risk of being overweight and obese later in life
- Greater risk of impaired social and cognitive development, and educational attainment

- Poorer bonding between mother and infant
- Lower scores on intelligence tests
- Lower ability to learn at school

For mother who doesn't breastfeed

Increased risk:

- Bleeding after delivery
- Stress
- Post-Partum depression
- Breast cancer
- Uterine cancer
- Ovarian cancer
- Endometrial Cancer
- Thyroid Cancer
- Osteoporosis
- Heart disease
- Stroke
- Type 2 Diabetes

Key message to remember

Do not give the baby anything to eat or drink except breast milk during the first six months.

Step 3 — Visualisation

Visualization of risk of not exclusively breastfeeding — 15 mins

1. Prepare three bottles; one bottle filled with white beans representing breast milk; one bottle filled with black beans representing bacteria from water, BMS or mixed feeding; and one bottle filled with mixed white and black beans.
2. Display the bottle of white beans and tell the participants that this represents how exclusive breastfeeding is pure and free from bacteria.
3. Display the bottle of mixed white and black beans and tell the participants that this represents how the pure breast milk can be contaminated with bacteria if it is mixed with water, BMS or mixed feeding.
4. Display the bottle of black beans and tell the participants that this represents the baby's food if it is not exclusively breastfed, but fed with water, BMS or mixed feeding.
5. Ask the participants to think about and discuss which type of food they would want to feed a baby up to six months.
6. Ensure the participants understand that exclusively breast feeding a baby up to six months protects the baby from illness that could led to malnutrition and/or death.

Step 4 — Reflection

Reflect on the learning process — 15 mins

1. Ask the participants what they have learned from these activities.
2. Discuss why it is important to practice exclusive breast feeding.
3. How could this knowledge ensure a baby is exclusively breastfed up to six months?

Session 2.4

Positioning and attachment

Background 2.4

Correct Positioning

Breastfeeding is a natural function for women and should be neither uncomfortable nor painful. Cultural and family traditions can influence the way a mother breastfeeds her baby. The slightest misalignment in head and body position and how wide the baby opens his/her mouth can make a huge difference in comfort for the mother as well as the sucking effectiveness to empty the breasts. Although this guide provides an in-depth explanation of correct positioning for breastfeeding, it is only for educational purposes and does not equip participants to engage in breastfeeding counselling. If a mother needs help it is recommended that she visit a qualified health professional to provide support.

In Myanmar, the traditional way of holding only the baby's head and laying the baby supine on the mother's lap changes the baby's lip angle.

Cradle position

Cross-cradle position

Under-arm position (football/clutch position)

Visual aid 2.2.5 **Breastfeeding positions**

This decreases the sucking effectiveness and milk extraction. The baby does not receive as much milk as needed. This leads to a low rate of weight gain and, over time, the mother starts producing less milk. This position also leads to pain and discomfort in the mother's hands, wrist, arms, shoulder and back, making breastfeeding an uncomfortable activity.

When beginning to breastfeed, finding the correct position is important. When the mother and baby are in the correct position, the mother's nipples stay healthy and pain free and the baby can feed efficiently. There are many positions that a mother can chose for breastfeeding. For any position, she should draw the infant toward her, rather than leaning toward the child. If the baby is well aligned, a straight line should be able to be drawn connecting the baby's ear, shoulder, and hip on either side of the baby's body. A mother should never hold the back of the baby's head or push the baby's head toward or into the breast.

The C-Hold is the most common hand position that mothers can use to support the breast when latching the baby on to breastfeed. This hold lets the mother control the movement of the breast and direct the nipple toward the baby's mouth so that the baby latches on correctly. The steps for using the C-hold are:

- Place the breast in the palm of the hand.
- Put the thumb on the top of the breast.
- Cup the fingers around the bottom of the breast. The hand should look like it is in the shape of the letter C.

Lying-down position

Breastfeeding twins with under-arm position

- Keep the thumb and fingers behind the areola so that they do not get in the way of the baby's mouth.

Some popular positions include:

Cradle position (Visual Aid 2.4.5)

- Most common position
- Mother holds her breast with a C hold and brings the baby's head to the nipple
- Mother supports the baby's neck and back
- Mother supports the baby's head with the crook of her arm
- Mother's tummy touches the baby's tummy
- The mother can see that the baby's ear, shoulder and hip are in a straight line
- If the mother can see the baby's full face or stomach, then the position is incorrect

Cross-cradle (Visual Aid 2.4.5)

- Modification of the cradle hold
- Mother holds her breast with one hand and support the baby with the other.
- Helpful with smaller babies to keep them at the breast

Football/clutch (Visual Aid 2.4.5)

- Can be used after a Caesarean-section, when the nipples are painful, or to breastfeed twins, preterm and smaller babies
- Position helps babies control milk flow in mothers with fast or abundant supply
- The mother is comfortably seated with the baby under her arm
- The baby's body passes by the mother's side and the baby's head is at breast level
- The mother supports the baby's head and body with her hand and forearm
- Baby faces the mother

Lying-down (Visual Aid 2.4.5)

- Allows mother to rest and feed
- The mother and baby should both be lying on their sides, facing one another.
- Mother supports her head with her arm
- A towel/pillow should support the baby's back to maintain the position

Biological Hold (lying/leaning back) (Visual Aid 2.4.5)

- Allows mother to rest
- Baby lies stomach down on the mother's stomach
- Mother body supports the baby's weight
- Allows eye contact
- Most natural nurturing position

Latching on

Once the mother and baby are in the proper position, the next step is to guide the baby toward the breast so that s/he can latch on properly. This is important to prevent sore nipples, ensure sufficient milk supply, and stimulate adequate milk production.

A baby will naturally want to latch on to a source of food. The tubercles on the areola around the nipple produce an oil that has an odour that attracts the baby to latch on to the nipple. This is why a mother should not wash her breasts before breast feeding. This oil also lubricates the nipple and protects them from becoming dry and crack.

The mother should hold her breast with her fingers in a C shape, with the thumb above the dark part of the breast (the areola) and the other fingers below. The mother's fingers should not be in a scissor hold around the nipple (i.e., with two fingers on either side of it); this method puts pressure on the milk ducts and can stop the milk flow and pull the nipple out of the baby's mouth.

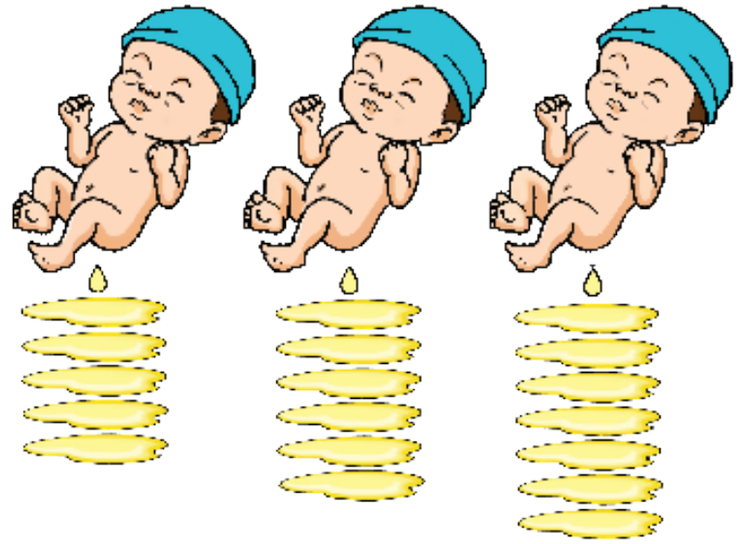
To make the baby open his/her mouth wide, the mother should tease the baby's lower lip with her nipple. If his/her mouth stays closed, stroke the lower lip again, press gently down on the chin with your index finger. When the baby opens his/her mouth wide, as though giving a big yawn, gently, but quickly, draw the baby closer and place his/her open mouth fully on the areola and nipple. Remember to bring the baby to the breast, not push the breast into the baby's mouth.

Visual aid 2.4.2 Average frequency of passing urine of a normal baby druing the first week

The key to successful attachment is for the baby's mouth to be open wide enough to take an inch or two of the areolae from the base of the nipple into the mouth. The nipple should be drawn to the back of the baby's mouth, pointing to the roof of the mouth. The baby's gums and tongue compress the areola. This suckling movement causes the baby's jaw to move the milk from the breast, while the baby's tongue makes a wavelike motion underneath the nipple, causing the mother's milk to flow out through the tiny holes in the nipple. Good positioning of the baby's month on the dilated ducts under the areola will ensure the best flow of breast milk for the baby.

Signs of proper attachment

The baby's mouth should cover a large part of the areola. The mother should see more of the darker skin (areola) above the baby's mouth than below. The baby's chin should touch the breast. Both lips should be turned outwards. The mother may have a feeling of being 'firmly gripped'. The baby's cheeks should not be sucked in, or the lips look like s/he is sucking on a straw. After the feed, the mother should not see a squashed nipple. This means that the nipple is injured and the breastmilk flow is blocked, preventing the baby from being able to access the milk beneath the areola.



If the mother sees, hears or feels anything that doesn't seem right, gently insert the little finger into the baby's mouth to break the suction and let the baby come off the breast. The mother should stay calm and relaxed and then start again.

Incorrect latch and positioning can cause cracked or damaged nipples that can lead to breast infection. A surface abrasion will heal within a day or two, while a deep crack might take a week or more to fully heal. Breast milk, colostrum, transitional or mature milk, can heal cracked nipples as it has anti-infective substances that eliminate germs, and vitamins to help the skin repair itself. After each feed a mother can express a few drops of milk and rub it into the nipple area. The hands must be clean to avoid introducing an infection to the nipple. Leave the nipple to air dry before covering the breast.

Incorrect latch and positioning can also cause inadequate emptying of the breast that can cause breasts to be so full of milk they become hard and painful (engorgement). Put warm moist compress on breasts and hand massage and express some milk. Massage the lumps present in the breasts. Alternatively, a mother can also use a cold compress. If a mother experiences fever, chills, and breast pain this could be mastitis, or a breast infection, and she should seek medical attention immediately.

When a baby is suckling efficiently, the baby should make slow deep and rhythmic motions of two sucks and one swallow, while sometimes pausing. The mother should hear the baby swallowing, but not clicking noises or lip smacking. The mother may feel the let-down reflex, a tingling, 'drawing' feeling in your breasts, or pain, but just at the start of the feed for the first few days or weeks. Usually suckling should be comfortable and pain free. There should not be pain after the feed and the mother's breasts should be softer after the feed. When the baby is full, s/he will slow down sucking, voluntarily release hold of the breast, will release their fists and open their hands, look contented and relaxed, and usually go to sleep.

How do you know that a baby is getting enough milk?

A baby who is getting enough breast milk will appear content and satisfied after most feeds. Children who are getting enough breastmilk will be healthy and gaining weight after the first two weeks. It is normal for a breastfed baby to drop seven to ten per cent of its birthweight in the first week of life. This is because a baby is born with some extra fluids. So, losing some weight in the first week does not mean that a baby is not receiving all the nutrition they need, as long as they regain this weight by days 10-14 of life. For these babies, no additional breast milk substitute, food, or liquid is needed.

However, if the baby is restless or unsatisfied and is not gaining weight after the first two weeks, one reason could be because the baby is not attaching or latching on to the breast correctly. In this case, it is a good idea to speak with a health professional for breastfeeding support.

Another way to monitor if the baby is getting enough breastmilk is to keep track of the baby's urine and stool outputs. A baby who is getting enough breast milk urinates and passes stools frequently. Every baby is different, but table shows the usual pattern of urinating and stooling as the baby grows.

Learning Activity 2.4

How to breastfeed: Positioning and attachment

Purpose

To enable the participants to understand, identify and demonstrate proper holding and attachment breastfeeding positions

Time

1 hr 45 mins

Materials

- Flip charts
- Permanent pens
- Prepared flip charts with urine and stool outputs
- Visual aids 2.4.1, 2.4.2

Method

- Picture codes
- Demonstration
- Practice
- Group exercise
- Reflection

Instructions

Step 1 — Picture code

Holding a Baby for Efficient Feeding — 30 mins

1. Ask the participants if new mothers in the participants' community have any challenges with breastfeeding?
2. Ask for some examples and discuss these challenges using the group's personal experiences.
3. Ask the participants to think about and discuss how a baby should be held so the baby can feed efficiently.
4. Display two pictures of a mother holding a baby in preparation for breastfeeding: one picture showing a 'correct' holding position;the other an 'incorrect' holding position. (Visual Aid 2.4.3)
5. Ask the participants to look closely at the two pictures.
6. After two minutes, ask the participants if they can identify any differences in the two pictures.
7. If necessary, ask probing questions such as, 'Should the baby be able to look at the mother's face?' or 'Is the baby's body being supported?'
8. Continue asking until all differences have been noted.
9. Ask the participants which picture shows the best position to hold a baby so that s/he can feed efficiently?
10. Write down all the relevant signs of a good holding position on a flip chart from the participants' responses.
11. Ask the participants if they know how a baby should attach or 'latch-on' to the mother's breast so it can feed efficiently.

12. Display two pictures of a mother breastfeeding a baby: one picture showing a 'correct' attachment position; the other an 'incorrect' attachment position. (Visual Aid 2.4.4)

13. Repeat the same steps as for the holding exercise. Note their responses on a flip chart.

14. Summarize all the points about the signs of a good holding position and good 'latch-on' position.

Step 2 — Demonstration

CALM: Signs of Good Positioning — 30 mins

1. Using a real mother and baby (if possible), explain the four signs of good positioning:
   - ... The baby's body should be straight
   - ... The baby's body should be facing the breast
   - ... The baby's stomach should be next to the mother's stomach
   - ... Mother should support the baby's whole body
2. If no mother and baby are available, the facilitator and a participant can act as an auxiliary midwife and a mother to demonstrate proper breastfeeding positioning and attachment using a doll.
3. The facilitator demonstrates the following five breastfeeding positions: cradle, cross cradle, football/clutch, lying down, and biological hold. Why is it useful to know different breastfeeding positions?
4. The facilitator then explains the 4 signs of proper attachment, 'CALM':
   - ... The Chin should touch the breast
   - ... You should see more Areola above the baby's mouth than below
   - ... The baby's Lower Lip is turned outwards; and
   - ... The baby should be close to the breast with Mouth wide open

5. Display the visual aid of good positioning and attachment for breastfeeding.
6. Ask the participants if they have any questions.
7. Divide the participants into pairs
8. Ask each group member to choose a role of 1) the mother using a doll as a baby 2) auxiliary midwife
9. Tell the 'mother' and the 'auxiliary midwife' to practice proper holding and attachment breastfeeding positions.
10. Ask participants to rotate roles so that each person gets to act out the two roles.

Step 3 — Discussion & Group Exercise

Signs of efficient suckling — 30 mins

1. Tell the participants that a baby urinating and passing sufficient stools is a good sign that the mother is producing enough milk and that the baby is getting enough milk.
2. Ask the participants to think about and discuss how often a normal healthy breastfed baby who is suckling efficiently should urinate and defecate?
3. Ask who would like to volunteer to share their experience on the number of soiled diapers a breastfed new-born baby makes from Day 1 onwards.
4. Ask the volunteer to think about what colour the urine is from Day 1 onwards.
5. Ask the volunteer to think about what colour the stools are and what consistency the stools are.
6. Tell the participants to get into small groups.
7. Give each group a flip chart with the prepared table to fill in and some permanent pens.

8. After 10 minutes ask each group to tape their flip chart papers on the front wall of the training room.
9. All the participants should compare their answers with other groups.
10. The facilitator will summarize and clarify all answers related to a baby urinating and passing sufficient stools.
11. The facilitator will highlight that although the table shows the estimated number of times for normal urinating and defecating, if after the 6th day if the baby has urinated fewer than 4 times the caregivers should go to the nearest health facility. Likewise, if the baby's stools are still dark brown or black after the 6th day, go to the nearest health facility. **(Visual Aid 2.4.1, 2.4.2)**

Day	Urine times per day	Stools
Day 1 (1st 24 hours)	1 – 2	1 time Black, sticky
Day 2 (2nd 24 hours)	2-3 or more	1-2 or more Dark brown/ dark green
Day 3 (3rd 24 hours)	3 or more	3-4 times or more Greenish turning yellow
Day 4 (4th 24 hours)	4 or more	3 or more Yellow with seeds, sometimes watery
Day 5 -30 days	6 or more	3 or more Will go more frequently after 2 weeks Sometimes after every feed/ small amounts
Call your doctor/ medical personal:	If baby has fewer than 4 urines after the 6th day	If baby's stools are still dark brown or black after the 6th day

Table 2.4 Colour of stools of a normal baby

Step 4 — Reflection

Reflect on the learning process — 15 mins

1. Ask the participants what they have learned from these activities.
2. Discuss why it is important to know the correct holding and attachment breastfeeding positions and if the baby is suckling efficiently.
3. How could this knowledge help mothers to have a successful and effective breastfeeding experience?

Key messages to remember

The mother should practice any of the following correct holding positions :

- Mother should sit comfortably, draw the baby toward herself and do not lean toward the baby.
- The baby's head, back, and buttocks should be in a straight line.
- The baby's body should be facing the breast
- The baby's stomach should be against the mother's stomach
- Mother should support the baby's whole body

Remember the Correct Attachment Position "CALM"

- The **C**hin should touch the breast
- You should see more **A**reola above the baby's mouth than below
- The baby's **L**ower Lip is turned outwards; and
- The baby should be close to the breast with **M**outh wide open

Session 2.5

Expressing breast milk

Background 2.5

Expressing breast milk

While giving the child breastmilk through breastfeeding is the ideal feeding method, sometimes it is not possible. In these cases, the second-best option is feeding children expressed breast milk. Many mothers express breast milk at some point when they are breastfeeding. Teaching mothers how to express breast milk and use it safely could help mothers achieve six months of exclusive breastfeeding and breastfeeding up to two years and beyond.

Mothers might need to express milk if:

1. Mother and baby are temporarily separated
2. Mother is returning to work
3. The child is low-birth weight or sick
4. Keeping up the supply of breast milk when mother is ill or milk supply needs to be increased
5. Difficulties in breastfeeding (inverted nipples, distended breasts or mastitis)

Expressing breast milk is particularly useful for mothers who are separated from their baby for several hours in any given day, such as working mothers. Some women believe that a mother who works outside the home or is away from her baby cannot continue to exclusively breastfeed her baby. Some women who need to return to work are discouraged from continuing breastfeeding because of inflexible work hours, no place to express and store milk, and no child

care at work. However, mothers and family members can plan to continue to exclusive breastfeed and return to work by:

1. Discussing options with the boss about adjusting work hours
2. Discussing the option with the boss to bring the baby to work
3. Discussing breastfeeding at work with the boss to explore where and when she could breastfeed.

If a mother must be separated from her baby during the day, she can:

1. Learn to hand express/use a pump to collect milk
2. Learn how to safely store pumped milk:
    - ... with refrigeration
    - ... without refrigeration
3. Express her breast milk and leave it to be fed to the baby by a family member or caregiver.
    - ... For babies younger than 6 months, replacing breastfeeds during work hours with expressed breast milk fed from a cup, not a bottle, which can lead to illness if not cleaned properly
    - ... For babies 6 months and older, replacing breastfeeds during work hours with expressed breast milk and food from a cup

During the weeks before returning to work a mother should continue on-demand breastfeeding whenever she and the baby are together to build up her supply. When not at work, a mother should breastfeed frequently by increasing night and weekend feedings.

There are three methods of expressing breast milk: hand expressing, hand pump, or electric pump. The choice depends on the reason for expressing, cost, duration of expression, and personal preference. Hand expression of milk is convenient and effective as the skin-to-skin contact stimulates milk production. Hand pumps are portable, many types are available, and they are relatively inexpensive. Electric breast pumps give faster results and may be better for longer-term use,

however they are more expensive. Even though a hand pump or an electric pump may be costly, this one-time expense is still significantly less than the cost of breast milk substitute over time. UNICEF and Alive & Thrive conducted research on the cost of not breastfeeding in Myanmar in 2015. This research found that purchasing economy brand infant formula can cost nearly one third (up to 32.4 per cent) of monthly earnings for workers in low-paid, formal sector jobs in Myanmar. So, not only does a mother save money by pumping, but the baby receives all the benefits of breastmilk, which is far more nutritious than any substitute.

A mother should try to relax by breathing slowly and deeply, having a warm drink, listening to calming music, or placing a warm cloth on her breast for a few minutes before starting pumping. The baby's sound, smell and touch will also help to produce milk during pumping. If the baby is not nearby when pumping, even looking at the image of her baby, such as a photo, can help stimulate milk production.

Massaging her own breasts can also stimulate the let-down reflex. Start from the top of the breast and stroke towards the nipple with the flat of her hand or edge of a finger and gently roll the nipple between her fingers. Massage the underside of the breast too. Repeat several times to ensure that the whole breast is massaged.

Feeding with expressed breast milk

Expressed breast milk can be fed to a baby immediately after expressing using a cup. . The MoHS and WHO recommends using a feeding cup instead of a bottle if proper sanitation and clean water are not accessible. This is because the teats and screw tops of bottles are more difficult to clean and can trap harmful bacteria that could

make babies ill. Also, a cup is better than a bottle for the baby. Babies naturally open their mouths widely to latch on to the breast for effective breastfeeding.

Giving a baby a bottle with a teat, or any kind of commercial pacifier, in the first two weeks of life, can cause 'nipple confusion', because the baby could become confused between sucking on a breast verses a teat. Therefore, bottles and pacifiers should be avoided.

Storage of expressed breast milk

Expressed breast milk can be stored in covered glass or plastic containers in the refrigerator. Use it within two days. If the milk will not be used within two days, freeze the milk for up to 3-6 months (if stored at 0°F or -18°C). Freshly expressed milk that is being refrigerated or frozen should be stored in a new container rather than added to previously refrigerated or frozen milk. Mark the date on the container at the time of collection and use the oldest milk first. For those who do not have access to a refrigerator, expressed breast milk, stored in a cool, covered place, such as a clean, small clay pot, is safe to use up to 6 hours, even in a hot climate.

Learning Activity 2.5

How to express breast milk

Purpose

To enable the participants to describe expressing breast milk (hand expressing, hand pump or electric pump), how to feed it to a baby and how to store it.

Time

1 hr 45 mins

Materials

... Flip charts
... Permanent pens
... Hand pump
... Breast models
... Visual aids 2.5.1, 2.5.2, 2.5.3, 2.5.4, 2.5.5, 2.5.6

Method

... Discussion
... Presentation of video clip
... Buzz groups
... Discussion
... Picture code
... Reflection

Instructions

Step 1 Group exercise

Planning, expressing, feeding & storing breast milk 30 mins

1. Divide the participants into four groups. Tell the participants you will give each group 10 minutes to discuss the following topics in their small groups:

   - **Group One** will discuss the topic: reasons why a mother might need to express her breast milk. Ask Group One participants to think about and give reasons why a mother might need to express her breast milk.
   - Tell them to brainstorm and list all the reasons on a flip chart. **Group Two** will discuss the topic: preparing for expressing breast milk to exclusively breastfeed. Ask Group Two participants to discuss practical suggestions for how to successfully express breast milk so that working mothers can continue to exclusively breastfeed their child. What practical steps must a mother take to express breast milk? How is this different in rural areas and urban workplaces?
   - Tell them to brainstorm and list all the suggestions on a flip chart. **Group Three** will discuss the topic: types of feeding expressed breast milk by cup. Ask Group Three participants to think about and discuss how best to feed a baby expressed breast milk. Ask the participants to think about and discuss which of these methods would be the pros and cons for each option: 'Spoon', 'Cup' and 'Bottle'. Which is best?
   - Tell them to list all the methods they know on a flip chart and the advantages and disadvantages of each method. **Group Four** will discuss the topic: storing expressed breast milk. Ask the group to think about and discuss where expressed breast milk can be stored safely without it spoiling, and how long it can last. Ask them to be sure to include tips for storing expressed

breast milk when there is no refrigerator available. What could a mother do to store her breast milk?

- Tell them to brainstorm and list all the information on a flip chart.

2. After they have finished discussing, invite Group One to present reasons why a mother might need to express her breast milk. Examples of reasons include: mother and baby are temporarily separated, mother returning to work, keeping up the supply of breast milk when mother is ill, or when milk supply needs to be increased.
3. Invite Group Two to present their suggestions for planning for expressing breast milk to exclusively breastfeed. Inform the larger group that working mothers have returned to work and continued to exclusively breastfeed their babies successfully by expressing breast milk to feed the baby while mother and baby are separated.
4. Invite Group Three to present the methods for feeding expressed breast milk by cup. The facilitator will highlight the advantages of cup feeding over spoon and bottle feeding. Ask if anyone has practiced cup feeding. Ask if anyone can share how to cup feed.
5. Invite Group Four to present the methods for storing expressed breast milk. If they do not mention, share the following method for storing expressed breast milk when a refrigerator is not present:

   ... Buy a small clay water pot just for storing breast milk.
   ... Put the expressed milk in a clean cup and put it in the clay pot
   ... Put a cover over the clay pot and keep in a cool dark.

6. Tell the participants that using this method, the milk will be safe to use for 6 hours. Display a picture of a small clay pot with cover in a cool dark space. (Visual Aid 2.5.6).

Step 2 — Presentation

Methods of expressing breast milk — 15 mins

1. Tell the participants that expressing breast milk can help mothers achieve six months of exclusive breastfeeding while giving more lifestyle options.
2. Ask the participants to share any method(s) they know of for expressing breast milk.
3. List all the methods on a flip chart.
4. Tell the participants that they will discuss the hand expressing technique first.
5. Show the video clip using the hand expressing technique. Ask participants to describe what they observe.
6. Display the pictures of proper hygiene, breast massage and hand expressing milk technique. Review all the steps involved. (Visual Aid 2.5.1, 2.5.2, 2.5.3, 2.5.4, 2.5.5)
7. Then ask the participants if there are other ways to express breast milk?
8. Introduce different models of pumps, including a hand pump and an electric pump.
9. Let all participants examine both pumps.
10. Show the video clip using the hand pump expressing technique.
11. Display the chart of using a hand pump or an electric pump, highlighting proper hygiene, breast massage and expressing techniques. Review all the steps involved.
12. Ask the participants to discuss the good and bad points of each of the three ways of expressing breast milk.
13. Summarize by highlighting issues of cost, duration of expression,

Step 3 — Reflection

Reflect on the learning process — 15 mins

1. Ask the participants what they have learnt from these activities.
2. Discuss why it is important to know about why and how to express breast milk, and how to feed it to a baby and store it for future use.
3. How could this knowledge help mothers achieve six months of exclusive breastfeeding while giving more lifestyle options.

Key messages to remember:

- Express breast milk if mother and baby are temporarily separated, for example, by working outside of home.
- While at home, breastfeed exclusively and frequently by increasing night and weekend feedings.
- While away, continue to express breast milk to encourage milk production and to prevent breast swelling.
- Express and store breast milk so the baby's caregiver can feed the baby while the mother is away.
- Teach the baby's caregiver how to use a clean cup to feed the baby while the mother is away.
- Store unused expressed breastmilk in the refrigerator or freezer for limited periods of time.
- When refrigeration is not available, store expressed breast milk in a cool, covered place, such as a small clay pot.

Session 2.6

Family and community support for breastfeeding

Background 2.6

While breastfeeding is a natural act, it is also a learnt behaviour that requires the support of others to be sustainable. Providing support by giving reassurance, praise, information, physical help with household duties, and the opportunity to discuss problems and questions may help women continue to breastfeed. A number of people can offer this support.

If a woman has already committed to breastfeeding, she should let her friends and family know about her decision. She should also inform the health facility staff who will assist at the delivery that she wants to exclusively breastfeed her baby, starting from the first hour after the child is born, and will not accept any breast milk substitutes (BMS) to be given to her baby. If possible, a mother should try to give birth at a health facility that supports breastfeeding. There are some hospitals in Myanmar which are "baby-friendly" as part of the BFHI, which is a designation given by the MoHS to indicate that the hospital is breastfeeding friendly. Some actions a mother can take include:

- Notifying health staff ahead of time that she intends to breastfeed exclusively.
- Asking friends and family to support her commitment to breastfeed her child so that she can feel encouraged and supported. This includes asking for emotional support and also for help with household duties and responsibilities.
- Finding someone who can advise and support her if she has breastfeeding difficulties.

Support from basic health staff and midwives

Breastfeeding should always be the preferred option. Health staff can support breastfeeding by congratulating the new mother on having the

intention to breastfeed or informing new mothers about the benefits of breastfeeding and helping them to initiate it when the time comes. They should also educate themselves on the Order of Marketing of Formulated Food for Infant and Young Child that Myanmar adopted under the National Food Law in 2014. By law, the order prohibits the marketing of breast milk substitutes for children under two. It is important for health professionals to understand the law and report companies who violate the law, as this can undermine breastfeeding. They should not meet with or take any money or gifts from representatives of breast milk substitute companies, as these would be violations of the law. Specific actions to support breastfeeding, which are promoted by the MoHS, UNICEF and WHO include:

- Initiating skin to skin contact and breastfeeding within the first hour of baby's life to ensure that the baby receives the first breast milk, colostrum. (See Session 2.2: Early initiation of breastfeeding).
- In case of a caesarean-section, attach the baby to the breast of the mother who is not able to hold the child on her own so that the baby can consume the colostrum. Support the baby to attach to the mother's breast whenever s/he is hungry (on demand).
- Encouraging 'rooming-in' where a baby can remain in the mother's room to make it easier to nurse on demand.
- Reassuring the mother that breastmilk contains all the water and nutrients a baby needs to grow and will satisfy her baby's hunger and thirst for the first six months of life.
- Advising the mother not to give any other foods or liquids to the baby, including BMS during the first six months because their digestive system cannot process these.
- Reporting any violations of the Order of Marketing of Formulated Foods for Infant and Young Child to the Myanmar Government, Save the Children or UNICEF.

Support from partners and family members

After the mother and baby are back at home a number of a people can support a mother to exclusively breastfeed. While a father may not be able to physically feed his infant, he still plays an important role in supporting the child's mother. Research has shown that mothers who feel supported by their partners are more confident in their ability to breastfeed and are less likely to perceive a low milk supply. Specific actions for husbands and family members include:

- Learning about breastfeeding by reading about it, talking to a health professional, or attending an information session at a health facility.
- Ensuring that a breastfeeding mother consumes a diverse and balanced diet with food from all four star**** food groups. Because a breastfeeding mother needs to produce breastmilk to feed her baby, she should also eat two extra healthy small meals, or snacks in addition to normal meals.
- Adjust the mother's workload to allow the mother to rest more during the day so she has the time and energy to breastfeed.
- Helping with non-infant household tasks, such as cleaning the house, doing laundry, and cooking in order to ensure that she has enough time to feed the baby.
- Helping with non-feeding tasks, such as changing wet and/or soiled pants, cleaning the baby after defecation, giving the baby a bath, and burping and comforting the baby.
- Assisting with night-time breastfeeding by bringing the baby to the mother in bed and staying with her during breastfeeding.
- If the mother is expressing breast milk, letting her sleep during the night and feeding the baby with a cup.
- Giving emotional encouragement by letting the mother know she is doing a great job and asking her what additional support she needs.
- Speaking up when you hear someone saying something negative about breastfeeding.

Support from auxiliary midwives and community health volunteers

After getting a good start with breastfeeding, many women in Myanmar experience challenges in continuing to breastfeed longer than two months. They need the opportunity to discuss problems, ask questions and receive helpful advice about feeding on demand, growth spurts, and returning to work. Specific actions include:

- Answering a mother's questions about continuing to breastfeed and providing counselling.
- Promoting breastfeeding as the preferred option over breast milk substitutes, which are expensive and do not carry the same benefits as breastfeeding.

- Motivating the mother by telling her about the short- and long-term benefits of exclusive breastfeeding to mother and child (baby has fewer health problems, including diarrheal, respiratory, and ear infections, higher academic achievement, mother has reduced risk of certain types of cancer, etc.)
- Reassuring the mother that she will have enough milk and that the more the baby sucks, the more breast milk the mother will produce.
- Urging the mother to seek out other new or experienced mothers for breastfeeding motivation.
- Identifying symptoms of postpartum depression, including anxiety, fears, sadness and irrational thoughts that are persistent for more than two weeks by asking if:
  - She feels anxious or worries excessively about her own or her infant's health.
  - She is having trouble sleeping, either not able to sleep, despite being exhausted and her child sleeping, or sleeping too much and not being able to get out of bed.
  - She is losing or gaining weight or has a poor appetite.
- If a woman shows signs of postpartum depression, referring her to the appropriate service providers for counselling or treatment.

Support from employers

Many women who work outside the home must return to work soon after they had delivered their babies. Going back to work after having a baby increases the chances that a mother might discontinue breastfeeding. If the woman's workplace provides a supportive work environment – or not - may make a difference in whether the child continues to be breastfed. Supporting breastfeeding in the workplace can lead to better staff retention and staff satisfaction, which can lead to greater workplace productivity. Having ethical and family-friendly work place policies can set an example for other businesses and generate goodwill among their customers. Specific actions include:

- Providing six months of maternity leave.
- Setting up a breastfeeding room or dedicated space in the office where women can breastfeed or express breast milk. This space should have somewhere to sit comfortably and a door which can be closed for privacy.

- Allowing breaks in the day for a woman to breastfeed or express breast milk.
- Allowing mothers who are expressing breastmilk a cool or refrigerated space to store their milk during the day.
- Allowing the mother to carry the baby with her to the work place.
- Allowing a partner or family member to bring the baby to breastfeed during break-time.
- Allowing the mother to work flexible hours.

Support from the government

The low rate of exclusive breastfeeding in Myanmar amounts to real costs in life expectancy and quality of life. Research shows that exclusive breastfeeding for up to six months could save children's lives, reduce families' out of pocket expenditures to treat diarrhoea and pneumonia, and save families up to a third of their monthly earnings by not having to purchase formula. Specific actions for the Myanmar government include:

- Investing in scaling-up breastfeeding protection, promotion and support at the national level. Policy makers should adopt, strengthen, and implement the following policies to support all mothers to exclusively breastfeed according to the WHO-recommended guidelines.
- Ensuring that all women in private, public, and informal sectors have adequate maternity entitlements to support breastfeeding. While Myanmar has extended maternity leave protection in the public sector up to six months as recommended by the International Labour Organization, maternity leave in the private sector is still only protected for 12 weeks.
- Prioritize enforcing maternity leave provisions.
- Expanding the maternal and child cash transfer programme to be implemented nationally, as outlined in the Social Protection Strategy, along with accompanying behaviour change communication approaches and activities to support nutrition behaviours like breastfeeding.

- Stopping companies from unlawfully marketing their products. Enforcing the Order of Marketing of Formulated Food for Infant and Young Child that Myanmar adopted under the National Food Law in 2014, which means penalizing violators, particularly those who repeatedly disobey the law. Leverage civil society networks to support the government's efforts in the violations monitoring process.

Guidance on expressing breast milk for the working mother

If a mother has to be away from her baby for some hours and does not work in a supportive environment, this does not mean she has to stop breastfeeding. She should breastfeed exclusively and frequently during the time she is with her baby. When she is not with her baby, she should learn to express her breast milk and then safely store it to feed it to her baby later. If a mother is expressing milk to feed the baby when she is at work she should.

Take extra time for breastfeeding before going to work. Express and store breast milk before leaving home so the baby's caregiver can feed the baby while the mother is away.

Express breast milk while at work, even if it cannot be stored. This will keep the milk flowing and prevent breast swelling.

Teach the baby's caregiver how to store expressed milk and use a clean, open cup – not a baby bottle— to feed the baby while the mother is away.

Take extra time for breastfeeding when returning from work. Increase night time feedings and other times when not at work.

Learning Activity 2.6

It takes a village

Purpose

To enable the participants to identify barriers to exclusively breastfeeding for six months and to identify the available support to help them succeed.

Time

1 hr 30 mins

Materials

- Flip charts
- Permanent pens
- Circular shape papers
- Sticky dots
- Visual aids

Method

- Brainstorming
- Discussion
- Sociogram
- Reflection

Step 1 Brainstorming

Barriers to exclusive breastfeeding — 30 mins

1. Divide a flip chart at the front of the training room into two columns. Label the left column 'Barriers to exclusive breastfeeding'.
2. Ask the participants to brainstorm all the reasons they can think of that could prevent a mother from exclusively breastfeeding for six months.
3. Write every idea given on the flip chart in the left column, without any discussion.
4. When all suggestions have been recorded, review the list and ask questions to ensure as many barriers as possible have been identified about:
   - Food restrictions of a breastfeeding mother?
   - Not producing enough breast milk?
   - Breastfeeding after a Caesarean-section delivery?
   - Returning to work?
   - Difficulties breastfeeding at night?
   - Persuasive advertisements from BMS companies which convince her that giving infant formula is better than breastfeeding.
5. Ask the group to think about and discuss which of these barriers are considered the most likely to stop a mother from exclusively breastfeeding for six months.

Step 2 Brainstorming

Identifying support to overcome each barrier — 30 mins

1. Using the same flip chart as in Step 1, label the right column 'Providing support'.
2. Ask the participants to review the barriers to exclusively breastfeeding that they identified in the left column.
3. Tell the participants that to exclusively breastfeed for six months a mother needs support from different people, groups, the government, and organisations or agencies to overcome the identified barriers.

4. Ask the participants to think about who all those different people, groups and organisations or agencies are and what specifically they can do to provide support.
5. Ask them to identify who would provide what support to overcome each barrier on the left column.
6. Write down every idea.
7. Summarize by asking the participants if they feel the identified people, groups and organisations or agencies can provide sufficient support. If not, can they think of other support available?

Step 3 — Collective Ranking

Ranking support — 15 mins

1. Copy each specific type of support listed in Step 2 on a circle of paper, for example, 'Attach the baby to the mother's breast within the 1st hour' or 'Help a breastfeeding mother with her domestic chores to reduce her workload'.
2. Spread all the circles of paper on the floor at the front of the training room.
3. Give three sticky dots to each participant and ask them to read all the ideas of support on the circles of paper.
4. Then ask each participant to stick their three dots on three circles that they think are important support to ensure that a mother can continue to exclusively breastfeed for six months.
5. Now, ask each participant to choose one of their three circles as the most important support to ensure that a mother can continue to exclusively breastfeed for six months and to stand by that circle.
6. Count the number of dots on each circular paper and write that sum on each circle to highlight the ideas that participants think are the most important.
7. Ask the participants in each standing group to share their opinions why that circle is the most important to them.
8. Summarize and clarify all outstanding questions and comments.

Learning about the first 1000 days

Step 4 — Reflection

Reflect on the learning process — 10 mins

1. Ask the participants what they have learnt from these activities.
2. Discuss why it is important to focus on all available support for the mother so she can continue to exclusively breastfeed for six months.
3. Think about what other support mechanisms could increase exclusive breastfeeding.

Key messages to remember:

Health staff: Encourage and facilitate skin to skin contact for early initiation of breastfeeding within the first hour of the baby's life.

Family members : Increase the quantity and variety of nutritious foods available for the breastfeeding mother.

Encourage the mother to eat more while she is breastfeeding.

Do household chores so the mother has time to breastfeed.

Assist with night-time breastfeeding.

Give emotional support.

Auxiliary midwife/community health volunteers : Provide reassurance, motivation, information and referrals.

Health staff and family members : Encourage and facilitate mothers to express milk for the baby when returning to work.

Employers : Allow the mother to carry the baby with her to the work place.

Allow either paid, or unpaid, breaks in the day for a woman to breastfeed.

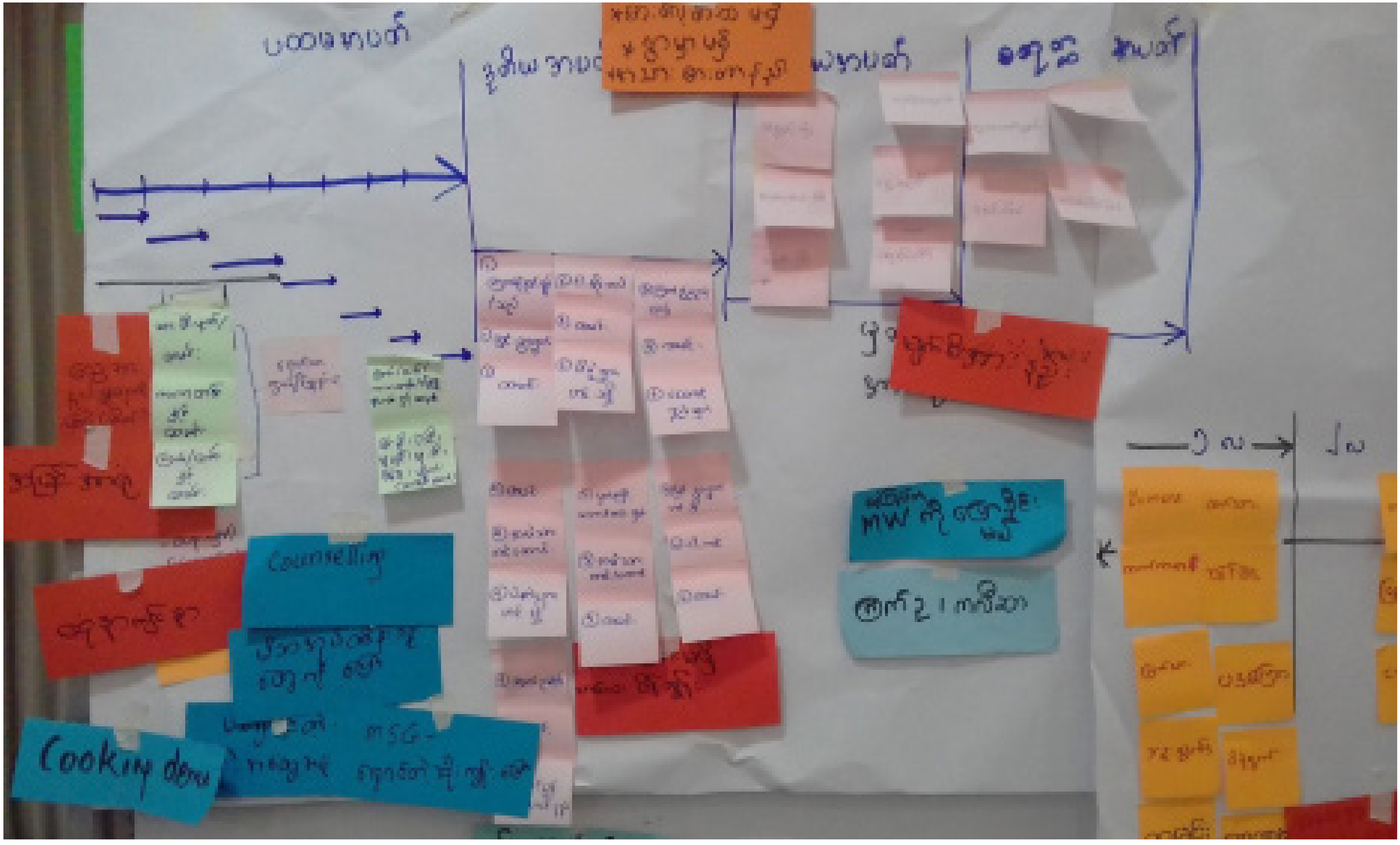
Allow a partner or family member to bring the baby to breastfeed during break-time.

Provide a special place for a woman to breastfeed in private.

Provide a space for expressing breast milk and safely storing breast milk.

The government ensures adequate maternity entitlements to support exclusive breastfeeding for six months for all women in private, public, and informal sectors.

Learning about the first 1000 days



Visual aid 2.6 **Example of using Visualization in Participatory Program**

Topic 3

Complementary Feeding

Purpose

To enable participants to know the MoHS-recommended complementary feeding recommendations, including continued breastfeeding while providing a wide diversity of available food from the four **** food groups, given to the child using responsive feeding and good hygiene practices.

Topic overview			Time
Session 3.1	231	Nutritional needs for children 6 – 23 months	
Learning Activity 3.1	242	Healthy Eating Through the Seasons	1 hr 45 mins
Session 3.2	246	Dietary diversity - Eating a rainbow	
Learning Activity 3.2	250	Colourful complementary feeding	1 hr 30 mins
Session 3.3	256	Healthy eating behaviours	
Learning Activity 3.3	262	Nutritious food and drink choices for children	1 hr
Session 3.4	266	Responsive feeding	
Learning Activity 3.4	272	Feeding responsively	1 hr

Notes to facilitator

Read each session topic thoroughly to become familiar with the content.

- The participatory activities describe what will be done with participants during the session. The steps are a guide for the training that can be adapted to meet the needs of the participants and the training environment. The ideal group size is 15-20 people, but no more than 25.
- Use introductory exercises, trust builders, ice breakers and energizers to help participants to get to know one another.
- The facilitator should use as many participatory methods as possible to keep the participants active and interested.
- Review and correct any incorrect information given by the participants. If you are unsure of any answer, tell the participants that you are not sure, and either follow up later after finding the answer, or encourage a participant to find the answer and report back to the group.
- At the end of the activity ensure the participants reflect on what they have learnt and review all the key messages and behaviours.

Session 3.1

Nutritional needs for children 6 – 23 months

Background 3.1

Beginning complementary feeding

Breast milk supplies all the nutrition a baby needs from birth until his or her six month birthday, but as the child gets older his or her energy needs increase. Breast milk can only supply about 60% of the energy needs of a child from 6 to 12 months and 40% of the energy needs of a child from 12 to 24 months. The remainder of a child's energy needs, then, must be met through complementary foods. Complementary feeding means giving other foods and liquids to the child, in addition to breast milk, when breast milk alone is no longer sufficient to meet the nutritional needs of the child. At the age of six months, babies' digestive systems have become mature enough to begin to digest a range of foods. These foods "complement" or act as an additional energy supplement to breast milk. Please also see Session 2.4 in the Learning About Nutrition facilitation guide for more information and activities.

Supporting caregivers to practice appropriate complementary feeding is one of the most effective ways to safeguard and improve child nutrition. From 6 to 24 months a mother should continue breastfeeding to make sure the baby grows strong and stays healthy. Breastfeed on demand as often as wanted, but at least eight times during the day and night.

While continuing to breastfeed, complementary feeding includes the introduction of semisolid and solid foods at 6 months, with a gradual increase in the amount, texture of food, and frequency of feeding as the child gets older. The complementary feeding period is one of growth and development for the child. As you will learn in this Topic,

complementary feeding is both about satisfying the immediate nutrition needs of the child as well as helping the child develop new skills and behaviours that they will practice for the rest of their life.

According to the Myanmar Demographic Health Survey (MDHS) 2015 -2016, of breastfeeding children aged 6-23 months, 92% received complementary foods, compared with 97% of non-breastfeeding children in the same age group. Generally, food made from grains was the most commonly consumed item, followed by meat, fish, and poultry and vitamin A-rich fruits and vegetables. Of breastfeeding children age 6-23 months, in the 24 hours before the survey 42% consumed meat, fish, and/or poultry; 38% consumed fruits and vitamin A-rich vegetables; and 30% consumed eggs. In other words, too few Myanmar children in this age group are consuming diverse diets, which indicates that many children are not receiving all the nutrients they need to reach their full potential.

The transition period from exclusive breastfeeding to complementary feeding is a time when the child is vulnerable to becoming undernourished. Since children between 6–23 months of age are experiencing accelerated growth, their nutrition needs are increasing. When their needs are not met—either because sufficient food is not available, they become ill, or caregivers are not practicing positive feeding behaviours—children can quickly become undernourished. To avoid this, caregivers must feed children a variety of diverse foods from all 4 star food groups with sufficient Frequency, and in adequate Amounts, that are the appropriate density or Texture. These foods should be Hygienically prepared and served in an atmosphere of Enjoyment for the child, using active or Responsive feeding methods. One way to remember these important guidelines is to memorize the acronym, **4 FATHER.**

Complementary feeding guidelines 4 FATHER

4 star**** food groups. Starting from the age of six months, children need to eat diverse foods from all four star**** food groups. Caregivers should offer a diversity of food each day to a child that are from the four star**** food groups. Nutritious food does not need to be expensive or foreign. Food often tastes best and has the most nutrients when it is fresh from local sources.

Frequency. Because the stomachs of children under two are small, they must be fed frequently. As children age from 6-23 months, the number of times they eat per day increases from two or three times per day (plus a snack) when they are six months old to three to four times per day (plus one to two snacks) by the time they are two years old. Caregivers should practice age-appropriate frequency of feeding by gradually increasing the number of times a child is fed every day.

Adequate amount. Over this time period, children's bodies, including their stomachs, are growing. They are eating a greater overall quantity of food, in addition to breast milk, to help fuel their rapid growth. Caregivers should practice age-appropriate quantities of feeding by gradually increase the amount of food given.

Texture. Children of this age are slowly transitioning from soft, semi-solid foods to solid foods as their teeth coming in and their self-feeding skills develop. Caregivers should practice age-appropriate food preparation for every meal by gradually, over time, increasing the texture of food given to a child.

Hygienic. Children of this age are susceptible to illness, which can deplete their body of nutrients or even prevent nutrients from being absorbed. Caregivers must practice good personal and household hygiene to make sure that the food and water that children are eating are safe and free from contamination.

Enjoyable. Caregivers can provide encouragement to children to eat, making eating an enjoyable and stress-free experience. This promotes emotional security in the child and a healthy relationship with food.

Responsive. Caregivers should engage in responsive feeding practices, paying close attention to children's signs of hunger and satiety. They should interact with children while they are eating, patiently encouraging them as they gradually learn to feed themselves. This is an important learning experience for children, as it helps them develop motor and social skills. "AND CONTINUED BREASTFEEDING!"

Changes in feeding frequency, amount and food texture

Feeding between 6–8 months old

Between the ages of 6 and 8 months, a mothers' break milk still contains the majority of nutrients for the baby. However, the baby has a very high need for energy and micronutrients, for example iron. The extra nutrients must come from introducing semi-solid foods from all of the four**** food groups.

Although a breastfed baby will not be able to eat large amounts of complementary foods because their stomach is still very small, these new flavours and textures will help the baby accept a wider variety of foods as they grow older. Eating small amounts of food frequently is better for the baby's digestion. At 6 months of age babies should eat complementary foods at least two times per day, increasing in frequency and quantity over time so that by the time a child is 8 months old, s/he is eating 3 small meals and sometimes a snack. However, remember that every baby is different, and each will have a different appetite. Some children always seem to be hungry, while others need more encouragement to eat.

The mother should always breastfeed the baby first, and then offer complementary foods. If expressing breast milk, it should be offered to the baby in a cup and not in a bottle. The baby's food should be put in a separate, individual bowl/plate, so the mother or caregiver knows exactly how much the baby is eating. At the beginning of six months, each "meal" will consist only of 2 or 3 tablespoons of food, which is mashed and has a medium-thick texture. Over the 6 to 8-month period, the amount of food at a meal should increase to half of a 250 ml cup or bowl, and its texture can become thicker over time.

The order of introduction of new foods isn't important, as long as it suits the baby. It is important for iron-rich foods to be included in these first semi-solid foods, since children have increased iron needs during this period of rapid growth. Because breast milk is a familiar flavour for the

Way to enrich a child's food

Foods can be made more energy and nutrient rich in a number of ways:

For porridge:

- Prepare the porridge with less water; it should not be too thin or runny.
- Add expressed breastmilk to the child's porridge.
- Mix in a paste made from seeds or nuts, such as sesame or peanuts
- Add half a teaspoon of oil to the child's bowl.
- Instead of adding chicken broth to porridge, add mashed chicken meat, which has more nutrients. Eggs, fish or pigeon peas can also be added.

For a soup or curry

- Take out a mixture of the solid pieces in the soup or curry such as beans, vegetables, tofu, meat, and the staple. Mash this into a thick puree and feed to the child instead of the liquid part of the soup
- Add pulse or bean powder to the soup or curry
- Add half a teaspoon of oil to the child's bowl

Please note that it is not necessary to add additional oil to a child's food if he or she is growing well.

Breakfast	Snack	Dinner
2 Tablespoon fish-rice porridge	1-2 Tablespoon mashed papaya	2 Tablespoon rice porridge
1 Tablespoon mashed bananas		1-2 Tablespoon chicken/ Gourd and lentil soup

Table 3.1 Sample menu for a child 6-8 months old

baby, try adding breast milk to new foods to help them appeal to the baby. A small amount of breast milk can be added to cooked, well-mashed legumes such as lentils, and steamed vitamin A-rich vegetables such as carrots and pumpkin, and local green vegetables such as spinach, water spinach, winged bean, long bean, penny wort, mon nyin, and cabbage. Introduce ripe fruits such as banana, avocado or mango: these are naturally sweet and creamy foods and should be tasty. It is not necessary to add flavour enhancers such as sugar, honey, stock cubes or or extra salt to foods. Instead of giving plain porridge, look for ways to add extra nutrients to the porridge. Please see the box below for some ideas.

Feeding children 9 – 11 months old

Between the ages of 9 and 11 months the amount of energy and nutrients that the child needs continue to rise. Feed the breastfed baby about half of a 250 ml cup or bowl of soft, mashed or finely chopped foods at least 3 - 4 times per day. The caregiver can also offer the child 1 or 2 additional snacks during the day. Try giving soft, finely chopped or mashed animal-based protein foods (meat, chicken, offal, fish, eggs, dairy products), plant-based protein foods (legumes, beans, lentils, tofu) and vitamin A-rich vegetables and fruits.

At this age, babies usually start reaching for the food as the caregiver feeds them and grabbing the bowl or spoon. This is a sign that the baby is ready to learn to feed himself/herself. Being able to sit independently is another good clue that babies are physically ready to try "finger foods", or foods they can pick up and hold in their hands. These foods should be easy to swallow. Foods which are hard (raw fruits and vegetables, whole nuts, whole grapes, and pieces of meat, among others) should be cut up into small, manageable pieces so that the child does not choke on them. Fish and meat are excellent foods for babies, but bones do need to be removed before giving to the child so as not to be a choking hazard. It is best to begin with safe and nutritious pieces of soft food that dissolve easily. Try giving cut up soft fruits (banana, mango and/or papaya), avocado, or slightly cooked vegetables (sweet potato, carrot, and/or cauliflower) to start. Allowing a child to hold food and feed him or herself is an important step in developing independent, healthy eating habits.

Breakfast	Lunch	Dinner	Snack
4 Tablespoon soft rice with pea	2 Tablespoon soft rice	4 Tablespoon fish sanbyout with 1 Tablespoon fish	1-2 Tablespoon water melon
1 scrambled egg	2 Tablespoon of chazan/lentil hincho with chicken and tomato	1 Tablespoon Spinach/1 teaspoon carrots/1 teaspoon oil/2 Tablespoon banana	

Table 3.1 Sample menu for a child 9-11 months old

Feeding children 12 – 23 months old

At this stage in the first 1000 days, complementary foods now provide more energy and nutrients for a child than from breast milk. However, breastfeeding should still continue, especially at night. Continue to feed the child about ¾ to 1 full 250 ml cup of food at least 3 - 4 meals per day with 1 – 2 healthy snacks.Try offering:

- Boiled staple foods mashed with pasteurized milk or a bit of oil
- Yoghurt, pasteurized milk or soy milk
- Boiled, scrambled or fried chicken or quail eggs
- Fresh fruits and vegetables

From 12 months of age and beyond, children should be eating food that the family is consuming, as long as it is soft, sliced, mashed or cut into small enough pieces for them to chew easily. Iron-fortified foods and meat or iron-rich alternatives should be included.

Pasteurized cow's milk is an excellent source of protein, calcium and other nutrients, however it should not be introduced before 12 months of age.

Breakfast	Lunch	Dinner	Snack 1	Snack 2
3/4-1 Bane Moke (Pidgeon pancake)	4-6 Tablespoon fried egg	4-6 Tablespoon rice	3 Tablespoon pumpkin	2-3 Tablespoon Kaung Nyin Shwe Htamin
3-4 Tablespoon sliced ripe mango	noodles with 2 Tablespoon carrots	3 Tablespoon chicken curry		
	2 Tablespoon cucumber	2 Tablespoon water cress		
		3-4 Tablespoon papaya		

Table 3.1 Sample menu for a child 12-23 months old

Foods that should be avoided

Children under 12 months old should not be fed:

1. Honey, as it might cause an illness called botulism. Spores of Clostrodium botulinum bacteria, found in dirt and dust, can contaminate honey. When swallowed, the spores release a toxin. The immune system of children under 12 months old is too immature to prevent this toxin from developing. When botulism toxin is absorbed from the intestines, it affects the nervous system. The most common symptoms in infants are muscle weakness. The most dangerous effect is paralysis of the diaphragm, which means the infant cannot breathe without a respirator until the disease is cured.
2. Unpasteurized, or raw milk from cows, goats or sheep, as it might contain harmful bacteria such as Salmonella, E. coli, and Listeria that can cause foodborne illnesses.
3. No milk products from eithers cows or goats, or any nutritionally incomplete plant-based milks, such as soy milk, should be used as alternatives to breast milk. These milks do not contain the nutrients of breast milk and therefore are not a suitable replacement.

Children under 23 months old should not be fed:

1. Low-fat and reduced-fat milks. Breastmilk is best for children under two, but when they do drink cow's milk it is best for children to drink whole, or full-fat milk to get the essential fats and the additional vitamin D.
2. Any drink containing caffeine, such as coffee, black or green tea, soft drink and energy drinks. Caffeine is absorbed very quickly into the body and then into the central nervous system. Caffeine can decrease appetite, increase urination, cause anxiety, hyperactive behaviour and sleeping difficulties. More toxic effects such as nausea, vomiting,muscle cramps, twitching and agitation may occur when a child consumes more than 4.5 mg of caffeine per pound of body weight (12-ounce cup of coffee = 100 mg of caffeine). Severe caffeine toxicity can lead to fits, an increased heart rate and an irregular heart beat or palpitations.
3. Drinking black and green tea also interferes with absorption of iron, especially plant sources of iron, which could cause anemia.
4. Salt should not be added to food, as a baby's kidneys are immature and unable to excrete excess salt. Children under two should not eat let pet and foods high in salt, such as ba zoon chaut, nga chaut, ngapi, and nga bout chout.

5. Sugar-sweetened beverages (SSB), such as soft drinks or sugary juices have been associated with dental caries, excess weight gain, plus other symptoms of hyperactivity and attention problems. Long term use has been linked to the risk of type-2 diabetes and cardiovascular disease.
6. Many juice drinks appear to be healthy, however often include added sugar. For this reason, it's better to feed children fruit itself than give them fruit juices.
7. Tonics or medicine to stimulate appetite, such as Jeepcar.
8. Many ready-made packaged cereals, which are high in sugar.
9. Commercially processed nutrient-poor foods such as potato chips, sweet biscuits, cakes, and candy as they have high levels of fat/ saturated fat, sugar, salt, food colouring, and/or chemical preservatives.

Risks to starting complementary foods too early

It is important for complementary foods to be given in a timely manner—that is, at six months. Children are only developmentally prepared for the consumption of foods at 6 months. If introduced too early, complementary foods may take the place of breast milk, making it difficult to meet the child's nutritional needs. This is particularly problematic if thin, watery soups and porridges are given, as these have very few nutrients in them. This can also increase the risk of illness because the child is not benefitting from as many protective factors in breast milk. The risk of diarrhoea is also higher because complementary foods may not be as clean or as easy to digest as breast milk. Before six months, babies cannot yet digest non-human proteins found in foods other than breast milk, so this can increase their risk of wheezing and other allergic conditions. Perhaps most importantly, children who are given any kind of liquids or food other than breast milk before six months will not receive the full benefits that come with exclusive breastfeeding during this period.

While it is important not to start complementary feeding too early, it is also important not to start too late. At six months, breast milk no longer meets all the energy needs of a child, so a child who does not begin receiving complementary foods risks becoming undernourished.

The day a child turns six months old is the perfect time to start complementary feeding.

Learning Activity 3.1

Healthy Eating Through the Seasons

Purpose

To enable the participants to identify nutritious foods from all four food groups throughout the seasons and to develop a menu with suitable, diverse complementary foods for young children.

Time

1 hr 45 mins

Materials

- Flip charts
- Permanent pens
- Visual Aids

Method

- Group exercise
- Reflection

Instructions

Step 1 — Group Exercise

Seasonal Calendar — 45 mins

1. Display the four**** star food groups at the front of the training room.
2. Display a blank seasonal food calendar drawn on a flip chart at the front of the training room.
3. If participants are from different areas, ask them to group themselves according to where they live. If they are all from the same area, divide them into three groups.
4. Distribute the prepared blank seasonal calendars and permanent pens to each group.
5. Tell the participants to think about what foods from the four **** food groups are available in their area in which seasons.
6. Ask them to fill in the seasonal food calendar with those foods using any food available from their home market, local market or wild food resource.
7. After 20 minutes, ask each group, one by one, to present their calendar and share the seasonal food availability in their area.
8. After presenting, tape the seasonal calendars to the training room walls.

Step 2 — Group Exercise

Menu planning by season — 45 mins

1. Ask participants to stay in the same groups as for Step 1.
2. Tell the participants to look around the room at all the seasonal calendars developed in Step 1 and to remember the diversity of the foods available in the four****star food groups.

3. Display the visual aid of the example one-day menu for a child 6 – 8 months, 9-11 months and 12-23 months old, at the front of the training room.
4. Tell them that in addition to the diversity of food, best-practice complementary feeding of a 6 - 23 month-old child, must also include age appropriate:
   - ... food preparation: gradual increase the texture of food
   - ... frequency of feeding: gradual increase the times of feeding
   - ... quantities of feeding: gradual increase the amount of food
5. Distribute flip chart paper and pens to each group.
6. Assign each group one of the following ages:
   - ... Group 1 = 7 months
   - ... Group 2 = 10 months
   - ... Group 3 = 13 months
7. Ask each group to pick one season (either summer, rainy season or winter) and develop a one-day menu for that season, using a diversity of available foods, age-appropriate food preparation, age-appropriate frequency of feeding, and age-appropriate quantities of food for that baby.

Summer	Rainy season	Winter
1 star (Energy Giving food)		
1 star (Disease prevention)		
1 star (1st class protein- animal based food)		
1 star (2nd class protein- beans and legumes)		

Table 3.1 Blank seasonal calendar

8. After 20 minutes, ask each group, one by one, to present their one-day menu.
9. After presenting, tape the one-day menus to the training room wall.
10. The facilitator will summarize and clarify all points related to diversity, food preparation, frequency and quantity.

Step 3 — Reflection

Reflect on the learning process — 15 mins

1. Ask the participants what they have learnt from these activities.
2. Are there some seasons when more diverse foods are available? Do people in your community do anything to preserve or process foods for later consumption?

Key messages to remember:

- The day a child turns six months old is the right time to start complementary feeding.
- Before six months, the child's digestive system is not mature enough to digest food or drinks other than breastmilk.
- For optimal growth, it is important for iron-rich foods like eggs, fish, meat and legumes to be served among a child's first semi-solid foods.
- Avoid feeding children under two sugary or processed snacks or drinks, such as potato chips, sweet biscuits, cakes, and candy, as they contain few nutrients. Instead, focus on fresh and locally available foods from all four food groups.

Session 3.2

Dietary diversity - Eating a rainbow

Background 3.2

The concepts of dietary diversity and eating a balanced diet have been covered in Session 1.2 in this guide, as well as Session 1.2 in the Learning About Nutrition facilitation guide. Please refer to these sessions for more information about a balanced diet, dietary diversity and the four star**** food groups.

A colourful and varied diet

One way to think about dietary diversity is to think about 'eating a rainbow'. Eating colourful food has many health benefits. This is because different coloured foods from the four star ****food groups offer an abundance of macronutrients (proteins, carbohydrates, and fats) and micronutrients (very small amounts of vitamins or minerals) needed by the body. These naturally colourful foods play an important role in the health of a child after six months of age.

Most of the foods from the four star ****food groups can be grouped into six colours- red, orange/yellow, green, blue/purple, white and brown. The natural colours of food usually indicate which micronutrient is predominant in each food. For example, red foods often contain vitamin C. Yellow and orange foods are usually also abundant in vitamin C, plus vitamin A. Green foods are high in vitamins A, B, E and K and iron. Purple foods are usually high in vitamins C and K. Many white foods contain calcium, vitamins B, C and D. Brown foods are high in fibre and vitamins B and E.

In addition, naturally bright colored fruits and vegetables have high levels of phytochemicals and antioxidants, which are health properties that boost the body's immunity to disease, fight cancer, reduce inflammation, support memory and cognitive function, and preserve eyesight.

Many colourful fruits, vegetables, nuts, seeds, legumes, and whole grains, including brown rice, oats, and brown wheat are rich in fibre. Fibre can help maintain a healthy digestive system, promoting healthy bowel movements and reducing some types of cancer.

Animal sourced foods for optimal growth

Foods sourced from animals, which are usually white or brown (when cooked) and are part of the 1* food group, are an especially important part of a young child's diet and should be eaten every day. Flesh and organs (like liver, heart, etc.) from animals, birds and fish, as well as milk, yogurt and eggs contain a number of macro- and micro- nutrients that children need to build strong bones and muscles. Young children's bodies are growing at an incredibly fast pace, and they need food to fuel this growth. It is difficult for children to get the nutrients they need, especially iron, if they are not eating animal sourced foods.

Some of the important nutrients in the 1* food group are the minerals iron, calcium and zinc, the micronutrient vitamin A, and the macronutrients protein and fat.

Animal flesh and organs or foods cooked in or with animal blood are especially rich in iron and zinc. Liver also contains a high amount of vitamin A; so high, in fact, that it is best to eat it in small amounts and not every day. Recall from Session 1.2 that Vitamin A is important for the health and function of eyes, teeth and bones, skin, mucous membranes and organs. It is also important for immune function, and foetal growth and development. Egg yolks are also rich in Vitamin A (like other naturally yellow coloured foods) as well as other nutrients, making eggs a healthy food choice for young children. Foods made from milk and any food containing bones (such as pounded dried fish) are good sources of calcium, which strengthens bones.

While animal foods are necessary for children, it is important to ensure that they are the appropriate texture when served to young children. These foods should be mashed for children until they develop teeth, after which they should be chopped finely so as not to be a choking hazard. Also to prevent choking, all bones from fish or meat should be removed from foods.

Special needs

If food choices are restricted for any reason, breastfeeding for two years and beyond is recommended to ensure that the baby's dietary intake meets his/her nutrient and energy needs. If a mother is following a vegetarian or vegan diet she needs to ensure adequate levels of iron, zinc and B12 in the child's diet, as these nutrients are necessary for the brain development. In this case, a mother should seek the help of a qualified health professional to advise her on how to ensure that her child is getting all the nutrients s/he needs.

Foods that are fortified or enriched micro-nutrients include some types of rice, flour, oil, and instant foods. These foods should be labelled to indicate that they are fortified or enriched. These can help children who are not getting enough of certain nutrients. Supplements may be necessary for children who do not eat enough iron containing foods, or if they have especially high needs for iron. In Myanmar vitamin A is routinely given to young children between 6-11 months, and to children between one and five years old every six months. This public health intervention is a precautionary measure to prevent of vitamin A deficiency, xerophthalmia and nutritional blindness.

When children are undernourished or ill, a health professional may prescribe or recommend specific supplements or fortified food products. For example, zinc supplementation has been shown to reduce the duration and severity of diarrhoea, and to prevent subsequent episodes. Children who are diagnosed to be suffering from moderate or severe acute malnutrition are given ready to use therapeutic food (RUTF) as part of their treatment.

Learning Activity 3.2

Colourful complementary feeding

Purpose

To enable the participants to understand the importance of eating a variety of foods and to identify how the different rainbow colours can be a nutritious addition to a meal.

Time

1 hr 30 mins

Materials

- Flip chart
- Permanent pens
- Post it Notes
- A-4 size paper
- Handout Micronutrients, Foods and Function
- Visual Aids

Method

- Group exercise
- Brainstorming
- Reflection

Instructions

Step 1 — Group exercise

Identifying rainbow foods — 30 mins

1. Give a set amount of money to each group of the participants before the day of this session. Ask each group to buy as many colourful plant based foods as possible using that money.
2. Prepare a flip chart with 5 columns in a table: Red, Orange/Yellow, Green, Blue/Purple and White.
3. Invite a group to bring the foods to the front. Decide how many coloured foods are present using the table.
4. Give a price to the group who has bought all five coloured foods.
5. Ask whether these colourful foods are available in their community.
6. Display five flip chart papers on the wall at the front of the training room labelled red, orange/yellow, green, blue/purple, and white.
7. Divide the participants into 5 groups; Group 1- Red, Group 2- Orange/Yellow, Group 3- Green; Group 4- Blue/Purple; Group 5- White
8. Give each group different colour ‘Post-It’ notes to match their assigned colour.
9. Ask each group to brainstorm foods available in their community that match their group’s assigned colour. Write the name of each food on a ‘Post-It’ note. Then stick the notes on the respective flip charts at the front of the training room.
10. After 15 minutes the facilitator will review all the flipcharts, inviting comments and suggestions from all the groups to identify missing foods.

11. The facilitator will wrap up the exercise by telling the participants that they could make a rainbow with all of the beautifully coloured foods that have been mentioned.

Step 2 Presentation

Benefits of rainbow foods 20 mins

1. Ask the participants to stay in the same groups as for Step 1.
2. Tell the participants to review the rainbow foods from Step 1 at the front of the training room.
3. Ask each group to think about and discuss some reasons why the foods in each group all are the same colour? What special nutritional benefits might these foods have?
4. Distribute the handout 'Micronutrients, Foods, and Function' to every participant as a reference.
5. Give them a few minutes to look through the table and find out vitamins and minerals are in the foods displayed at the front of the training room.
6. After a few minutes, ask a volunteer from each group to explain what nutritional benefits the foods in their colour group might have.
7. Clarify that most of the foods from the four star ****food groups can be grouped into five colours, that indicate which micronutrient is predominant in each food:
   - ... Red foods contain vitamin C (for disease prevention)
   - ... Yellow and orange foods are also abundant in vitamin C plus vitamin A (for vision)
   - ... Green foods are high in vitamins B, E and K and iron
   - ... Purple foods are high in vitamins C and K
   - ... White foods contain calcium and vitamin D

8. Tell the participants to help a baby develop a taste for a variety of foods, a new rainbow food should be introduced into his/her menu every week.
9. Suggest that a colourful and appetizing plate of food might influence healthy choices in the short and long term.

Micronutrients	Foods	Function
Vitamin B	Green vegetables, whole grains, dairy, and meats	Help promote healthy wellbeing of the body and reduce risk of stroke
Vitamin B1	Outer layers and germ of cereals, yeast, beef, pork, nuts, whole grains, and pulses, cauliflower, liver, oranges, eggs, potatoes, asparagus, and kale.	Important for nerve, muscle and heart function.
Vitamin B6	Milk, eggs, Chicken liver, beef, carrot, spinach, sweet potato, green peas, chick peas, banana, avocado	Important for normal brain development and good for nerve system.
Vitamin B12	Animal liver and kidneys, beef, milk and dairy products, eggs	Good for nerve function and prevents from anaemia, muscle weakness, numbness and tingling in the hands and feet.
Folate	Green leafy vegetables, beans, peas, peanuts, and other legumes, and citrus fruits	Essential during early pregnancy to prevent serious birth defects of the brain and spine

Table 3.2 Benefits of rainbow foods

Micronutrients	Foods	Function
Iron	Shell fish, spinach, liver and other meat organs, legumes, red meat, pumpkin seeds, broccoli, tofu, white beans, lentils, chickpeas, tomatoes, cashew nuts	Improve cognitive function, prevent from anaemia and fatigue, boost the immune system, growth of the body,
Vitamin A	Beef liver, Butter, hard-boiled egg, sweet potato, kale, spinach, mango, water melon, papaya, Carrots, guava, dairy products	Essential for healthy vision, teeth, bones and skin; lower cancer risk,
Iodine	Sea weed, sea fish, shrimp, iodized salt	Brain development, bone health, immune response
Vitamin C	Guava, kale, broccoli, lemons, lychees, papayas, strawberries, orange	Boost immunity and fight disease

Table 3.3 Handout 'Micronutrients, Foods, and Function'

Step 3 — Group exercise

A rainbow menu

30 mins

1. Tell the participants to review the one-day menus that are taped to the wall that they developed during Session 4.1.
2. Ask them, from what we learned today about rainbow foods, would any group like to make any changes to their menus to include a more colourful variety of foods from all four**** food groups?
3. After 15 minutes, ask each group, one by one, to present any changes to their one-day menu.

4. After presenting, tape the revised one-day menus to the training room wall.
5. The facilitator will summarize and clarify all points related to rainbow foods and the benefits this practice can bring to successful complementary feeding.

Step 4 — Reflection

Reflect on the learning process

10 mins

1. Ask the participants what they have learnt from the session.
2. Is using the image of a rainbow a helpful way to think about dietary diversity? Why or why not?

Key messages to remember:

Initiate serving a variety of food based on the five colours: red, orange/yellow, green, blue/purple and white during the complementary feeding period from 6 to 23 months.

When shopping, buy a variety of food and have a rainbow of colours in the basket to ensure all the needed micronutrients are included.

Introduce one or two rainbow foods each week to help the baby develop a taste for different foods.

Seek the advice of an appropriate health professional to ensure that supplies of iron, zinc and vitamin B12 are adequate to meet the baby's nutrient and energy needs if food choices are restricted for medical reasons or because of being on a vegetarian or vegan diet.

Session 3.3

Healthy eating behaviours

Background 3.3

Developing healthy eating patterns

“Eating a rainbow” can add a variety of colourful food to a child’s diet and is an easy way to help ensure that s/he is consuming all the vitamins and minerals s/he needs to be healthy. This approach is a fun way to introduce children to different coloured fruits and vegetables. Educating mothers and caregivers about the health benefits of rainbow foods is just the start. They must be willing to initiate the practice of serving a variety of foods from all four star **** food groups starting from the time a child turns six months old. This is the perfect time to establish healthy eating patterns as development of taste preferences begins during the complementary feeding period from 6 months to 2 years.

Sometimes children will not like a food the first time they try it. The mother or caregiver needs to keep on trying. In some cases, a young child needs to try a food 5 to 10 times to like it. Children who have not developed ‘taste bridges’ from naturally sweet, energy dense foods, such as breast milk, to healthy foods which are not sweet, such as vegetables and legumes, can struggle to develop healthy eating patterns. Repetition and patience are required when helping children learn to eat new foods.

To help the child develop a taste for a variety of foods, a new colored food should be introduced into a child’s menu every week. A colourful and appetizing plate of food might influence healthy choices in the short and long term.

Limiting processed “junk” foods and drinks

While many children in Myanmar suffer from undernutrition, the incidence of childhood overnutrition (overweight and obesity) may become a problem in the future, if Myanmar follows the same pattern as many other Asian countries. As countries grow in economic prosperity, as is happening in Myanmar, rates of overnutrition usually increase. When overnutrition and undernutrition coexist in a country, this is known as the “double burden of malnutrition”. Malnutrition is a term which includes both deficiencies and excesses in certain nutrients. Deficiencies lead to stunting, wasting and micronutrient deficiencies while excesses lead to overweight and obesity. Although only one per cent of children under five are overweight in Myanmar, 25 per cent of women 15-49 years of age are overweight. Changes in diet, such as increased consumption of processed foods, and in levels of physical activity are believed to be the most significant contributors to obesity.

Caregivers should not be deceived by processed foods, snacks and drinks which are artificially coloured, or which come in colourful packages. These foods often appeal to children because they taste good. However, while they might be a nice occasional treat on special occasions, candies, chips, cake, biscuits, soft drinks and other factory-made foods often have very little nutritional value and should not be consumed on a regular basis. They tend to be high in added fat, salt and sugar. When the limited nutritional value that often comes from these foods is taken into account, they offer poor value for money. Moreover, young children’s stomachs are small and filling them up with processed foods and drinks displaces other healthy, natural foods. When regularly consumed in excess, processed foods and drinks can be one factor leading to overweight or obesity.

Sometimes junk foods and drinks are disguised as “health” foods, with packages stating or leading caregivers to believe that they are healthy for their children. For example, some chocolate drinks which are marketed to children are fortified with vitamins, however the main ingredient in the drink is sugar. This is also the case for some porridges, sweet milks and other foods marketed to children. One way to determine what is in a packaged food or drink is to look at the ingredients, which should be listed on the product package. As a general rule of thumb, it is best to consume healthy foods which are naturally rich in vitamins and other nutrients.

Hygienic complementary feeding

Recall from Session 4.3 in the Learning About Nutrition facilitation guide that food should be prepared, eaten and stored in a way that avoids contamination by germs. Hygiene is always important for all people, no matter their age or stage in growth and development. However, it is especially important for households with women and children in the first 1000 days to practice proper hygiene behaviours. This is because young children, pregnant women and breastfeeding mothers to be protected from disease in order to have enough energy they need to grow and develop during this important life period. Young children who are just starting to be introduced to complementary foods are especially vulnerable to diarrhoeal disease, which rapidly can lead to undernutrition in young children in acute cases. Even if the diarrhoeal disease is not acute, repeated bouts of diarrhoeal disease can interfere with the body’s ability to absorb the many nutrients in food, and so it is therefore imperative that preventive measures be taken to avoid this problem.

Some key hygiene behaviours for caregivers of children 6-23 months old to remember are:

- **Caregivers wash hands with soap and water each time before preparing food.** This is to make sure that germs on the caregiver's hands do not contaminate the food that children eat. Improper handling of bottles (which are not recommended) and food consumed by children are major risk factors for diarrhoeal diseases. For information about the importance of handwashing and the faecal-oral transmission route, see Session 4.4.
- **Caregivers wash their and their children's hands with soap and water before every meal.** Children who are feeding themselves need to have clean hands to avoid the transmission of germs. Even young children who are not feeding themselves may touch their food, and if their hands are not washed properly they can pass germs from their hands to their food, which then goes into their bodies. It is also important for children to start developing positive handwashing habits from a young age.
- **Caregivers feed young children 6-23 months using a clean cup or bowl and spoon at every meal.** Do not provide children with baby bottles, which are difficult to sterilise. Microbes can get trapped in the bottle's nipple, which is difficult to clean thoroughly. For this reason, a cup and spoon is preferable to a bottle.

- **Caregivers give young children clean water from an improved source each time the child drinks.** An improved drinking water source is a source that, by nature of its construction, adequately protects the water from outside contamination, in particular from faecal matter. These include piped supplies (such as households with tap water in their dwelling, yard or plot; or public stand posts) and non-piped supplies (such as boreholes, protected wells and springs, rainwater and packaged or delivered water). People should not drink from unimproved surface water sources, such as rivers, lakes, and streams.

For more information about cooking hygiene, family hygiene, personal hygiene, and home hygiene please see Sessions 4.1 to 4.3 in the **Learning About Nutrition** facilitation guide. Also, please see Session 4.4 in this facilitator's guide.

Learning Activity 3.3

Nutritious food and drink choices for children

Purpose

To enable participants to identify the difference between nutritious and non-nutritious foods

Time

1 hr

Materials

- Flip chart
- Marker
- Visual Aids

Method

- Brainstorming
- Opinion Spectrum
- Reflection

Instructions

Step 1 — Brainstorming

Nutritious and non-nutritious food and drinks — 15 mins

1. On chart paper, draw a large T chart. In one column, write the word “Nutritious Foods & Drinks”. In the other, write the word “Non-nutritious Foods & Drinks”.
2. Ask participants the following: how do you know if a food or drink is nutritious? What are the characteristics of nutritious foods and drinks? What are the ingredients in nutritious foods? Are nutritious foods always natural? Write down participant ideas.
3. Next, ask participants: how do you know if a food is unhealthy, or a “junk” food? What are “junk” foods and why are they called “junk”? What are the characteristics these foods? Are unhealthy foods always packaged? What are the ingredients in non-nutritious foods? Write down participant’s ideas.
4. Then ask the participants about the price of “junk” foods. Are they good value for money in terms of their nutrition content?

Step 2 — Opinion Spectrum

Nutritious snacks and drinks spectrum — 30 mins

1. Place a flip chart at one end of the training room. Write “Not Nutritious” at the top. Then, place another flip chart at the other end of the room. Write “Highly Nutritious” at the top. Take a piece of masking tape on the floor, creating a spectrum.
2. What snack foods and drinks are common in your community? What snacks do you usually give to your child?
3. The facilitator should make a list of these foods and drinks on a flip chart paper. Some examples of snack foods and drinks may include:

- Milk– plain, unflavoured
- Milk – flavoured
- Soy milk
- Malted chocolate beverage (Ovaltine, Milo, Horlick's)
- Potato chips
- Fish crackers
- Packaged baby porridge
- Pediasure
- Mohingar
- Mango fruit
- Mango juice
- Energy biscuits

4. Show the participants the first item on the list. Ask participants to think for a moment whether they think this food or drink is nutritious or not nutritious. Tell them to demonstrate their level of belief that the item is healthy or not by standing anywhere on the line, starting from 0% up to 100%, based on how nutritious they believe the product to be.
5. Invite them to select a place. Ask individual participants to share why they are standing where they are.
6. Repeat with each food and drink item, if time permits.
7. During the discussion, encourage opinions from all participants before highlighting some of the factors to take into account when thinking about whether a food or drink is nutritious or not: For example:
    - What are the ingredients in the food or drink?
    - Who looks at the ingredients in the packaged food they eat?
    - Sometimes companies want to present their food as nutritious, but a careful look at the ingredients tells us otherwise. Does a food item contain mostly fat, sugar, and salt? Do you want to eat more of this food, even after your stomach is full? These are indicators that a food is not nutritious.
    - Are unhealthy foods always packaged? Are nutritious foods always natural?
    - Are some foods healthy for certain age groups, but not for others? (For example, cow's milk is not a suitable replacement for breast milk)

- How does this discussion relate to balanced diet?
- Why do you think this exercise uses a spectrum, rather than an "either or" approach?

Step 3 Reflection

Reflect on the learning process 15 mins

1. Ask the participants what they have learnt from the activity.
2. Discuss why it is important to look carefully at the ingredients to determine whether a food is nutritious or not nutritious.
3. Tell participants that it is not always helpful to label foods as "good" and "bad". Rather, we can think of unhealthy foods as sometimes foods, which may not be good sources of nutrients, but are a special treat every once in a while. These are foods which should not be part of habit or routine.
4. How could you share this information with those in your family? With those in your community?

Key messages to remember:

Candies, chips, cake, biscuits, soft drinks and other factory-made foods often have very little nutritional value and should not be consumed on a regular basis.

Young children's stomachs are small and filling them up with processed foods and drinks leaves less room for other healthy, natural foods.

Sometimes junk foods and drinks are disguised as "health" foods, with packages stating or leading caregivers to believe that they are healthy for their children even when they are not.

Session 3.4

Responsive feeding

Background 3.4

The role of the caregiver

The role of the mother or caregiver during feeding is as important as the food itself. Responsive, or active feeding, and gently and patiently encouraging—not forcing—the child to eat is key to creating a healthy and enjoyable feeding environment. This includes supervising the child during snack and meal times and interacting in a positive way with the child. If a child is left to eat alone, the child may not eat enough. If a child does not eat enough, he or she will become malnourished. Therefore, the basic caregiving skill of responsiveness is important to meet the child's nutritional needs.

Responsive feeding also means paying attention to a child's signs of hunger and satiety, or fullness. Because children under two have not yet developed or are developing language skills, they may be unable to use words to communicate with their caregiver. Therefore, a caregiver must rely on nonverbal cues, or unspoken signs that a child wants to eat or is finished eating. Responsive feeding is truly the foundation of healthy eating behaviour, helping a child to understand how to self-regulate food intake.

Responsive feeding guidelines

Do not force-feed

Force feeding, or stuffing food into the child's mouth, may discourage the baby from eating and create a negative environment during meal times. Some caregivers believe that as much food as possible should be put into the baby's stomach. In these cases, babies are placed flat, either on a flat surface or the mother's lap or legs, arms held down or head tightly held and force-fed. This can make eating a bad experience for the child, and possibly make him/her less interested in eating in the future.

Unlike adults, which have larger stomachs and can consume adequate nutrients from eating three healthy meals a day, babies from 6 – 23 months still have small stomachs and need to eat smaller amounts of food more often, such as three small meals and two or three snacks.

Watch for and listen to the baby's cue that s/he is not hungry:

- Turns face away or shakes head
- Plays with or throws food
- Covers mouth or face with hands
- Crosses arms to show refusal of more food
- Chewing slows down
- Stops paying attention to the food
- Spits out foods that s/he usually likes
- If the child refuses to eat, wait until a later time to try again.

Do be patient

- Sit down with the child and relax.
- Let the baby finish eating in his or her own time, not according to the clock.
- If the child refuses to eat, repeatedly try again, but without being impatient.
- Offer new foods several times (5-10 times), as a child might not like or accept it initially.
- Minimize distractions during feeding as young children are easily affected by sounds and visual activity.
- Do not get annoyed if child repeatedly drops eating utensils to see where they fall, what sounds they make, or if someone will pick them up.

Do actively encourage

- Hold the child in your lap during feeding, or let someone else hold the child and face him/her during feeding.
- Make the eating session a learning experience, not just an eating experience.
- Congratulate the child when s/he eats.
- Encourage 'conversation' by copying child's sounds/gestures
- Expose the child to a variety of food by exploring tastes with family members, who can act as positive role models.
- Interact with the child by making eye contact, touching, smiling, making funny sounds, and talking.

Do make eating a happy time

- Make feeding time a happy experience...not just an eating experience.
- Play a game to entice the child to open their mouth and take a spoonful of food.
- Sing a song to encourage eating all the food offered.
- While one parent is feeding the child, the other parent should also eat his or her own plate at the same time to make the child feels that s/he is not eating alone.
- Comfort children when they cry, encourage them when they try to do something new, and express joy when they succeed.

Do encourage self-sufficiency

- Let the child eat from his/her own plate.
- In Myanmar, some caregivers fear that children will not get enough to eat unless they directly feed them. However, not allowing the child to see the food in front of them, and not allowing the child to touch his or her food and try to self-feed prevents the child from developing a positive relationship with food. Children between 6 and 23 months need to learn to eat by themselves. Self-feeding helps develop hand-eye coordination (bringing food to their mouth) and the ability to pick up small objects, such as pieces of finger food and utensils.
- Offer food the child can hold in his/her hand.
- When children try to feed themselves, help to make sure most of the food goes into the mouth. If food falls on the floor, however, do not feed this to the child.

Do make eating a positive habit

- To develop a positive and predictable routine for children, when possible the child should eat in the same room, in the same chair. This will help the child feel comfortable eating.
- Sit with family members to help the child develop social skills and behaviours.
- Always wash hands together before the meal to help the child learn the importance of personal hygiene.

Learning about the first 1000 days

Age	Child skills	Hunger cues	Satiety cues	Caregiver responsibility	What the child learns
Up to 6 months	Indicates hunger and satiety through voice, facial expressions, and the rooting and sucking reflex	Sucks on fist Cries or fusses Opens mouth while feeding Smiles and gazes at caregiver	Seals lips Turns head away from the breast Slows or stops sucking Spits out the nipple or falls asleep Is distracted	Responds to infant's signals by breastfeeding him or her when hungry (on demand) and stopping when the infant has reached satiety.	To have trust that the mother will respond to and meet his or her needs, fostering a sense and emotional security. This is important for a child's long-term psychological development.
6-11 months	Sits, chews and swallows semi-solid foods. Self-feeds byhand.	Reaches for the spoon or food. Points to food. Gets excited when food is presented. Expresses a desire for specific food with words or sounds.	Shakes head to indicate that no more is desired. Spits food out that the child normally likes.	Ensures that the child is comfortably positioned. Establishes family mealtimes and a routine. Supervises and interacts with child. Gently encourages child to eat, redirecting child's attention to food when attention strays. Gradually introduces new foods with increased variety, textures and tastes. Responds positively and patiently to the child's attempts to self-feed	To begin to self-feed, developing fine motor skills, such as picking up utensils or pieces of food and bringing food to the child's mouth.
12-23 months	Self-feeds Uses baby-safe utensils. Uses words to signal requests.	As above, with increased vocabulary in expressing food requests.	Shakes head or speaks to indicate that no more food is desired	Supervises and interacts with child. Gently encourages the child to eat, redirecting the child's attention to food when attention strays. Allows the child to self-feed.	To try new foods. To foster independence by allowing the child to do things for him or herself. To develop fine motor skills. To ask for help. To trust that the caregiver will respond to his or her requests. To develop social skills when eating with others.

Table 3.3 Do make eating a positive habit

Learning Activity 3.4

Feeding responsively

Purpose

To enable the participants to identify best practices in responsive active feeding.

Time

1 hr

Materials

- Flip charts
- Permanent pens
- Rectangular paper cards
- Circle shaped paper cards
- Visual Aids

Learning Method

- Brainstorming
- Card collection and clustering
- Role play
- Reflection

Instructions

Step 1 — Card collection and clustering

Feeding responsively — 50 mins

1. Ask the participants what guidelines exist for complementary feeding for children 6-23 months. Review the "4 FATHER" complementary feeding guidelines in Session 3.1. Instead of saying "4" to represent the four food groups, the facilitator can clap four times. [clap 1] [clap 2] [clap 3] [clap 4] FATHER! Encourage the participants to clap together with you as a way to remember the acronym.
2. Discuss the "R" in FATHER (representing Responsive feeding) last. Ask the participants to brainstorm the definition of responsive or active feeding.
3. From their responses, develop a definition that matches the common meaning: 'Responsive or active feeding means gently encouraging—not forcing—a child to eat'.
4. Write this definition on a flip chart at the front of the training room.
5. Ask the participants to think about and discuss how to actively encourage a child to eat.
6. Distribute three or four pieces of paper cards to each participant.
7. Ask them to write as many ways as they can that a mother or caregiver could actively encourage a child to eat.
8. After 10 minutes, collect all the cards.
9. Shuffle the cards and then put them on the floor at the front of the training room.
10. Ask for a volunteer to choose a card, hold it up for the other participants to see, and then read it.

11. Ask everyone if the meaning is clear. If not, the facilitator will ask for clarification from the group and if necessary, re-write the car.
12. Stick the cards on the flip chart randomly with lots of space between the cards.
13. Continue to ask for volunteers to choose a card, hold it up for the other participants to see, read it, clarify the meaning, and then stick it randomly on the flip chart.
14. Once all the cards from the floor are on the flip chart, ask the participants to think about and discuss if they see any clustering or linkages between the suggested activities.
15. Display another flip chart with the following labels written on it:
    - Do not force-feed
    - Do be patient
    - Do actively encourage
    - Do make eating a happy time
    - Do encourage self-sufficiency
    - Do make eating a positive habit
16. Tell the participants to now place all of the cards under the correct label on the new flip chart.
17. Summarize and clarify all the highlighted points and add any missing ways to encourage a child to eat.
18. As the participants what are the benefits to the child of responsive feeding? How does this relate to child development? To nutrition?

IThe facilitator should never ask who wrote the card. Clarification should come from group discussion. However, if the writer of the card in question voluntarily identifies himself/herself, then that person can rewrite the card.

19. Summarize the participants points and share how responsive feeding methods support child development and nutrition. The responsive feeding table, found in this session (Session 3.4) is a good resource for this activity.

Step 2 — Participant action

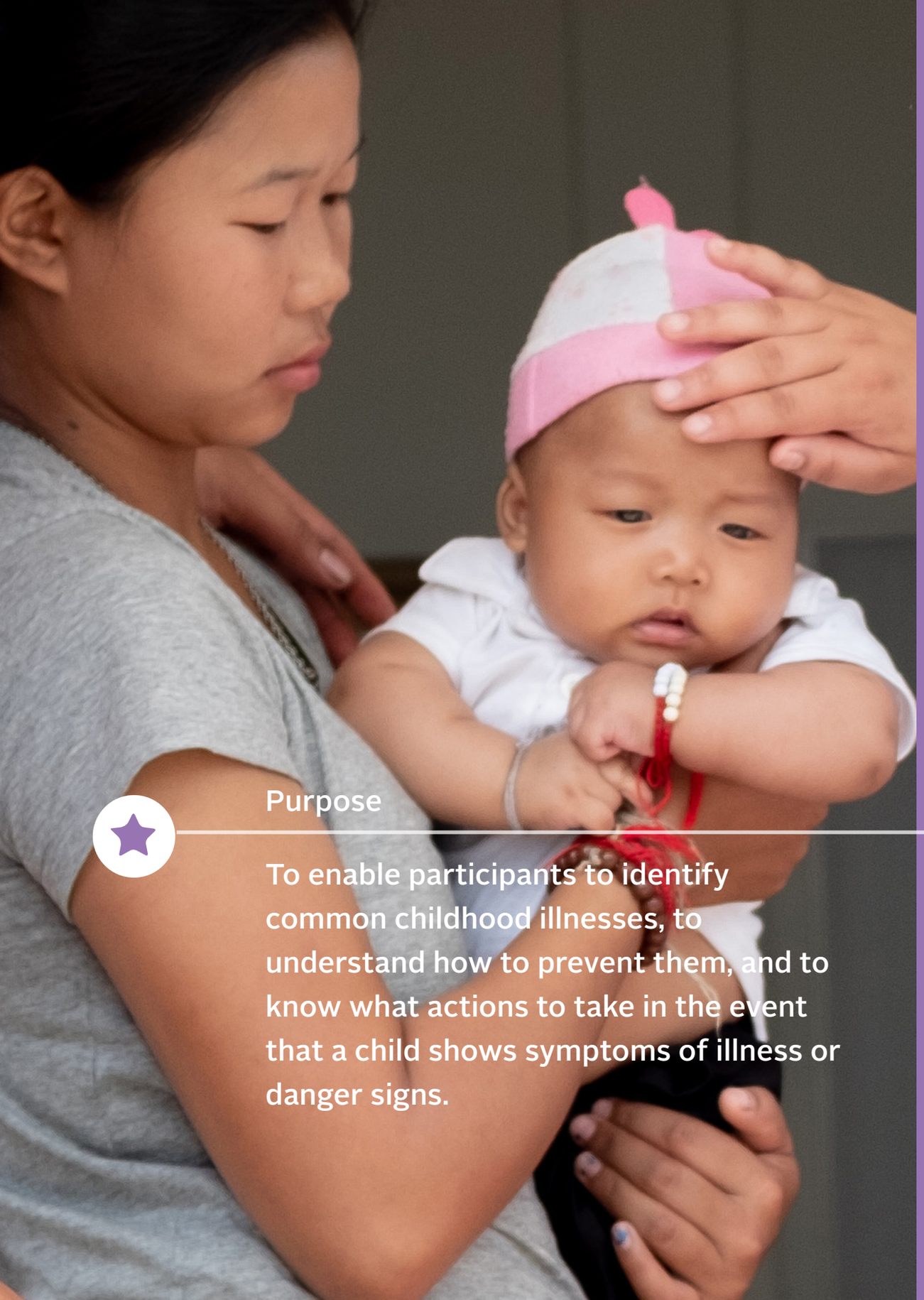
Reflect on the learning process — 30 mins

1. Ask the participants what they have learnt from these activities.
2. Discuss why it is important to know about responsive or active feeding.
3. How could this knowledge help support successful complementary feeding children 6 to 23 months old in the community?

Key Messages

- Gently and actively encourage a child to eat. Do not force-feed.
- Do be patient.
- Do make eating a happy time.
- Do encourage self-sufficiency.
- Do make eating a positive habit.

If there are any cards with the same meaning, stick them on top of the other cards. Do not discard duplicates, as each card expresses the importance of that idea for the group.



Safeguarding a child's health

Purpose

To enable participants to identify common childhood illnesses, to understand how to prevent them, and to know what actions to take in the event that a child shows symptoms of illness or danger signs.

Overview

Notes to facilitator

- Read each session topic thoroughly to become familiar with the content.
- The participatory activities describe what will be done with participants during the session. The steps are a guide for the training that can be adapted to meet the needs of the participants and the training environment. The ideal group size is 15-20 people, but no more than 25.
- Use introductory exercises, trust builders, ice breakers and energizers to help participants to get to know one another.
- The facilitator should use as many participatory methods as possible to keep the participants active and interested.
- Review and correct any incorrect information given by the participants. If you are unsure of any answer, tell the participants that you are not sure, and either follow up later after finding the answer, or encourage a participant to find the answer and report back to the group.
- At the end of the activity ensure the participants reflect on what they have learnt and review all the key messages and behaviours.

Session 4.1

Caring for a sick Child

Background 4.1

Feeding sick and low birth weight infants

During these first 28 days of life, a newborn infant, or neonate, is at highest risk of dying. It is crucial that appropriate feeding and care are provided during this period, and throughout the first 1000 days, both to improve the child's chances of survival and to lay the foundations for a healthy life.

Every baby needs early initiation of breastfeeding during the first hour of life, but for sick babies, and low birth weight (LBW) babies (under 2.5 kg), it is crucial that they are fed their mother's own milk for antibodies for strength and to fight illness. The baby should be put to the breast as soon as possible after birth when the baby is clinically stable. The mother should breastfeed frequently, based on the babies' hunger cues. If the baby sleeps for more than three hours since the last feed, wake-up the baby for a feed. If a sick or LBW baby cannot breastfeed, the mother should be encouraged to express breast milk and feed it to the baby by spoon or cup. She should express breast milk on a regular basis to maintain her milk supply for when the baby will be able to breastfeed. If the mother has stopped breast feeding, she should be encouraged and supported to restart. This is because once a mother stops breastfeeding or expressing milk, her milk supply will decline or stop. Once her milk supply declines or stops, it is possible to begin breastfeeding again, but it is more difficult. Therefore, it is best to try to continue to express breastmilk to maintain a high supply.

Feeding practices during and after illness

A sick child usually does not feel like eating. Furthermore, in some communities in Myanmar there is a belief that sick children cannot digest their food properly. However, this is not the case. Instead, not eating delays recovery from illness. In order to be strong enough to fight the illness, the child must eat. Not only will this help the child recover faster, but it will also prevent the child from becoming malnourished. If a child who is ill does not eat enough for a prolonged period of time, the child could develop a physical or intellectual disability related to malnutrition. To prevent this, encourage a child to eat during illness, and even more during recuperation so that the child can regain strength and catch-up on growth.

If an infant under six months old is sick the mother should continue exclusively breastfeeding and increase breastfeeding frequency. Breastmilk contains antibodies, water, and nutrients in adequate quantities that will help the baby recover. Feed as much breastmilk as the infant will eat. If the child does not improve or becomes dehydrated, the mother should continue to breastfeed and go to the health centre for advice and treatment.

During the recovery stage, continue to breastfeed exclusively and breastfeed more frequently for at least two weeks after illness. Breastmilk contains all the necessary nutrients to help the baby regain strength and gain back the weight lost. After the illness, to catch up with growth, add an extra feed.

If a baby is six months or older, the mother should breastfeed more frequently to prevent the child from becoming dehydrated and malnourished. She should also offer the baby's favourite food in small quantities as frequently as possible, even if s/he is not hungry. If the child does not improve or becomes dehydrated, the mother should continue to breastfeed and go to the health centre for advice and treatment.

While the child is recovering from illness, continue to breastfeed more frequently and offer an extra meal daily for two weeks after the illness. After the child recovers and normal appetite reappears, the child may be given more food than normal to regain lost weight.

Most common childhood illnesses in Myanmar: Diarrhoea and acute respiratory infection

Two of the illnesses that affect children in Myanmar who are under two years old are acute respiratory infection (ARI) and diarrhoea. Both diarrhoea and ARI are serious diseases, which in severe cases can rapidly lead to the death of a child if not promptly treated. ARI, which includes pneumonia, is one of the most common childhood illnesses and is the third leading cause of death in Myanmar among children under age 5, according to a study carried out by the MOHS in 2014. It is mainly caused by indoor and outdoor air pollution. Diarrhoeal disease is the second leading cause of death of children under five globally, according to the WHO. Both of these diseases are preventable and treatable.

Acute respiratory infection (ARI) is an infection of the upper respiratory tract and can affect the nose, throat, pharynx, larynx, and bronchi, the main pathways to the lungs. ARI symptoms consist of cough, sometimes with severe, rapid breathing and/or difficult breathing. The child might have ARI if in addition to difficult breathing s/he has a cough, running nose and/or fever.

When a child has suspected ARI, the child should be taken immediately to a health facility for care.

Diarrhoea is another common childhood illness. Diarrhoea is defined as liquid or watery stools passed more than three times in a day. An infection caused by viruses, parasites or bacteria, diarrhoea is often the result of the consumption of unclean water or contaminated food. As young children explore their environments, many put non-food items in their mouth, or touch objects and then put their fingers in their mouth; these items, however, may be contaminated, particularly if the household or surrounding environment is not sanitary. Severe diarrhea results in a rapid loss of water and electrolytes from the body, leading to dehydration and in some cases death, if not promptly treated.

There are three types of diarrhoea:

- **Acute watery diarrhoea** that lasts less than 14 days
- **Dysentery is diarrhoea** with visible blood in stools
- **Persistent diarrhoea** begins acutely, but lasts more than 14 days

The majority of the diarrhoeal deaths are due to dehydration, or loss of water and minerals.

Signs of dehydration in a baby include:

- Dry mouth and tongue
- No tears when crying
- Fewer wet diapers
- Sunken eyes and cheeks
- Listlessness or irritability

If a baby under six months old has diarrhoea, the mother should continue to exclusively breastfeed and increase the breastfeeding frequency to avoid dehydration. If a child older than six months has diarrhoea and is breastfed, continue breastfeeding more frequently. If the child has started consuming other foods, continue feeding small quantities of easily digested foods.

If a child has diarrhoea, a mother should seek guidance from a qualified health professional. Most medicines for diarrhoea that adults take are harmful for children. Myanmar has developed national guidelines for community case management (CCM) of ARI/pneumonia and diarrhoea. If dehydrated, a baby should take oral rehydration solution (ORS)

Preparation of commercial ORS	Preparation of homemade ORS
1. Wash your hands with soap	1. Wash your hands with soap
2. Pour all the ORS powder in the sachet into 1 litre container	2. Take one glass (200ml) of clean drinking water (boiled and cooled
3. Pour 1 litre of clean drinking water (boiled and cooled)	3. Add a pinch of salt
4. Stir well until the powder is mixed thoroughly	4. Add a spoon of sugar
	5. Stir well until the powder is mixed thoroughly

Table 4.2 Immunization schedule

and supplementation with zinc sulphate ($ZnSO_4$) tablets. Zinc helps shorten the episode of diarrhoea and prevents further episodes. A mother can prepare commercial or homemade ORS as below:

Malnutrition

Recall from Session 1.1 in Topic 1: Nutrition Basics in the Learning About Nutrition facilitator's guide that the causes and consequences of undernutrition, which is a type of malnutrition, vary. They include causes at the immediate, underlying, and basic levels. Also recall from Topic 1 the signs and symptoms of malnutrition (Session 1.4), the intergenerational cycle of malnutrition (Session 1.5). Topic 1 also covers nutrients and their food groups (Session 1.2) and the concept of eating a balanced diet (Session 1.3) to help prevent one of the immediate causes of malnutrition, which is poor diet. Also as you may recall, there are different types of malnutrition, including wasting, stunting, low birth weight and micronutrient malnutrition. Micronutrient malnutrition is caused by a vitamin or mineral deficiency, and it is not easy to detect in some cases because the signs are not always visible. Malnutrition carries serious consequences, including the fact that it is associated with about 45% of deaths in children under five. Malnourished children, particularly those with severe acute malnutrition, have a higher risk of death from common childhood illnesses.

Another type of malnutrition is called overnutrition. This can develop when people consume more nutrients than their body needs to function. When a person becomes overweight or even obese, they are considered overnourished. Overnutrition, though not a focus here, also leads to health risks and the development of noncommunicable diseases, such as coronary heart disease, high cholesterol, high blood pressure, and diabetes, as people age. While this type of malnutrition is rare among children in Myanmar, the rate of overnutrition likely will increase if Myanmar follows the pattern of other countries in the region. As lifestyle and eating habits change to become less active and consumption of sugary and processed foods and drinks increases in a country, rates of overnutrition increase.

Unfortunately, malnutrition and its effects have an impact not only on individuals, but also on their children. The intergenerational cycle of malnutrition, discussed in Session 1.5 in Learning About Nutrition, discusses how undernourished women are more likely to give birth to

small children, who are more likely to be undernourished themselves as they get older. Low birthweight children (low birth weight (LBW) babies are those below 2.5 kilograms.

The most recent figures for Myanmar as of the time this curriculum was published are that 29% of children under five suffer from chronic malnutrition, or stunting, which is a sign of a sign of not receiving adequate nutrition over a long period or by recurrent and chronic illness. At the same time, 7% of children under five are wasted, due to inadequate food intake or recent illness (MDHS 2016/2017).

Danger signs of illness

Early recognition of danger signs and early care-seeking for a sick baby is the first step in reducing childhood mortality and morbidity. An early decision about if the baby has a minor illness for which home remedy would be adequate, or if the baby should be taken immediately to a health centre, could save the baby's life. Knowledge of the signs and symptoms of the illness influence early care seeking. Any of the following signs or symptoms means a baby should be taken immediately to the nearest health centre. When in doubt, it is always best to err on the side of caution and have a qualified health professional assess the child. There are eleven danger signs. The first five of these are the most critical :

1. Having difficulty breathing
2. Unable to breastfeed
3. Fever or low temperature
4. Lethargic or unconscious
5. Showing signs of dehydration (usually from diarrhoea or loose, watery stools)
6. Not moving as much as usual or asymmetrical movement of the baby's legs
7. Yellow discoloration of skin (Jaundice)
8. Redness of the navel
9. Fluid-filled sacs or rashes on the skin

10. White patches in the mouth
11. Anterior fontanelle (soft place on the upper front of the baby's head) is bulging

Five most critical danger signs for an infant

Number one: Breathing problems

Babies breathe much faster than older children and adults. A newborn's normal breathing rate is between 40 and 50 times each minute. This may slow to 30 times per minute when the baby is sleeping. The pattern of breathing in a baby may also be varied. A baby may breathe fast several times, then have a brief rest for less than 10 seconds, then breathe again. This is normal. Babies normally use their diaphragm, the large muscle below the lungs, to breathe.

We can count the child's breathing rate in a full minute by raising the shirt, looking at the baby's chest or abdomen of a calm or sleeping baby, by using the clock with the second arm.

Signs of respiratory problems may include changes in a baby's breathing rate, pattern, using other muscles or parts of the chest to breathe, or changes in colour, such as:

- Rapid or irregular breathing, which means that breathing is more than 60 breaths each minute. A baby who is overheated or upset and crying may breathe rapidly, but the rate should slow when the baby is no longer too hot or crying. Continuously rapid breathing is a danger sign.
- Flaring nostrils. A baby who is having trouble taking in enough air will have nostrils that widen with each inhaled breath.
- Retracting. Another sign of difficulty taking in air is retracting, when the baby is pulling the chest in at the ribs, below the breastbone, or above the collarbones.
- Grunting. The baby grunts to try to keep air in the lungs to help build up the oxygen level. Another sound may be a moan or sigh when exhaling.
- Blue colour. Cyanosis, a generalized blue colouring of the skin, can be a sign the baby is not getting enough oxygen.

Number two: Unable to breastfeed

Healthy babies can suck and swallow breast milk when breastfed. If the baby's nose is blocked, s/he will not be able to breastfeed well. If the blockage is removed, the baby should be able to breastfeed again. If this is not successful and the baby cannot breastfeed, note that this is a danger sign. It can be due to infection. The baby should be taken to the nearest health facility.

Number three: Fever

Fever is the most common danger sign of illness. A fever is a body temperature that is higher than normal or above 100.4°F (38°C). Fever can result from mild illnesses, such as the common cold, or more severe diseases, such as malaria or dengue fever. A child with a fever may feel hot, appear flushed, sweat more than usual, or be more thirsty than usual. Many children will have symptoms, such as an earache, sore throat, rash, or stomach ache, that can be clues to what is causing the fever. If a child's temperature is lower than usual, this can also indicate a problem and the child should see a health professional.

Number four: Lethargic or unconscious

New born babies are sleeping most of the time, but when they get up, they are fresh. A lethargic baby is sleepy when s/he should be fresh and lively. A child who stares blankly and does not appear to notice what is happening around is also lethargic. The unconscious child does not waken at all and does not respond to touch, loud noise or pain.

Number five: Dehydration (usually from diarrhoea)

Dehydration is an important danger sign, as a child with diarrhoea can rapidly become dehydrated, leading to death. It is best to act quickly. Recall that signs of dehydration in an infant include:

- Dry mouth and tongue
- No tears when crying
- Fewer wet diapers
- Sunken eyes and cheeks
- Listlessness or irritability

In order to test whether a child is dehydrated, pinch the skin between the umbilicus and side of the abdomen using your thumb and index finger for two seconds. (Visual Aid 4.1.11) Then, release.Note how long it takes to return to the original position.
If it returns to original position immediately, then the infant is not dehydrated.
If it returns to original position in less than 2 seconds, the infant is moderately

dehydrated). If it returns to original position in more than 2 seconds the infant is severely dehydrated.

If you suspect a child is dehydrated, for breastfeeding children, increase the number of feeds. For children who are breastfeeding, increase the frequency of breastfeeding and see a health professional immediately.

Additional danger signs

Not moving as much as usual or asymmetrical movement of the baby's legs. A healthy child will move his/her hands, feet, and head many times in a minute. These movements will be less after breast feeding. This is normal. When the movements are less than normal or the movements of the hands and feet are asymmetrical, it can be severe bacterial infection. You should bring the child to the nearest health facility.

Yellow discoloration of skin

Jaundice can happen in new born period. Yellow discoloration of skin starts in face and spreads to chest, abdomen, thigh, leg, feet and palms. If the child suffers from yellow discoloration of skin within 24 hours after delivery, or yellow discoloration reaches to feet and palms, or yellow discoloration of skin more than 14 days, this is danger sign. You should bring the child to the nearest health facility.

Redness of the navel

The umbilical cord normally dries in a week. Normally, there is no redness of skin around the umbilical cord. (Visual Aid 4.1.8) There is also no pus discharge in the umbilical cord normally. The more distance of the skin redness from the base of the umbilical cord, the more severe the infection is. Redness of abdomen skin around the umbilical cord shows severe infection. Pus discharge from the umbilical cord is also the sign of severe infection. You should bring the child to the nearest health facility.

Fluid-filled sacs or rashes on the skin

If there are more than 10 pus vesicles all over the skin, this is a danger sign. If the pus vesicle is big even though there is only one, this is also the danger sign. If the pus vesicle is big and the surrounding skin is red, this is severe abscess. This can be the severe bacterial infection. You should bring the child to the nearest health facility.

White patches in the mouth

If there are ulcers or white patches on the baby's tongue and inner side of the mouth, this is a danger sign. Remove them with the clean soft cloth or cotton wrapped around your finger. Milk curd can be removed but candidiasis will remain. You should bring the child to the nearest health facility.

Bulging of anterior fontanelle (soft place on the upper front of the baby's head)

The anterior fontanelle is a soft place on the upper front of the baby's head. In normal, it is flat. You can feel it in the upright position of the baby when he does not cry. If the anterior is bulging, it is the danger sign. It can be meningitis. You should bring the child to the nearest health facility.

Starting a "rainy day" fund

The timing of illness and types of illness we will get over the course of our lives is unpredictable. Although we do not know when illness will strike, we do know that all people experience it at one time or another. Therefore, it is wise for families to try to save money in the event that a child becomes ill or injured and needs money for treatment, or for transportation to a health facility in cases of emergencies. Even when families have little money, regularly setting small amounts of money aside can add up and make a difference when illness or a health emergency strikes.

Learning Activity 4.1

Early recognition of danger signs

Purpose

To enable the participants to understand how the relationship between illness, appropriate feeding and early treatment can speed recovery and to identify danger signs and common illnesses.

Time

1 hr 40 mins

Materials

- Flip chart
- Permanent pens
- Piece of paper (for visualization activity)
- Visual Aids

Method

- Pictionary
- Chalk Talk
- Discussion
- Visualisation
- “Dear Expert” Letter

Reflection

Step 1 — Pictionary

Early recognition of danger signs of illness — 40 mins

1. Explain to the participants that while we cannot prevent a child from becoming ill, we can equip ourselves with knowledge and take actions to reduce the chances of a child becoming ill or reduce the number of times a child becomes ill. We can also learn how to help prevent children from suffering permanent consequences, or even dying as a result of the illness.
2. One critical time that requires vigilance is the first month of a child’s life.
3. Break the group into two teams— Team Mango and Team Egg, or any other names you wish. The teams will alternate turns. The first team, Team Mango, sends forward a volunteer. The facilitator should whisper into the ear of the volunteer one of the ten newborn danger signs below. The individual will then have to draw the danger sign on a flip chart paper in front of their team. S/he cannot use words or numbers. S/he has one minute of time drawing for his or her team to guess the danger sign. Anyone on the team can shout out the answer. If they guess the sign, they get one point. However, when the minute is up, Team Mango can no longer guess.
4. If, after one minute, Team Mango has not guessed the danger sign, they do not receive a point. Instead, Team Egg is given the opportunity to guess the danger sign. If they can guess the sign they get a point. If not, they do not get a point and the facilitator gives the answer.
5. For the second danger sign, Team Egg is given a chance to draw the danger sign for their team. The process repeats (alternating) for all 11 danger signs. They are

Newborn danger signs for children 0-1 month

- Having difficulty breathing
- Unable to breastfeed
- Fever or low temperature
- Lethargic or unconscious

- Showing signs of dehydration (usually due to diarrhoea or loose, watery stools; can also be caused by excessive vomiting or not wanting to breastfeed)
- Not moving as much as usual or unsymmetrical movement of the baby's legs
- Yellow discoloration of skin
- Redness of the navel
- Fluid-filled sacs or rashes on the skin
- White patches in the mouth
- Bulging of anterior fontanelle

6. Emphasize that the first five danger signs are the most critical, though a child should be taken to a health facility immediately if they demonstrate any of the danger signs.
7. Review the visual aids with the ten warning signs, filling in any information gaps and correcting any misunderstandings.

Step 2 Chalk Talk

What I know about diarrhoea

45 mins

1. Tell the participants that you are going to have a conversation. However, instead of speaking, you will be communicating on paper through writing.
2. Give each participant a piece of A-4 paper with the following questions written on it:
   - … What is diarrhoea?
   - … What do you do if a child has diarrhoea?
   - … What are its causes?
   - … How does it relate to malnutrition?
3. Ask them to write their name on the back of that piece paper. Give the participants five minutes to brainstorm individually and write the answers to these questions in as much detail as they can.
4. After five minutes, they should hand their papers over to the facilitator. The facilitator should then redistribute the paper to the participants, response side up. Neither they nor the facilitator should look to see who's paper they have received in order to keep the activity anonymous.

5. Give each person five minutes to read the piece of paper they received and write feedback—either answer the questions or add additional information to the paper.
6. Repeat this process one more time, so that two participants can review each person's paper.
7. The facilitator should then turn the papers over to see the names and redistribute the pieces of paper back to the original owner. Ask the participants to review the feedback they have received.l
8. Review the three types of diarrhoea:
   - Acute watery diarrhoea that lasts less than 14 days
   - Dysentery is diarrhoea with visible blood in stools
   - Persistent diarrhoea begins acutely, but lasts more than 14 day
9. Do they have any questions? The facilitator should invite participants to answer the questions, share anything new they have earned, correct any misinformation, and fill in any knowledge gaps.

Step 3 Participant action

Danger sign card sorting activity

30 mins

1. Ask the participants to form small groups.
2. Distribute a set of pictures about danger signs.
3. Explain that the facilitator will read the statements. The group will select a danger sign picture relevant to that statement and raise the correct picture as fast as possible. The fast group who raises the correct picture will get a point.
4. When everyone is ready, start reading a statement.
5. Check whether the picture is correct.
6. Ask the group why this picture is selected.
7. Encourage other groups to agree, disagree and add any information.
8. Continue until all statements have been covered.
9. Clarify that a baby with these danger signs should be taken to the nearest health centre immediately

Step 4 Reflection

Reflect on the learning process 10 mins

1. Ask the participants what they have learned from these activities.
2. Be sure that the participants have a clear understanding of the link between poor WASH, diarrhoea and malnutrition.

Key messages to remember:

- Breastfeed a sick or low birthweight baby within one hour of birth.
- Breastfeed during illness to prevent chronic state of sickness and malnutrition
- Breastfeed during recovery to help baby regain strength and gain back lost weight.
- Take the baby to the nearest health centre if it has any of these signs or symptoms.
    - … Having difficulty breathing
    - … Unable to breastfeed
    - … Fever or low temperature
    - … Lethargic or unconscious
    - … Showing signs of dehydration (usually from diarrhoea or loose, watery stools)
    - … Not moving as much as usual or asymmetrical movement of the baby's legs
    - … Yellow discoloration of skin (Jaundice)
    - … Redness of the navel
    - … Fluid-filled sacs or rashes on the skin
    - … White patches in the mouth
    - … Anterior fontanelle (soft place on the upper front of the baby's head) is bulging

Session 4.2

Vaccine preventable diseases

Background 4.2

The importance of vaccines

There are many diseases in the world, but some of them can be prevented if the child is vaccinated. These diseases are called 'Vaccine preventable diseases' (VPDs). When a child gets sick in places where medical care is poor or several days' travel away, preventing a disease before it starts could save that child's life.

One example of a VPD is measles. Measles is an infectious disease, which is transmitted from one person to another by sneezing, coughing and close contact. The measles virus is a vaccine-preventable disease which can be avoided by receiving a two-dose injection in early childhood. Unfortunately, from 2014/5 to 2017/8 the number of children who suffered from measles increased, due to the high number of children who were not receiving the vaccination. Combined with the rubella vaccination, the measles-rubella (MMR) vaccination is a routine component of the MOHS's Expanded Programme on Immunizations for immunization service delivery. Children who suffer from measles are at risk of complications, such as pneumonia, severe diarrhea, dehydration, middle ear infection and encephalitis. Measles is a dangerous disease, which can lead to death.

Immunisation schedule

Time/Age	Oral drop/ Injection	Vaccines
At Birth	Injection	BCG* (or before 2 months or at 2 months
	Injection	Hepatitis B
1st time (2 month)	Injection	BCG*
	Injection	Pentavalent-1 (Diphtheria, Pertussis, Tetanus, Hepatitis B, Haemophilus influenzae type b)
	Oral drop	OPV-1
	Injection	(Pneumococcal Conjugate Vaccine-PCV)- 1
2nd time (4 month)	Injection	Pentavalent-2 (Diphtheria, Pertussis, Tetanus, Hepatitis B, Haemophilus influenzae type b)
	Oral drop	OPV-2
	Injection	(Pneumococcal Conjugate Vaccine-PCV)-2
	Injection	Injection Polio Vaccine-IPV
3rd time (6 month)	Injection	Pentavalent-3 (Diphtheria, Pertussis, Tetanus, Hepatitis B, Haemophilus influenzae type b)
	Oral drop	OPV-3
	Injection	(Pneumococcal Conjugate Vaccine-PCV)-3
4th time (9 month)	Injection	Measles 1
5th time (1.5 year)	Injection	Measles 2

Table 4.2 Immunization schedule

How vaccines work

A vaccine is a product usually given by a needle injection, by mouth through drops, or by aerosol. When we say a child has been vaccinated this means the child has received a vaccine of a killed or weakened organism that works with the child's immune system to prevent the disease. Immunization is the process by which a person becomes protected from a disease. Immunization is one of the most well-known and cost-effective ways of preventing and eliminating diseases that contribute to childhood morbidity and mortality.

Vaccination is safe and effective. All vaccines undergo long and careful review by scientists, doctors, and government to make sure they are safe. Vaccines must be given at the right age, right dose, right interval and the full course must be completed to ensure the best possible protection to the child against these diseases. The schedule that tells us when and how many doses of each vaccine are to be given is called an immunization schedule.

If one of the scheduled vaccinations has been missed, the mother or caregiver should be able to get them up to date again through a catch-up schedule at the nearest health centre. The nurses should be able to plan a schedule and update the child's records after each catch up vaccination.

Low immunity levels are the major cause of diseases. Immunity levels can be affected by how many people in a community have been vaccinated. If children aren't vaccinated, they can spread disease to other children who are too young to be vaccinated or to people with weakened immune systems. This could result in long-term complications and even death for these vulnerable people. Outbreaks of VPDs usually occur when children do not have access to immunisation services, especially those living in hard to reach areas, or places affected by conflict.

For many diseases, immunizing a significant portion of a population can break the chain of transmission and actually protect unvaccinated people—a bonus effect called herd immunity. The trick is immunizing enough people to ensure that transmission can't gather momentum.

Learning Activity 4.2

Protecting against vaccine preventable diseases

Purpose

To enable the participants to understand the difference between a vaccine, vaccination and immunization and how important it is to give at the right age, right dose, right interval and the full course to protect against vaccine preventable diseases (VPDs).

Time

1 hr

Materials

- Flip charts
- Permanent pens
- Masking tape/pins
- Visual aid 4.2.1 to 4.2.6

Method

- Brainstorm
- Lecture
- Sociogram
- Debate
- Reflection

Instructions

Step 1 — Discussion

Vaccination overview — 15 mins

1. Ask the participants, why do we get vaccinated?
2. How does a vaccine injection or capsule protect a body against a disease? Explain to the participants that vaccines are like a training course for the immune system. When you exercise, you get tired, but you build strength. Vaccines help your body build immunity against certain diseases.
3. Ask the participants, against which diseases are there vaccinations?
4. Next, ask the participants who should be vaccinated? Why does the government set guidelines for the age when children should be vaccinated? Where can they find this schedule?
5. Finally, ask the participants which vaccinations require multiple doses, and why is it important to take the full course of treatment? What happens if a person does not receive the full course?

Step 2 — Visualisation

Herd immunity visualisation — 15 mins

1. Tell the participants that you will guide them to perform a visualisation of how vaccines work at the population level.
2. Select one volunteer to act as the disease. Ask him or her to leave the room for a moment.
3. Select approximately five people to represent vulnerable members of the community.

4. The remaining participants will represent healthy members of the community.
5. Give about half of the healthy participants a sticker. Tell them that this sticker represents a vaccination and will protect them from the disease. Tell them to put it on the bottom of their shoe, where the disease cannot see it.
6. Ask the healthy community members to form a circle, linking arms tightly, around the vulnerable members of the community to protect them.
7. Invite the disease back into the room. Tell the participants that this disease spreads by tapping on the shoulder of a victim. Tell the disease to try to tap on the shoulder of an individual. The disease does not know who has a vaccination sticker, and who does not. If the disease taps on the shoulder of someone with a sticker, he or she stands firm and rejects the disease, showing the disease the sticker that indicates that he or she is vaccinated.
8. If the disease taps on the shoulder of someone without a sticker, that person falls ill (sits down) and allows the disease to enter the circle and infect— or tap the shoulders— of the vulnerable victims (who also sit down).
9. Let the disease tap on some participants shoulders until they are able to enter the circle.
10. Now, ask the disease to leave the room again.
11. This time give the remainder of the healthy participants (excluding vulnerable community members) a sticker. Invite the disease back in to the room and ask him or her to try again. Because all the participants are protected with a sticker, the disease will not be able to enter the circle.
12. Ask the participants to explain how this exercise represents the importance of the vaccination process. Explain to the participants that this process of vaccinating the majority of people, or "the herd", protects vulnerable members of society from disease. Vulnerable individuals are those with systems who cannot receive vaccines, and babies who have not yet received their full course of vaccinations. It is the responsibility of healthy members of a compromised immune systems who cannot receive vaccines, and babies who have not yet received their full course of vaccinations. It is the responsibility of healthy members of a community to protect those who cannot be vaccinated. This concept is called "herd immunity".
13. Discuss and relocate the vaccination pictures to the right place on the table of the routine vaccination schedule for Myanmar.
14. The facilitator will clarify all questions and make sure the participants understand the importance of right age, right dose, right interval and the completed full course to ensure the protection of the child against these VPDs.

Step 3 — Dear Expert" Letter

"Dear Midwife" letter — 20 mins

1. Divide the participants into pairs. Give each pair a copy of Ma Za Pe's letter to the Midwife.
2. Ask each pair to write a response to Ma Za Pe.

Dear Midwife,

I am a mother of a newborn child. I have heard from the AMW that children must be taken for vaccinations starting after childbirth. However, I am scared for my child to be vaccinated. I heard a rumour that when some children are vaccinated, they get a high fever. Is it true? My sister took her child for vaccinations and she told me that her child became ill for two days. She said that the child was in pain, and for the first night after the vaccination the whole family was not able to sleep because the child was crying. She did not know what to do!

Also, my friend took her child to be vaccinated and the skin near the injection site was irritated and swelling.

I want to be a good mother, but I am afraid the vaccine will make my child uncomfortable and sick. On top of this, I'm very busy and it's difficult to make time to go to the health center. I only want the best for my child, but right now I think the best thing is to avoid vaccinations because I can only see the disadvantages. What do you advise?

Sincerely,

Ma Za Pe

3. Ask a group to volunteer to read their response to the group.
4. Ask the other groups if they have any additional feedback or points to make. Did they include any other information in their letter? If so, ask them to share the additional points.

Step 4 Reflection

Reflect on the learning process 10 mins

1. Ask the participants what they have learned from these activities.
2. Review why it is important for all children to get vaccinated and ask them whether they think the majority of the people in their community are aware of this.
3. How can they share this information with their communities?

Key messages to remember:

- Follow the Myanmar recommended routine vaccination schedule for the basic vaccines to be given in the first year of a child's life.
- Ensure baby is vaccinated at the right age, with the right dose, during the right interval and complete a full course to ensure protection against vaccine preventable diseases.

Session 4.3

Assessing child growth

Background 4.3

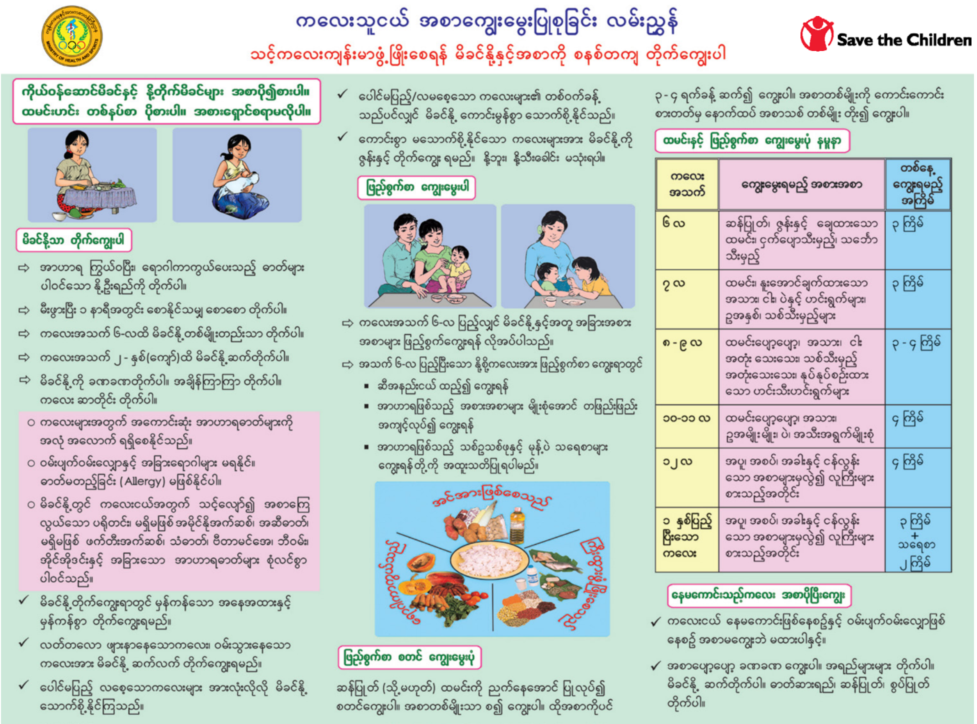
Growth monitoring and screening for malnutrition

Bright eyes, shiny hair and an abundance of energy usually indicates a healthy well-nourished child. However, sometimes a child's appearance is misleading. Monitoring the growth of children can highlight a current or potential risk of undernutrition in an individual child or to identify the presence and severity of a nutrition problem in a community.

Growth monitoring is the regular measurement of a child's size to assess growth between 6 and 59 months old by someone who has training in growth measurement techniques. This is a critical period with long-term consequences for mental and physical health. A child's growth measurements should be taken by a qualified professional and assessed by gathering information about their age, sex, height and weight. The process of weighing and measuring is called anthropometric measurement.

In places or times where acute malnutrition rates are high, such as during an emergency or conflict situation, a rapid screening method which takes measurements from a child's arm is used to help identify children with severe acute malnutrition. This process is known as mid-upper arm circumference (MUAC) screening. Children who have oedema (swelling) or who have a low MUAC score are then referred for therapeutic feeding support.

In communities, caregivers should attend monthly growth monitoring sessions to make sure their baby/child is growing well. A healthy child who is growing well should gain weight every month. Attending growth monitoring sessions can help identify nutrition problems a child may have, which may need urgent treatment with special foods. These sessions should give the caregivers the opportunity to ask questions about the child's growth, health and nutrition.



Anthropometric measurements of undernutrition

To know how well a child is growing, a child's weight and height related to their age is compared to the government guidelines on a healthy child's growth patterns. When a child does not gain weight or height at the same rate as a healthy child, he or she is considered undernourished or malnourished.

The term 'Z-score' is used to identify the category of undernutrition as either mild, moderate or severe. A Z-score refers to how far, and in what direction, an anthropometric measurement deviates from a standard healthy reference, or middle value. Z-scores are referred to as standard deviations or SD. Positive Z-scores mean that the growth of a child is more than that of a standard healthy child. Negative Z-scores mean that the growth of a child is less than that of a standard healthy child.

The prevalence of undernutrition is captured in terms of stunting, wasting and underweight.

Stunting is defined as low height/length-for-age or HAZ/LAZ. Stunting identifies children who are shorter than expected for a healthy child of the same age. Children whose height is less than - 2 SD from a standard healthy

reference or middle value are "stunted". If children are undernourished, their growth in height slows down. Children who are undernourished for a long time are shorter than they should be. Stunting does not vary by seasons over the year and stunting represents 'chronic' or 'long-term' undernutrition. In many cases it is not possible to tell when a child is stunted, as s/he may appear to be healthy. Even though it is not always easy to spot a child who is stunted, this type of chronic malnutrition is a major cause for concern. In Myanmar, according to the 2015-16 Myanmar Demographic Health Survey (MDHS), 29% of children under 5 years old are stunted and 8% are severely stunted, which indicates severe chronic undernourishment.

Wasting, also known as acute malnutrition, is defined as low weight-for-height/length or WHZ. Wasting identifies children who are thinner than expected for a healthy, well-nourished child of the same height/length. Children whose weight is less than -2 SD from a standard healthy reference or middle value are "wasted". These children have not only stopped growing but have probably also lost weight. Wasting reflects recent, short-term severe undernutrition, or illness. The number of wasted children in a community can vary by the season due to annual periods of food insecurity or seasonal illness. According to the 2015-16 MDHS, 7% of Myanmar children are wasted and 1% are severely wasted, indicating acute undernutrition.

WHZ includes taking the weight, taking the height/length and calculating the percentage or SD score. Because of its complexity and proneness to mistakes, it is recommended not to use this anthropometric measurement technique in communities. Instead, MUAC screening is often used as a more rapid way to detect children who are wasted in community settings and during emergency situations. Special training is required to take accurate MUAC measurements.

Underweight is defined as weight-for-age and is a composite measure that can identify children with wasting or stunting. Weight-for-age is considered the easiest anthropometric indicator to measure, although it can become less accurate in situations where mothers do not know their child's exact age. There has been an improvement in child undernutrition in Myanmar. In the 2009-10 Multiple Indicators Cluster Survey (MICS) nearly 23% of all children under five were underweight. In the 2015-16 MDHS, 19% of children <5 were underweight, with 4% severely underweight.

Mid-upper arm circumference (MUAC)

A special tape is used for measuring the upper arm of a child over 6 months to screen for children who are malnourished. The measurement around the middle of a child's upper arm is an important indicator of acute malnutrition in a child as it measures thinness or wasting. This is called the MUAC tape.

A MUAC tape has a wide section and a narrow section. In the middle of the wide section, there is a hole, with an arrow on each side. The tape's narrow end has three coloured sections: green, yellow, and red. Green indicates no malnutrition. Yellow points to sickness or a lack of proper feeding, with nutrition in the danger zone and increased feeding and follow-up is essential. Red identifies severe acute malnutrition and alerts that immediate attention is needed to prevent death. The MUAC tape should be used only on children between from the age of six months until 59th month, or their 5th birthday. The measurement is done on the middle of either upper arm.

Activity 4.3

Screening for malnutrition

Purpose

To enable the participants to know how to use MUAC

Time

1 hr 15 mins

Materials

... Visual aids

Method

... Demonstration
... Practice
... Feedback
... Reflection

Instructions

Step 1 Experience Sharing

Weighing and measuring experience 15 mins

1. Divide the participants into small groups.
2. Ask them to think about and discuss the following questions:
   ... Why it is important to measure the growth of children under 5 years of age?
   ... How can we measure the child growth?
3. In plenary, ask the groups to share their answers.
4. The facilitator will summarize and clarify all the answers and add any missing information.
5. Ask the participants if they have ever weighed and measured children to find out if they were growing properly?
6. Ask those that have to share one experience they have had with weighing and measuring children.
7. Ask if they ever discovered from weighing and measuring that a child who looked healthy was actually undernourished?
8. If participants have never weighed/measured children before, ask how they determined if children were growing well or not.
9. Tell them to think about experiences with their own children or as part of their work in the community.

Step 2 Demonstration

Practice measuring MUAC 45 mins

1. Pass around one MUAC tape per participant.
2. Ask whether anyone has seen or used such a tape and what it is used for.
3. Explain that it is used to measure thinness as a measurement of malnutrition.
4. Hold up a tape and ask a participant to describe its different parts:
    - The tape has a wide section and a narrow section.
    - In the middle of the wide section, there is a hole, with an arrow on each side.
    - The tape's narrow end has three coloured sections: green, yellow, and red.
5. Demonstrate how the tape end feeds through the hole and the arrows point to the measure.
6. Explain that MUAC measurement reflects malnutrition status:
    - Green indicates no malnutrition.
    - Yellow points to early malnutrition: Need a feeding history; ask about current or recent illness and how caregiver encourages child to eat; sickness or a lack of proper feeding. Increased feeding and follow-up is essential.
    - Red alerts you to severe acute malnutrition. Immediate attention is needed to prevent death.
7. Note that the child MUAC tape should be used only on children between from the age of six months until 59th month (their 5th birthday).
8. Explain that the measurement is done on the middle of either upper arm.

9. Demonstrate how to measure MUAC with a child under five. If none is available, use an adult MUAC tape to take a participant's MUAC measurement.
    - Remove clothing covering either arm.
    - Find the midpoint of the upper arm.
    - With your fingertips, locate the tip of the shoulder.
    - Bend the elbow to make a right angle.
    - Using a string or the tape itself, measure the tip of the shoulder to the tip of the elbow and fold the string in half. Using a marker or pen, mark the midpoint on the child's arm.
    - Straighten the arm, keep it relaxed, and wrap the tape around the arm at the midpoint. Make sure the tape has the proper tension, neither too tight nor too loose.
    - Identify the colour of the tape between the two arrows flanking the hole. Record the measurement.
10. Divide participants into groups of four, and give each group a MUAC some string, and if available, a child to practice with.
11. Ask each person in each group to practice measure the MUAC of the child (or their partner).
12. Ask participants to share their experiences.
13. Discuss common mistakes:
    - Wrapping the tape too tightly or too loosely.
    - Not taking the measurement at the midpoint between shoulder
      and elbow.
    - Measuring the MUAC with a bent elbow or an arm that is not relaxed.

Step 4 Reflection

Reflect on the learning process 15 mins

1. Ask the participants what they have learned from these activities.
2. Discuss why anthropometric measurement is important for monitoring nutritional status.
3. How could this knowledge help prevent undernutrition/ malnutrition in the community?

Key messages to remember:

- If the child's MUAC measurement is in the yellow zone, provide caregiver with special counselling on feeding practices and refer to supplementary feeding if available.
- If the child's MUAC measurement is in the red zone, provide immediate medical treatment

Session 4.4

WASH for better health and nutrition

Background 4.4

Linkages between WASH and nutrition

We know through global evidence that there are definite and strong linkages between water, sanitation and hygiene (WASH) and child nutritional status. These linkages are particularly important during the first 1000 days because young children are vulnerable. A lack of access to WASH has been shown to lead to undernutrition. In the first 1000 days their immune systems are not yet as strong as those of adults, so they are more vulnerable to illness. Because they are physically smaller and are growing and developing at a fast pace, they cannot afford to lose any of the nutrients they consume to illness or diarrhoea.

Maintaining a clean home environment and consistently following good sanitation and hygiene practices helps to protect children from WASH-related risks and diseases. For more information on personal, home and food hygiene please refer to Topic 4 in the Learning About Nutrition facilitation guide. There is some additional information in this guide in Session 3.3 on hygienic complementary feeding practices.

WASH interventions are varied, but overall their goal is to reduce the risk of disease transmission. WASH interventions may relate to provision and use of toilet or handwashing facilities, clean water for drinking, sufficient quantities of water for domestic use (including bathing and cooking), safe handling of animals, promoting positive personal, home and food hygiene behaviours like washing hands, appropriately disposing of child faeces, and safe storage of water and food, among others.

Sanitation:

Provision and use of facilities and services that safely dispose of human urine and faeces, thereby preventing contamination of the environment. Improved sanitation facilities are those that hygienically separate human excreta from human contact and include flush or pour-flush toilets to piped sewer systems, septic tanks or pits, ventilated improved pit latrines, pit latrines with slab, and composting toilets.

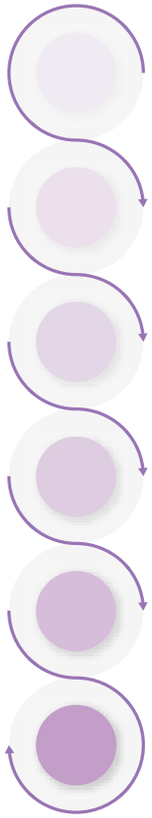
Hygiene:

Practice of handwashing with soap after defecation and disposal of child faeces, prior to preparing and handling food, before eating, before feeding a child, after making contact with animals, and, in health care facilities, before and after examining patients and conducting medical procedures. Hygiene also refers to interventions such as food hygiene (safe food handling, including preparation, storage and serving) and environmental hygiene, such as safely disposing of household solid waste.

WHO/UNICEF/USAID 2015

For children with a lack of access to WASH, they face three main threats to healthy growth: diarrhoea, parasitic worms and infections, and environmental enteric dysfunction.

From poor WASH to poor child nutrition



Exposure to unsanitary or unhygienic environment.

Child become infected with parasite, worm, bacteria, virus or other illness.

The child's body requires more nutrients than normal to fight illness. If the child has diarrhoea, water and nutrients leave the body in the form of watery faeces.

The ill child may also vomit or not feel like eating or drinking, which can also weaken his or her body and contribute to a shortage of nutrients. In sever cases, the child may die.

Extended diarrhoea or illness can tax the child's body of nutrients. Repeated bouts of diarrhoea and exposure to faecal contaminants can impair the body's ability to absorb nutrients, leading to undernutrition.

Undernourished children are physically weaker and more susceptible to diarrhoea and other illnesses, which can lead to worsening undernutrition

Threat one: Diarrhoeal disease

Recall that diarrhoeal disease was discussed above in Session 4.1. As a leading cause of child illness, this is the first of the three main ways that poor WASH practices and conditions lead to undernutrition. Diarrhoeal diseases are usually caused by a virus, a parasite or bacteria. Contaminated food, water, adult hands and objects in the home environment can all infect a child and may lead to illness and diarrhoea.

Diarrhoea can cause loss of appetite and prevent the uptake of nutrients. Frequent episodes of diarrhoea in the first two years of life increase the risk of stunting and can impair cognitive development. Undernourished children have weakened immune systems that make them more susceptible to intestinal or 'gut' infections and more severe and prolonged episodes of diarrhoea. Diarrhoea can lead to both malnutrition and death, particularly in small children. Diarrhoeal disease can rapidly lead to dehydration through the loss of fluids, which is the cause of most diarrhoeal deaths. Most deaths from diarrhea are among children 6-12 months old, a time of transition as children begin to eat new complementary foods, explore their environment through touch as they learn to crawl and become more independent, and put their own hands or found objects in their mouths.

The Myanmar Demographic and Health Survey (MDHS) 2015 -2016 found that 10% of children under the age of 5 had diarrhoea in the two weeks preceding the survey. Of these children, diarrhoea occurred most often among those aged 12-23 months, followed by those aged 6-11 months.

Threat two: Parasitic worms and infections

This is the second threat to undernutrition from lack of WASH. Parasitic infections in children fewer than 5 years of age are especially dangerous because they have life-long negative health consequences. Parasitic worms (or helminths) and infections, which include soil transmitted helminths, lead to illness. As you have learned, this is a direct cause of undernutrition. Parasitic worms and infections can cause anaemia, intestinal protein losses, chronic intestinal blood loss, abdominal pain, poor absorption of nutrients, loss of appetite, weakness, and stunted growth and physical development.

Parasites can be transmitted directly (hand-to-hand contact) or indirectly (contact with food or environmental surfaces). In both ways, the human hand is the primary way that intestinal parasites are transmitted. The hand can pass parasites from surfaces (whether in or out of the home), currency, food, animals (pets or wild) and humans. Soil transmitted helminths are transmitted by eggs present in human faeces, which contaminate the soil in places with poor sanitation. One example of a soil-transmitted helminth is the hookworm, which is one of the more serious helminth infections because of its association with anaemia, caused by intestinal blood loss.

Ways to prevent transmission of worms and infections include proper handwashing, maintaining a general standard of cleanliness in the home environment, properly disposing of child and adult faeces, using footwear, and keeping nails clean.

Threat three: Environmental Enteric Dysfunction

Environmental Enteric Dysfunction (EED) is the third main way that poor WASH practices and conditions results in undernutrition. While scientists are still learning more about how this disease works, they believe that it is a contributor to child stunting—likely a major one. EED, a disease characterized by damage to the lining of the small intestine, is caused by chronic ingestion of pathogens (bacteria, viruses, and other disease-causing microorganisims). Widespread in low- and middle-income countries, it is difficult to diagnose because usually a person does not show symptoms of the disease. Internally, however, they have intestinal inflammatiton caused by the ingestion of disease-causing pathogens. The inflammation of the gut interferes with nutrient absorption in the intestines. Instead of the child's body's resources being put towards their growth and development, their body is fighting chronic internal infection. It is this combination of chronic inflammation and reduced absorption of nutrients in the intestine that are believed by scientists to impair brain development and linear growth. Diarrhoea may or may not be present when a child has EED.

Research has revealed that children who live in more sanitary and hygienic households have less severe EED and greater linear growth.

Thankfully, the disease is reversible if children with EED are exposed to a clean environment.

Understanding the link between human feces and poor nutrition

While human faeces is a necessary byproduct of the intestinal system, it is important to keep it isolated from humans. If people ingest pathogens and parasites found in human excreta this can result in illness, including diarrhoea. Whether it comes from an infant or an adult, proper precautions must be taken after using the toilet or touching a child's faecal matter in order to avoid contamination. Not only must faeces be disposed of properly each time to avoid contaminating soil and water sources, but the hands of a person who comes in contact with it must be washed with water and soap.

Some of the strongest linkages between WASH and poor nutrition have to do with the transmission of human feces into the mouth through four main pathways: fingers, flies, food, fields and fluid or water. Understanding these pathways of disease transmission is the first step in being able to block these pathways and prevent disease.

The F-diagram

What exactly is the pathway of the transmission of disease-causing pathogens from foeces to mouth? Pathogens in faecal particles pass from one person to the mouth of another person through a variety of routes. This faecal - oral mechanism describes the mechanism that accounts for most diarrhoea cases, and likely EED. The common faecal-oral routes are fingers, flies, fields, fluids, and food as highlighted in the F-diagram.

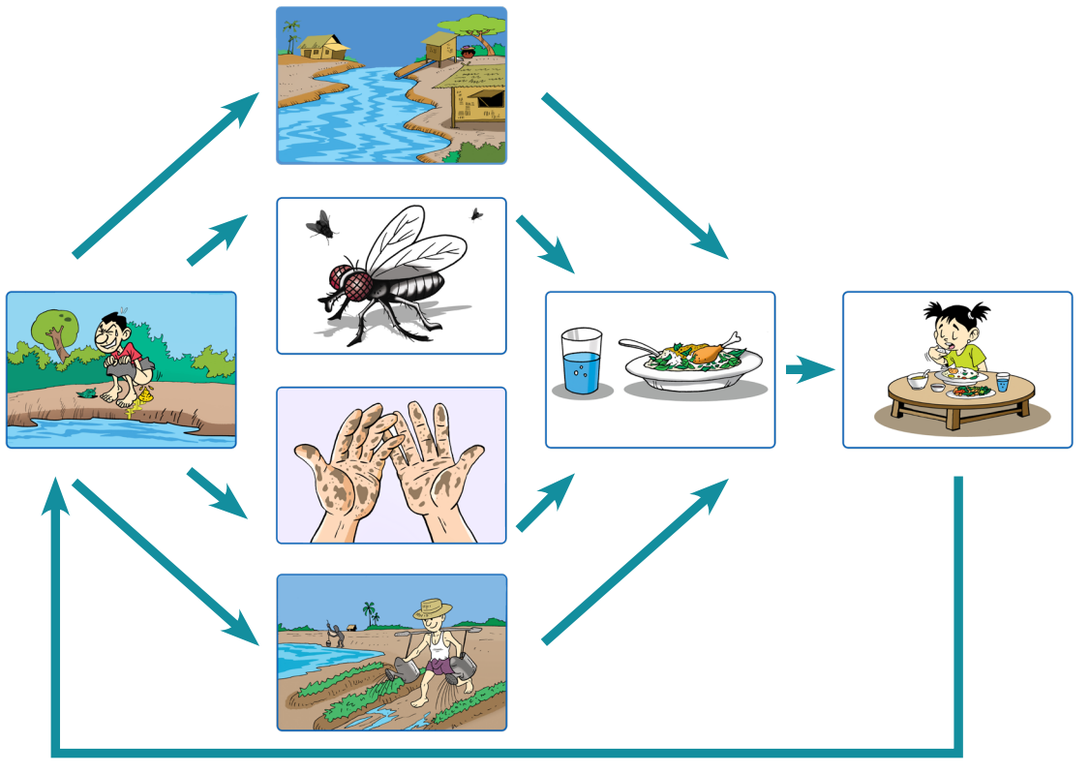


Table 4.4 F-Diagram: Chains of contamination

Fingers

By direct transmission: when hands are not washed after defecation or after contact with faeces on the ground (e.g., when small children are crawling) and then are put into the mouth.

By indirect transmission, as when food is prepared or eaten with contaminated, unwashed hands or using dishes, cups, or utensils handled with contaminated, unwashed hands.

Flies

Because flies sit on faeces and then sit on food.

Food

When people eat food is contaminated, for example if flies have been sitting on it.

Field

When soil contains faeces due to direct defecation or other means; unwashed hands that have worked the soil and improperly cleaned and cooked crops from the fields can enable faeces to be ingested.

Fluid/water

When you drink water that has been contaminated by faeces.

Blocking the faecal-oral pathway

The most effective way of reducing diarrheal and EED disease transmission is to erect primary barriers that prevent pathogens from entering the environment. All of these WASH services and practices break the chain of transmission and have a positive impact on nutrition.

Wash hands thoroughly with soap and water

- after using the toilet
- after cleaning a baby's bottom
- after disposing of a baby's stools
- before preparing food
- before eating food or feeding the baby
- after handling livestock

Keep a clean kitchen

- Containers used for preparing food and for feeding a baby must be cleaned with soap and water.
- Children should be fed with clean cups and utensils, not with bottles, which are difficult to sterilise.
- Keep working surfaces and utensils clean
- Separate raw from cooked foods (especially meat, poultry, eggs and fish)

Keep food fresh and protected

- Consume freshly prepared food within one hour.
- Keep food covered. Covering food would prevent faecal contamination of food from flies. Proper disposal of waste in house and nearby areas so that houseflies don't breed.

Protect your drinking water

- Access and drink safe water from deep protected wells, boil water, purify water with chlorine tablets, or purify water with a ceramic filter to prevent water-borne diseases.
- Store water in containers with lids to prevent contamination.

Use and maintain sanitary latrines

- Use sanitary latrines for the whole family and disposing of infant and young child faeces in the latrine would prevent faecal pathogens from entering water sources and agricultural fields and from contaminating fly populations.

Keep children's play areas clean

- Ensure that places where baby places and crawls protected from eating animal and chicken duck faeces (which may contain a dangerous bacteria called salmonella)
- Keep animals in a separate, enclosed place in the compound away from children.

BabyWASH

The concept of BabyWASH, developed by World Vision, is a useful way to think about WASH during the first 1000 days. In the BabyWASH model there are five "hotspots" or stages when WASH interventions should be integrated maternal, newborn and child health (MNCH), early childhood development (ECD) and nutrition, to have a more profound impact on child health outcomes in the first 1000 days. These include interventions to eliminate faecal-oral routes, as well as some additional practices that are particular to the first 1000 days life stages.

Pregnancy

During this period, it is important to safeguard the health of the mother and the foetus growing inside her. A mother and her unborn child are vulnerable during pregnancy and a mother needs to be as healthy as possible

for childbirth. Access to improved water sources and improved sanitation facilities are associated with decreased maternal morbidity and mortality. There are also risks to the mother from the physical burden of carrying water. These include insufficient weight gain during pregnancy and spontaneous abortion. Also, a mother with inflammation from EED is at risk of adverse birth outcomes including foetal growth restriction and prematurity.

Good WASH interventions during pregnancy include:

- Handwashing with soap at key times for all family members
- Household access to and use of improved water
- Access to and use of improved sanitation facilities by the entire family
- Birth preparedness to ensure that the mother has access to sufficient water, sanitation facilities, hygiene supplies, a plan for delivery, as well as clean birthing provisions prior to birth

Labour and delivery

It is important to ensure a clean birth because mother and child are both at risk of complications, infection and death. Women who give birth in unsanitary conditions are at greater risk of death.

Good WASH interventions during labour and delivery include:

- Follow clean birth practices (commonly known as the WHO's 6 Cleans). These include clean hands of attendant and mother, clean perineum (region from anus to vulva), clean delivery surface under the mother, clean blade for cord cutting, clean cord tying and clean towels to dry then wrap baby
- Access to and use of improved sanitation facilities at the healthcare facility
- Access to clean water for mother during delivery and post-delivery. WHO recommends 100 litres per intervention in the maternity unit.

Newborn period

A significant portion of under five deaths (estimated at 40%) happen in the newborn period. Many of these deaths are preventable.

Good WASH interventions in the newborn period include:

- Clean postnatal practices, like clean birth practices, aim to reduce infection for mother and child. They include handwashing with soap at key times for the entire household, including children, personal hygiene for mother and child, and clean cord care.
- Early initiation of breastfeeding (and exclusive breastfeeding for six months) to reduce the child's exposure to external pathogens and to build up their immunity
- Access to and use of improved water sources and improved sanitation facilities by the whole family to maintain a healthy and hygienic environment.

Onset of mobility and exploration

At around 3 months, children begin a period of exploration and mobility. Children start to become curious about their environment and increase their movements, including hand to mouth gestures. This is a healthy part of child development, however it increases the risk of ingesting pathogens as they put dirty objects in their mouth, or touch contaminated objects and then put their hands in their mouth. EED, parasitic worms and infections, and diarrhoeal disease are all a risk to children who are exploring unhygienic environments.

Interventions to protect children against WASH-related threats include:

- Exclusive breastfeeding until a child is six months
- Handwashing with soap at key times by the entire household. Particular care should be taken to wash children's hands after exploratory play when they may be exposed to environmental pathogens, such as faecal matter.
- Access to and use of sanitation facilities by the whole household. Precautious should be taken to limit children's exposure to human or animal faeces in the home and child play areas.
- Providing sanitary and age-appropriate play and teething objects, as well as clean and protected play spaces.

Introduction of complementary feeding

As children start to consume their first foods other than breastmilk, there are daily opportunities for them ingest dirty water or water stored in dirty containers as well as food that may not be hygienically prepared or fresh. So, access to WASH during this period is of particular importance.

Relevant WASH interventions during this time period include:

- Continued breastfeeding to support the child's immune function to fight against disease
- Handwashing with soap at all key times by the entire household.
- Access to and use of sanitation facilities by the whole household
- Precautions should continue to be taken to limit children's exposure to human or animal faeces in the home and child play areas.
- Access to and use of improved water by the entire household
- Education on the provision of fresh and hygienically prepared complementary foods
- Maintaining a clean eating area as well as a clean and protected play area, as mentioned above to limit the pathways for EED and other illnesses.

Learning Activity 4.4

First 1000 days WASH

Step 1 Visualisation

Visualising Environmental Enteric Dysfunction 10 mins

1. Hold a piece of A4 paper and crush it loosely and roughly into a ball. Do not crush it too much. It should not look perfectly like a ball, but rather should have lots of ridges and valleys. Explain to the participants that this is like the intestinal wall inside your body. It is composed of millions of villi, which are like microscopic fingers. When food in the intestine passes over them, the many fingers capture and absorb the nutrients from the food. What is not absorbed during the process of digestion passes out of the body as stool.
2. Open the ball and crush up the paper again into the ball. This time try harder to make it form a ball with smoother edges. Again, open it and crush it again into the ball. Over the time the paper will become softer and it will begin to look more and more like a smooth, round ball. (Optional: wet the hands with water to help speed up the process of smoothing the ball of paper)
3. Explain to the participants that when the body suffers from repeated exposure to pathogens ingested from faeces, over time, the villi in the intestines become flatter and have less surface area to absorb the nutrients in food.
4. Pass the ball around to participants to open and again crumple up the piece of paper, acting as faecal pathogens being ingested by the body.
5. Explain to the participants that this smoothing of the villi means that even when children are healthy and are not suffering from diarrhea, if they have suffered too many bouts in the past, they will not absorb as much nutrition from food even when they are healthy.
6. Now, ask the participants if anyone has heard of "environmental enteric dysfunction" (also called tropical enteropathy). Explain to the participants that it is caused by constant fecal-oral contamination, which causes intestinal villi to be smoothed over and also gut or intestinal inflammation. This is yet another contributor to child undernutrition, and another reason why water, sanitation and hygiene are important for child nutrition.

Step 2 Timeline

Hygiene and the first 1,000 days 30 mins

1. Sometimes called "Baby WASH", WASH during the First 1,000 Days focuses on five "hotspots" or life stages when WASH interventions should integrate with maternal, newborn and child health (MNCH), early childhood development (ECD) and nutrition, to have a stronger impact on child health outcomes. These include interventions to eliminate faecal-oral routes, as well as some additional practices that are particular to the first 1000 days life stages.
2. World Vision International outlines five critical intervention periods for Baby WASH, which are discussed in Session 4.4. These are:
    - Pregnancy
    - Labour and delivery
    - Newborn period
    - Onset of mobility and exploration
    - Introduction of complementary feeding
3. Post these five periods in a timeline a flip chart on the wall with plenty of blank space around each period.
4. Invite participants to come up and write or attach sticky notes to each period regarding what WASH practices or issues are important and relevant during each period. For example, during pregnancy it is important for women to drink clean water. During labour and delivery it is important for health facilities to have clean birth practices. During the newborn period it is important for a mother to begin exclusive breastfeeding to prevent diarrhoea. At the onset of mobility and exploration it is important for children to have a hygienic place to play, free of animal feces and other contaminants.

5. What else?
6. Discuss these WASH practices together, answering any questions and clarifying any misunderstandings that the participants may have.

Step 3 Connect, Extend & Question

Extending the F-diagram

45 mins

1. Ask the participants who is familiar with the F-diagram. Ask a participant to help review the F-diagram to the rest of the group. Many participants will likely be familiar with this diagram already.
2. Now, ask the participants to indicate how well they know the F-diagram—
   - ... No fists in the air = I am not very familiar with the F diagram
   - ... One fist in the air = I am familiar with the F-diagram
   - ... Two fists in the air = I am very familiar with the diagram
3. Invite the participants to form groups of five, ensuring that those people with no, one and two fists in the air are equally distributed across groups. Ideally there should be an equal balance of participant knowledge in each group.
4. If the majority of participants are not familiar with the F-diagram, ask one of the participants to volunteer to present the F-diagram to the group.
5. Afterwards, ask each group to draw an F-diagram on a flip chart. You can display the F-diagram for all participants to see for the benefit of those who are less familiar with it.
6. Now, ask them to think about what they have learned about EED and Baby WASH.
7. How are these concepts connected to the F-diagram?
8. What new ideas did you get that extended or pushed your thinking in new directions?
9. What questions, wonderings or puzzles do you now have?

10. Give the participants half an hour in their groups to redesign, change or build on the F-diagram to incorporate new knowledge they have learned.
11. Invite groups to present their extended or adapted F-diagrams to the group

Key messages to remember:

To block the faecal oral contamination route, prevent diarrhoeal disease and EED remember to:

Wash hands thoroughly with soap and water at critical times, which include:

- after using the toilet
- after cleaning a baby's bottom
- after disposing of a baby's stool
- before preparing food
- before eating food or feeding the baby
- after handling livestock

Keep a clean kitchen

Keep food fresh and protected

Protect your drinking water

Use and maintain sanitary latrines

Keep children's play areas clean

Use footwear and keep nails clean.

For a safe childbirth, ensure that the mother has access to sufficient water, sanitation facilities, hygiene supplies, a plan for delivery, as well as clean birthing provisions prior to birth

Follow clean birth practices (commonly known as the WHO's 6 Cleans). These include clean hands of attendant and mother, clean perineum (region from anus to vulva), clean delivery surface under the mother, clean blade for cord cutting, clean cord tying and clean towels to dry then wrap baby.

Appendix 1 References

References guiding development of topics

Learning about Nutrition: A facilitator's guide for food security and livelihoods field agents. A. Brazier and S. Eden. Leveraging Essential Nutrition Actions to Reduce Malnutrition (LEARN). 2015

The Lancet Series on Maternal and Child Undernutrition

Maternal and child undernutrition, consisting of stunting, wasting and deficiencies of essential vitamins and minerals, was the subject of a Series of papers in The Lancet in 2008. In the Series, results on the prevalence of these issues, the short-term and long-term consequences, and potential for reduction through high and equitable coverage of proven nutrition interventions was presented. The 2008 Series identified the need to focus on the crucial period from conception to a child's second birthday—the first 1000 days— in which good nutrition and healthy growth have lasting benefits throughout life. The Series also called for greater priority for national nutrition programmes, stronger integration with health programmes, enhanced intersectoral approaches, and more focus and coordination in the global nutrition system of international agencies, donors, academia, civil society, and the private sector.

Five years after the initial series, The Lancet Series on Maternal and Child Undernutrition was updated in 2013. It re-evaluated the problems of maternal and child undernutrition and assessed national progress in nutrition programmes and international efforts toward previous recommendations. The first paper examined the prevalence and consequences of nutritional conditions during the life course from a girls' adolescence through pregnancy to childhood and discussed the implications for adult health. The second paper covered the evidence supporting nutrition-specific interventions and the health outcomes and cost of increasing their population coverage. The third paper examined nutrition-sensitive interventions and approaches and their potential to improve nutrition. The fourth paper discussed the features of an enabling environment that are needed to provide support for nutrition programmes, and how they can be favourably influenced. A set of comments examined what is currently being done, and what should be done nationally and internationally to address nutritional and developmental needs of women and children in low and middle-income countries.

World Health Organization guide on Essential Nutrition Actions

In 2013, the World Health Organization (WHO) released a guide on 'Essential Nutrition Actions: improving maternal, new-born, infant and young child health and nutrition' that summarizes the recommendations in the Lancet Series, which, following systematic review, reflect proven actions that need to be taken to scale within the health sector.

UNICEF's Community Infant and Young Child Feeding (C-IYCF) Counseling Package & CORE Group's Essential Nutrition Actions (ENA) Framework

Key messages and activity ideas were adapted from two internationally-recognized sets of infant and young child feeding (IYCF) related training and counselling materials, both reflecting the latest evidence on high-impact nutrition practices most recently presented in The Lancet Maternal and Child Nutrition Series 2013 and the WHO Essential Nutrition Actions. Both packages contain state of the art, technically sound, evidence-based information that follows the latest advances in IYCF, and both have been used with success globally.

The UNICEF Community Infant and Young Child Feeding (C-IYCF) Counselling Package's goal is to change the behaviour of both participants and the mothers, fathers and caregivers that they counsel. The competency-based participatory training approach offers hands-on practice on counselling skills and reflects key principles of behaviour change communication by promoting small doable actions and recognition that adults learn best by reflecting on their own personal experiences. The C-IYCF Counselling Package has been adopted by the Myanmar Ministry of Health and Sports.

The CORE Group's Essential Nutrition Actions (ENA) & Essential Hygiene Actions (EHA) training materials aim to provide skills on how to effectively implement nutrition-specific ENA & EHA interventions during the first 1,000 days, as well as emphasizes how to integrate these into a range of nutrition-sensitive programs including health services and community level interventions in other sectors.

Designing for Behaviour Change for Agriculture, Natural Resource Management, Health and Nutrition: Promoting excellence in food security programming

This field-tested, six-day curriculum, originally adapted from the Academy of Educational Development's BEHAVE tool, and developed into a maternal and child health curriculum by the CORE Group Social and the Behaviour Change Working Group, was later modified by members of the Food Security and Nutrition Network Social and Behavioural Change Task Force in 2013. The information on stages of behaviour change and guidelines for selecting appropriate behaviour change behaviours, determinants, and activities was particularly helpful.

Myanmar Demographic and Health Survey 2015

The Myanmar Demographic and Health Survey (MDHS) 2015-2016 is the first nationally representative household survey conducted in the country. Topics covered include: child and maternal health, family planning, nutrition, health behaviour and knowledge, health care access and use, and immunization. For the 2015-2016 Myanmar DHS, 12,885 women, aged 15-49, and a sub sample of 4,737 men, aged 15-49 were interviewed from 12,500 households. Finger/heel prick blood samples were drawn to test for anemia in children ages 6-59 months and women ages 15-49 who consented to testing. Anthropometric measurements were taken for 5,106 children under five. Throughout the Learning about the first 1000 days guide, relevant statistics have been presented to provide an up-to-date snap-shot of the health and nutritional status of pregnant women, mothers and children under 24 months old.

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Learning about the first 1000 days

Learning about the frist 1000 days is a part of a practical toolkit designed to equip field agents to integrate nutrition learning for adults into food security and livelihoods programs. In addition to this manual, accompanying visual aids are included in the toolkit to supplement learning sessions. Based on principles of respect and dignity for all, activities are participatory in order to allow illiterate and marginalised members of communities to fully engage in the training process. Learning sessions teach basic information to help participants discover what they can do to improve nutrition in their households and communities.

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LEARN

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