

# Nutrition Curriculum

---

## Basic and Advanced Modules Training Manual

Ver 2.0



# NUTRITION TRAINING MANUAL

## TABLE OF CONTENTS

<b>INTRODUCTION TO THE MANUAL.....</b>	<b>3</b>
<b>WORKSHOP AGENDAS .....</b>	<b>6</b>
<b>MATERIALS AND HANDOUTS MASTER LIST.....</b>	<b>14</b>
<b>PRE/POST TEST, SELF-ASSESSMENT QUESTIONNAIRE, WORKSHOP EVALUATION .....</b>	<b>20</b>
<b>TRAINING OF TRAINERS .....</b>	<b>31</b>
<b>BASIC MODULES 1-6.....</b>	<b>56</b>
<b>MODULE 1 - INTRODUCTION TO NUTRITION TRAINING .....</b>	<b>57</b>
<b>MODULE 2 - PUBLIC HEALTH NUTRITION SESSION PLAN &amp; HANDOUTS .....</b>	<b>69</b>
<b>MODULE 3 - FOOD GROUPS SESSION PLAN &amp; HANDOUTS .....</b>	<b>79</b>
<b>MODULE 4 - FOOD SANITATION SESSION PLAN &amp; HANDOUTS .....</b>	<b>101</b>
<b>MODULE 5 - CAUSES OF MALNUTRITION SESSION PLAN &amp; HANDOUTS .....</b>	<b>118</b>
<b>MODULE 6 - INFANT AND YOUNG CHILD FEEDING – IYCF SESSION PLAN &amp; HANDOUTS .....</b>	<b>137</b>
<b>ADVANCED MODULES 7-12 .....</b>	<b>151</b>
<b>MODULE 7 - CHILD GROWTH AND DEVELOPMENT SESSION PLAN &amp; HANDOUTS.....</b>	<b>152</b>
<b>MODULE 8 - INFANT AND YOUNG CHILD FEEDING – IYCF ADVANCED SESSION PLAN &amp; HANDOUTS.....</b>	<b>173</b>
<b>MODULE 9 - ANTHROPOMETRY – MEASURING NUTRITION STATUS SESSION PLAN &amp; HANDOUTS.....</b>	<b>196</b>
<b>MODULE 10 - NUTRITION SURVEYS SESSION PLAN &amp; HANDOUTS .....</b>	<b>225</b>
<b>MODULE 11 - SELECTIVE FEEDING PROGRAMS SESSION PLAN &amp; HANDOUTS .....</b>	<b>249</b>
<b>MODULE 12 - MATERNAL NUTRITION SESSION PLAN &amp; HANDOUTS.....</b>	<b>272</b>

# **INTRODUCTION TO THE MANUAL**



## Nutrition Concepts and Principles

### For IYCF programs

### Training Manual

### INTRODUCTION

This training manual is for field staff working in the camps along the Thailand/Myanmar border (Nutrition Officers and Camp-based workers). However, it can be used by staff working along the border, outside of camps. The materials are relevant for both settings and the terminology can be easily adapted. The manual focuses on **Infant and Young Child Feeding (IYCF)**, maternal nutrition and on measuring nutrition/malnutrition. There are 12 modules.

#### Purpose

- The purpose of the training is to help staff identify, understand and respond to nutrition and malnutrition conditions in the different camps. The training will give Participants facts about nutrition science and nutrition programs to improve their work and improve nutritional status in their communities.

For example, they will be able to:

- Explain key public health nutrition facts
- Use this information to understand nutrition for mothers and children in the community
- Conduct better nutrition activities for women and children especially focusing on the internationally accepted **Infant and Young Child Feeding (IYCF)** as well as specific maternal nutrition programs

#### Module Objectives

- Describe the UNICEF nutrition framework
- Explain the role of nutrition in good health
- Describe key Food facts, for example:
  - Micro and macro nutrients, six basic micronutrients, three basic food groups and functions, balanced diet and food resources
- Describe food sanitation rules, foodborne disease, food safety and unhygienic food, prevention practices and personal hygiene

- Describe child growth and development and needed nutrition activities (using growth chart and nutrition education)
- Describe causes and types of malnutrition using the UNICEF framework: immediate, underlying and basic causes for individuals, households and communities
- Describe the Infection-Malnutrition Cycle
- Use basic anthropometry (body measurements) and individual nutrition information to measure and understand nutrition situation in the camps
- Describe types of feeding programs (humanitarian responses, food assistance, supplementary feeding, therapeutic feeding programs, case management and referral systems)
- Describe correct **Infant and Young Child Feeding (IYCF)** nutrition including importance, breastfeeding, complementary feeding and care
- Describe good maternal nutrition - nutrition during pregnancy and breastfeeding, and for general health

### **Training Session Agenda**

The manual covers 12 technical modules – six basic modules and six advanced modules. Each session includes session objectives, training methodology, technical content, materials and handouts. Participants start and end each training day by reviewing key learning points.

The modules are organized as Basic and Advanced Modules. The Basic Modules cover basic nutrition concepts and IYCF principles and the Advanced Modules cover more advanced topics such as anthropometry, nutrition surveys, advanced IYCF promotion and maternal nutrition.

### **Training Approach**

The training uses adult learning ideas. Participants are expected to “participate” through participatory exercises such as role plays and skills demonstration sessions. Trainers and Participants start each session talking about what they already know about nutrition. Then, the trainers introduce new nutrition information.

Trainers lead discussions on the new information and skills. They use question and answer sessions, “pop quizzes”, problem-solving exercises and role play using the new nutrition information.

### **Training Materials and Handouts**

Each Session Plan includes a list of needed materials and handouts. Trainers should use this list during preparation for training. The main handout is a copy of the Session PowerPoint presentation. IYCF Counselling Cards and Recipe Booklets are also recommended for use.

Each training workshop, either Basic or Advanced, has a specific Pre-post Test to help measure learning and training effectiveness. There is also a self-report questionnaire on participants training and communication skills and a Workshop Evaluation questionnaire.

The Manual is available for use by any interested person or group as long as acknowledgement is given to The Border Consortium (TBC) and International Rescue Committee (IRC). It can be downloaded from The Border Consortium (TBC) website.

# **WORKSHOP AGENDAS**



## Nutrition Worker Training – (4-5 days)

### Nutrition Curriculum

#### AGENDA

(Can be adapted for both Basic and Advanced Modules as needed)

#### Day 1 – 9.00 am – 4.30 pm

---

##### 9.00 – 11.00 am

- Opening Ceremony
- Introductions – Getting to know each other
- Pre-Test

*Break – 15 mins*

##### 11.15am – 12.00 pm

- Training Purpose
- Training Objectives
- Training Content and Timetable

##### 12.00 – 1.00pm *Lunch*

##### 1.00 – 4.00 pm

- **Nutrition Modules – Session 1**
  - TBC IYCF Nutrition Policy and Approach – Review and Refresher (Program information)
  - Nutrition Key Facts (Technical information)
    - Public Health Nutrition
    - Food Groups

*Break in middle of Update*

##### 4.00 – 4.30 pm

Closing Discussion – what are the highlights of the day?

- Key learning
- Issues needing clarification

## **Day 2**

---

### **Morning Session**

**9.00 – 9.30 am**

- Opening Q&A – any issues remaining from yesterday?
- Today's Training - Purpose and Content

**9.30 – 4.00 pm**

### **Nutrition Update – Session 2**

- **Nutrition Modules**
  - **Nutrition Key Facts (Technical information)**
    - Food Sanitation
    - Causes of Malnutrition
    - IYCF – Basic
    - IYCF - Practice Session

**4.00 – 4.30pm**

- Closing Discussion – What are the training highlights of the day?
  - Key learning
  - Issues needing clarification

## **Day 3 – Adult Learning for Community Nutrition**

**10.30am – 12.30pm**

### **Adult Learning - Principles and Practice**

- Adult learning – principles and practice
  - Respect, Relevance, Timing, Practice, Non-threatening
- Training Methods – Cone of Learning
  - Methods for Knowledge, Attitudes and Skills learning

***Lunch – 60 mins***

### **Afternoon Session**

**1.30 – 4.00pm**

- **Presentation Skills presentation** – What makes an effective presentation?



- **Practice Session for Presentation Skills**– Participants prepare and make a Nutrition Presentation to whole Group

*Break - in middle of afternoon session*

**4.00 – 4.30pm**

- **Closing Discussion – What are the training highlights of the day?**
  - Key learning
  - Issues needing clarification

**Days 4**

---

**Morning Session**

**9.00 – 9.30am**

- Opening Q&A – any issues remaining from yesterday?
- Today's Training - Purpose and Content

**9.30 – 12.00 pm**

**Presentation Practice continues**

- **Presentations and Feedback**
- **Today's learning review**
  - What are the overall training highlights?
  - Key Learning & Issues needing final clarification

*Breaks and Lunch as scheduled*

**Afternoon Session**

**1pm to 3pm**

- **Post-Test and feedback**
- **Self-evaluation questionnaire**
- **Workshop evaluation**
- **Graduation and Certificate Presentation**

**Workshop ends**



## Training of Trainers TOT Workshop –

### Nutrition Curriculum

### ADVANCED MODULES

### AGENDA

(Replace with Basic Modules as needed)

#### Day 1

---

#### 9.00 – 11.00 am

- Opening Ceremony
- Introductions – Getting to know each other
- Pre-Test

*Break – 15 mins*

#### 11.15am – 12.00 pm

- Training Purpose
- Training Objectives
- Training Content and Timetable

#### 12.00 – 1.00pm *Lunch*

#### 1.00 – 4.00 pm

- **Nutrition Update – Session 1 of 2**
  - TBC IYCF Nutrition Policy and Approach – Review and Refresher (Program information)
  - Nutrition Key Facts (Technical information)
    - Infant & Young Child Feeding (IYCF-further updated, expanded on Complementary Feeding)
    - Child Growth & Development
    - Measurement of Malnutrition – Anthropometry

*Break in middle of Update*

4.00 – 4.30 pm

Closing Discussion – what are the highlights of the day?

- Key learning
- Issues needing clarification

## **Day 2**

---

### **Morning Session**

**9.00 – 9.30 am**

- Opening Q&A – any issues remaining from yesterday?
- Today's Training - Purpose and Content

(Trainer note - The time allocated for Adult Learning Session will depend on the response to more technical Advanced Nutrition Modules)

**9.30 – 10.30**

### **Nutrition Update – Session 2 of 2**

- **Nutrition Key Facts (Technical information)**
  - Nutrition Surveys, Analysis & Interpretation
  - Selective Feeding Programs
  - Maternal Nutrition

**10.30am – 12.30pm**

### **TOT Principles and Practice**

- Adult learning – principles and practice
- Competency-based training – “SMART” objectives

Break – 15 mins

- Different Training methods – e.g. Technical Presentation and Discussion, Small Group Discussion, Case Study, Q and A session, Individual exercises, Role Play, Demonstration

***Lunch – 60 mins***

## Afternoon Session

### 1.30 – 4.00pm

- Qualities of an effective trainer
- Presentation Skills – What makes an effective presentation?
- Organizing training – Checklist approach
- Monitoring and evaluating training – Principles and activities

*Break - in middle of afternoon session*

- Organizing Training Practicum for Days 3 - 5

### 4.00 – 4.30pm

- Closing Discussion – What are the training highlights of the day?
  - Key learning
  - Issues needing clarification

## Days 3 – 4.5

---

### Morning Session

#### 9.0 – 9.30 am

- Opening Q&A – any issues remaining from yesterday?
- Today's Training - Purpose and Content

#### 9.30 – 4.00 pm

### Training Practice

- Infant & Young Child Feeding (IYCF-further updated, expanded on Complementary Feeding)
  - Child Growth & Development
  - Measurement of Malnutrition – Anthropometry
  - Nutrition Surveys, Analysis & Interpretation
  - Selective Feeding Programs
  - Maternal Nutrition
- Day 3 – For first ½ Day - Trainer facilitates Participants preparation (~4-5 Participants per Module)
  - Day 3 Afternoon session – Group presentations begin, continuing through Day 5, morning
  - After each presentation Participants give structured feedback

***Breaks and Lunch as scheduled***

## **Afternoon Session**

**4.00 - 4.30pm**

- Closing Discussion – What are the training highlights of the day?
  - Key learning
  - Issues needing clarification

## **Day 5 Afternoon Session**

**2.30pm - 3.00pm**

### **Organizing the Field Training – Conclusions from the Practice**

- Discussion on organizing future Field Training and applying new training skills

**3.00 – 4.00 pm - Post-Test, Self-Assessment, Workshop Evaluation**

**4.00 – 4.30 pm**

- **Closing Discussion**
  - What are the overall training highlights?
  - Key Learning & Issues needing final clarification
  - Post Training Pledge - Participants write their own post workshop pledge

**MATERIALS AND HANDOUTS**  
**MASTER LIST**



## Training Manual for Nutrition

### Modules 1 - 12

#### Listing by Module of Materials, Handouts and References

##### Common Materials for All Modules

- **Flip Charts, Markers and tape for Group Work**
- **Computer and Projector and screen for PowerPoint Presentations**
- **Notebook for participants**
- **Handouts and References**
  - The main handout is a copy of the PowerPoint presentation
  - Other handouts are described in each Module
    - For general reference, the UNICEF publication called for Facts for Life 4<sup>th</sup> edition is a very useful general child health and nutrition reference publication available as a free download from UNICEF global website. 3<sup>rd</sup> editions are available in Burmese, Karen and Thai online at: [www.drumpublications.org/download/fflb.pdf](http://www.drumpublications.org/download/fflb.pdf)
    - [www.factsforlife.org/pdf/3<sup>rd</sup>-edition/facts-for-life-karen.pdf](http://www.factsforlife.org/pdf/3rd-edition/facts-for-life-karen.pdf)
    - [www.factsforlifethai.cf.mahidol.ac.th/home/index/php](http://www.factsforlifethai.cf.mahidol.ac.th/home/index/php)
  - The World Health Organization (WHO) also has a global Nutrition reference website (called eLENA) and like UNICEF may even publish local language materials free to all.
  - Especially for the module on Food Sanitation, several useful Burmese language videos on Water, Sanitation and Hygiene (WASH), and foods sanitation are included.
  - For Nutrition, it is often useful to search YouTube regularly because video and other materials on nutrition topics are regularly uploaded by the global nutrition community.

##### TOT Module

##### Materials

- **Pictures for Introduction game**
- **Folder for each Participant**
- **Presentations - PowerPoint 1 – Nutrition and PowerPoint 2 – Training of Trainers – Adult Learning**
- **Handouts:**

- Pre/Post Test, Pre-Training Assessment, Certificates, Workshop Evaluation Questionnaires, Prizes (Books, Stationery items or other)
- Training Agenda
- PowerPoint 1– Course Objectives for presentation and handout
- Training Manual Nutrition Modules copies
- PowerPoint 2 - Effective Adult Learning - Training PowerPoint for presentation and handout
- **Handouts for Adult Learning–**
  - PowerPoint Presentations 1 (Nutrition) and 2 (Adult Learning TOT)
  - Adult Learning Tips
  - Adult Learning Objectives
  - Training Methods -Cone of Learning

### **Module 1 – Introduction**

- **Folder for each Participant**
- **PowerPoint Presentation – Introduction-Module – Module 1**
- **Pre/Post Test and Self-Assessment Skills questionnaire**
- **Handouts:**
  - Pre-Training Assessments – Pre-Test and Skills self-assessment
  - Training Agenda
  - PowerPoint handout – Course Objectives for presentation and handout

### **Module 2 – Public Health Nutrition**

- **Index Cards - Blank**
- **Larger cards with headings – Immediate, Underlying and Basic Consequences**
- **PowerPoint Presentation – Public Health Nutrition – Module 2**
- **Handouts –**
  - UNICEF Conceptual Framework
  - PowerPoint – Module 2 Public Health Nutrition

### **Module 3 – Food Groups**

- **PowerPoint Presentation – Food Groups – Module 3**
- **Food models available in each camp office**
- **Handouts**
  - PowerPoint presentation –Food Groups
  - Balanced Diet Pie Chart

### **Module 4 – Food Sanitation**

- **PowerPoint Presentation – Food Sanitation - Module 4**
- **Handouts**
  - PowerPoint presentation – Food Sanitation



- **References from the Internet for Sanitation and WASH – YouTube and Documents**
  - Burmese language cartoon video on food hygiene
    - <https://www.youtube.com/watch?v=BM9y5x8ai1w>
  - UN video series Burmese language on Handwashing, Sanitation and Food
    - <https://www.youtube.com/watch?v=BM9y5x8ai1w>
  - WHO reference document
    - [http://www.who.int/water\\_sanitation\\_health/hygiene/settings/healthvillages/en/](http://www.who.int/water_sanitation_health/hygiene/settings/healthvillages/en/)
  - Comprehensive and community WASH oriented practical advice
    - <http://practicalaction.org/water-and-sanitation>
  - Useful WHO overall WASH reference site - policy level
    - [http://www.who.int/water\\_sanitation\\_health/en/](http://www.who.int/water_sanitation_health/en/)

### **Module 5 – Causes of Malnutrition**

- **PowerPoint Presentation – Causes of Malnutrition – Module 5**
- **Handouts**
  - PowerPoint Presentation - Causes of Malnutrition
  - Full-sized page hand-out of Causes of Malnutrition (slide 4)
  - Pictures of WASTING and STUNTING
- **References**
  - **Improving Nutrition and Health Services Delivery in Refugee Camps along the Thailand – Burma/Myanmar Border** – Dr Chaw Yin Myint – Jan – Feb 2014  
International Rescue Committee – TBC
  - **2015 NUTRITION SURVEY REPORT TO CCSDPT\* HEALTH AGENCIES** - The Border Consortium, American Refugee Committee, Malteser International, International Rescue Committee, Première Urgence – Aide Médicale International) -Published 2016
  - **World Health Organization – WHO Nutrition and Growth Data -Stunting/Wasting**  
<http://www.who.int/nutgrowthdb/about/introduction/en/index2.html>

### **Module 6 – IYCF Basic**

- **PowerPoint Presentation – Infant and Young Child Feeding – IYCF – Module 6**
- **Handouts**
  - PowerPoint presentation copy – IYCF
  - TBC IYCF counselling cards (Reference or Handout)
- **References for the Trainer and for possible distribution:**
  - **Useful easy-to-read Reference**
    - **UNICEF Facts for Life – 4<sup>th</sup> Edition – Breastfeeding, Nutrition and Growth – available as a free download from**  
[http://www.unicef.org/publications/files/Facts\\_for\\_Life\\_EN\\_010810.pdf](http://www.unicef.org/publications/files/Facts_for_Life_EN_010810.pdf)
  - **WHO Infant and Young Child Feeding Fact Sheet – No 324 , Feb 2014 -**  
<http://www.who.int/mediacentre/factsheets/fs342/en/>
  - **World Breastfeeding Week – Annual event – many free resources**  
<http://worldbreastfeedingweek.org/downloads.shtml>

## **Module 7 – Child Growth and Development**

- **PowerPoint Presentation – Child Growth and Development-Module 7**
- **Handouts:**
  - **Child Development Stages** - 1 month, 6 months, 12 months, 2 yrs, 3 yrs, and 5 yrs. From UNICEF Facts for Life - 4th Edition, Pgs. 40 – 45
  - **Growth Chart example**
  - **PowerPoint presentation copy** - Child Growth and Development Presentation
- **References for the Trainer**
  - **eLENA**- Nutrition Reference web portal - World Health Organization – e-Library for Evidence for Nutrition Action (**eLENA**) <http://www.who.int/elena/en/>
  - WHO Training Course on Child Growth Assessment - Interpreting Growth Indicators (Downloadable Reference Book) [http://www.who.int/childgrowth/training/module\\_c\\_interpreting\\_indicators.pdf](http://www.who.int/childgrowth/training/module_c_interpreting_indicators.pdf)

## **Module 8 - Infant and Young Child Feeding (IYCF) - Advanced**

- **PowerPoint presentation – Infant and Young Child Feeding (IYCF) – Module 8**
- **Handouts:**
  - PowerPoint presentation - IYCF
  - TBC IYCF Counselling Cards for Health Workers and Grandmothers
- **References for the Trainer and for optional distribution:**
  - ***Useful easy-to-read Reference for the Trainer – UNICEF Facts for Life – 4<sup>th</sup> Edition – Breastfeeding, Nutrition and Growth – available as a free download at UNICEF.org.***
  - **WHO Infant and Young Child Feeding Fact Sheet – No 324, Feb 2014 -** <http://www.who.int/mediacentre/factsheets/fs342/en/>

## **Module 9 - Measuring Malnutrition - Anthropometry**

- **PowerPoint –Anthropometry presentation**
- **Demonstration equipment from TBC local Offices**
  - Hanging scale
  - Height/length board
  - MUAC tape
- **Handouts:**
  - **PowerPoint presentation copy – Anthropometry - Module 9**
  - **Copy of Page 14 TBC Nutrition Survey Report – z-score graph showing stunting**
- **References**
  - **Nutrition Reference web portal - WHO** – e-Library for Evidence for Nutrition Action (eLENA) <http://www.who.int/elena/en/>
  - **UNICEF – Nutrition in Emergency/Humanitarian Settings- eTraining module -** <http://www.unicef.org/nutrition/training/list.html> - This is a great self-study easy-to-use web site.

## Module 10 – Nutrition Surveys

- **PowerPoint Presentation – Nutrition Surveys – Module 10**
- **Handouts:**
  - **Copy of PowerPoint Presentation,**
  - **Optional - Copy of Page 14, TBC Nutrition Survey Report – Z-Score Graph showing stunting**
  - **Copies of TBC 2015 Nutrition Survey Report**
- **References**

**Reference websites**

  - Sampling: <https://explorable.com/what-is-sampling?gid=1578>)
  - 2016 Global Nutrition data reference - <http://data.unicef.org/topic/nutrition/malnutrition/>
  - <http://data.unicef.org/wp-content/uploads/2016/09/UNICEF-Joint-Malnutrition-brochure.pdf>
  - [http://www.who.int/nutgrowthdb/publications/worldwide\\_magnitude/en/](http://www.who.int/nutgrowthdb/publications/worldwide_magnitude/en/)
  - **Nutrition Reference web portal - WHO – e-Library for Evidence for Nutrition Action (eLENA )** <http://www.who.int/elena/en/>
  - **UNICEF – Nutrition in Emergency/Humanitarian Settings- eTraining module**
    - <http://www.unicef.org/nutrition/training/list.html>

## Module 11 - Selective Feeding

- **PowerPoint Presentation - Selective Feeding Programs – Module 11**
- **Handouts:**
  - **Copy of PowerPoint Presentation – Selective Feeding**
  - **Optional Handout or Reference – UNHCR Guidelines Booklet - Selective Feeding: The Management of Malnutrition in Emergencies - January 2011 (108 pages) (Available via web download at <http://www.unhcr.org/4b7421fd20.pdf>)**
- **Reference**
  - **Nutrition Reference web portal - World Health Organization – e-Library for Evidence for Nutrition Action (eLENA )** <http://www.who.int/elena/en/>

## Module 12 – Maternal Nutrition

- **PowerPoint Presentation – Maternal Nutrition – Module 12**
- **Handouts:**
  - **Presentation PowerPoint – Maternal Nutrition**
  - **TBC Counselling Cards – one set each – For Community Workers and For Grandmothers**
  - **Role Play Scenarios handout – “Addressing Challenges to Good Maternal Nutrition through Counselling”**

**PRE/POST TEST**  
**SELF-ASSESSMENT QUESTIONNAIRE**  
**WORKSHOP EVALUATION**



1. The UNICEF Conceptual Framework describes three types of causes for malnutrition: basic causes, underlying causes and immediate causes.

Match the left side causes with the right side cause examples →

- |                     |                      |
|---------------------|----------------------|
| a. Basic Cause      | Illness              |
| b. Underlying Cause | Poor health services |
| c. Immediate Cause  | Education            |
|                     | Age                  |

2. Minerals like zinc are one type of important “micronutrient” for children. What are 3 other important micronutrients? Circle 3 below:

- a. Vitamin A
- b. Iodine
- c. Breastmilk
- d. Vitamin B1
- e. Proteins

3. What are the 3 nutrients provided by the main Food Groups? Circle 1 below:

- a. Protein, Breastmilk, Vitamins
- b. Protein, Carbohydrate, Fats
- c. Protein, Minerals, Vitamins
- d. Proteins, Vegetables, Vitamins

4. Circle Yes or No - Food sanitation is important because:

- |  |          |
|--|----------|
| a. it prevents foodborne disease   | Yes / No |
| b. it keeps food safe for consumption  | Yes / No |
| c. it does not matter because the body has natural immunity against most food borne diseases | Yes / No |



**5. You must wash your hands with soap after using the toilet. What other times must you wash hands with soap? Circle answers below:**

- a. Before preparing food
- b. Before feeding baby
- c. Once a day after working on the farm
- d. After eating
- e. After changing a baby's diaper

**6. Infant and Young Child Feeding (IYCF) nutrition is an important global health priority and a key program activity. Circle Yes or No about IYCF nutrition below:**

- a. Exclusive Breastfeeding (ExB) for 6 months is a top infant feeding priority Yes / No
- b. ExB also allows water and other sweet supplements if the weather is hot Yes / No
- c. Supplementary feeding should start immediately after one month Yes / No
- d. Feeding during infant and young child illness must be increased Yes / No
- e. Energy rich foods should not be given to children until after 2yrs of age Yes / No

**7. Give health reasons why health professionals recommend good maternal nutrition. Circle answers below:**

- a. Breastfeeding mothers need good nutrition for health
- b. Pregnant women have extra nutrition needs
- c. Pregnant women should not eat much so that the baby is small enough for easy birth
- d. Babies in the womb need good mother nutrition to grow



**8. Match the correct definition for Stunting and Wasting below. →**

- |             |   |
|-------------|---|
| a. Stunting | Low weight-for-height<br>(Child doesn't have enough weight if we compare to their height)               |
|             | Low height-for-age<br>(Child doesn't have enough height if we compare to their age)                     |
| b. Wasting  | Weight and height too much for age<br>(Child has too much weight and height if we compare to their age) |

---

**Adult Learning Component - Pre-Post test questions**

- 1. An adult learner could be described as which of the following: (Circle all those that apply below.)**
  - Experienced
  - Likes the presenter to talk the entire time during training with little interaction
  - Learns through active participation
- 2. What is the purpose of conducting the daily review during training of adults?**
  - To help participants bring up learning issues that still need clarification
  - To allow participants to wake up more fully to participate in the training
  - To help strengthen individual and group learning by reflection and discussion
  - To monitor how the training is going
- 3. Why is a pre- post-test used in training adults?**
  - To help measure learning during the training
  - To understand level of understanding of training topic at beginning of training
  - To see who will have the highest scores in the class
  - To improve training



---

### **Nutrition Knowledge Review - Basic**

1. The UNICEF Conceptual Framework describes three types of causes for malnutrition: basic causes, underlying causes and immediate causes.

Match the left side causes with the right side cause examples →

- |                     |                        |
|---------------------|------------------------|
| a. Basic Cause      | Illness                |
| b. Underlying Cause | Poor feeding practices |
| c. Immediate Cause  | Education              |
2. Minerals like zinc are one type of important “micronutrient” for children. What are 3 other important micronutrients? Circle 3 below:

- a. Vitamin A
- b. Iodine
- c. Breastmilk
- d. Vitamin B1
- e. Proteins

3. What are the 3 nutrients provided by the main Food Groups? Circle 1 below:

- a. Protein, Breastmilk, Vitamins
- b. Protein, Carbohydrate, Fat
- c. Protein, Minerals, Vitamins
- d. Proteins, Vegetables, Vitamins

4. Circle Yes or No - Food sanitation is important because:

- |  |          |
|--|----------|
| a. It prevents foodborne disease   | Yes / No |
| b. It keeps food safe for consumption  | Yes / No |
| c. It does not matter because the body has natural immunity against most food borne diseases | Yes / No |





5. You must wash your hands with soap after using the toilet. What other times must you wash hands with soap? Circle answers below:

- a. Before preparing food
- b. Before feeding baby
- c. Once a day after working on the farm
- d. After eating
- e. After changing a baby's diaper

6. Infant and Young Child Feeding (IYCF) is an important global health priority and a key camp program activity. Circle Yes or No about IYCF below:

- a. Exclusive Breastfeeding (ExB) for 6 months is a top infant feeding priority

Yes / No

- b. ExB also allows water and other sweet supplements if the weather is hot

Yes / No

- c. Complementary feeding should start immediately after one month

Yes / No

- d. Feeding infants and young children during illness must be increased

Yes / No

- e. Energy rich foods (sweet potato) should not be given to children until after 2yrs of age

Yes / No

7. Give health reasons why health professionals recommend good maternal nutrition. Circle answers below:

- a. Breastfeeding mothers need good nutrition for health
- b. Pregnant women have extra nutrition needs
- c. Pregnant women should not eat much so that the baby is small enough for easy birth
- d. Babies in the womb need good mother nutrition to grow



**8. Match the correct definition for Stunting and Wasting below. →**

- |             |  |
|-------------|--|
| a. Stunting | Low weight-for-height<br>(Child doesn't have enough weight if we compare to their height)                |
|             | Low height-for-age<br>(Child doesn't have enough height if we compare to their age)                      |
| b. Wasting  | Weight and height too much for age<br>(Child has too much weight and height if we compare to their age.) |

---

**Advanced Modules**

**Child Growth and Development – Advanced Module 7**

- 1. What are two important reasons for assessing child growth and development? – Choose only one best answer.**
- a. Useful but not vital to have information for nutrition planning
  - b. Growth and development shows if child is on the right progress track for overall health
  - c. Child growth is more important to track than child development
  - d. Child development is difficult to check for progress

**Advanced IYCF – Advanced Module 8**

- 2. Match common obstacles to Exclusive Breastfeeding up to 6 months. The first example is done for you.**
- |                       |       |   |
|-----------------------|-------|---|
| a. Family obstacle    | ===== | Grandmothers feed infant snacks for health                          |
| b. Personal obstacle  |       | Breastmilk is not believed to be enough food for infants            |
| c. Cultural belief    |       | Mothers may lack skills and confidence for successful breastfeeding |
| d. Community obstacle |       | Father believes infant baby needs water to prevent thirst           |
| e. Family obstacle    |       | Baby milk powder samples given free at the pharmacy                 |



**3. Complementary Feeding – Circle True or False for correct Complementary Feeding practices**

- a. Complementary feeding of solid/semi solid foods can begin as early as one month if the child is sick. (T or F)
- b. Between 6 – 9 months during complementary feeding, it is good to add sugar and other seasoning to the child’s food. (T or F)

**Nutrition Surveys - Module 10**

**4. Role – Purpose of Nutrition Surveys (slide 4)**

**Nutrition Surveys can measure four KEY nutrition/malnutrition status indicators – Severity, Extent, Distribution and Causes**

**One key measurement is the “Severity” of malnutrition. “Severity” measures how serious the degree of malnutrition is such as “severe acute malnutrition”. Please match below the indicator with the definition.**

- |                                 |                                   |
|---------------------------------|-----------------------------------|
| a. Extent of malnutrition       | Who has what kind of malnutrition |
| b. Distribution of malnutrition | Poor diet                         |
| c. Causes                       | Coverage of malnutrition          |

**5. TBC Nutrition Surveys (Advanced Module 10) - True or False**

**The TBC Nutrition Survey is an example of a comprehensive population based nutrition survey that can be adapted for many similar situations. The survey measures the following:**

- a. Malnutrition rates (T or F)
- b. Feeding practices (T or F)
- c. Food garden status (T or F)
- d. Nursery school enrolment (T or F)
- e. Household Hunger Scale (T or F)
- f. Household food shopping (T or F)
- g. Household water supply (T or F)
- h. Mothers clinic visits (T or F)



### Selective Feeding Programs (Advanced Module 11)

6. What are the two types of Selective Feeding Programs generally agreed to by humanitarian organizations during nutrition emergency situations (slide 6)? Circle True or False.
- a. Micronutrients Supplement Feeding Program (T or F)
  - b. Supplementary Feeding Program (T or F)
  - c. Emergency Feeding Program (T or F)
  - d. Therapeutic Feeding Program (T or F)

---

### Adult Learning Component - Pre-Post test questions

1. An adult learner could be described as which of the following: (Circle all those that apply below.)
- a. Experienced
  - b. Likes the presenter to talk the entire time during training with little interaction
  - c. Learns through active participation
2. What is the purpose of conducting the daily review during training of adults?
- a. To help participants bring up learning issues that still need clarification
  - b. To allow participants to wake up more fully to participate in the training
  - c. To help strengthen individual and group learning by reflection and discussion
  - d. To monitor how the training is going
3. Why is a pre- post-test used in training adults?
- a. To help measure learning during the training
  - b. To understand level of understanding of training topic at beginning of training
  - c. To see who will have the highest scores in the class
  - d. To improve training



Name: \_\_\_\_\_

**Indicate your level of competency BEFORE/AFTER the training on the scale of 1 to 5, with 1 being the lowest competency**

<b>Area of Competency</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
1. Helping another person change behaviour					
2. Using adult learning principles					
3. Planning a training event					
4. Using training objectives					
5. Facilitating a small group discussion					
6. Presenting a topic to a large group					
7. Demonstrating a procedure					
8. Using a flip chart					
9. Planning and organizing a training					
10. Developing a training plan					



### Overall Workshop Evaluation Questionnaire

Name of the Workshop: \_\_\_\_\_

	Excellent	Very Good	Good	Fair	Poor
I would rate the training overall as					
The content was					
The materials and visual aids were					
The amount of information was					
The sequence of information was					
The trainer facilitation was					
The training methodology was					
The practicum was					
The administration and organization of the workshop was					

Please write any other comment you wish to make:

Optional: Your Name: \_\_\_\_\_

# **TRAINING OF TRAINERS**

## **Nutrition Modules and Adult Learning**

### **Session Plan & Handouts**



## **Basic and Advanced Nutrition and Adult Learning**

### **For Training of Trainers (TOT)**

#### **Session Plan Combined - 5-day workshop**

#### **Session 1: Introduction, Expectations, Objectives and Pre-Course Assessment**

**Duration: 2 hours**

#### **1. Introduction: Trainer Notes**

In this Session, the Trainers welcome Participants; explain the Objectives and give a brief overview of the adult learning method.

Adult learning is:

- Learning by doing (participatory)
- Learning together by sharing knowledge with each other (teamwork)
- Respecting others' ideas and activities (respect)
- Practicing new skills
- Giving and getting feedback

#### **2. Objectives**

After the session, Participants will be able to:

- Name other Participants and Trainers
- Compare training objectives with participants' hopes
- Give the purpose of the training
- Explain the administrative arrangements for the training
- Begin to identify how much they know, and do not know about the nutrition topics to be covered in the training

#### **3. Training methods and content: Session Plan**

*(See detailed Session Plan below)*



## **ACTIVITY 1: Group Activity, Expectations (Hopes) & Session Objectives (45 mins)**

### **Trainer welcomes Participants and Guests – 15 mins**

- **Opening Speech given by a VIP from Camp officials or TBC/Health Agency**

### **Introduction: Group Activity – 45 mins**

- **Trainer leads activity**
- **Trainer cuts drawings/photos of camp or other scenes in half**
- **Trainer gives each Participant one half and tells Participants to find their matching halves**
- **Trainer tells the pairs to interview each other and ask:**
  - Name
  - One hope from the training
  - One fact about their lives (For example, hobby, favorite singer, favorite food)
- **Trainer asks each pair to introduce their partner to the whole group**
- **Trainer writes Participants' hopes on a flipchart**
- **Trainer presents PowerPoint - Purpose and List of Objectives**
- **Trainer compares hopes with the training objectives**  
(\*Keep the list of the hopes and training objectives in view for the rest of the training\*)
- **Give each Participant a copy of Objectives Handout**
- **Ask Participants to complete a written pre-test**

### **Purpose of the Training**

- **The purpose of the training is to give Participants facts about nutrition to make their work in the camps better**
  - **For example, they will be able to:**
    - Explain key public health nutrition facts
    - Use this information to understand nutrition for mothers and caretakers of children
    - Conduct better nutrition activities for topics related to maternal and child nutrition

### **Learning Objectives**

- **The Modules 1- 12 learning objectives for nutrition are as follows:**
  - Describe the UNICEF Nutrition Framework
  - Explain the role of nutrition in good health
  - Describe key food facts, for example:
    - Micro and macronutrients, six basic nutrients, three basic food groups and functions, balanced diet and food resources
  - Describe food sanitation rules, foodborne disease, food safety and unhygienic food, prevention practices for food safety and good personal hygiene
  - Describe child growth and development and needed related nutrition activities (using growth chart and nutrition education/counseling)
  - Describe main types of malnutrition especially protein energy malnutrition (PEM) (marasmus, kwashiorkor, wasting and stunting and micronutrient deficiency)
  - Describe causes of malnutrition using the framework: immediate, underlying and basic causes for individuals, households and communities in the camps
  - Describe basic causes of malnutrition for refugees

- Describe the Infection-Malnutrition Cycle
- Describe results of malnutrition
- Use basic anthropometry (body measurements) and individual nutrition information to measure and understand nutrition situation in the camps
- Describe different feeding programs (humanitarian response, food assistance, supplementary and therapeutic feeding programs, case management and referral systems)
- Describe correct Infant and Young Child Feeding (IYCF) (importance, breastfeeding, complementary feeding, care)
- Describe good maternal nutrition (nutrition during pregnancy, breastfeeding, and general health)

Trainer shows PowerPoint Slides - Introduction to Nutrition – Module Content – Modules 1 – 12.

**Trainer gives PowerPoint as a Handout telling participants that these are the content modules included to meet the Learning Objectives described above.**

### **ACTIVITY 2: Pre-Test - 45 mins**

- **The purpose of the pre-test is to:**
  - Show what Participants already know about good nutrition
  - Show Participant's strengths and weaknesses

### **Administrative arrangements - 15 mins**

- **Trainer describes training arrangements such as:**
  - Lunch, breaks, etc.

### **BREAK – 20 mins**

### **Session 2**

#### **Nutrition Information – Concepts and Principles with special reference to IYCF programs**

### **Day 1 – 2**

Trainer uses PowerPoint presentations and Session Plans for Basic Nutrition Modules 1 – 6 or Advanced Modules 7 – 12 depending on the level of participants and the training aim of the overall TBC Nutrition program. It is recommended that six modules be covered in a 5 day training

### **Session 3**

#### **Adult Learning and Training – Principles and Methods**

### **Day 3 (with mid-Morning, LUNCH and mid-Afternoon BREAKS)**

Training Team introduces the essential components of **Effective Adult Learning And Training**

- i. What is Adult Learning and how it is different from learning situations
- ii. Training and Learning By Objectives
  1. Knowledge, Attitude and Skills Objectives
  2. Using “SMART” objectives
- iii. Different training methods for knowledge, attitude and skills learning
  1. Cone of Learning – methods to use for best learning retention
- iv. Monitoring and Evaluating training – pre/post tests, direct observation, self-assessment questionnaires, quizzes and Q&A sessions

**Trainer presents PowerPoint session -**

#### **Session 4**

#### **Training Practicum**

#### **Day 4 – half day - Participant practicum preparation (with appropriate BREAKS)**

**Trainer divides Participants into groups of 5, assigns a Nutrition Module to each group, and briefs each group on the preparation process. 5 – 6 groups are the best fit for a 2 day practicum. Trainer Team explains the following points.**

- a. Review and understand the assigned Module consisting of Module Session Plan, PowerPoint Presentation and any materials or handouts
- b. Group selects a Nutrition Topic from their Module – whole or part – that can be delivered in 45 – 60 mins and begins to prepare
- c. Trainers provide support to the groups
- d. Trainer tells participants that this is also a way for participants to further study the nutrition facts and information presented during the nutrition technical presentations
- e. While each group presents their practicum session, other participants will serve as role-play “trainees”
- f. Each group is informed that their training presentations will be judged on the following criteria
  - Correctness and mastery of the nutrition knowledge – facts and information
  - Communication ability – group discussion management
  - Use of audio/visual and other teaching aids such as PowerPoint and flipcharts
  - Use of different training techniques – creativity. For example role play, Q&A, presentation with visual aids, learning games

## **Session 5**

### **Day 4.5 to Day 5**

#### **Training Practicum - Participant Presentations and Feedback**

##### **Trainer Team manages each group presentation –**

1. Keeps time and leads full group practicums review and feedback.
2. The feedback process is supportive and fair focusing on **four criteria** highlighting both good things and those to be improved.
  - a. *Correctness and mastery of the nutrition knowledge – facts and information*
  - b. *Communication ability – group discussion management*
  - c. *Use of audio/visual and other teaching aids such as PowerPoint and flipcharts*
  - d. *Use of different training techniques – creativity. For example role play, Q and A, presentation with visual aids, learning games*
3. The feedback order is participants, Training Team and then Practicum group self-assessment

## **Session 6**

### **Workshop Conclusion - 2-3 hours**

#### **The Trainer Team conducts Session Conclusion consisting of four activities**

1. Post- Test with results feedback
  - Prizes awarded for best performances – e.g., highest score, most improved score, etc.
2. Self-Assessment questionnaire – post training confidence and skills
3. Workshop evaluation questionnaire for improving the next training workshop
4. Participant testimonies about workshop experience and commitment statement putting the training into practice– volunteer activity
5. Graduation Certificate of Participation presentation

#### **4. Materials**

- Pictures for introduction game
- Folder for each Participant
- Flipchart, markers and tape
- Handout: Pre/Post Test, Pre-Training Assessment, Certificates, Workshop Evaluation Questionnaire, Prizes ( Books, Stationary items or other)
- Training Agenda
- PowerPoint 1– Course Objectives for presentation and handout
- Training Manual Nutrition Modules copies

- **PowerPoint 2 - Effective Adult Learning - Training PowerPoint for presentation and handout**
- **Handouts –**
  - PowerPoints Presentations 1 (Nutrition) and 2 (Adult Learning TOT)
  - Adapted from Effective Adult Learning: A Toolkit for Teaching Adults. Northwest Center for Public Health Practice, University of Washington, School of Public Health. <http://www.nwcphp.org>.
    - Adult Learning Tips
    - Adult Learning Objectives
    - Training Methods -Cone of Learning (Edgar Dale, Audio-Visual Methods in Teaching (3<sup>rd</sup> Edition). Holt, Rinehart and Winston (1969).

---

**Note -**

*Camp staff may be shy about participatory training techniques (adult learning), for example, speaking in class, sharing ideas, giving personal opinions or asking questions. The Trainer should help them to participate by saying:*

- *Because this is a new training method, the Trainer will be patient and helpful.*
- *Active learning helps participants to understand new facts and information.*
- *Trainers tell the participants that what they know about the camp and their own culture, giving opinions and sharing information, is very important for understanding how to make good nutrition activities for the camps.*
- *Trainers encourage participants to help each other and be confident sharing what they know.*
- *Participants should ask questions when they need to.*
- *The training is the best time to ask questions.*
- *Once In the field, participants cannot easily get help from their Trainers.*

## Handouts

### Adult Learning - Some useful TIPS for effective training room learning presentations

Capturing the attention of class of learners takes skill. Here are some suggestions for making effective presentations.

1. Don't "talk at" participants. Involve them in the material by showing how it is relevant to them, asking them questions and seeking their comments.
2. Allow participants to discover data for themselves.
3. Ask participants to keep an action or idea list, and revisit it throughout the session.
4. Change the pace of the presentation. Listening attentively only lasts about 20 minutes at a time.
5. Allow adult learners to use their expertise by leaving time to share experiences.
6. Don't offer material only one way. Recognize your participants will learn differently.
7. Keep eye contact with the whole group.
8. Be "friendly" – learning is improved when participants feel they are in a welcoming "safe" learning environment.
9. Adjust your pace of speaking to suit the class participants.
10. Encourage positive group dynamics. Reform and move students into groups as needed to encourage good interactive learning.

Adapted from Effective Adult Learning: A Toolkit for Teaching Adults. Northwest Center for Public Health Practice, University of Washington, School of Public Health. <http://www.nwcphp.org>.

## Adult Learning - 4 factors of strong learning objectives

1. The **action verb** is the most important part of an objective and should never be left out.

It states precisely what the student will do following instruction. Verbs are categorized by major types of learning and various levels of learning. The 3 types of learning are:

- Knowledge learning - emphasizes thinking
  - Attitudes and feelings learning
  - Skills learning - focuses on doing
2. **Conditions** describe the relevant factors associated with the desired performance. For example: “after attending a lecture,” “following observation of a demonstration,” or “given a case study.”
  3. **Standards**, or criteria, tell how well the learner must perform. For example, the learner must: 1) achieve a percent of correct responses, 2) complete something within a given time period, 3) be in compliance with criteria presented by the trainer.
  4. **The audience** for your learning objectives is always the Participants. Make sure you are clearly defining your audience before writing learning objectives.

---

### • **Diagram of a Learning Objective**

After completing this course (*condition*), **you** should be able to (*audience*)... **list** (*verb*) ... at **least 3** common information sources (*standard*) ...**used to describe** nutrition status of a camp community.

**A proper learning objective therefore includes the following – Audience, Action Verb, Standard of performance and Condition for success**

- **“SMART” objective is a common guide**  
**S = specific, M = measurable, A = achievable, R = relevant/realistic, T = time**

## Training Methods - Cone of Learning

After 2 weeks we remember...



## Training Delivery - Cone of Learning

How to increase remembering?

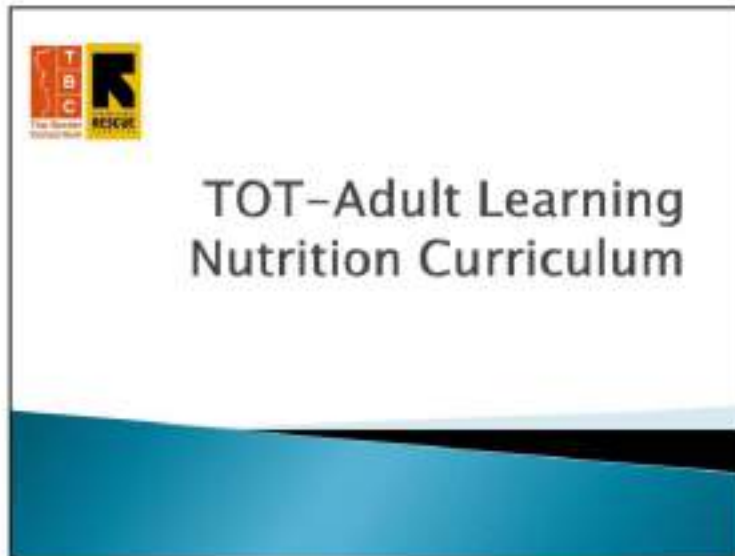
Be aware that:

After two weeks we remember:

- 90% ...of what we ...DO
- 70% ...of what we ...SAY
- 50% ...of what we ...SEE and HEAR
- 30% ...of what we ...SEE
- 20% ...of what we ...HEAR
- 10% ...of what we ...READ

TBC Master TOT Standardized  
Nutrition Curriculum July 2015  
MJA





## Daily Review

- Purpose
  - Part of ongoing training monitoring
  - To enable participants to reflect on important personal learning points and discuss these with other participants
  - To help participants bring up learning issues that may still need clarification
  - To help strengthen individual and group learning by reflection and discussion

TOT Nutrition Curriculum



## Adult Learning – Objectives

- ▶ By end of training, Participants will be able to:
  1. Describe key principles and practices of effective adult learning including participatory training techniques, knowledge, attitude, skills learning and training evaluation
  2. Show strong beginning of TOT skills through practice sessions covering 6 modules of standardized nutrition curriculum

TOT Nutrition Curriculum



## Content

- ▶ **Adult Learning Knowledge and Skills**
  - Principles and practices of effective adult learning
  - Training techniques for participatory training
  - Evaluation of training
  - Training skills practice

TOT Nutrition Curriculum



## Agenda

- ▶ Day 1
  - Objectives and Purpose
  - Nutrition Programme Update and Technical Information
- ▶ Day 2
  - Nutrition Update continued
  - Adult Learning and Training
  - Training Methods
  - Effective Training
  - Training Practice in Small Groups

TeT Nutrition Curriculum



## Timetable

- ▶ Day 3
  - Continue Training Practice in Small Groups
- ▶ Day 4 – 5
  - Finish Training Practice in Small Groups
  - Post-test
  - Summarize Learning
  - Certificates

TeT Nutrition Curriculum



## Daily Review

### ▸ Purpose

- Part of ongoing training monitoring
- To enable participants to reflect on important personal learning points and discuss these with other participants
- To help participants bring up learning issues that may still need clarification
- To help strengthen individual and group learning by reflection and discussion

TOT National Curriculum



## TOT – Day 2

### Adult Learning and Training

TOT National Curriculum



## Adult Learning and Training

Objective:

- Describe key principles and practices of effective adult learning including participatory training techniques, skills learning and training evaluation

TET National Curriculum



## What is Adult Learning?

- ...Focus on dialogue and participation among all training participants – trainer/facilitator, resource people and participants
- ...Recognizes adults learn differently from children
- ...Based on mutual respect between trainer and participant and among participants themselves

TET National Curriculum



## Adult Learning Principles

Adult Learning Principles believe that adults learn best when:

- Learners are respected for their life experience
- Training is relevant to real needs
- Active participation takes place
- Learners feel engaged and can share experience
- Participants feel welcomed and "safe" to explore and learn
- Learning includes team work and learning together
- Learning includes ideas, feelings and actions

TuT Solutions Contributor



## Learning Objectives

If we don't know where we are going, we won't know when we have arrived.

TuT Solutions Contributor



## Learning Objectives

### Adult Learning – Training objectives

- By end of training:

*Describe key principles and practices of effective adult learning including participatory training techniques, knowledge attitude and skills learning and training evaluation as covered in the training*

TeT Nutrition Curriculum



## SMART Objectives

- S = specific
- M = measurable
- A = achievable
- R = relevant/realistic
- T = time frame

*"After completing this training, participants will be able to list 3 common information sources used to describe nutrition status of the community"*

TeT Nutrition Curriculum



## Training Delivery - Cone of Learning

How to increase remembering?

Be aware that:

After 2 weeks we remember:

- ...% of what we DO
- ...% of what we SAY
- ...% of what we SEE and HEAR
- ...% of what we SEE
- ...% of what we HEAR
- ...% of what we READ

TeT National Curriculum



## Training Methods - Cone of Learning

After 2 weeks we remember...



TeT National Curriculum





## Training Delivery – Cone of Learning

How to increase remembering?

Be aware that:

After 2 weeks we remember:

- 90% ...of what we ...DO
- 70% ...of what we ...SAY
- 50% ...of what we ...SEE and HEAR
- 30% ...of what we ...SEE
- 20% ...of what we ...HEAR
- 10% ...of what we ...READ

TaT National Curriculum



## Common Training Methods

- ▶ Lecture – Illustrated with Slides or Posters
- ▶ Interactive Presentation – with “Q & A” discussion with participants
- ▶ Question and Answer – “Q & A”
- ▶ Small Group Exercises – discussion, case study, project work
- ▶ Role Play – “simulation”
- ▶ Demonstration with return demonstration
- ▶ Individual study – short reading assignment followed by discussion or Q & A

TaT National Curriculum



## Training – Monitoring and Evaluation

- › Monitoring is checking the progress and effectiveness of the training process – can be done by the Training Team
- › Evaluation is assessing the overall effectiveness of the training especially how well the training has improved job performance and the nutrition status of served communities – usually done by outside specialists

YCF Nutrition Curriculum



## Basic –training monitoring

- › During the training
  - Pre- and Post-Test
  - Q & A for each module
  - Short Quizzes
  - Daily reflection of training sessions
- › After the training
  - Observing trainees applying their skills in the field
  - Using a standard checklist for observing trainees in the field
  - Survey of changing IYCF behavior and practices in communities served

YCF Nutrition Curriculum



TOT Day 2

LUNCH BREAK



TOT National Curriculum  
The National Curriculum

Qualities of Effective Trainer

Exercise

- › List qualities of effective trainer
- › List qualities of effective training workshop
- › What are qualities of ideal participant?



TOT National Curriculum  
The National Curriculum

## Qualities Effective Trainer

- › Communication/Presentation Skills
- › Knowledge of content
- › Organization of learning
- › Checklist approach for monitoring

TaT National Curriculum



## Organizing Effective Training

- › Training room organization
- › Managing participants
- › Conducting training sessions
- › Facilitating discussions/ Group work
- › Skills for conducting practical training activities

TaT National Curriculum



## Organizing Training Practice

- Overview of Training Session Plan
- Review Module Training Session

TaT National Curriculum



## Daily Review

- Purpose
  - Part of ongoing training monitoring
  - To enable participants to reflect on important personal learning points and discuss these with other participants
  - To help participants bring up learning issues that may still need clarification
  - To help strengthen individual and group learning by reflection and discussion

TaT National Curriculum



## TOT Day 2 - 3

### Training Practice

TOT National Curriculum



## Day 2-3 Training Practice

### Later part Day 2 - 1<sup>st</sup> half Day 3

- Form groups of 4/5
- Under guidance of group leader review assigned Module
- Prepare to deliver the Module training session
  - Assemble materials
  - Rehearse with group
- Present the Module
- Other participants observe and feedback

TOT National Curriculum



## Training Presentation Feedback

- › Presentation Skills
- › Mastery of Nutrition Information
- › Use of AV Materials
- › Group Management

TeT Nutrition Curriculum



## Day 4 –5 Training Wrap-up

- › Last groups present
- › Post-Test taken
- › Post-Test reviewed and answers given
- › Final Training Review
  - › Evaluation Questionnaire
  - › Discussion
  - › Presentation of Certificates

TeT Nutrition Curriculum



# **BASIC MODULES**

**1-6**



**MODULE 1**

**INTRODUCTION TO NUTRITION  
TRAINING**

**SESSION PLAN & HANDOUTS**



## **Introduction to Nutrition**

### **Module 1 - Session Plan**

#### **Session 1: Introduction, Expectations, Objectives and Pre-Course Assessment**

**Duration: 2 hours**

##### **1.1. Introduction: Trainer Notes**

In this Session, the Trainers welcome Participants; explain the Objectives and give a brief overview of the adult learning method.

Adult learning is:

- Learning by doing (participatory)
- Learning together by sharing knowledge with each other (teamwork)
- Respecting others' ideas and activities (respect)
- Practicing new skills
- Giving and getting feedback

##### **1.2. Objectives**

After the session, Participants will be able to:

- Name other Participants and Trainers
- Compare training objectives with participants' hopes
- Give the purpose of the training
- Explain the administrative arrangements for the training
- Begin to identify how much they know, and do not know about the nutrition topics to be covered in the training

##### **1.3. Training methods and content: Session Plan**

*(See detailed Session Plan below)*

### **ACTIVITY 1: Group Activity, Expectations (Hopes) & Session Objectives (45 mins)**

#### **Trainer welcomes Participants and Guests – 15 mins**

- Opening Speech given by a VIP from Camp officials or TBC/Health Agency

#### **Introduction: Group Activity – 45 mins**

- Trainer leads activity
- Trainer cuts drawings/photos of camp or other scenes in half
- Trainer gives each Participant one half and tells Participants to find their matching halves
- Trainer tells the pairs to interview each other and ask:
  - Name
  - One hope from the training
  - One fact about their lives (For example, hobby, favorite singer, favorite food)
- Trainer asks each pair to introduce their partner to the whole group
- Trainer writes Participant hopes on a flipchart
- **Trainer presents PowerPoint - Purpose and List of Objectives**
- **Trainer compares Hopes with the training objectives**  
(\*Keep the list of the hopes and training objectives in view for the rest of the training\*)
- **Give each Participant a copy of Objectives Handout**
- **Ask Participants to complete a written pre-test**

#### **Purpose of the Training**

- **The purpose of the training is to give Participants facts about nutrition to make their work in the camps better**
  - **For example, they will be able to:**
    - Explain key public health nutrition facts
    - Use this information to understand nutrition for mothers and caretakers of children
    - Conduct better nutrition activities for topics related to maternal and child nutrition

#### **Learning Objectives**

- **The Modules 1- 12 learning objectives for nutrition are as follows:**
  - Describe the UNICEF Nutrition Framework
  - Explain the role of nutrition in good health
  - Describe key food facts, for example:
    - Micro and macronutrients, six basic nutrients, three basic food groups and functions, balanced diet and food resources
  - Describe food sanitation rules, foodborne disease, food safety and unhygienic food, prevention practices for food safety and good personal hygiene
  - Describe child growth and development and needed related nutrition activities (using growth chart and nutrition education/counseling)
  - Describe main types of malnutrition especially protein energy malnutrition (PEM - (marasmus, kwashiorkor, wasting, stunting and micronutrient deficiency)

- Describe causes of malnutrition using the framework: immediate, underlying and basic causes for individuals, households and communities in the camps
- Describe basic causes of malnutrition for refugees
- Describe the Infection-Malnutrition Cycle
- Describe results of malnutrition
- Use basic anthropometry (body measurements) and individual nutrition information to measure and understand nutrition situation in communities
- Describe different feeding programs (humanitarian response, food assistance, supplementary and therapeutic feeding programs, case management and referral systems)
- Describe correct Infant and Young Child Feeding (IYCF) (importance, breastfeeding, complementary feeding, care)
- Describe good maternal nutrition (nutrition during pregnancy, breastfeeding, and general health)

Trainer shows PowerPoint Slides - Introduction to Nutrition – Module Content – Modules 1 – 12.

**Trainer gives PowerPoint as a Handout telling participants that these are the content modules included to meet the Learning Objectives described above.**

### **ACTIVITY 2: Pre-Test - 45 mins**

- **The purpose of the pre-test is to:**
  - Show what Participants already know about good nutrition
  - Show Participant's strengths and weaknesses

### **Administrative arrangements - 15 mins**

- **Trainer describes training arrangements such as:**
  - Lunch, breaks, etc.

#### **1.4. Materials**

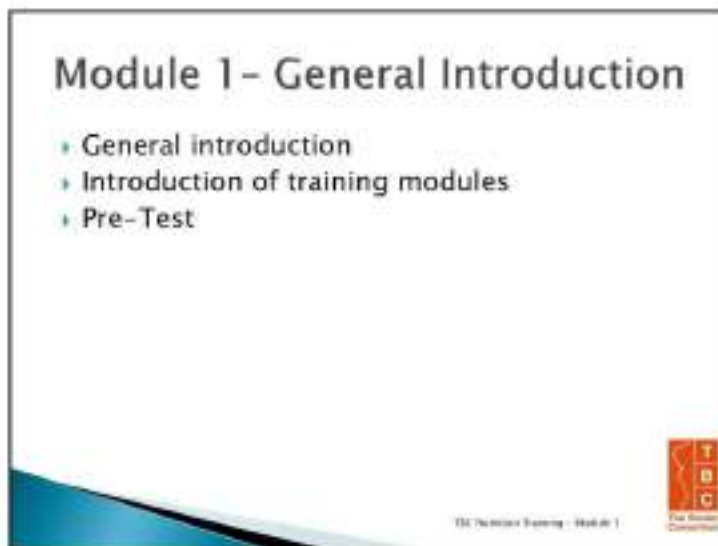
- **Pictures for introduction game**
- **Folder for each Participant**
- **Flipchart, markers and tape**
- **Handout: Pre-Training Assessment**
- **Training schedule**
- **PowerPoint – Course Objectives for presentation and handout**

**Note -**

*Camp staff may be shy about participatory training techniques (adult learning), for example, speaking in class, sharing ideas, giving personal opinions or asking questions. The Trainer should help them to participate by saying:*

- *Because this is a new training method, the Trainer will be patient and helpful.*
- *Active learning helps participants to understand new facts and information.*
- *Trainers tell the participants that what they know about the camp and their own culture, giving opinions and sharing information, is very important for understanding how to make good nutrition activities for the communities*
- *Trainers encourage participants to help each other and be confident sharing what they know.*
- *Participants should ask questions when they need to.*
- *The training is the best time to ask questions.*

*In the field, participants cannot easily get help from their Trainers*



## Module 2 – Public Health Nutrition

- › Introduction of UNICEF Conceptual Framework for Nutrition
- › Importance of nutrition to health

HE Nutrition Training – Module 1



## Module 3 – Food Groups

- › Introduction to macronutrients and micronutrients
- › Six basic nutrients
- › Three basic food groups and their functions
- › Balanced diet in terms of proportion of three food groups
- › Food resources

HE Nutrition Training – Module 1



## Module 4 – Food Sanitation

- › Definition of food sanitation
- › Foodborne diseases
- › Food safety
- › Unhygienic food
- › Practices to prevent foodborne diseases and good personal hygiene

THE Nutrition Training – Module 1



## Module 5 – Causes of Malnutrition

- › Immediate and underlying causes of malnutrition affecting individuals, households and communities
- › Basic causes of malnutrition
- › The infection-malnutrition cycle
- › Consequences of malnutrition

THE Nutrition Training – Module 1





## Module 6 – Infant and Young Child Feeding – Basic

- › Introduction
- › Importance of infant and young child feeding (IYCF)
- › Breastfeeding
- › Complementary feeding
- › Ideal IYCF

IBC Nutrition Training – Module 1



## Module 7 – Child Growth and Development

- › Definition of growth and development
- › Importance of assessing growth and development
- › Factors affecting growth and development
- › Normal growth and development
- › Developmental milestones
- › Using growth chart
- › Interpretation of growth assessment and counseling

IBC Nutrition Training – Module 1



## Module 8 IYCF – Advanced

- IYCF – Core Review
- IYCF – Communication Skills

TBC Nutrition Training – Module 1



## Module 9 – Measurement of Malnutrition: Anthropometry and Individual Nutritional Status Indicators

- Background of anthropometric (body) measurements
- Purpose of anthropometrics (body measuring)
- Importance of anthropometric data
- Role of anthropometric examiners and recorders
- Anthropometric procedures

TBC Nutrition Training – Module 1



## Module 10 – Nutrition Surveys, Analysis and Interpretation

- › Objective of a nutrition survey
- › Types of nutrition surveys
- › Nutrition survey plan and procedures

BC Nutrition Training – Module 1



## Module 11 – Selective Feeding Programs

- › Introduction to malnutrition and humanitarian response
- › Food and nutrition assistance in emergencies and post-emergencies
- › Supplementary feeding program (SFP) guidelines
- › Therapeutic feeding program (TFP)
- › Management of malnutrition cases and referral system

BC Nutrition Training – Module 1



## Module 12 - Maternal Nutrition

- Introduction
- Nutrition during pregnancy
- Nutrition during lactation (breastfeeding)
- Consequences of maternal malnutrition

THE Nutrition Training - Module 1



## Course Evaluation

- Post-workshop assessment

THE Nutrition Training - Module 1



## **MODULE 2**

# **PUBLIC HEALTH NUTRITION SESSION PLAN & HANDOUTS**



## Public Health Nutrition

### Module 2 - Session Plan

#### Session 2: Public Health Nutrition – 3 levels of causes of malnutrition

Duration: 1-hour 45 mins

##### 2.1 Introduction: Trainer Notes

Information about good community nutrition and what causes malnutrition helps us to understand good public health nutrition (community-wide nutrition).

In 1990, UNICEF created a framework to explain the causes of malnutrition. The framework shows that food, care and health practices affect nutrition. In the framework, the causes of malnutrition are:

- **Immediate causes**
- **Underlying causes**
- **Basic causes**
- **The three levels affect each other**

This framework describes the causes of malnutrition. It suggests activities to prevent malnutrition.

\*The Trainer begins the session saying this is an introduction. In Session/Module 5, Participants will learn more about the Framework.

##### 2.2 Objectives

After the session, Participants will be able to:

- Describe the UNICEF Nutrition Framework
- Name the three levels of causes (Immediate, Underlying and Basic causes)
- Give one example of an immediate, underlying and basic cause of malnutrition

## 2.3 Training Methods and Content: Session Plan

*(See detailed Session Plan below)*

### **ACTIVITY 1: Session Objectives and Group Activity (45 mins)**

#### **Introduction**

- **Trainer presents: Session Objectives, Slides 1 – 3**
- **Trainer explains: Public health nutrition also refers to “community nutrition”.**

#### **Whole Group Activity**

- **Trainer explains the group exercise**
  - Trainer explains adult learning methods
  - Participants will:
    - Work together to discuss ideas and experience
    - Expand what they already know by learning from others
    - Add new facts from the presentation
- **Trainer divides trainees into 3 groups**
- **Trainer gives each group a set of three blank cards**
- **Trainer asks them to write one cause of malnutrition on each card**
- **Trainer tells the groups to tape their cards on the wall**
- **Trainer sticks 3 cards on the wall with labels:**
  - **Immediate** – food and disease
  - **Underlying** – food safety, care of women, child care and health
  - **Basic** – political, economic, cultural
- **Trainer helps group to stick their cards under the correct heading**
- **Trainer then tapes another card on the wall marked “Results of Poor Nutrition”**
  - Trainer gives example
  - Not eating enough food (protein and energy) during and after sickness, or during pregnancy, can cause the following
  - Poor growth - child weight and height
  - Not enough micronutrients
- **Trainer asks group to give examples**
- These include - low birth weight; stunted height; growth, development and intellectual delays; illness; death and reduced productivity

**BREAK: 15 mins (optional)**

### **ACTIVITY 2: PowerPoint Presentation (30 mins)**

- **Trainer shows the Module 2 PowerPoint starting with the UNICEF Nutrition Framework**
- **Trainer shows: Slide 4 - 5**
  - **Trainer describes the Framework:**
    - Names the 3 levels of causes
    - Explains each level
    - Explains how each level is connected

- The immediate cause is affected by an underlying cause which is affected by basic causes
- Trainer refers to the earlier Group discussion for examples
- **Trainer shows Slide 6: Importance of Nutrition on Health**
- **Trainer shows Slides 7 - 10**
- **Trainer explains that good nutrition is important throughout life:**
  - **Fetus**
  - **Newborn**
  - **Child**
  - **Adolescent**
  - **Adult**
  - **Old Age**
- **Trainer explains:**
  - Focus is placed on nutrition for infants, children and pregnant and lactating women (those more at risk for malnutrition)

#### **Trainer's Comments (15 mins)**

- **After the presentation, the Trainer says:**
  - The UNICEF Nutrition Framework shows that everyone can support good nutrition
    - Family
    - Health authorities
    - Food providers/ agriculture
    - Educators
    - Policy leaders
  - There are three key points for good nutrition:
    - Access to food
    - Adequate care for women and children
    - Access to basic health services

#### **2.4 Materials**

- **Flipchart, markers, tape**
- **Index Cards**
- **Larger cards with headings – Immediate, Underlying and Basic Causes**
- **PowerPoint – Module 2 Public Health Nutrition**
- **Handout – UNICEF Conceptual Framework and PowerPoint Presentation**

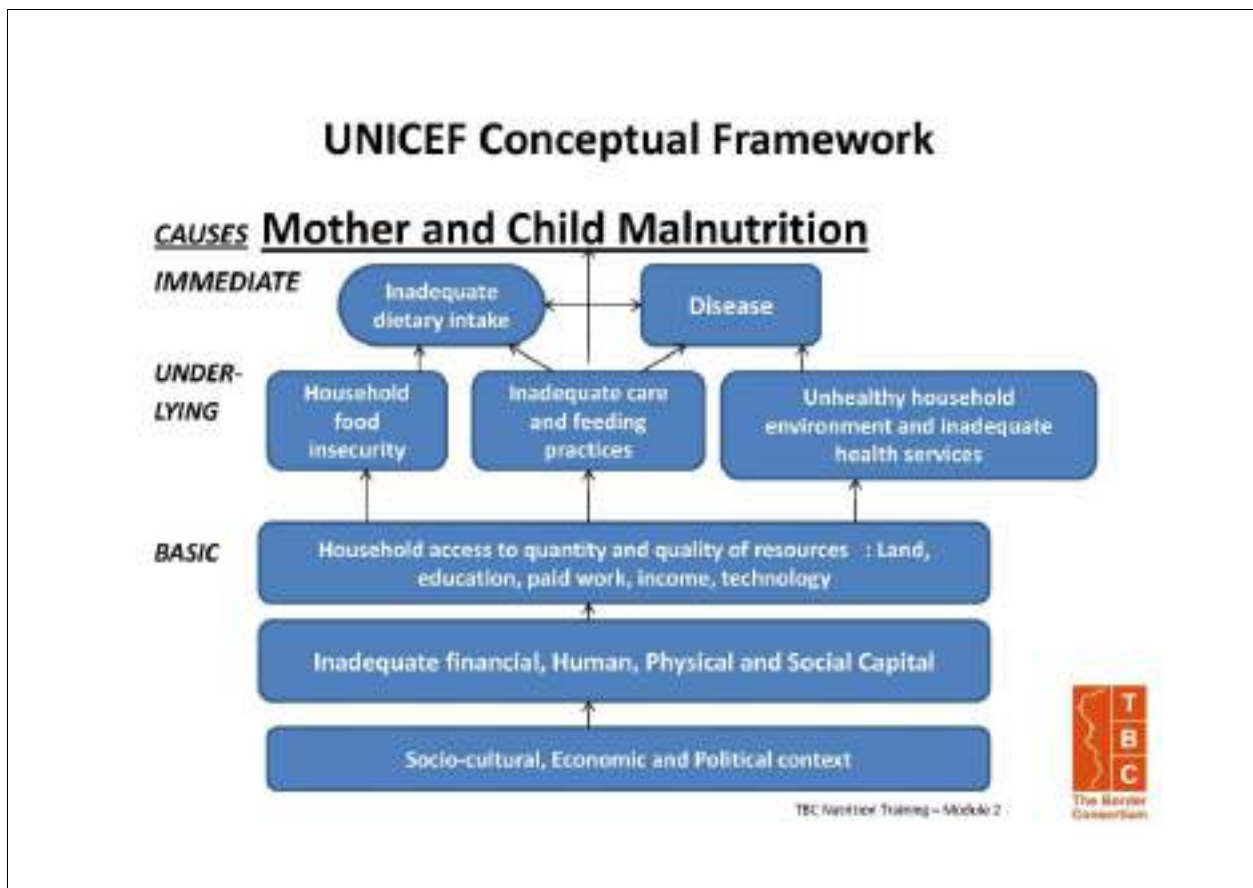
---

#### ***Training Note for Camp-based Staff***

*The camp-based staff has practical duties. The Framework is best described by using examples of camp or local conditions for families, camp communities and camp organization especially when discussing basic and underlying causes.*



## Handout – Public Health Nutrition Module 2





## Contents

- › Introduction to UNICEF Nutrition Framework
- › Why nutrition is important for health?

UNICEF Nutrition Training - Module 1



## UNICEF Conceptual Framework



UNICEF Nutrition Training - Module 1



## NOTE

There are three levels of causes of malnutrition:

- ▶ 1st level – Immediate Causes
- ▶ 2<sup>nd</sup> level – Underlying Causes
- ▶ 3<sup>rd</sup> level – Basic Causes

## Importance of Nutrition on Health

(1 of 3)

- ▶ It is a main giver of human life, health and development at all stages of life
- ▶ Good nutrition is needed throughout the lifecycle:
  - Fetus to Newborn to Child to Adolescent to Adult to Old Age

## Importance of Nutrition on Health

(2 of 3)

Good nutrition is essential for:

- Personal survival
- Physical growth
- Mental brain development
- Performance – having strength and energy to work
- Productivity – being able to keep working
- Health and wellbeing – not being sick and being happy

TBC Nutrition Training – Module 2



## Importance of Nutrition on Health

(3 of 3)

Nutrition is important for managing:

- Infectious diseases such as malaria, flu, diarrhea
- Non-infectious diseases such as cancer, diabetes

TBC Nutrition Training – Module 2



Note:

It is possible to reach and keep good health if there is **NO** hunger, starvation and malnutrition.

Good Nutrition is also essential for production for society and for a country's economic development

**MODULE 3**

**FOOD GROUPS**

**SESSION PLAN & HANDOUTS**



## **Food Groups:**

### **Module 3 - Session Plan**

#### **Session 3: Nutrition Module – Food Groups – Macro- and Micro-Nutrients, Food Functions, Balanced Diets**

**Duration: 2 hours 45 mins**

##### **3.1 Introduction: Trainer’s Notes**

This module will introduce some important food definitions and concepts.

This information helps us in our work to understand the role of food in good nutrition.

##### **3.2 Objectives – PowerPoint Slides 1- 4**

After the session, Participants will be able to:

- Describe 6 basic nutrients
- Describe 3 main food groups
- Identify basic nutrients needed in the daily diet
- Identify main food groups and their use in the community
- Describe the definition of a balanced diet and give an example for the camps

##### **3.3 Training Methods and Content: Session Plan**

*(See detailed Session Plan below)*



### **ACTIVITY 1: Session Objectives, Content and Q&A (30 mins)**

#### **Introduction**

- Trainer introduces the session by presenting **Session Objectives: Slides 1-3 (15 mins)**
- Trainer says:
  - Knowing the correct food terms helps us create good nutrition programs

#### **Whole Group Discussion**

- Trainer asks **Participants what they already know about types of food (15 mins)**
- Trainer guides the Q &A discussion to lead to the terms:
  - Nutrients: micro and macro
  - Food groups
  - Good/balanced diet

### **ACTIVITY 2: PowerPoint Presentation & Discussion (2 hrs)**

- Before the presentation, Trainer tells **Participants to make notes during the PowerPoint**
- Trainer gives **Participants copy of PowerPoint**

#### **Macro/Micronutrients: Slides 4-6 (15 mins)**

- Trainer explains:
  - We need large amounts of **Macronutrient** foods
    - **Protein, Carbohydrate, Fat**
  - We need small amounts of **Micronutrient** foods
    - **Vitamins and Minerals:**
      - Vitamin A for infants and children –to improve immunity and prevent Vitamin A deficiency (VAD), which can result in blindness
      - Iron and folic acid supplements for pregnant women
      - Iodized salt supplementation for everyone preventing Iodine Deficiency Disorders (IDD)
      - Zinc for immunity and diarrhea

#### **6 Basic Nutrients: Slides 7 – 19 (1 hr.)**

- Trainer says:
  - **Carbohydrate, Protein, Fat, Vitamins, Minerals and Water are the 6 basic nutrients**
- Trainer Presents slides 7-19: **define nutrient and describe function**
  - Refer to common local foods that are main nutrient examples. For example, eggs are a source of protein or “body building or growth” food
  - Ask participants to name common and popular food items from their diets
  - Identify “nutrient value” – nutritious or not?

**BREAK: 15 mins (optional)**

### **ACTIVITY 2: PowerPoint Presentation & Discussion (continued)**

#### **Three Main Food Groups: Slides 20 – 24 (15 mins) and show food models (available in camp offices) or pictures of foods**

- Trainer says that **nutrition in food supports the body**
- Ask **Participants to identify 3 food groups using food models or pictures to assess their knowledge**

- **Trainer asks Participants if they know how food groups are organized**
- **Trainer explains that Foods are organized by how they support the body**
  - Energy Food Group
  - Body Building Food Group
  - Protective Food Group
- **Trainer presents slides 20-24**
- **During the presentation, Trainer can ask Participants questions about the foods/groups**
  - How do families and the community where you work use the food groups?
  - What are some popular foods and traditional food rules? (For example, traditional “hot” and “cold” foods, pregnancy restriction food rules)
  - Are these beliefs/rules helpful or not?
  - Why are some foods popular or not?
- **Trainer says that water is a needed nutrient for all body functions and safe water must be available for a nutritious diet.**

### **Concept of the “Balanced Diet”: Slides 25 – 29 (15 mins)**

- **Trainer introduces the concept of balanced diet by explaining the AsiaREMix ingredients:**
  - Carbohydrates
  - Protein
  - Fats
  - Micronutrients
- **“Balanced diet” helps you eat correctly:**
  - When people are identified as malnourished
  - When people are vulnerable (young children, mothers, sick people)
- **Trainer gives definitions and explains:**
  - A balanced diet contains the correct amounts of carbohydrates, fats, proteins, vitamins, minerals, and water necessary for good health.

*(Promoting the correct “balanced diet” is an important communication priority for field staff – food for energy, food for body building and food for protection.)*

- **Trainer Presents slides 25 – 29 (15 mins)**
  - What is a balanced diet?
  - Getting a balanced diet
  - Purposes of balanced diet
  - Where to get food? (Food sources)

### **Trainer’s Conclusion (15 mins)**

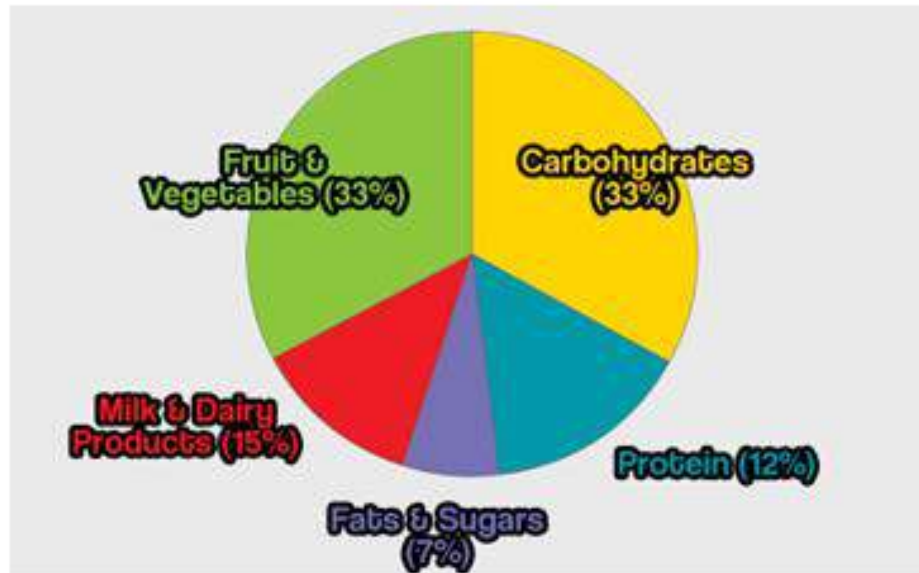
- **After the presentation, the Trainer says:**
  - Information about Food (nutrients, groups, and diet) helps us to understand one “immediate cause” of malnutrition: access to food.
  - When people eat a balanced diet for their life needs, they will be healthy.
  - When we understand food, we can also understand the food needs of:
    - A person, a family, or a community.
  - This information helps us do our job better.
  - A long-term unbalanced diet is one main reason for low birthweight, stunting, wasting and other nutrition problems.

*(The definition of “balanced diet” in pregnancy, for breastfeeding, for infant and young child growth and for illness will be covered in the Modules on maternal health during pregnancy and breastfeeding and infant and young child feeding.)*

### **3.4 Materials**

- **Computer, PowerPoint projector and screen**
  - **PowerPoint Presentation – Food Groups**
  - **Food models (available in each Camp office) or pictures of foods**
  - **Handouts of PowerPoint – Module 3 Food Groups**
-

## Balanced Diet – General amounts





## Objectives

After the session, participants should be able to:

- describe 6 basic nutrients
- describe 3 main food groups
- identify basic nutrients in daily diet
- identify main food available in community
- define balanced diet and give examples for their community

BC Nutrition Training – Module 3



## Contents

- › Introduction to macronutrients and micronutrients
- › 6 basic nutrients
- › 3 main food groups and their main functions
- › Balanced diet in terms of proportions of the 3 food groups
- › Food resources

## What are Nutrients?

- › Can be divided into 2 groups, namely macronutrients and micronutrients

## Macronutrients

- ▶ Require large amount
- ▶ Macronutrients are
  - Carbohydrate
  - Protein
  - Fat

## Micronutrients

- ▶ Require only small amount
- ▶ Micronutrients are
  - Vitamins
  - Minerals

## Basic Nutrients

- › There are about 50 nutrients
- › Most natural foods contain more than one nutrient
- › Nutrients are needed to build and maintain good health
- › Either too much or not enough of nutrients = poor health

## 6 Basic Nutrients

- › Carbohydrate
- › Protein
- › Fat
- › Vitamins
- › Minerals
- › Water



## Carbohydrate

- › Functions
  - main source of energy
  - can be stored in body as fat
- › Sources
  - starch
  - sugar



## Carbohydrate



## Protein

- › Functions
  - Body building
  - Repair and keep body tissues healthy
  - Helps body to produce antibody, hemoglobin, plasma protein, enzymes, etc.
- Sources
  - Animal source
  - Vegetable source
- › Daily requirement



## Protein - Animal Sources



## Protein – Vegetable Sources



BC Nutrition Training – Module 5



## Fat

- » Functions
  - provide high energy
  - carrier for soluble vitamins
  - support viscera–internal organs such heart/liver
  - insulation against cold
  - palatability (taste/ flavor)
  - growth, integrity of cell membrane
- » Sources
- » Daily requirement
- » Too much intake – obesity, Ischemic Heart Disease (IHD), cancers

BC Nutrition Training – Module 6



## Fat



The image shows three bottles of cooking oil in the top left and a block of butter on a plate in the top right. Below these, there are two more bottles of oil and a small block of butter.

© 2010 Pearson Education, Inc. All rights reserved.

## Vitamins

- › Fat soluble - A,D,E,K
- › Water soluble - B group and C
- › Functions
  - Each vitamin has specific function
- › Sources
  - Different sources for different vitamins
  - Animal sources
  - Vegetable sources

© 2010 Pearson Education, Inc. All rights reserved.

## Sources of Vitamins



WU Nutrition Training – Module 5

## Minerals

- Major minerals - Calcium, Sodium, Potassium, Magnesium, Phosphorus
- Trace elements - Iron, Iodine, Fluoride, Zinc
- Functions
  - body growth
  - body repair
  - regulation of vital body functions



WU Nutrition Training – Module 5

## Water

- 60% of the body weight
- Vital for functioning of all systems
- Functions
  - carry nutrients to cells
  - lubricate joints
  - maintain body temperature
  - eliminate wastes and toxins



## Three Main Food Groups

- Energy Group
- Body Building Group
- Protective Group



## Food for Energy

- › Energy-giving food
- › Fat and Carbohydrate
- › Important for body movements
- › Fat has higher energy value than carbohydrate



WC Nutrition Training – Module 3



## Food for Body Building

- › Body Building Food
- › Protein
- › Essential for building of blood, muscle and bones



WC Nutrition Training – Module 3



## Food for Protection

- › Keep body healthy and fight against diseases and deficiencies
- › Vitamins and minerals



WU Nutrition Training – Module 6



## Water

- › Included in all food groups
- › Essential for life
- › Safe water is essential for health, nutrition and life

WU Nutrition Training – Module 6





## Balanced Diet

- ▶ A balanced diet needed for good health
- ▶ We need:
  - variety of nutrients
  - quantity and proportion are enough for maintaining health, energy and general well-being
  - a diet that is right for our age, sex, metabolic rate, pregnancy and activities



## Balanced Diet – General amounts



## A Balanced Diet...

- ▶ Matches to one's level of physical activity
- ▶ Consists of protein, fat, carbohydrate, vitamins minerals and water
- ▶ Has NO excess – should be in right amount
- ▶ Quantity depends on age, sex, natural metabolic rate, body size, pregnancy status and health status

NS Nutrition Training – Module 6



## Balanced Diet

- ▶ A balanced diet must provide the body's building blocks for:
  - growth
  - repair
  - sufficient energy

When the diet is unbalanced, poor health can result – body can become weak and easily attacked by disease

NS Nutrition Training – Module 6



## Balanced Diet

- Protein – 10-15% of total daily energy intake
- Fat – 15-30% of total daily energy intake
- Carbohydrate – the remaining energy
- Vitamins and minerals must meet the recommended daily requirement

## Food Resources – Where to get Food

- Fresh markets
  - Animal and poultry places
  - Shops
  - Kitchen and community gardens
  - Supermarkets
- \*It is important to know if food sources are hygienic and if these food sources keep the available food safe and clean.\*

## Food - Diet Conclusion

- › When people eat a balanced diet of nutritious foods according to their life needs, they can be healthy

**MODULE 4**

**FOOD SANITATION**

**SESSION PLAN & HANDOUTS**



## Food Sanitation

### Module 4 - Session Plan

#### Session 4: Food Sanitation, Illness, and Characteristics of Food Sanitation

**Duration: 3 hours 45 mins**

#### **4.1 Introduction: Trainer's Notes**

Food Sanitation describes the safety of food during its production, handling, distribution, preparation, consumption and storage.

The purpose of food sanitation is to make food safe to eat and to prevent food borne diseases/food poisoning.

Poor food sanitation causes illness and affects child growth.

Good hygiene and sanitation are necessary for good health (i.e. being well, stopping disease, and good child growth).

Young children are more at risk than any other age group to the effects of unsafe water, poor sanitation and a lack of hygiene.

For prevention, everyone in a community needs to work together - to build and use latrines, practice good hygiene, protect water sources and safely remove waste water and garbage.

#### **4.2 Objectives**

After the session, Participants will be able to:

- Describe the link between food sanitation and illness
- Recommend food sanitation practices to prevent food borne diseases

#### **4.3 Training Methods and Content: Session Plan**

*(See detailed Session Plan below)*

### **ACTIVITY 1: Session Objectives and Content**

#### **Introduction (up to 30 mins)**

- **Trainer introduces the Session Objectives**
- **Trainer leads Q & A by saying: Food Sanitation is also known as Food Hygiene or Food Safety.**
  - Trainer asks who has not had any food illness before
  - Trainer asks Participants to write down what they think food sanitation is and what are three important aspects of food sanitation in the community
  - Alternatively, the trainer could use the pictures of food sanitation and ask participants to select. If pictures of local communities where they work are available these can be used. Trainer asks Participants to share their answers
  - Trainer writes answers on Flip Chart (*this list can help during the PowerPoint Technical Presentation on Food Sanitation*)

### **ACTIVITY 2: Trainer presents PowerPoint on Food Sanitation (1 hour)**

#### **Trainer presents PowerPoint: Slides 1-13**

- **Objectives and Content: Slides 1 – 3**
- **Definitions: Slides 4 – 6**
  - Trainer says that a common definition will help us to all understand food sanitation in the same way
- **Food Borne Diseases: Slides 7 – 10**
  - Trainer gives examples of Food Borne (FB) diseases
  - Trainer explains that disease is harmful to camp communities because of suffering, reduced work, delayed growth and extra costs
  - Trainer compares Participants' Q&A list and PowerPoint slides
- **Food Hygiene: Slides 11 -13**
  - Trainer explains that Food Sanitation prevents illness and protects food quality

**BREAK: 15 mins (optional)**

### **ACTIVITY 2: Trainer presents PowerPoint on Food Sanitation (continued)**

#### **Trainer presents Prevention practices**

- **Preventing Food Borne Diseases:**
  - Trainer asks Participants how they protect food in their homes and in camp settings
  - Trainer reviews Participants' Q&A list for any "prevention" items
  - Trainer asks what stops people from using good hygiene
    - Cultural beliefs, habits, no knowledge about safe hygiene, low importance, no skills, no facilities.
- **Trainer presents PowerPoint: Slides 14 – 23**
  - Safe food handling practices
  - Water safety
  - Personal hygiene

- Importance of hand washing
  - After toilet
  - Before food prep
  - After changing baby
  - Before feeding baby
  - Before feeding self

### **ACTIVITY 3: Group Discussion, Review & Conclusions (2 hrs)**

- **Trainer asks Participants:**
  - Trainees form groups and discuss how to improve food sanitation in their camps
  - How can this change communities and TBC programs?
  - What new activities are possible?
  - What was the most interesting thing in the presentation?
  - What is the biggest food sanitation problem in their community?
  - How can we improve food sanitation? (Challenges or opportunities)
- **Groups present their ideas (60 mins group work/60 mins presentation)**
- **Trainer lists group discussion conclusions on a Flip Chart**

#### **4.4 Materials**

- **Flip Chart paper, Markers, Tape**
- **Computer, projector and screen**
- **PowerPoint presentation – Food Sanitation**
- **Handout of Food Sanitation pictures – food safety and hygiene practices**
- **PowerPoint presentation – Food Sanitation**

#### **References**

- **References from the Internet for Sanitation and WASH**
    - Burmese language cartoon video on food hygiene
      - <https://www.youtube.com/watch?v=BM9y5x8ai1w>
    - UN video series Burmese language on Handwashing, Sanitation and Food
      - <https://www.youtube.com/watch?v=BM9y5x8ai1w>
    - WHO reference document
      - [http://www.who.int/water\\_sanitation\\_health/hygiene/settings/healthvillages/en/](http://www.who.int/water_sanitation_health/hygiene/settings/healthvillages/en/)
    - Comprehensive and community WASH oriented practical advice
      - <http://practicalaction.org/water-and-sanitation>
      - Useful WHO overall WASH reference site - policy level  
[http://www.who.int/water\\_sanitation\\_health/en/](http://www.who.int/water_sanitation_health/en/)
-



**Training Note**

*This is a topic that staff can relate to more practically and the Session should focus on practical aspects of their work. The suggested topic presentation is:*

- 1. Identifying risks of food contamination**
- 2. Knowing the kinds of food borne (FB) disease – overview and more common FB diseases in their community**
- 3. Knowing and Promoting Prevention of FB diseases**
  - a. Food safety – handling, storage, preparation, serving*
  - b. Environmental sanitation – toilets, disposal of solid waste (garbage)*
  - c. Safe water availability*
  - d. Personal hygiene, especially establishing and promoting hand washing with soap*
  - e. Opportunities and challenges for promoting prevention practices*



Nutrition Curriculum  
Food Sanitation  
Module 4



## Objectives

After the session, participants should be able to:

- › describe the link between poor food sanitation and illness
- › recommend food sanitation practices



## Content

- › Definition of food sanitation
- › Foodborne diseases
- › Food safety
- › Unhygienic food
- › Practices to prevent foodborne diseases
- › Good personal hygiene

WU Nutrition Training – Module 6



## Definition of Food Sanitation

- › Food Sanitation is the safe/hygienic production, handling, distribution and preparation of food until the time of serving food to consumers
- › Note 4 key sanitation (hygienic/safe) activities
  - Safe production
  - Safe handling
  - Safe distribution
  - Safe preparation and serving



WU Nutrition Training – Module 6



## Aim of Food Sanitation

- › Make food safe for consumption
- › Prevent foodborne diseases and food poisoning

## Definition of Foodborne Diseases

- › A disease, usually either infectious or toxic, caused by substances that enter the body through the eating of food

## Causes of Foodborne Diseases

- ▶ Unhygienic raw meats and vegetables
- ▶ Uncovered foodstuff and juices (exposed to flies)
- ▶ Food handlers - having infectious disease or carriers of diseases
- ▶ Use of dirty water in preparation
- ▶ Not sufficient temperature and length of cooking to kill microorganisms (e.g. bacteria, parasites)
- ▶ Unclean utensils



## Who can be affected?

- ▶ Everybody
- ▶ But children, pregnant and breastfeeding women need to take special care to prevent any illness



## Why is Prevention Important?

- Common problem in both developing and developed countries
- Burden on health care system
- Severely affects infants, young children, elderly and sick persons
- Creates cycle of malnutrition and infection (see Module 5)
- Weakens economic development, especially if food sickness is common



## Some Important Foodborne Diseases

- Cholera
- Typhoid
- Viral Hepatitis A
- Food poisoning
- Diarrhoea
- Dysentery
- Gastro-enteritis
- Worm infestation



## What is Food Safety?

Food safety is done to:

- identify potential dangers to food supply during food production from farm to kitchen
  
- set up procedures that reduce the risk of foodborne illnesses

## What is Food Hygiene?

- Objective is to prevent food poisoning and foodborne illnesses
- Hygiene is practiced during
  - Production
  - Handling
  - Distribution
- But hygiene actions mainly during
  - Preparation and Serving

## Unhygienic Food

- › Food which is unclean and is likely a cause of disease
- › Usually causes
  - Gastrointestinal disorders
  - Parasitic infestations (Worms)



## Practices to Prevent Foodborne Diseases (1 of 5)

### 1. Keep Clean

- Regular hand washing – one of the most effective ways to fight against spread of foodborne diseases
- Wash hands before handling and preparation
- Wash hands after going to toilet
- Wash hands after cleaning baby
- Clean all utensils
- Protect food from insects, pests and other animals





## Practices to Prevent Foodborne Diseases (2 of 5)

### 2. Separate raw and cooked food

- ▶ Separate meat, poultry and seafood from other foods
- ▶ Use separate utensils and equipment
- ▶ Store food in covered containers



100 Nutrition Training – Module 6



## Practices to Prevent Foodborne Diseases (3 of 5)

### 3. Cook thoroughly

- ▶ Especially meat, poultry, eggs and seafood
- ▶ Meat and Poultry – cook until juices are clear and not bloody colored
- ▶ Soup and stews to steaming hot (70 °C)
- ▶ Reheat foods thoroughly



100 Nutrition Training – Module 6



## Practices to Prevent Foodborne Diseases (4 of 5)

### 4. Keep food at safe temperature

- ▶ Not more than 2 hours at room temperature
- ▶ Refrigerate as soon as possible
- ▶ Reheat before eating
- ▶ Do not store too long even in refrigerator
- ▶ Do not thaw frozen food at room temperature

WU Question Training – Module 6



## Practices to Prevent Foodborne Diseases (5 of 5)

### 5. Use safe water and raw materials

- ▶ Use safe water to wash food
- ▶ Select fresh and wholesome food
- ▶ Choose foods processed safely
- ▶ Wash fruits and vegetables
  - Remove pesticides and other chemicals
  - Remove any insect and other wastes
- ▶ Do not use shop or package food beyond its expiry date

WU Question Training – Module 6



## Personal Hygiene

- › Teeth brushing
- › Bathe daily
- › Comb hair and keep free from lice
- › Cut long nails
- › Use handkerchief when coughing and sneezing - cover mouth
- › Wear shoes in unhygienic places
- › Use proper hand washing



NC Nutrition Training - Module 6

## Special Importance of Hand Washing

- › To reduce contamination on hands and prevent it from passing to food
- › Diseases can also be passed from contaminated hands to mouth or nose area
- › Dirty hand-to-mouth touching is one common way to get disease



NC Nutrition Training - Module 6

## How to do Hand Washing? (1 of 2)

- › Use running water
- › Apply soap
- › Rub soapy hands together for 10–15 seconds
- › Rinse thoroughly with running water
- › Dry with single use paper
- › Avoid re-contaminating hands



NCDC Hand Hygiene Training – Module 6

## How to do Hand Washing? (2 of 2)



NCDC Hand Hygiene Training – Module 6

Adapted from 7 Steps for Hand Hygiene at <http://www.sdmh.in/HealthTipsDetail.aspx?id=11>.

## When to Wash Hands?

- › After using toilet
- › Before handling food – preparing meals
- › After coughing/sneezing
- › After smoking
- › After changing baby
- › Before eating/drinking
- › After handling dirty or contaminated equipment/utensils



OSHA Training – Module 6

Thank You!



OSHA Training – Module 6

**MODULE 5**

**CAUSES OF MALNUTRITION**

**SESSION PLAN & HANDOUTS**



## Causes of Malnutrition

### Module 5 - Session Plan

#### Session 5: Causes of Malnutrition Module – Special Reference to Stunting and Wasting

**Duration: 4-5 hours**

##### 5.1 Introduction: Trainer's Notes

When we know the causes of malnutrition, we can deliver better program activities.

The UNICEF Conceptual Framework introduced in Session 2/ Module 2 helps us to identify and understand many major causes of malnutrition.

In this session, we will cover the Framework in more detail and use it to understand causes of malnutrition.

We will study the causes of two kinds of common child malnutrition in camp setting – stunting and wasting.

This session will also cover some facts from the camp nutrition survey and research data.

Improving Nutrition and Health Service Delivery in Refugee Camps along the Thailand – Burma/Myanmar Border – IRC – Feb 2014

2015 NUTRITION SURVEY REPORT TO CCSDPT\* HEALTH AGENCIES - The Border Consortium, American Refugee Committee, Malteser International, International Rescue Committee, Première Urgence – Aide Médicale International, Published 2016

##### 5.2 Learning Objectives

After the session, Participants will be able to:

- Describe some key immediate and underlying causes of malnutrition in the camp setting
- Explain common causes of wasting and stunting (acute and chronic malnutrition) in their community
- Describe the infection-malnutrition cycle and general results of malnutrition
- Describe types and clinical features of protein energy malnutrition (PEM)

##### 5.3 Training Methods and Content: Session Plan

*(See detailed Session Plan below)*

### **ACTIVITY 1: Review of Session 2 Conceptual Framework (1 hr)**

#### **Introduction**

- **Trainer presents session objectives and content (Slides 2 and 3)**
- **Trainer gives PowerPoint Handout to Participants to follow because there is a lot of technical information and the Session is long**
- **Trainer gives the purpose of the session and links it to Session 2 by saying:**
  - This session is a deeper study than Session 2/Module 2 of Immediate, Underlying and Basic causes of malnutrition
  - We will look at causes in different camps
  - We will study the causes of two common types of child malnutrition – Stunting (low height-for-age) and Wasting (low weight-for-height or failure to grow)
  - A good understanding of the causes of malnutrition allows us to better help people in the community

#### **Q &A Group Discussion**

- **Trainer leads a group session on Session 2 – review**
- **Trainer will explain Immediate, Underlying and Basic causes, but first, the Trainer asks Participants some questions:**
  - What is the outline of the Framework? (3 levels of causes – causes affect each other)
  - Who can describe each level, with an example - Immediate, Underlying and Basic?
  - In which levels do we work most in our community? (Immediate & Underlying)

**BREAK – 15 mins (optional)**

### **ACTIVITY 2: Causes of Malnutrition Presentation and Discussion (2 hrs)**

- **Trainer presents: Slide 4 -Trainer compares Slide 4 to the UNICEF Conceptual Framework from Session 2**
  - **Slide 4 is more clear about the outcomes or results (malnutrition and death)**
    - Give full-sized page hand-out
  - **The Immediate causes are similar to Session 2**
  - **The Underlying causes give more facts. For example:**
    - not enough food (quality of food, amount of food, balanced diet)
    - not enough home care and feeding practices for mothers and children
    - not enough health services and unhealthy environment
  - **Basic causes are given – A lack of education is a key basic cause**
  - **Other Basic Causes are**
    - Institutions (formal and non-formal), beliefs, economic structure and politics (Who has political power? And how is this power used?)

#### **Small Group Exercise: (1 hr group work)**

- **Trainer divides Participants into two groups: Group 1 – Underlying causes /Group 2 – Basic causes**
- **Ask Participants in each group to list Underlying or Basic Causes in the camp**
- **Trainer uses the following WHY questions to help Participants make lists:**
  - Why is there not enough healthy food eaten?
    - **Answers – no food available, not enough food, poor quality food, poor food preparation**



- Why is there not enough nutritious food available for the family?
  - **Answers – no money to buy, no gardens, poor food supply, poor quality food, no good food to buy**
- Why is there not enough care for mothers and children?
  - **Answers – at home: people do not know care practices, or, it is not a priority for mothers and children, or there is no money to pay for care services**
- **(Trainer can give more examples for other causes as needed - For example, why is there not enough education?)**

**BREAK - 15 mins (optional)**

**Group Presentations and Discussion: (30 mins Group presentation & discussion, 15 mins for each Group)**

**Trainer presents: Slides 5 – 7 to summarize (15 mins)**

- **Trainer emphasizes:**
  - When we understand causes we can make better nutrition programs
  - The causes affect each other – basic and underlying causes affect immediate causes
  - We can better work for change by having a good understanding of the three levels of causes
  - We can advocate to change basic and underlying causes such as women’s social status and importance of children’s nutritional status

### **ACTIVITY 3: The infection-Malnutrition Cycle & Important Immediate Causes (1 hr.)**

**Trainer introduces this activity by saying the following:**

- We now have a good overall understanding of what causes good and bad nutrition
- Now we want to look more closely at the important immediate causes of malnutrition
- If we remember, the two important immediate causes are disease and a bad diet
- In this activity we will learn how disease and bad diet can **work together** to cause malnutrition
- In this activity we will keep in our minds what we have learnt in Session 2 (Causes), what we have reviewed just now about causes and what we have learnt earlier in Module on Food Sanitation (Session/Module 4).
- Let us start with what we remember about Food Sanitation and how this affects malnutrition
- **Presentation and Discussion: Slides 8-9**
- **-Trainer introduces PowerPoint Presentation on the “Infection – Malnutrition Cycle” & Trainer gives Handout**
- **Trainer asks Participants to think about what they learned in the Food Sanitation Session (Module 4)**
- **Trainer’s General Q & A – questions can include:**
  - Why is food sanitation important?
  - What happens if you eat food that is not clean?
  - Have you ever had food poisoning? How long did it take you to get better? How strong did you feel after the illness? What about children? What do you think happens to their growth when they are sick?
  - What about when a woman is pregnant and gets ill?
  - What about a non-food sanitation illness like the flu, malaria, etc.?

- **Trainer shows Slide 8 - Definition of Malnutrition and Slide 9 The Infection - Malnutrition Cycle slide and explains the links in the Infection-Malnutrition Cycle again**
- **Trainer says:**
  - The definition in Slide 8 links health disorders (disease) with food intake
  - From this diagram in Slide 9 we can see how infection and disease affect nutrition.
  - There is a strong link between Infection/Disease and Malnutrition
  - When a person is sick that can affect their nutrition, when a person is malnourished they are more likely to get sick
  - Sick people and malnourished people need good nutrition
  - The link especially affects pregnant woman and children
  - For example:
    - Malnutrition makes the body weak and affects how the body can use nutrients
    - When the body is weak, people get sick easily
    - Disease makes us weak
    - When we recover from sickness we need more nutritious foods to rebuild strength
    - Preventing illness helps prevent malnutrition
    - Good home care and health services help us fight against the Infection-Malnutrition Cycle
- **Trainer asks Participants if they have any questions**
- **Trainer shows Slide 9 and explains the Results and Consequences of the Cycle**
- **Trainer says:**
  - The Infection-Malnutrition Cycle has many results on children, mothers, families, communities and society – these results are: The child development and social and economic results of the Malnutrition and Infection Cycle
- **Trainer explains:**
  - Malnutrition affects child development, weakens immunity, makes it easier for the body to get an infection, and leads to disease, which causes body weakness.
  - People who are ill and/or weak cannot work well. They produce less.
  - Producing less makes people poor and reduces the money they earn and taxes they can pay to society.
  - By being poor, people cannot afford education and health services.
  - Uneducated and unhealthy people make for a weak community and weak society.
  - A weak society means more malnutrition.
- **Trainer asks Participants:**
  - **How does this cycle show itself in the community? If Participants need help the Trainer can give some examples:**
    - Mothers and children are malnourished from lack of good food, and from illness and weak health care for pregnancy, infants and young children
    - Growth failure – stunting is widespread in camps. Wasting also occurs (see Camp Nutrition surveys for actual data)
    - Children are often sick
    - Because of energy loss, mothers are weaker and this affects the quality of home and family care and home production

- Also, because of energy loss from illness, fathers (for example, suffering from malaria) cannot work well (in the fields)
  - Less productive, may lead to lower standards of living, cannot afford school or to go to health center, overall community stability is affected
- BREAK - 15 mins (optional)**

#### **ACTIVITY 4: Stunting & Wasting – most common malnutrition in children under 5 (1 hr.)**

##### **Trainer introduces the session:**

- **Trainer explains:**
  - Now that we understand the link between disease and malnutrition let us begin by looking at the official camp nutrition data to see the situation on stunting and wasting
  - The 2015 Nutrition Survey shows the following nutrition status for children under five – stunting rate is 35.1% (rated high) and global acute malnutrition (GAM) also known as wasting is 2.0% (rated acceptable)
  - Stunting and Wasting is an important focus of your program work
  - To understand stunting and wasting we must review Protein Energy Malnutrition, PEM (review Module 3 on 3 Food Groups, macronutrients, protein foods body building and carbohydrates and fats as energy giving foods)
- **DEFINITIONS**
  - **STUNTING: also known as Chronic Malnutrition (low height-for-age)**
    - Failure to reach height potential
    - Caused by chronic lack of nutrients especially protein and essential vitamins (over a long time (months/years) along with chronic infection)
  - **WASTING: also known as Acute Malnutrition (low weight-for-height)**
    - Develops from rapid weight loss or from a failure to gain weight
    - It is measured by low weight-for-height
    - Wasting often indicates a very serious emergency caused by illness and/or sudden lack of food and is strongly related to risk of dying (mortality)

##### **Trainer presents: Slides 10 – 19 (1 hr.)**

- **Protein Energy Malnutrition (PEM) – clinical information associated with stunting and wasting**
- **After each slide the Trainer asks for questions**
  - **Significance** - slide 10
  - **Causes** - slide 11
  - **Types of PEM** - slides 12 - 13
  - **Clinical Features** - slide 14
  - **Comparisons** - slides 15 - 17
  - **Conclusion** - slide 18
  - **Results /malnutrition – slide 19**
  - Review by Trainer
  - The Trainer reminds Participants that:
    - we now have a good overall understanding of the 3 levels of causes of malnutrition
    - we understand the link between infection/disease and nutrition
    - we understand how food sanitation is an important factor in good health and good nutrition
    - we understand two specific types of malnutrition especially affecting children – stunting and wasting

## 5.4 Materials

- Flip Chart papers, markers, tape
- Pictures of WASTING and STUNTING
- Full-sized page hand-out of Causes of Malnutrition (slide 4)
- Computer, projector, screen
- PowerPoint Presentation – Causes of Malnutrition
- PowerPoint Handout – Causes of Malnutrition
- References for Trainers
  - Improving Nutrition and Health Services Delivery in Refugee Camps along the Thailand – Burma/Myanmar Border – Dr Chaw Yin Myint – Jan – Feb 2014 International Rescue Committee – TBC
  - 2015 NUTRITION SURVEY REPORT TO CCSDPT\* HEALTH AGENCIES - The Border Consortium, American Refugee Committee, International Refugee Committee, Malteser International, Première Urgence – Aide Médicale International)-Published 2016
  - World Health Organization – WHO Nutrition and Growth Data -Stunting/Wasting <http://www.who.int/nutgrowthdb/about/introduction/en/index2.html>

### Training Note for Camp-based Stipend Staff

1. **Causes – using the UNICEF Framework**
  - a. Follow the same introduction exercise as used in Session 2/Module 2, BUT describe causes and framework in more practical terms
2. **Infection – Malnutrition Cycle**
  - a. Follow session Guide above – the information is straightforward and camp staff need to understand the connection between infection and malnutrition and how the two issues affect each other.
3. **Stunting and Wasting**
  - a. It is important for staff to understand the significance of **stunting** and **wasting** to their work.
  - b. Knowing that the **stunting** rate is high can help staff understand the importance of programs such as IYCF campaigns
  - c. Knowing about **wasting** and its dangers for child death can help staff to understand the urgency for early prevention and identification of children with wasting.
  - d. Providing clinical information on PEM is straightforward and necessary.

### TBC Handout - Optional Stunting and Wasting Pictures



EXAMPLE OF STUNTING:  
ALL CHILDREN PICTURED  
ARE SAME AGE



CHRONIC MALNUTRITION  
RESULTS IN STUNTING, OR  
REDUCED GROWTH IN HEIGHT &  
MEANS THAT CHILD HAS  
PERSISTENTLY NOT RECEIVED  
ADEQUATE NUTRITION.  
STUNTING AFFECTS 1/3 OF ALL  
CHILDREN IN DEVELOPING  
COUNTRIES. GIRLS PICTURED  
ARE SAME AGE.



ACUTE MALNUTRITION RESULTS IN **WASTING**, OR RAPID WEIGHT LOSS, & MEANS THAT CHILD HAS EXPERIENCED RELATIVELY SUDDEN DROP IN FOOD INTAKE. USUALLY DUE TO SEVERE FOOD SHORTAGE OR PERIOD OF ILLNESS. 10-13% OF CHILDREN <5 YRS SUFFER FROM ACUTE MALNUTRITION.

World Vision International,  
[www.wvi.org/nutrition/nutrition-basics](http://www.wvi.org/nutrition/nutrition-basics).



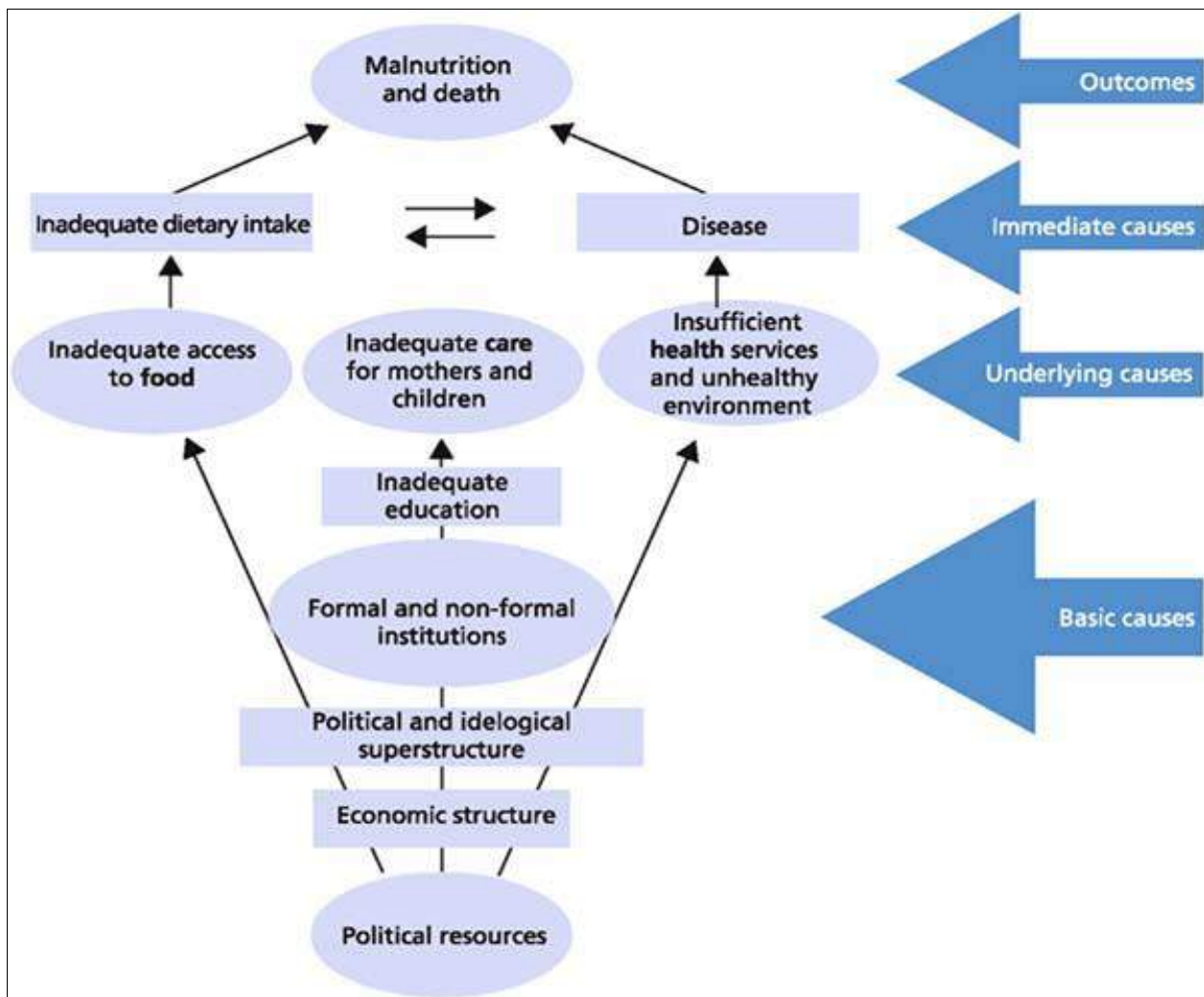
THERE ARE ALSO MIXED VARIANTS OF WASTING, SHOWING SIGNS OF BOTH KWASHIORKOR & MARASMUS. THIS CHILD SHOWS WASTING OF UPPER BODY COMBINED WITH EDEMA OF LEGS.

From University of Ottawa Society, the Individual, and Medicine.  
<https://www.med.uottawa.ca/sim/data/Nutrition-Malnutrition->



## TBC Handout – UNICEF Conceptual Framework - Causes of Malnutrition

# Causes of Malnutrition





Nutrition Curriculum  
Causes of Malnutrition  
Module 5

## Objectives

After the session, participants should be able to:

- › describe immediate, underlying and basic causes of malnutrition
- › state common reasons for developing acute or chronic malnutrition
- › describe infection-malnutrition cycle and general results of malnutrition
- › describe types and clinical features of protein energy malnutrition (PEM)



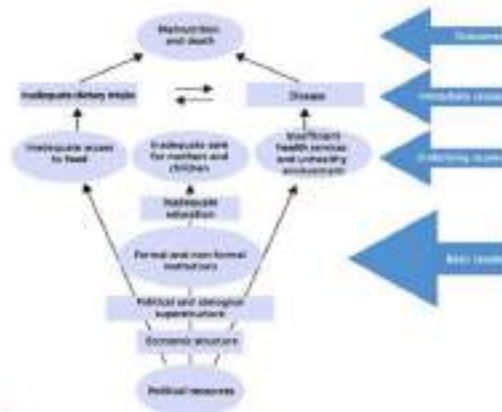
## Content

- › Immediate and underlying causes of malnutrition that affect individuals, households and communities
- › Basic causes of malnutrition
- › Types and clinical features of PEM
- › The infection-malnutrition cycle
- › Results of malnutrition

WU Nutrition Training – Module 5



## UNICEF Conceptual Framework



WU Nutrition Training – Module 5



## Immediate Causes

- ▶ Poor diet:
  - not enough nutritious foods eaten
  - quality and quantity of food is poor
- ▶ Infection and illnesses

## Underlying Causes

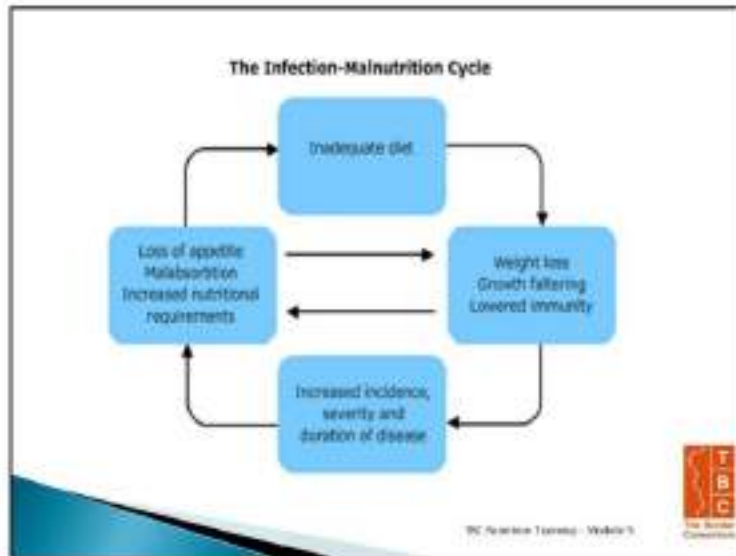
- ▶ Not good infant and young child feeding (IYCF) practices
- ▶ High morbidity (sickness) rate
- ▶ Maternal (mother) malnutrition
- ▶ Limited knowledge on IYCF
- ▶ Unbalanced diet
- ▶ Unhealthy household environment

## Basic Causes of Malnutrition

- ▶ Lack of good quality health services
- ▶ Lack of good quality resources such as:
  - Good land for farming and living
  - Education
  - Jobs and work
  - Enough pay, being able to get credit
  - Technology – tools, seeds, information, etc.

## Definition of Malnutrition

- ▶ Malnutrition is defined as health disorders due to too much or too little food energy or nutrients
- ▶ It includes both
  - Over-nutrition
  - Under-nutrition



## Protein Energy Malnutrition – PEM

### PEM

- ▶ Major health and nutrition problem
- ▶ Found mainly in children under 5 years of age
- ▶ Important cause of childhood sickness and death
- ▶ Cause of weak (impaired) physical (body) and mental (brain) growth

## Causes of PEM

- › Not eating enough food (quantity and quality)
- › Infections which weaken body's ability to use food
- › Poor environmental sanitation
- › Poor maternal (mother) health
- › Large family size compared with family resources
- › Lactation (breastfeeding) failures
- › Late or incorrect complementary feeding



## Types of PEM

Types	Appearance	Causes
Acute malnutrition	Wasting or thinness (weight for height)	Sudden, not enough nutrition leading to rapid weight loss or failure to gain weight normally
Chronic malnutrition	Stunting or shortness (height for age)	Not enough good nutrition over long time (years) leading to failure to grow taller & potential cognitive development deficit
Acute and Chronic malnutrition	Underweight (weight for age)	Combined type, therefore, can happen from both wasting, stunting or both



## Differences – Wasting & Stunting

- ▶ Wasting has high mortality (death rate) compared to other types of malnutrition
- ▶ Wasting is an emergency condition and those affected need urgent feeding help and medical attention
- ▶ Stunting does not usually lead to death compared to wasting, but has long-term impact on child growth and development



## Clinical Features of PEM

FEATURES	MARASMUS	KWASH-HORROR
<b>CLINICAL</b>		<b>ALWAYS PRESENT</b>
Muscle wasting	Obvious	Sometimes hidden by oedema and fat
Fat wasting	Severe loss of subcutaneous fat	Fat often retained but not firm
Oedema	None	Present
Low weight for height	Very low	Low but may be masked by oedema
Mental changes	Quiet and apathetic	Irritable, moaning, apathetic
<b>CLINICAL</b>		<b>SOMETIMES PRESENT</b>
Appetite	Usually good	Poor
Diarrhea	Often (current and past)	Often (current and past)
Skin changes	Usually none	Diffuse pigmentation – irregular skin coloring
Hair changes	Seldom	Sparse, straw-like, easily pulled out
Liver enlargement	None	Due to accumulation of fat



### Marasmus vs. Kwashiorkor

Marasmus	Kwashiorkor
	


• In the past, children with severe malnutrition were often referred to as "pigeon chicks" because of their emaciated appearance.

© 2010 WHO


WHO Nutrition Training – Module 5



### Examination of Oedema



WHO Nutrition Training – Module 5



## Important Conclusion

Good IYCF practices are important in the first 2 years of life (plus time in womb)

The 2 years of good nutrition gives:

- best chance for survival
- best child growth and health
- best overall mental and physical development of children

## Results from Malnutrition

- Easier to get infection/illness
- Recovery from sickness is slower
- More death (mortality) from sickness
- Physical growth is slower and weaker
- Mental (brain) growth is slower and weaker



## **MODULE 6**

# **INFANT AND YOUNG CHILD FEEDING – IYCF SESSION PLAN & HANDOUTS**



## Infant and Young Child Feeding (IYCF) - Basic

### Module 6 - Session Plan

#### Session 6: Infant and Young Child Feeding (IYCF) - Basic

**Duration: 3 hours**

##### **6.1 Introduction: Trainer's notes**

Infant and Young Child Feeding (IYCF) is important for health.

Women and children suffer from malnutrition more than any other groups.

Women and children's needs are largely due to pregnancy, breastfeeding and child growth.

UNICEF's Causal Framework shows good nutrition has benefits for individuals, families, communities and society.

Malnutrition is caused by immediate, underlying and basic causes affecting infants and young children.

There are good solutions available for correct IYCF.

##### **6.2 Learning Objectives**

After the session, Participants will be able to:

- Explain why correct infant and young child feeding (IYCF) is important
- List the benefits of breastfeeding
- Describe correct complementary feeding
- Describe ideal IYCF practices

##### **6.3 Training Methods and Content: Session Plan**

*(See detailed Session Plan below)*

### **ACTIVITY 1: Session Objectives and Content (30 mins)**

#### **Trainer Presents: Sessions Objectives and Content, Slides 2 – 3**

*(Trainer's Note - Trainers can use the easy book called UNICEF Facts for Life – 4<sup>th</sup> Edition – Breastfeeding, Nutrition and Growth sections. It is available as a free download at [UNICEF.org](http://UNICEF.org) website)*

- **Trainer reads session objectives**
- **Trainer begins the session by giving Participants a short oral pop quiz to see how much Participants already know:**
  - **Oral Pop Quiz Questions (30 mins) or participants use Cards under 3 key IYCF interventions**
    - WHO recommended Exclusive breastfeeding period is: 1 month, 3 months, 6 months, 2 years?
    - Exclusive breastfeeding allows feeding water to the child on hot days – Y/N
    - Exclusive breastfeeding allows feeding honey or sugar water when child has a fever – Y/N
    - Complementary foods should be introduced... after one month if the child is sick, after 6 months of exclusive breastfeeding, as soon as the child is old enough to recognize the mother, when the mother is ill?
    - Breastfeeding only benefits the child and not the mother – Y/N
    - Supplementary foods should mainly be energy foods, not protein/fat – Y/N
    - Baby milk powders are recommended by WHO as safe and effective instead of breastfeeding – Y/N
    - Breast milk has no effect on child immunity – Y/N
    - Solid foods need to be given as early as possible to help the child be strong – Y/N
- **Trainer gives correct answers and explains**

### **ACTIVITY 2: IYCF PowerPoint presentation (2 hours – Trainer adds break times)**

#### **Overview: Slides 4-6 (30 mins)**

- **Trainer shows PowerPoint**
  - **Benefits of good nutrition for infants and young children – slide 4**
    - A child needs to survive, grow and develop
  - **Importance of the 2 year time and time in the womb – slide 5**
    - Critical child growth time is 2yrs includes time in the womb (First 1000 days)
      - Brain growth
      - Quick body growth and weight gain
      - Stronger immunity
      - Correct feeding during illness
      - Care during sickness for the child to survive and grow
      - Strong 1000 day approach sets up good future prospects

- **Global recommended feeding strategy (WHO/UNICEF) – slide 6**
  - Baby-friendly birth services in health centers
  - Exclusive Breastfeeding – 6 months
  - Complementary feeding nutrient rich foods – starting at 6 months and together with continued breastfeeding until 2 yrs of age

### **Trainer presents Breastfeeding (30 mins)**

- **Trainer presents**
  - Exclusive Breastfeeding – slides 7 - 8
  - Advantages: Infants – slides 9 - 10
  - Advantages: Mothers – slides 11
  - Barriers to Breastfeeding – slide 12

### **Trainer presents Complementary Feeding**

- **Trainer shows slides 13-14**
- **Trainer explains Frequency, Amount and Quality of feeding**
- **Trainer should give time for discussion. Some of these WHO recommendations (given in the next set of slides) may be difficult in camp setting. Trainer can ask why these may be difficult.**

### **Trainer presents IDEAL IYCF Practices (30 mins)**

- **Trainer shows slides 15-17 ( Note – please show Slide 18 after exercise)**
  - BF starting - No pre-lacteals-Feed colostrum
  - BF when baby wants - BF exclusive period-Continue Breastfeeding until 24 months and start complementary feeding at 6 months
  - Bottles and Pacifiers
  - Partly-solid food, frequency, composition, quality of foods
  - Micronutrients
  - Protein energy food
  - -----Other factors-----
  - Best for mothers' nutrition during pregnancy and BF
  - Baby-Friendly birth services
  - Quick treatment during illness, strong feeding during and after illness
  - Good behavior change communication and family/friends support
  - Growth monitoring and feedback

### **Trainer Presents Obstacles: Small Group Exercise (30 mins)**

- **Trainer divides Participants into two groups**
- **Trainer tells Participants to think of all obstacles to Ideal IYCF practices**
- **Groups present their obstacles**
- **Trainer helps Participants to link obstacles to what they discussed earlier on the causes of malnutrition**
- **Trainer guides large group discussion:**
  - Obstacles are linked to causes (immediate, underlying and basic) and can include the following issues:
    - Behavior obstacles to exclusive breastfeeding and appropriate complementary feeding

- Social and Community support
- Culture and Beliefs about feeding
- Food – available food, quality and quality
- Services – health services and their quality
- Poverty – having money for health and other services, and to buy good food

### **Summary and Conclusion (15 mins)**

- **Trainer summarizes session:**
    - IYCF is very important to address stunting as well general child nutrition
    - Many immediate and future benefits come from a strong IYCF nutrition program
    - There are social and behavioral obstacles to good IYCF practices
    - Successful IYCF nutrition programs need wide support
    - Successful IYCF practices also include good maternal nutrition
- 

### **6.4 Materials**

- **Flip Chart paper, markers, tape**
  - **IYCF counselling cards from TBC**
  - **Computer, projector and screen**
  - **PowerPoint – Infant and Young Child Feeding**
  - **Handout – PowerPoint presentation**
  - **References for the Trainer and for possible distribution:**
    - ***(Useful easy-to-read Reference – UNICEF Facts for Life – 4<sup>th</sup> Edition – Breastfeeding, Nutrition and Growth – available as a free download at [http://www.unicef.org/publications/files/Facts\\_for\\_Life\\_EN\\_010810.pdf](http://www.unicef.org/publications/files/Facts_for_Life_EN_010810.pdf))***
    - **WHO Infant and Young Child Feeding Fact Sheet – No 324 , Feb 2014 - <http://www.who.int/mediacentre/factsheets/fs342/en/>**
-



Nutrition  
Curriculum

Basic Infant and  
Young Child  
Feeding (IYCF)

Module 6

## Learning Objectives

- After this session, participants should be able to:
- › Describe importance of infant and young child feeding (IYCF)
  - › Describe major features of proper breast feeding
  - › Describe effective complementary feeding
  - › Describe ideal IYCF practices

## Contents

- › Importance of IYCF
- › Breastfeeding
- › Complementary feeding
- › Ideal IYCF practices

WFP Nutrition Training – Module 6



## Introduction

Good nutrition is essential for:

- › Survival
- › Growth
- › Development



WFP Nutrition Training – Module 6



## Importance of IYCF

- ▶ Ideal/best IYCF period for children – under 2 years
- ▶ Correct IYCF is essential for health and survival of children

## WHO/UNICEF Global Strategy

- ▶ Start breastfeeding within the 1st hour following birth
- ▶ Exclusively breastfed (ExBF) up to 6 months of age (no other food or fluid to infant)
- ▶ After 6 months – safe complementary foods – nutritionally adequate and age appropriate (see slide 13)
- ▶ Continue breastfeeding up to 2 years and beyond



## Breastfeeding

- Perfect food for infants
- Many advantages for infants and mothers



WU Nutrition Training – Module 6



## What is Exclusive Breastfeeding?

- Exclusive breastfeeding refers to providing a baby (less than 6 months old) with only breast milk and nothing else
- In other words, no water, juice, other kinds of milk and solid food except for vitamins, minerals, and medications prescribed by a doctor or healthcare worker

WU Nutrition Training – Module 6



## Advantages of BF for Infants

- ▶ Provides right balance of nutrients to support infant's growth and development
- ▶ Easily digested and absorbed
- ▶ Breast milk composition changes over time to meet infant's changing nutritional needs
- ▶ Sanitary and at the right temperature all the time
- ▶ Always fresh
- ▶ Can be utilized by both normal and premature babies
- ▶ Promotes bonding between mother and infant

WIC Nutrition Training – Module 6



## Advantages of BF for Infants

- ▶ Suckling is good for baby for development of jaws and teeth
- ▶ Improves infant's immune system and protects against illnesses
- ▶ Helps to grow and develop physically and emotionally
- ▶ Can protect against childhood obesity
- ▶ Prevents malnutrition and reduces infant death (mortality)

WIC Nutrition Training – Module 6



## Advantages of BF for Mothers

- › Speeds recovery from childbirth
- › Suppresses (stops) ovulation – once BF stops ovulation returns and pregnancy possible
- › Protects against breast and ovarian cancers
- › Less expensive, more convenient and takes less time
- › Stimulates hormones that make mothers feel more relaxed and peaceful

## Barriers for Exclusive Breastfeeding (ExBF)

- › Lack of skills
- › Cultural beliefs against ExBF
- › Embarrassment
- › Lack of social support
- › Time and other demands on mother's time

## Complementary Feeding

- ▶ Complementary feeding is the use of age-appropriate, adequate and safe solid or semi-solid (soft) food, in addition to breast milk (or breast milk substitute)
- ▶ Not recommended for children <6 months
- ▶ For children 6–24 months

## Complementary Feeding Should be:

- ▶ Timely
- ▶ Adequate
- ▶ Safe
- ▶ Properly fed



## Ideal IYCF Practices (1 of 3) - WHO/UNICEF Approved

- All infants are breastfed for first time within first hour after birth
- No infants are given "pre-lacteals" before breastfeeding
- All infants are fed colostrum
- All infants and young children are breastfed on demand, during day and night
- All infants are exclusively breastfed until 6 months of age

WHO Nutrition Training – Module 6



## Ideal IYCF Practices (2 of 3)

- Children are breastfed until 24 months of age
- No children are fed with bottles and pacifiers
- All young children are fed semi-solid complementary foods beginning at 6 months of age (*180 days*)
- All young children are fed recommended number of meals daily
- All young children meet their recommended daily energy requirements

WHO Nutrition Training – Module 6



## Ideal IYCF Practices (3 of 3)

- › All young children are fed nutrient- and energy-dense foods
- › All children are given variety of foods (*balanced using food groups*)
- › All children are given iron-rich foods or iron supplement daily
- › All young children are fed meat, fish and poultry daily
- › All young children are supported and motivated to eat until they are full (satisfied) during meal time

WFP Nutrition Training – Module 6



## Ideal IYCF Practices – Obstacles

- › Culture and beliefs (For example, about colostrum, ExBF, complementary feeding)
- › Low self-confidence of mothers
- › Lack of social support from family and community
- › Lack of mother's time – many other duties
- › Promotion of commercial substitute baby milk products

WFP Nutrition Training – Module 6



# **ADVANCED MODULES**

**7-12**

**MODULE 7**

**CHILD GROWTH AND DEVELOPMENT**

**SESSION PLAN & HANDOUTS**





## Child Growth and Development

### Module 7 - Session Plan

#### Module 7 – Child Growth and Development

**Duration: 350 mins./5.8 hours** (plus 15 minutes break x 2 and 1-hour Lunch break)

#### 7.1 Introduction: Trainer’s Notes

**In this Session, Trainer introduces topic by stating the following:**

- Child growth and development describes changes that happen as a child grows and develops in terms of physical and mental health, and social abilities
- Recent research shows that the first 5 years are critically important for development of the child’s brain, especially the first 3 years
- The first 3-5 years is also critical time for rapid development of mental and social skills
- In terms of physical growth, the gestation period and the first 2 years of life are critical times for creating strong physical growth and development base - it is a critical time for investing in good nutrition approaches such as Infant and Young Child Feeding (IYCF) programs and “1000 Days” focused programs
- The session includes a mix of technical information about child growth and development as well as practical advice about using the information for counselling in the community

#### 7.2 Learning Objectives – Slide 2 – 15 mins

**After this Session, participants will be able to:**

- Define the terms growth and development
- Describe the importance of assessing growth and development
- Describe the different stages of normal child development
- Describe the role of nutrition in good growth and development
- Explain use of growth chart

### 7.3 Training Methods and Content: Session Plan

#### Methods:

- **Illustrated Lecture Presentation with large and small group discussions**

#### Content – Slide 3 - 15 mins

- Definition of Growth and Development (G&D)
- Importance of monitoring G&D
- Factors affecting G&D
- Normal G&D
- Development milestones
- Using the Growth Chart
- Understanding growth monitoring and assessment, and counselling

#### Definition of G&D – Slide 4 (Slides 4 – 8 – 60 mins)

- **GROWTH is defined as changes (usually increase in size) in the physical body**
- **DEVELOPMENT means increases in skills and functions – physical abilities and mental skills and behavior**

#### Importance of G&D – Slide 5

- **Important to understand that physical, mental and behaviour progress are linked**
- **Best nutritional status leads to normal “on-track” child G&D**

#### Why Assess G&D? - Slide 6

- **Child’s nutritional status is good “proxy” indicator of health status of family and children’s nutritional status as a group of the community**
- **Early signs of not progressing well from normal G&D milestones are important because they can show important G&D problems**
- **Childhood is normally a time of rapid cell growth so important to catch problems or issues early**
- **Early signs can help to design correct interventions before issues become too serious**

#### Factors affecting G&D – Slide 7

*Exercise break – group brainstorms – what do they think are factors affecting “Growth and Development” – in addition to obvious nutrition and genetic factors be sure to stress environmental factors – family and upbringing - infections – poverty – and access to services*

- **Genetics**
- **Nutrition**
- **Age**
- **Sex**

- **Physical environment**
- **Family environment**
- **Infections and parasites**
- **Economic factors**
- **Others – access to health services, sanitation and education**

#### **Normal G&D – Slide 8**

- Official “Global growth standards” by WHO have been created and used by nutritionists and health workers for different age groups
- Child development specialists have created table of “development milestones” showing which activities children should be able to do at different ages

#### **Development Milestones – Slides 9 -10 (45 mins)**

- Child development specialists have created table of “development milestones” showing which activities children should be able to do at different ages
- Milestone are: Age / Motor Skills / Personal Social Actions / Adaptive / Language (Slides 9-10)
  - For each age range, a child should be able to meet established standards
    - Motor = physical movements
    - Personal social = interacting with others
    - Adaptive = interacting with physical surroundings
    - Language = listening-speaking
- Development is an orderly and step-by-step process (Slide 11)

#### **BREAK – 15 mins**

#### **Using the Growth Chart – Slides 12 – 20 (60 mins)**

**Trainer shows and explains Growth Chart – Trainer gives Growth Chart handout**

- **Why use Growth Chart? (“Road to Health Chart” ) – Slide 13**
  - **Easiest way to track/measure physical growth of a child**
  - **Based on “WEIGHT-for-AGE”**
  - **Helps to promote health in children**
  - **The chart has two forms – 0 – 12 months with monthly measurements**
  - **And 12 months to 36 months with every 3 month measurements**
  - **Card usually includes helpful information for the community/health worker to use to discuss with mothers and care givers during the growth monitoring session**
    - **Advice for care during illness**
    - **Advice and explanations for each weight-for-age color zone and what to do**

**Chart Format – Slide 13**

- Separate and different charts for girls and boys
- Bottom or Horizontal Axis = Age in Months
- Bottom axis has 3 age groupings: 1- 12 mths, 13-24 mths, 24-36 mths
- Side or Vertical Axis = Weight in Kilograms
- Each month baby weighed and weight noted (birth to 12 months)
- Each three months baby weighed and noted (12 – 36 months)

**Chart Zones explained – Slide 14**

- Graph page has 3 color zones
  - Green = Good progress/Normal zone - weight growth on track
  - Yellow = Warning zone – weight growth not enough, below optimum (<-2 z-score)
  - Red = Danger zone/Severe - weight growth seriously not enough (<-3 z-score)

**Understanding growth chart assessment... Slide 15**

- Weight-for-Height
- Height-for-Age
- Weight-for-Age

**Weight-for-height (WFH) – Slide 16**

- Shows recent weight loss or gain
- Best indicator for “WASTING”
- Used to determine “ACUTE MALNUTRITION”

*Technical Information: optional (covered more in other modules - Measurement of Malnutrition and Nutrition Surveys, Analysis and Interpretation)*

- *Acute Malnutrition Global Malnutrition Standard (WFH) indicator is weight <-2 z-score and/or bilateral edema)*
- *Severe Acute Malnutrition – WFH <-3z-score and/or bilateral edema (Bilateral edema = legs and feet swelling due to fluid buildup)*
- *See WHO. website:  
[http://www.who.int/elena/titles/oedema\\_sam/en/](http://www.who.int/elena/titles/oedema_sam/en/)*

**Height-for-age (HFA) – Slide 18**

- Used for determining CHRONIC MALNUTRITION = STUNTING
- Usually not recorded in most standard clinic growth charts
- Useful for showing skeletal growth (bone growth)

*Technical Information: optional*

*Global Monitoring Standard for Stunting = <-2 z-score (moderate); <-3 z-score (severe)*

**Weight-for-Age (WFA) - Slide 19**

- Useful as a composite measure for both wasting and stunting
- Used for checking underweight or under-nutrition
- Not good indicator of recent nutritional status

Slide 20 - Comparative Graphic showing – normal vs. wasted (thinner) vs. stunted (shorter) vs. wasted and stunted (shorter and thinner)

**BREAK - LUNCH 1 hour**

**“Measuring Mid-Upper Arm Circumference” (MUAC) Indicator (6-59 months) – Slide 22 – 45 mins**

Trainer shows slide 22 and says the following:

- In addition to the using Growth Chart “Weight-for-Age” measuring system, there is another very convenient method called MUAC indicator
- To be used for child 6-59 months
- This method is useful for helping to decide which malnourished children should be admitted into supplementary or therapeutic feeding programs (SFP/TFP) – MUAC measures indirectly the degree of “malnutrition” – e.g. moderate acute and severe acute malnutrition
- This indicator uses a specially designed colored measuring tape to check proper growth by measuring circumference of the child’s mid-upper arm
- > 12.5 cm = satisfactory
- 11.5 to 12.5 cm = mild/moderate malnutrition – need SFP
- < 11.5 = severe malnutrition – need TFP
- Let us look at the following video to see how it is used – this video also explains other significant signs of malnutrition – edema is another sign of significant malnutrition
  - <https://www.youtube.com/watch?v=3pQUtOsjsY>

Trainer concludes this sub-section on Growth Monitoring by saying the following:

- The Growth Chart is an important tool for growth monitoring and for discussion with mothers and care givers about keeping their child or children on healthy pathway to child health – the growth chart is a good child health proxy indicator
- The Growth Chart is a good entry point for nutrition counselling

Trainer tells participants that another module covers in more depth how to actually measure growth (Module 9, Anthropometry) using various tools.

**Counselling – Slide 24 - (30 mins)**

TBC Counselling Cards for Community Workers and for IYCF for Grandmothers provide key communication counselling advice, as well as nutrition and health information to help mothers, families and communities about exclusive breastfeeding, complementary feeding and pre- and antenatal care

### General Counselling Topics – Slide 24

- 1-6 months – Exclusive breastfeeding, illness prevention – sanitation, vaccination, timely health care services
- 6-12 months – Exclusive breastfeeding + Complementary Feeding
- 12-36 months – Complementary feeding, illness prevention – sanitation, vaccination, timely health care services

Depends on observed measurements and likely factors

- Feeding practices – quality and quantity of food - IYCF
- Health status - access to services – help go to clinic – Growth Monitoring Chart
- Infections – clinic, check household environment
- Physical Environment – check sanitation
- Family care quality and environment

BREAK – 15 mins

Small Group Exercise: Counselling according to Growth Chart Information (80 mins) – using “The Road to Health Chart”

Break into 4 groups – assign questions – 20 mins preparation and 15 mins each group presentation

- Q1. How would you counsel a mother whose child’s weight-for-age is in the Green Zone in “The Road to Health” Chart?
- Q2. How would you counsel a mother whose child’s weight-for-age is in the Yellow Zone in “The Road to Health” Chart?
- Q3. How would you counsel a mother whose child’s weight-for-age is in the Red Zone in “The Road to Health” Chart?
- Q4. How would you counsel a mother who is not exclusively breastfeeding her 5 month old infant?

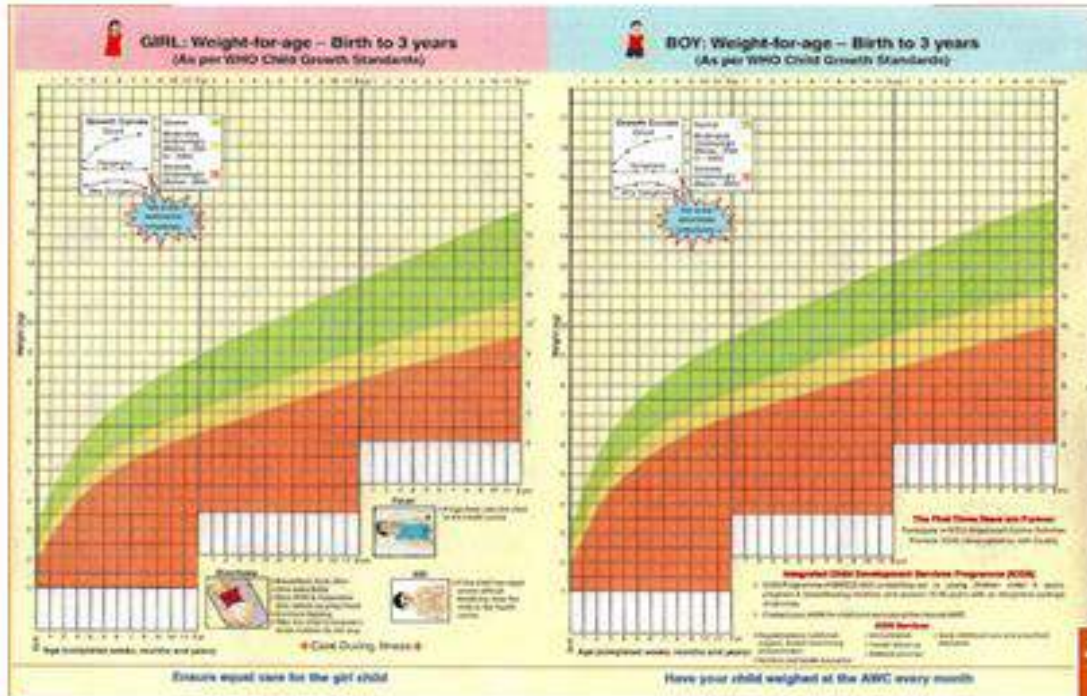
Trainer monitors group answers and provides any additional clarifications as needed

## 7.4 Materials

- Flipchart, markers and tape
- Computer and PowerPoint Projector
- PowerPoint –Child Growth and Development
- Handouts:
  - Child Development Stages - 1 month, 6 months, 12 months, 2 yrs, 3 yrs, and 5 yrs. From UNICEF Facts for Life - 4th Edition, Pgs. 40 – 45
  - Growth Chart example
  - Child Growth and Development PowerPoint Presentation
- Nutrition Reference web portal - World Health Organization – e-Library for Evidence for Nutrition Action (eLENA ) <http://www.who.int/elena/en/>
- WHO Training Course on Child Growth Assessment - Interpreting Growth Indicators ( Downloadable Reference Book) [http://www.who.int/childgrowth/training/module\\_c\\_interpreting\\_indicators.pdf](http://www.who.int/childgrowth/training/module_c_interpreting_indicators.pdf)

Handout – Road to Health Growth Chart –Module 7

# Growth Chart





## Learning Objectives

After this session, participants should be able to:

- define the terms growth and development
- describe briefly some of the different stages of normal child development (development milestones)
- describe importance of assessing growth and development
- explain briefly use of growth chart and MUAC measuring tools
- describe general nutrition counselling actions



## Content

We will look at:

- › Definition of growth and development (G&D)
- › Importance of assessing G&D
- › Factors affecting G&D
- › Normal G&D signs
- › Developmental milestones
- › Using growth chart and MUAC
- › Interpretation of growth assessments and counseling



## Module Definitions

Definitions:

- › Growth means increase in body size – length and weight
- › Development means increase in skills and functions



## Importance of Growth and Development (G&D)

- ▶ G&D progress together because the child grows physically and develops socially and emotionally as a whole
  - For example physical and brain growth is very important step in childhood and affects developmental milestones
- ▶ Optimal nutrition is needed for normal G&D



## Importance of assessing G&D

- ▶ Children's nutritional status is good indicator of overall health status of community
- ▶ Early identification of any change from normal G&D helps to determine appropriate interventions



## Overall Factors Affecting G&D

- Genetics
- Nutrition
- Age
- Sex
- Physical surrounding
- Infections and parasites
- Economic factors
- Others - MCH services, sanitation, etc.

WHO Nutrition Training - Module 7



## Normal G&D...

is defined as growth:

- within the range of measurements accepted as normal for most children in same age group (WHO standards)
- Breastfed babies considered the standard
- See growth chart later



WHO Nutrition Training - Module 7



### Developmental Milestones (1 of 2)

Age	Motor	Personal/ Social	Adaptive	Language
6-8 weeks		Looks at mother & smiles		
3 months	Holds head up			
4-5 months		Recognizes mother	Begins to reach out for objects	Listening
6-8 months	Sits up without help	Enjoys playing hide & seek	Transfers objects hand to hand	Experimenting with noises

  
© 2013 OBT  
All Rights Reserved

© 2013 OBT  
All Rights Reserved

### Developmental Milestones (2 of 2)

Age	Motor	Personal/ Social	Adaptive	Language
9-10 months	Crawling	Suspicious of strangers	Can let go of objects	Increasing range of sounds
10-11 months	Stands with support			First word
12-14 months	Walks with wide base		Builds	
18-21 months	Walks with narrow base, begins to run		Begins to explore	Putting words together
24 months	Run	Dry during day		Short sentences

  
© 2013 OBT  
All Rights Reserved

© 2013 OBT  
All Rights Reserved



Development goes in order

WU Nutrition Training – Module 7

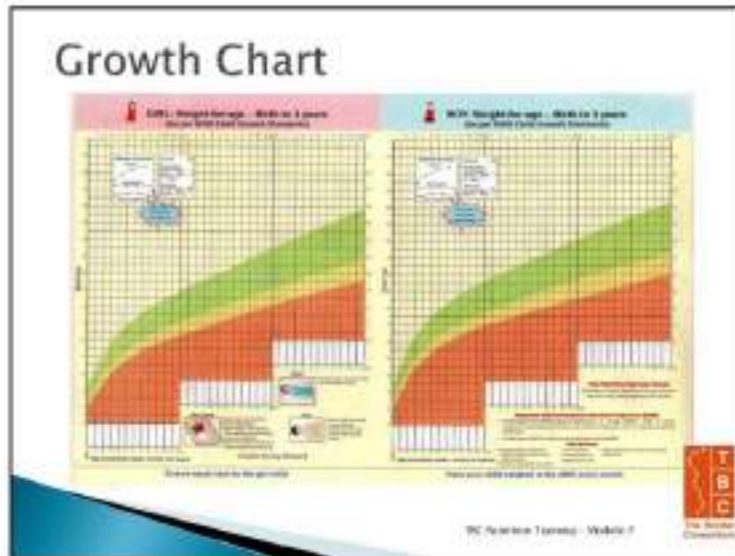


## Using Growth Chart

- ▶ Also known as "Road to Health" chart
- ▶ Easiest way to measure child's physical growth
- ▶ Based on weight-for-age
- ▶ Helps to promote health in children
- ▶ <1 year - monthly
- ▶ 1-3 years - 3 monthly

WU Nutrition Training – Module 7





## Growth Chart

- › Green zone (weight 0 to 1 z-score) - Normal growth
- › Yellow zone (weight <-2 z-score) - Mild/moderate malnutrition
- › Red zone (weight <-3 z-score) Severe malnutrition

## Interpretation of Growth Assessment

Assess...

- › Weight-for-Height
- › Height-for-Age
- › Weight-for-Age

WU Nutrition Training – Module 7



## Weight-for-Height (WFH)

- › Reflects recent weight loss or gain
- › Best indicator of wasting
- › Used for determining "Acute Malnutrition"
- › Global Acute Malnutrition (GAM)
  - WFH  $< -2$  z-score &/or bilateral oedema
- › Severe Acute Malnutrition (SAM)
  - WFH  $< -3$  z-score &/or bilateral oedema

WU Nutrition Training – Module 7



### \*Note

- ▶ Bilateral pitting odema on both feet is sign of Kwashiokor
- ▶ Classified as severely malnourished even if WFH z-score is normal

## Height-for-Age (HFA)

- ▶ Reflects skeletal growth
- ▶ Best indicator for stunting
- ▶ Used for determining “Chronic Malnutrition”
- ▶ Global Chronic Malnutrition (GCM)
  - HFA  $< -2$  z-score
- ▶ Severe Chronic Malnutrition
  - HFA  $< -3$  z-score



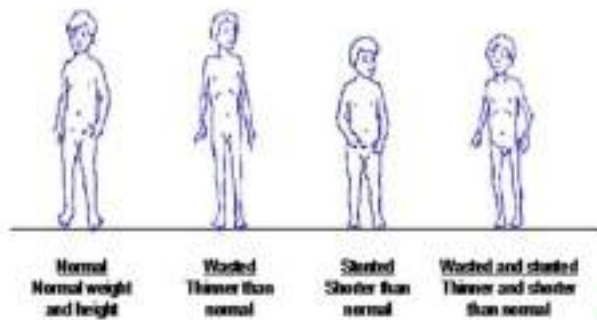
## Weight-for-Age (WFA)

- › Combined measure
- › Reflects both wasting and stunting
- › Used for determining "Underweight"
- › Not good indicator of recent nutritional status
- › Used to track progress of individual child (ex. - Growth Monitoring & Promotion)



WHO Nutrition Training - Module 7

## Interpretation



**Normal**  
Normal weight  
and height

**Wasted**  
Thinner than  
normal

**Stunted**  
Shorter than  
normal

**Wasted and stunted**  
Thinner and shorter  
than normal



WHO Nutrition Training - Module 7

The use of epidemiological tools in conflict-affected populations: open access educational resources for policy-makers. London School of Hygiene and Tropical Medicine;  
[http://conflict.lshtm.ac.uk/page\\_115.htm](http://conflict.lshtm.ac.uk/page_115.htm).

## WHO Classification: GAM

(Global Acute Malnutrition standards, population level)

Severity	Prevalence in 6-59 month old population
Acceptable	< 5%
Poor	5-9%
Serious	10-14%
Critical	> 15%

WHO classification for use at field level. Describes extent of seriousness of malnutrition in a population/community. For example, if there are <5% of children under 5 years with acute malnutrition signs, then classify level of child malnutrition as "acceptable".



WHO Nutrition Training – Module 7

## WHO Classification: GCM

(Global Chronic Malnutrition standard, population level)

Severity	Prevalence in 6-59 months old population
Low	<20%
Medium	20-29.9%
High	30-39.9%
Very high	>40%



WHO Nutrition Training – Module 7

## Mid-Upper Arm Circumference (MUAC)

MUAC used to:

- ▶ Measure thinness or fatness
- ▶ For children 6-59 months
- ▶ Easiest measure to use in community
  - > 12.5 cm = Satisfactory
  - 11.5 to 12.5 cm = Mild to Moderate Malnutrition
  - < 11.5 cm = Severe Malnutrition



## MUAC

YouTube Video

Assessing Nutritional Status Using Oedema and MUAC

Link – <https://youtu.be/3pQUtOsjjSY>



## Nutrition Counselling Advice for Growth

### Birth -6 months

- Counsel about:- Exclusive breastfeeding, preventing illness - practicing good sanitation, vaccinations, making timely health center visits

### 6-12 months

- All above advice plus continue breastfeeding and add correct complementary feeding

### 12-36 months

- All of above with continued correct complementary/solid food feeding, illness prevention - sanitation, vaccination, timely health care services - explore early preschool/kindergarten

See IEC ICF Counselling Cards

IEC Nutrition Training - Module 7



# Thank You!



IEC Nutrition Training - Module 7



**MODULE 8**

**INFANT AND YOUNG CHILD FEEDING –  
IYCF**

**ADVANCED**

**SESSION PLAN & HANDOUTS**



## Infant and Young Child Feeding (IYCF) – Advanced

### Module 8 - Session Plan

#### Module 8 – Advanced Infant and Young Child Feeding (IYCF)

Duration: 330 minutes/5.5 hrs (Plus 15 mins Break x 2 plus 1 hr Lunch)

Trainer introduces Module by saying the following

#### 8.1 Introduction – 15 mins

- Infant and Young Child Feeding (IYCF) is an important program
- Women and children suffer from malnutrition more than any other group
- Women and children’s needs are largely due to pregnancy, breastfeeding and child growth
- UNICEF’s Causal Framework shows good nutrition has benefits for individuals, families, communities and society
- Malnutrition is caused by immediate, underlying and basic causes affecting infants and young children
- There are good solutions available to correct infant and young child malnutrition

#### 8.2 Learning Objectives- 15 mins

**By the end of the session, Participants will be able to:**

- Describe importance of correct IYCF practices
- Explain role of breastfeeding in IYCF
- Describe correct complementary feeding
- Describe IDEAL IYCF practices.

#### 8.3 Training Methods and Content

**Presentation – Sessions Objectives and Content – Slides 2 – 3**

*(Trainer’s Note - Trainers can use the easy Reference book called the UNICEF Facts for Life – 4<sup>th</sup> Edition – Breastfeeding, Nutrition and Growth sections. It is available as a free download at UNICEF.org website.)*

## Presentation for Whole Group

**Trainer reads session objectives: Trainer introduces Session by giving Participants a short “pop quiz” to see how much they already know**

### Pop Quiz – 30 mins

1. WHO recommended Exclusive breastfeeding period is – a) 1 month, b) 3 months, c) 6 months, d) 2 years
2. Exclusive breastfeeding allows giving water to the child on hot days – Y/N
3. Exclusive breastfeeding allows feeding honey or sugar water when child has fever – Y/N
4. Complementary foods should be introduced – a) after one month, b) if the child is sick, c) after 6 months of exclusive breastfeeding, d) as soon as the child is old enough to recognize the mother, e) when the mother is ill
5. Breastfeeding only benefits the child and has no benefits for the mother – Y/N
6. Complementary foods should mainly be energy foods, not protein foods and fat – Y/N
7. Breast milk substitutes are recommended by WHO as safe and effective – Y/N
8. Breast milk has no effect on child immunity – Y/N
9. Solid foods need to be introduced as early as possible to help the child be strong – Y/N

- **Trainer provides correct answers and explanation**

**Trainer then begins IYCF PowerPoint presentation –30 mins**

### b. Overview (30 mins)

**Trainer presents PowerPoint**

- **Role of good nutrition for infants and young children – Slide 4**
  - A child needs to SURVIVE, GROW and DEVELOP
- **Importance of the 2 year time frame and gestation period – Slide 5**
  - Critical child growth window is 2yrs plus the gestation period (1000 days)
    - Brain growth
    - Rapid body growth and weight gain
    - Immunity strengthening
    - Correct feeding during illness
    - Timely illness care for survival and growth
    - Strong 1000 day approach sets up good future prospects
- **Global recommended feeding strategy (WHO/UNICEF) – Slide 6**
  - Baby-Friendly birthing services and process
  - Exclusive breastfeeding – 6 months
  - Complementary feeding nutrient dense foods – after 6 months and together with 2 yrs of BF
- **Trainer distributes TBC IYCF Counselling Cards for Health Workers: Handout – “TBC - IYCF Counselling Cards for Community Workers”**
- **Trainer tells Participants that this is practical guide for promoting IYCF and educating parents and others about exclusive breastfeeding and complementary feeding. We will be using it to cover the Complementary Feeding component of the standard IYCF program.**

**c. Breastfeeding (30 mins) - Slides 8 - 12**

- Exclusive Breastfeeding – Slides 7 - 8
- Advantages – Infants – Slides 9-10
- Advantages – Mothers – Slide 11
- Barriers to Breastfeeding – Slide 12

**BREAK – 15 mins****d. Complementary Feeding (30 mins) – Slides 13 – 20**

- Frequency, Amount and Quality – Slides 13- 14
- Starting at 6 months – Slides 15 - 16
- Feeding from 6 – 9 months – Slide 16
- Feeding from 9 – 12 months – Slide 17
- Feeding from 12 to 24 months – Slides 18 - 19

**Special Situation: Feeding a sick child – Slide 20**

- Trainer should give time for discussion. Participants may have questions about complementary feeding recommendations for children 6 to 24 months old
- Some of WHO recommendations may be difficult in camp setting. Trainer can ask why recommendations may be difficult. However, IYCF Counselling Cards will follow WHO recommendations.

**BREAK – LUNCH 1 hr****e. Recommended IDEAL IYCF Practices – (15 mins) Slides 21-23**

- BF initiation - No pre-lacteal foods-Feed baby the colostrum
- BF demand feeding - BF exclusive period - Weaning period
- Bottles and pacifiers
- Semi-solids, frequency, composition, quality of foods
- Micronutrients
- PE consumption
- Other factors-----
- Best maternal nutrition during gestation and BF
- Baby-Friendly birthing services
- Prompt treatment during illness, strong feeding during and after illness
- Good behaviour change communication and family/friends support
- Growth monitoring and feedback



#### f. Challenges (30 mins)

##### Group exercise

**Trainer asks Participants to form 2 groups**

- Groups identify many “challenges” to “Ideal” IYCF practices
- Groups share their findings

**Trainer helps Participants link challenges to what they discussed earlier on causes of malnutrition. Trainer guides large group discussion.**

- **Challenges are linked to causes (immediate, underlying and basic) and can include the following issues:**
  - **Behavioural obstacles to exclusive breastfeeding and complementary feeding**
  - **Social and community support**
  - **Culture and beliefs about feeding**
  - **Food access – available food, quality and quality**
  - **Institutional service issues – health services and quality**
  - **Economic and poverty issues – having money for health and other services, and to buy nutritious food**

**Summary and Conclusion for IYCF principles and practice - (15 mins)**

**Trainer summarizes session as follows:**

- a) **IYCF is very important for overall health and IYCF is important work**
- b) **Many immediate and long lasting benefits can come from strong IYCF nutrition program**
- c) **Many challenges to IYCF nutrition programming exist, but when IYCF WHO recommendations are followed, results can be achieved**
- d) **Successful IYCF programs need wide implementation support**
- e) **Successful IYCF also requires good maternal nutrition**

**Presentation and Discussion – 45 mins**

**Using the TBC IYCF Counselling Cards – for Community Workers; For Grandmothers**

**Trainer shows the 2 Counselling Card Sets and tells participants the cards are designed for Community Workers and others, such as health staff, to educate expecting mothers and their families about IYCF, with a special set of cards for educating grandmothers, who often have an important role influencing child nutrition and care.**

**Trainer describes Card content using slides**

- **IYCF Counselling Cards for Community Workers – Slides 26 – 27**
  - **Contents – Communication Skills, Cards 1-19**
- **IYCF Counselling Cards for Grandmothers – Slides 28 – 29**
  - **Contents – Communication Skills, Cards 1-14**
- **IYCF Card structure – Messages linked to pictures – Slide 30**

Using a “Show and Tell” method, Trainer explains each Counselling Card Set going page by page, as participants follow along using their handout copies. Since the content is important, this methodical process is best way to show key points and issues.

- Each participant follows in their copy of the Counselling Cards
- Trainer makes sure participants understand by giving them a chance to ask questions.

**BREAK – 15 mins**

**Demonstration and follow-up practice - 2 hours – (30 mins group prep and rehearsal – 15 mins each group role play x 6 groups)**

**Trainer tells Participants that Training Team members will give demonstration of how to use cards correctly and participants will get a chance to practice in role play exercise**

- Counselling Cards for Community Workers
- Counselling Cards for Grandmothers

**Demonstrations using Counselling Cards – Training Team members chose topic and demonstrate how cards are used by role-play:**

- Trainer Team members show both correct use of communication and counselling skills – listening, explaining, educating and discussing – and use “back-to-back” card format for linking messages and pictures correctly
- If needed, the Team can do 2 demonstrations – one complete run through and then one run through with commentary from Lead Trainer, pointing out various techniques and issues as they arise

**Role Play – Participants Use Counselling Cards**

- Divide into groups – 4 Community Workers / 2 Grandmothers
- Choose or assign Card topics
- Preparation and Practice – 30 mins for plenary presentations
- Plenary Presentation – 20 minutes/ group
- After each Presentation – 10 mins feedback

**Summary of Using the Counselling Cards Session**

**Presentation by Trainer - Summarizing FEEDBACK conclusions - 15 mins**

**Trainer also highlights the following – Slide 31**

- Importance of listening to find out what mothers and grandmothers know and understand at beginning and end of card discussion
- Important to encourage discussion, especially to get audience to verbally commit
- No need to rush discussion
- Always give verbal support and offer assistance when needed
- Show good coordination between pictures and messages and make sure hold and present cards correctly for audience to clearly see

#### 8.4 **Materials**

- **Flip Chart paper, markers, tape**
- **Computer, projector and screen**
- **PowerPoint presentation – Infant and Young Child Feeding**
- **Handouts**
  - PowerPoint presentation
  - IYCF Counselling Cards for Health Workers and Grandmothers
- **References for the Trainer and for optional distribution:**
  - *Useful easy-to-read Reference for the Trainer – UNICEF Facts for Life – 4<sup>th</sup> Edition – Breastfeeding, Nutrition and Growth – available as a free download at [UNICEF.org](http://www.unicef.org)*
  - WHO Infant and Young Child Feeding Fact Sheet – No 324, Feb 2014 - <http://www.who.int/mediacentre/factsheets/fs342/en/>

---

#### ***Trainer's Note for training field staff***

This information is straightforward technical information. It is practical information Participants can use in their work. Practice session helps Participants learn the IYCF information, as well as practice counselling skills.



Nutrition Curriculum


Advanced Infant and Young Child Feeding (IYCF)

Module 8

## Learning Objectives

After this session, participants should be able to:

- † Describe importance of Infant and Young Child Feeding (IYCF)
- † Describe major features of proper breastfeeding
- † Describe effective complementary feeding
- † Describe ideal IYCF practices
- † Conduct counselling using TBC IYCF counselling cards



TBC Nutrition Training – Module 8

## Contents

We will look at:

- › Importance of IYCF
- › Breastfeeding
- › Complementary feeding
- › Ideal IYCF practices

WU Nutrition Training – Module 6



## Introduction

Good nutrition is essential for:

- › Survival
- › Growth
- › Development



WU Nutrition Training – Module 6



## Importance of IYCF

- ▶ Ideal/best IYCF period for children = under 2 years
- ▶ Correct IYCF essential for child health and survival



## WHO/UNICEF Global Strategy

- ▶ Start breastfeeding within first hour following birth
- ▶ Exclusively breastfeed up to 6 months of age (no other food/liquids to infant)
- ▶ After 6 months – safe complementary foods – nutritionally adequate and age appropriate (see slide 13)
- ▶ Continue breastfeeding up to 2 years and beyond



## Breastfeeding

- › Breast milk is best food for infants
- › Many advantages for infants as well as mothers



WU Nutrition Training – Module 6



## What is Exclusive Breastfeeding?

- › Exclusive breastfeeding refers to providing baby (<6 months old) with only breast milk and nothing else
- › In other words, no water, juice, other kinds of milk and solid food except for vitamins, minerals and medications prescribed by doctor or healthcare worker

WU Nutrition Training – Module 6



## Advantages of BF for Infants (1 of 2)

- › Provides right balance of nutrients to support growth and development
- › Easily digested and absorbed
- › Breast milk composition changes over time to meet infant's changing nutritional needs
- › Always sanitary, fresh and at right temperature
- › Can be used by normal and premature babies
- › Promotes bonding between mother and infant

WIC Nutrition Training – Module 6



## Advantages of BF for Infants (2 of 2)

- › Suckling is good for development of babies' jaws and teeth
- › Improves infant's immune system and protects against illnesses
- › Helps to grow and develop physically and emotionally
- › Can protect against childhood obesity
- › Prevents malnutrition and reduces infant death (mortality)

WIC Nutrition Training – Module 6





## Advantages of BF for Mothers

- › Speed recovery from childbirth
- › Suppress (stops) ovulation
- › Protects against breast and ovarian cancers
- › Less expensive, more convenient and takes less time
- › Stimulates hormones that make mothers feel more relaxed and peaceful

WU Nutrition Training – Module 6



## Barriers for Exclusive Breastfeeding

- › Lack of skills
- › Cultural beliefs
- › Embarrassment
- › Lack of social support
- › Time and other demands on mother's time

WU Nutrition Training – Module 6



## Complementary Feeding (1 of 8)

- Complementary feeding is use of age-appropriate, adequate, and safe solid or semi-solid (soft) food in addition to breast milk (or breast milk substitute)
- Not recommended for children <6 months
- For children 6–23 months

WU Nutrition Training – Module 6



## Complementary Feeding (2 of 8)

- Timely
- Adequate
- Safe
- Properly fed



WU Nutrition Training – Module 6



## Complementary Feeding (3 of 8)

6–9 months (Refer to Counseling Card 13)

### Guidelines

- Continue breastfeeding on-demand day/night
- Breastfeed first before giving other foods
- Give food according to following:
  - Frequency – 3 times/day
  - Amount – increase slowly up to ½ cup
  - Thickness – mashed, pureed, 8 months finger foods
  - Variety – 3 food groups (energy, protein, protective)
  - Be patient as baby learns
  - Practice good hygiene

WIC Nutrition Training – Module 6



## Complementary Feeding (4 of 8)

6–9 months (Refer to Counseling Card 13)

### Guidelines

- Give additional snacks between meals – fruit once or twice/day. No sugary drink or snacks
- Do NOT use more than ½ teaspoon oil/day to cook baby's food
- Do NOT add sugar or seasoning when cooking baby's food

WIC Nutrition Training – Module 6



## Complementary Feeding (5 of 8)

9–12 months (Refer to Counseling Card 14)

### Guidelines

- Continue breastfeeding baby day/night to continue to make baby strong and healthy
- Breastfeed baby first before giving other foods
- Give food according to following:
  - Frequency - 4 times/day
  - Amount - increase to ½ cup
  - Thickness - finely chopped or sliced family foods
  - Variety - 3 food groups (energy, protein and protective)
  - Practice good hygiene

WFP Nutrition Training – Module 6



## Complementary Feeding (6 of 8)

12–24 months (Refer to Counseling Card 15)

### Guidelines

- Continue breastfeeding baby day/night to keep baby strong and healthy
- Use family planning method to keep baby strong by preventing another “too soon” pregnancy
- Give food according to following:
  - Frequency - 5 times/day
  - Amount - increase to ¼ to 1 cup
  - Thickness - chopped and sliced family foods
  - Variety - 3 food groups (energy, protein, protective)
  - Encourage baby to eat - but don't force
  - Practice good hygiene

WFP Nutrition Training – Module 6



## Complementary Feeding (7 of 8) 12–24 months (Refer to Counseling Card 15)

### Guidelines

- Add nutritious snacks – BabyBRIGHT and AsiaREMix snacks, pieces of ripe mango, papaya, banana, other fruits and vegetables (1–2 times/day)
- No sugary drinks or sweet snacks



## Complementary Feeding (8 of 8) Special Situation – Sick Child >6 months (Refer to Card No 18)

### Guidelines

- Breastfeed more frequently including during diarrhea
- Baby needs MORE foods and liquids while sick
- If appetite decreased, offer small frequent meals
- Give porridge – avoid spicy or fatty foods
- Keep feeding even with diarrhea to protect baby's strength
- When baby recovered, add extra meal/day for 2 weeks to rebuild strength, growth and lost weight
- When mother is sick, continue breastfeeding – add extra food and support for mother. Sick mother also needs more liquids



## Ideal IYCF Practices (1 of 3) WHO/UNICEF Approved

- All infants are breastfed for first time within first hour after birth
- All infants fed colostrum
- All infants and young children are breastfed on demand, day and night
- All infants are exclusively breastfed until 6 months of age
- No infants are given "pre-lacteals" before breastfeeding

WHO Nutrition Training – Module 6



## Ideal IYCF Practices (2 of 3)

- All children are breastfed until 24 months of age
- All young children are fed semi-solid complementary foods beginning at 6 months of age (*180 days*)
- All young children are fed recommended number of meals daily
- All young children meet their recommended daily energy requirements
- No children are fed with bottles and pacifiers

WHO Nutrition Training – Module 6



### Ideal IYCF Practices (3 of 3)

- › All young children are fed nutrient and energy-dense foods
- › All children are given variety of foods (*with 3 food groups or more*)
- › All children are given iron-rich foods or iron supplement daily
- › All young children are fed meat, fish and poultry daily
- › All young children are supported and motivated to eat until they are full (satisfied) during meal time

WFP Nutrition Training – Module 6



### Ideal IYCF Practices: Challenges

- › Culture and beliefs (For example about colostrum, exclusive BF, complementary feeding)
- › Self-confidence of mothers
- › Lack of social support from family and community
- › Lack of mother's time - many other duties
- › Promotion of commercial substitute baby milk products

WFP Nutrition Training – Module 6





## Conclusion: Why IYCF?

- Comprehensive approach - feeding and care - child and mother - family and community - direct and underlying causes
- Accepted globally by many countries' MoH
- Standards approved by WHO & UNICEF (safe and effective)
- Produces results and clear benefits (*see 2015 TBC Nutrition Survey Report*)

TBC Nutrition Training - Module 6



## TBC IYCF Counselling Cards

(1 of 6)

Content For Community Workers:

- Acknowledgements - UNICEF and Partners
- Positive Communications Skills
- Counseling Techniques
- Card Topics 1 - 19

TBC Nutrition Training - Module 6





## TBC IYCF Counselling Cards

(2 of 6)

Content For Community Workers: Card Topics 1-19

- |  |   |
|--|---|
| 1. Nutrition for pregnant and breastfeeding woman      | 11. Good hygiene  |
| 2. Pregnant woman/delivery in facility                 | 12. Start complementary feeding at 6 months             |
| 3. Exclusive breastfeeding                             | 13. Complementary feeding from 6-9 months               |
| 4. Importance of exclusive breastfeeding               | 14. Complementary feeding from 9-12 months              |
| 5. Frequency of breastfeeding                          | 15. Complementary feeding from 12-24 months             |
| 6. Breastfeeding positions                             | 16. Food Variety - Energy, Body-building and Protection |
| 7. Good attachment                                     | 17. Feeding sick baby <6 months of age                  |
| 8. Feeding low weight baby                             | 18. Feeding sick child >6 months of age                 |
| 9. Milk expression and cup feeding                     | 19. Regular growth monitoring and promotion             |
| 10. Breastfeeding when you are separated from you baby |   |

TBC Nutrition Training - Module 6



## TBC IYCF Counselling Cards

(3 of 6)

Content For Grandmothers:

- Acknowledgements - UNICEF and Partners
- Listening and Learning Skills
- Building Confidence and Giving Support
- Counseling Techniques
- Card Topics 1 - 14

TBC Nutrition Training - Module 6



## TBC IYCF Counselling Cards

(4 of 6)

Content For Grandmothers: Card Topics 1-14

1. Nutrition for pregnant woman
2. Pregnancy/delivery in health facility and initiate breastfeeding
3. Exclusive breastfeeding
4. Importance of exclusive breastfeeding
5. Frequency of breastfeeding
6. Breastfeeding positions
7. Good attachment
8. Good hygiene (cleanliness) practices prevent disease
9. Start complementary feeding when baby reaches 6 months
10. Complementary feeding from 6 up to 9 (months)
11. Complementary feeding from 9 up to 12 (months)
12. Complementary feeding from 12 up to 24 (months)
13. Food Variety - energy, body-building and protective
14. Regular growth monitoring and promotion

TBC Nutrition Training - Module 6



## TBC IYCF Counselling Cards

(5 of 6)

Each Card has:

- ✦ Key messages and pictures
- ✦ Pictures and messages are back to back

Worker-Counsellor:

- ✦ Reads messages and points to pictures to show what messages mean
- ✦ Uses communication/counselling techniques section to talk, explain, listen and discuss effectively
- ✦ Uses messages and pictures to help other persons talk about topic

TBC Nutrition Training - Module 6



## TBC IYCF Counselling Cards

(6 of 6)

### Practice Role Play Conclusions:

- › Importance of listening at beginning and end of card discussion to learn what mothers and grandmothers know and understand
- › Important to encourage discussion especially to get audience to verbally agree to messages
- › No need to rush – follow audience – repeat messages regularly to help memory and understanding
- › Always give verbal support and offer practical assistance as needed
- › Show good coordination between pictures and messages
- › Make sure to hold and present cards correctly for audience to see clearly

TBC Nutrition Training – Module 6



# Thank You!

TBC Nutrition Training – Module 6



**MODULE 9**

**ANTHROPOMETRY – MEASURING  
NUTRITION STATUS**

**SESSION PLAN & HANDOUTS**



## **Measuring Malnutrition – Anthropometry**

### **Module 9 Session Plan**

#### **Module 9 - Measuring Malnutrition - Anthropometry**

**Duration: 255 mins / 4.25 hrs. (Plus 15 mins break x 2 and 1-hour Lunch break)**

##### **9.1 Introduction: Trainer's Notes**

**The Trainer introduces the topic by stating the following:**

- **This module is closely connected to Modules on Selective Feeding Programs (Module 11), Infant and Young Child Feeding (IYCF) (Modules 6 and 8)**
- **Child and maternal nutrition is often seriously affected during times of emergency or humanitarian crises**
- **In the camp situation, while the immediate emergency humanitarian situation may have passed, there is still the possibility for emergency crises to happen**
- **Humanitarian workers need to have some understanding of measuring nutrition/malnutrition using accepted anthropometry data – age, sex, weight height/length and mid-upper arm circumference (MUAC)**

##### **9.2 Learning Objectives – Slide 2 – 15 mins**

**Trainer presents module objectives**

**After this Session, Participants will be able to:**

1. Describe the role of anthropometry in nutrition programs including for humanitarian and emergency situations
2. Use anthropometric tools to measure and record nutritional information
3. Use results to decide what feeding or other responses are needed to treat malnutrition

##### **9.3 Training methods and content – Slide 3**

**Methods:**

**The trainer will use the following training methods:**

- Illustrated Lecture Presentation with large and small group discussions
- Question & Answer discussions
- Practice session - Demonstration and return demonstration of anthropometry tools

**Trainer presents Content/Topics and explains as needed – 15 mins**

- Review – What is malnutrition?
- Malnutrition and emergency situations
- Role of anthropometry
- Advantages of anthropometry
- Role of anthropometry examiner and recorder
- Demonstration and Practice

**Session 2**

**Review – Types of Malnutrition**

**Trainer says the following:**

- In order to measure malnutrition, let us review the different kinds of malnutrition
- We choose the measurement tools depending on the kind of malnutrition we wish to measure
- Anthropometry uses physical body measurements - weight, height/length, age and sex
- In Slide 5, we see two kinds of malnutrition
  - Growth Failure
    - Acute malnutrition – Wasting
    - Chronic malnutrition – Stunting
    - Acute and/or Chronic Malnutrition – Underweight
  - Micronutrient Malnutrition
    - Vitamin A deficiency
    - Iron deficiency
    - Iodine deficiency
    - Other micronutrient deficiency

**Malnutrition and Humanitarian Response - Slides 5-6**

**Trainer presents Slides 5-6 by highlighting the following:**

- Acute malnutrition is common in humanitarian/emergency crises
- Two types of malnutrition classification – acute malnutrition and severe acute malnutrition
- Acute malnutrition (moderate) increases risk of child death by 3 times - Severe Acute Malnutrition increases risk of child death by 9 times
- Therefore, programs for prevention and treatment of malnutrition are important part of any humanitarian or emergency response
- Due to the emergency nature of the situation, URGENT response is often needed
- SFP and TFP are designed to be both “quick to implement” and effective in reducing malnutrition – rapid setup and rapid results

**Note to Trainer - Slide 7 covers Child Malnutrition in Emergencies**

- Children are at high risk during emergency situations
- Children 6-59 months are especially vulnerable to malnutrition due to rapid growth needs – show malnutrition earlier than other age groups
- Therefore, acute malnutrition in 6–59 months is sensitive and OBJECTIVE indicator for the status of the rest of the population

**BREAK: 15 mins**

**Optional Content- 30 mins**

---

***Trainer presents Slides 7-9 (30 mins)***

***Note to Trainer – These slides cover the 4 regular indicators of malnutrition and can be used for more advanced or senior staff. It explains that anthropometry is one of the four main commonly used indicators.***

*Trainer describes 4 main malnutrition indicators to place anthropometry in context*

- *Anthropometry – most widely used in emergency situations*
- *Biochemical tests – usually through blood tests – expensive and takes time*
- *Clinical signs – assessing signs and symptoms of illness (.e.g., edema)*
- *Dietary intake – measuring food intake over time*

***Trainer presents anthropometry role in both individual and population assessment - Slide 9***

*Anthropometry is used to assess both individual and population nutritional status*

- ***Individual Assessment and Population Assessment***
    - ***Individual Assessment***
      - *Growth monitoring and promotion – MCH approach to measure for growth faltering*
      - *Nutritional screening – for referral and further checkups*
    - ***Population Assessment***
      - *Surveillance for famine early warning system – measure over time*
      - *Rapid nutrition assessments – spot check*
      - *Nutrition survey – for feeding program planning*
- 

**What is Anthropometry? - Slide 10 (60 mins)**

**Trainer highlights following:**

- Anthropometry is the use of body measurements to assess nutritional status especially growth progress or failure to grow – stunting, wasting, underweight and acute and severe acute malnutrition
- Measures weight, height/length and MUAC
- Used in combination with age and sex
- CANNOT be used to detect ALL forms of malnutrition such as micronutrient malnutrition

#### **Advantages of using Anthropometry – Slides 11-12**

- Changes in body dimensions can reflect overall health and welfare
- Can be used to assess and tell us about further performance, health and survival
- Not expensive, not invasive, can be quite easily setup
- Very suitable for measuring children when growth progress is high
- Can reflect general status and whether have enough nutrition
- Can show TREND ... over time

#### **Trainer presents Slides 12 - 15**

- **What data to collect**
  - Age
  - Sex
  - Weight
  - Height/length
  - MUAC
  - Clinical observations especially “bilateral edema” – swelling in both feet of a child due to fluid buildup – important sign of acute malnutrition
  - Boys and girls grow and change differently over time
  - Age and sex MUST be recorded for anthropometric measurement to be relevant for growth monitoring
  - Age recorded in months
  - Sex noted by direct observation
  - Weight measured to nearest 100 grams
  - Height/length measured to nearest 0.1 cm
  - Children less than 2 yrs old (less than 87 cm if age unknown) should be measured lying down
  - Children two yrs. and older should be measured standing up

#### **Measuring Weight and Height/Length– PICTURE - Slides 16 - 17**

##### **Trainer shows slides of pictures of measuring weight, height/length**

- Hanging scale
- Measuring board for height/length

#### **Role of Examiner and Recorder – Slides 18 - 19**

#### **Anthropometric procedures – child and infant – height, weight and MUAC Slides 20 -**



- Measuring the Child – slide 20
- Measuring Height –standing – slide 21
- Measuring Weight – hanging scale- slide 22
- MUAC tape – slide 23
- MUAC – Zones – slide 24-25
- Measuring MUAC – Tips – slide 26
- Optional Video – using the MUAC Tape – slide 27

**BREAK – Lunch - 60 mins**

**Optional Content (60 mins.)**

---

**Practical Biometrics – Weight-for-Height (WFH) “z-score” – Understanding Cut-off points**

**Trainer presents Slides 28 – 29 and says the following:**

- *Slide 28 – population or group based assessment from surveys etc. the “z-score” is widely recognized as best system to analyze and present “Weight-for-Height” data*
  - *WFH measurement of all individuals are put into computer graphing program and program produces chart showing how weight is distributed on weight-for-height graph ... the z-score is also plotted by computer which tells us the degree of malnutrition*
  - *Slide 29 – Cut-Off points – Using z-score - Who is malnourished?*
    - *Moderate malnutrition – z-score and MUAC*
    - *Severe malnutrition – z-score and MUAC*
  - *Slide 30 – What is z-score?*
    - *Standard score above or below population average*
    - *Called “standard deviation” (SD) ... SD is a unit of measurement in statistic/ mathematics just as the kilogram is a unit of measure for weight or the centimeter is a unit of measure for length*
    - *Moderate malnutrition z-score is WFH more than 2 SDs from the mean (average) but less than 3 SDs*
- 

**Anthropometry – Opportunity for Nutrition Counselling Education**

**The most common way we track and record anthropometric measurements is using Growth Monitoring Chart – (“Road to Health” Chart). (See Module 7 on Child Growth and Development.)**

**Trainer shows Slide 31 – 32 (30 mins)**

- Counselling using the chart – slide 31
- Sample Growth Chart (WFA) showing Green, Yellow and Red Zones– slide 32
  - Explanation zones – slide 33

- Green = good growth
- Yellow = growth warning – faltering – advise on supplementary feeding
- Red = danger zone – growth not happening, may be going backwards – time for TFP

### **Wrap-up – Summary – Slides 34 – 35 (15 mins)**

Trainer summarizes session

#### **Trainer says in Summary:**

- Anthropometry is an important tool for measuring nutritional status
- It is a very good tool in an emergency/humanitarian setting for measuring child malnutrition – child malnutrition rates are good proxy indicator for overall nutrition and health status of a community
- Anthropometry tools relatively easy to use - weight, height/length plus MUAC combined with age and sex data
- Using standard Growth Monitoring Chart (“Road to Health” card) showing WFH Green, Yellow and Red zones, community workers can track child’s progress and use to counsel, educate and refer as needed
- For a population assessment, individual anthropometrics can be plotted and z-scores for WFH can be calculated to help workers decide on additional nutrition activities

### **Exercise - Demonstration and Return Demonstration-Practice Session – 1 hour**

#### **Using anthropometric tools – weight-height/length-MUAC tape and Growth Monitoring Card**

##### **Demonstration –**

**Trainer demonstrates correct procedure for each anthropometric procedure reminding Participants of various “tips” presented in PowerPoint slides earlier–**

- Weights using hanging scale for 6 – 59 month child
- Height and length measurements
- MUAC tape

Counselling using growth chart for – Green zone acceptable result, Yellow Zone warning result and Red Zone emergency result

#### **Break after first trainer demonstrations (15 mins)**

#### **Return demonstration and practice by participants**

**Trainer invites a selection of Participants to repeat demonstrations**

- Participants observe and give feedback
- Trainer gives feedback and corrections as needed

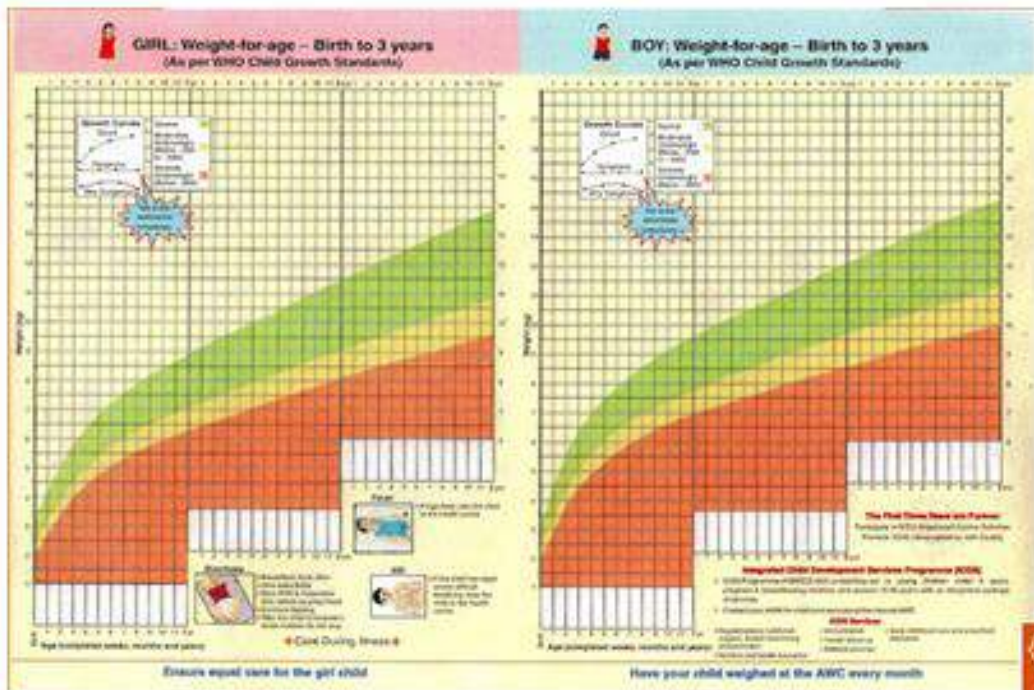
#### 9.4

#### Materials

- **Flipchart, markers and tape**
- **Computer and PowerPoint projector**
- **PowerPoint –Anthropometry presentation**
- **Handouts:**
  - Copy of PowerPoint slides
  - “Road to Health” Growth Chart
  - Optional = Copy of Page 14 TBC Nutrition Survey Report – z-score graph showing stunting
- **Demonstration equipment**
  - Hanging scale
  - Height/length board
  - MUAC tape **Nutrition Reference web portal –**
- **References**
  - WHO – e-Library for Evidence for Nutrition Action (eLENA )  
<http://www.who.int/elena/en/>
  - UNICEF – Nutrition in Emergency/Humanitarian Settings- eTraining module -  
<http://www.unicef.org/nutrition/training/list.html>

TBC Handout - Growth Chart – Module 9

# Growth Chart

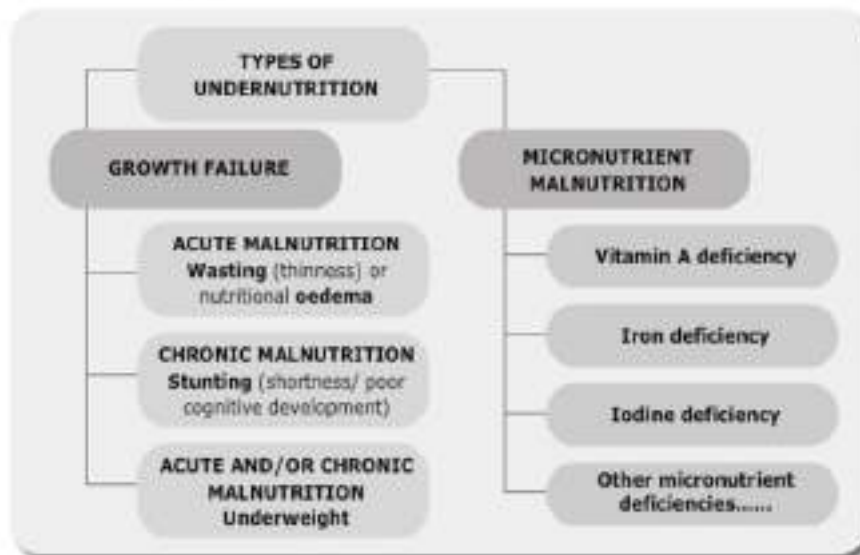


Ensure equal care for the girl child

Have your child weighed at the AWC every month



## Review – Types of Malnutrition



TBC Nutrition Training – Module 9



### TBC Handout – Child Malnutrition in Emergencies & Measuring Malnutrition

#### Child Malnutrition in Emergencies *(Optional)*



Measuring undernutrition involves the assessment of nutritional status of children.

In emergency situations, the nutritional status of young children is very important. When assessing undernutrition in emergency situations, the focus is usually on young children.

This is because children from 6-59 months of age are particularly vulnerable to malnutrition and generally show signs of undernutrition earlier than other age groups in the population.

The prevalence of acute malnutrition among children 6-59 months is a sensitive and objective indicator and can be used to reflect the nutritional status of the population as a whole.

TBC Nutrition Training – Module 9



UNICEF – Nutrition in Emergency/Humanitarian Settings- eTraining module - <http://www.unicef.org/nutrition/training/list.html>


**TBC Handout – Anthropometry Role** (UNICEF-Nutrition in Emergency/Humanitarian Settings-eTraining module -<http://www.unicef.org/nutrition/training/list.html>)

# Anthropometry Role *(Optional)*

Anthropometry can be used to assess both individual and population nutritional status.




**INDIVIDUAL ASSESSMENT**



- **Growth monitoring and promotion** as part of a mother and child health (MCH) programme where the growth of infants and young children are monitored over time in order to identify and address growth faltering and growth failure.
- **Nutritional screening** - where each child is measured in order to identify and refer individuals for further check-ups or to services such as supplementary or therapeutic feeding as needed.

**POPULATION ASSESSMENT**




- **Nutritional surveillance for famine early warning systems** in order to measure changes in nutritional status of populations over time to mobilise appropriate preparation and/or response.
- **Rapid nutrition assessments** which are carried out to quickly in order to establish whether or not there is a major nutrition problem and to identify immediate needs.
- **Nutrition surveys** in emergencies in order to assess the extent of undernutrition or estimate the numbers of children who might require supplementary and therapeutic feeding or other nutritional support.

TEC Nutrition Training – Module 9

## Measuring Malnutrition – 4 indicators *(Optional)*


The four indicators include:

**Anthropometry**




The method that is most widely used in an emergency. It implies assessing the attainment of growth based on measures of physical characteristics of the body (e.g., weight, height, etc.)

**Biochemical tests**




Assessing specific components of blood and urine samples of an individual. However this is generally expensive and time consuming and not possible in an emergency.

**Clinical signs**



Assessing signs and symptoms of illness (e.g. oedema). There are few 'field friendly' methods for clinical detection of micronutrient malnutrition in an emergency as it does not allow identification of those with subclinical levels of micronutrient malnutrition.

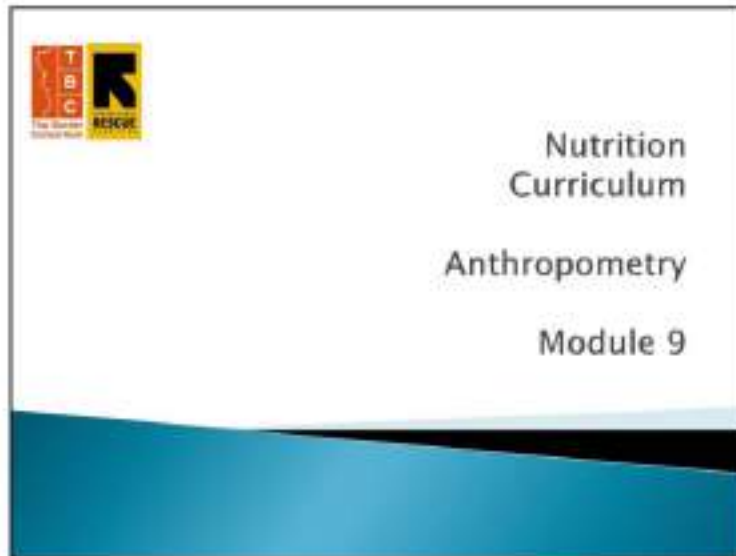
**Dietary intake**



Assessing food intake of individuals over a specific period of time in order to determine whether the quantity or quality of intake is adequate. This information however can only reflect short term intake.

TBC Nutrition Training – Module 9






## Learning Objectives

After this session, participants should be able to:

- › describe role of anthropometry in nutrition programs, including for humanitarian/emergency situations
- › use anthropometric tools to accurately measure and record nutritional status - normal growth, nutritional deficit or growth problem
- › use results to decide what feeding or and/other responses are needed for malnutrition

© 2010 Nutrition Training - Module 9



T  
B  
C  
CARE

## Contents

We will look at:

- › Review - what is malnutrition?
- › Malnutrition and emergency situations
- › Anthropometry role in measuring malnutrition
- › Advantages of anthropometric measurements
- › Role of anthropometric examiner and recorder
- › Anthropometric procedures -weight, height and mid-upper arm circumference (MUAC)

WHO Nutrition Training - Module 0



## Links with Other Modules

- › Child Growth and Development
- › Selective Feeding Programmes
- › Nutrition Surveys, Analysis and Interpretation

WHO Nutrition Training - Module 0





## Review - Types of Malnutrition



WHO Nutrition Training – Module 9



## Malnutrition

### Normal/Emergency-Humanitarian Situations

- In our Camp situation, while the immediate emergency situation has passed, there is still the possibility for new emergency crises to happen

In general:

- We need to be able to measure nutrition status to design effective programs against malnutrition, especially during humanitarian /emergency crises

WHO Nutrition Training – Module 9



### Child Malnutrition in Emergencies *(Optional)*



Measuring undernutrition involves the assessment of nutritional status of children.

In emergency situations, the nutritional status of young children is very important. When assessing undernutrition in emergency situations, the focus is usually on young children.

This is because children from 6-59 months of age are particularly vulnerable to malnutrition and generally show signs of undernutrition earlier than other age groups in the population.

The prevalence of acute malnutrition among children 6-59 months is a sensitive and objective indicator and can be used to reflect the nutritional status of the population as a whole.

WHO Nutrition Training - Module 11



### Measuring Malnutrition – 4 indicators *(Optional)*

The four indicators include:

<p><b>Anthropometry</b></p>  <p>The method that is most widely used in an emergency. It implies assessing the attainment of growth based on measures of physical characteristics of the body (e.g., weight, height, etc.)</p>	<p><b>Biochemical tests</b></p>  <p>Assessing specific components of blood and urine samples of an individual. However this is generally expensive and time consuming and not possible in an emergency.</p>
<p><b>Clinical signs</b></p>  <p>Assessing signs and symptoms of illness (e.g. oedema). There are few 'field friendly' methods for clinical detection of micronutrient malnutrition in an emergency as it does not allow identification of those with subclinical levels of micronutrient malnutrition.</p>	<p><b>Dietary intake</b></p>  <p>Assessing food intake of individuals over a specific period of time in order to determine whether the quantity or quality of intake is adequate. This information however can only reflect short term intake.</p>


WHO Nutrition Training - Module 11




UNICEF – Nutrition in Emergency/Humanitarian Settings- eTraining module - <http://www.unicef.org/nutrition/training/list.html>

## Anthropometry Role *(Optional)*


Anthropometry can be used to assess both individual and population nutritional status.





### INDIVIDUAL ASSESSMENT

- **Growth monitoring and promotion** as part of a mother and child health (MCH) programme where the growth of infants and young children are monitored over time in order to identify and address growth faltering and growth failure.
- **Nutritional screening** - where each child is measured in order to identify and refer individuals for further check-ups or to services such as supplementary or therapeutic feeding as needed.



### POPULATION ASSESSMENT


- **Nutritional surveillance for famine early warning systems** in order to measure changes in nutritional status of populations over time to mobilise appropriate preparation and/or response.
- **Rapid nutrition assessments** which are carried out to quickly in order to establish whether or not there is a major nutrition problem and to identify immediate needs.
- **Nutrition surveys** in emergencies in order to assess the extent of undernutrition or estimate the numbers of children who might require supplementary and therapeutic feeding or other nutritional support.

© UNICEF Nutrition Training - Module 6

UNICEF – Nutrition in Emergency/Humanitarian Settings- eTraining module - <http://www.unicef.org/nutrition/training/list.html>

## What is Anthropometry?

- ▶ Anthropometry is use of body measurements such as:
  - weight, height and mid-upper arm circumference (MUAC) (used in combination with age and sex)
  - ...to observe growth or failure to grow.
- ▶ Anthropometry cannot be used to detect all forms of undernutrition (such as measure micronutrient malnutrition)
- ▶ It CAN be used to assess **wasting, stunting and underweight**



© UNICEF Nutrition Training - Module 6

## Advantages of using Anthropometric Measurements (1 of 2)

- ▶ Changes in body dimensions can reflect overall health and welfare
- ▶ Anthropometry is used to assess and predict performance, health and survival
- ▶ Anthropometry is inexpensive and "non-invasive" measure of nutritional status

## Advantages of using Anthropometric Measurements (2 of 2)

Anthropometrics are very useful because it can:

- ▶ ...accurately assess nutritional status of children
- ▶ ...reflect general health status and nutritional adequacy
- ▶ ... show trend of growth and development over time

## Anthropometry

### What Data to Collect? (1 of 3)

- Age
- Sex
- Weight
- Height/length
- MUAC

(Bilateral oedema – swelling of both feet of a child due to fluid buildup – is an important clinical sign of acute malnutrition)

## Anthropometry

### What Data to Collect? (2 of 3)

- Boys and girls grow and change differently over time
- Critical that age and sex of children recorded so anthropometric status is as accurate as possible
- How to record data?
  - Age is recorded in months
  - Sex noted by direction observation
  - Weight should be measured to nearest 100g
  - Height/length should be measured to nearest 0.1 cm

## Anthropometry

### What Data to Collect? (3 of 3)

How to record data?

- If child is less than 2 yrs. old (less than 87cm) measure length of child lying down (recumbent)
- If child is 2 yrs. or older and able to stand, measure standing height

(UNICEF source)



© UNICEF

## Measuring Weight

### Using Hanging Scale



© UNICEF




© UNICEF


UNICEF – Nutrition in Emergency/Humanitarian Settings- eTraining module  
-<http://www.unicef.org/nutrition/training/list.html>

## Anthropometry Height–Length

When measuring a child's length or height, you should consider the child's age and ability to stand. Length and height should be measured to the nearest 0.1cm.



If a child is less than 2 years old (e.g. less than 87cm), measure recumbent length.



If the child is aged 2 years or older (e.g. 87cm or above) and able to stand, measure standing height.

TBC  
The Standard  
Commitment

© UNICEF Nutrition Training – Module 6

UNICEF – Nutrition in Emergency/Humanitarian Settings- eTraining module  
-<http://www.unicef.org/nutrition/training/list.html>

## Role of Anthropometric Examiner

The examiner will:

- Position the child
- Take each measurement
- Say the measurement aloud to the recorder

TBC  
The Standard  
Commitment

© UNICEF Nutrition Training – Module 6



## Role of Recorder

The recorder will:

- ▶ Help reassure the mother and child
- ▶ Record measurement
- ▶ Assist examiner to obtain correct measurement
- ▶ Check tension and horizontal position of measuring tape (for MUAC)
- ▶ When also measuring MUAC – Make the midpoint mark on the child's arm and record circumference reading

HC Qualification Training – Module 6



## Anthropometric Procedures

▶ For...

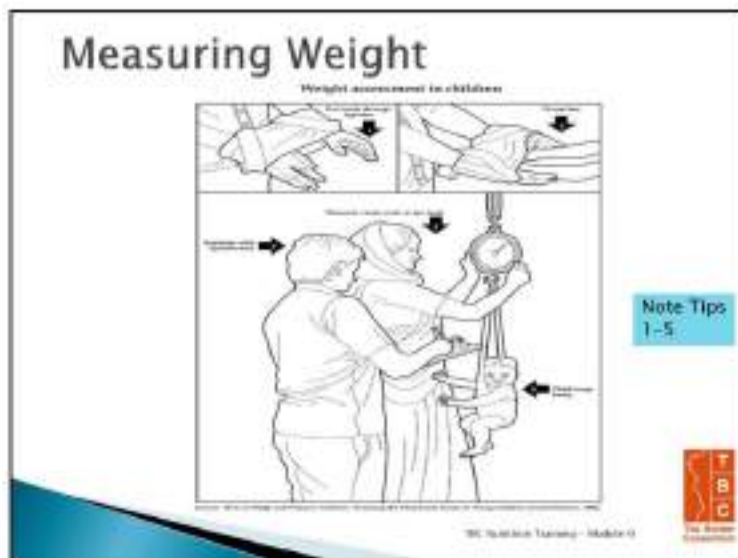
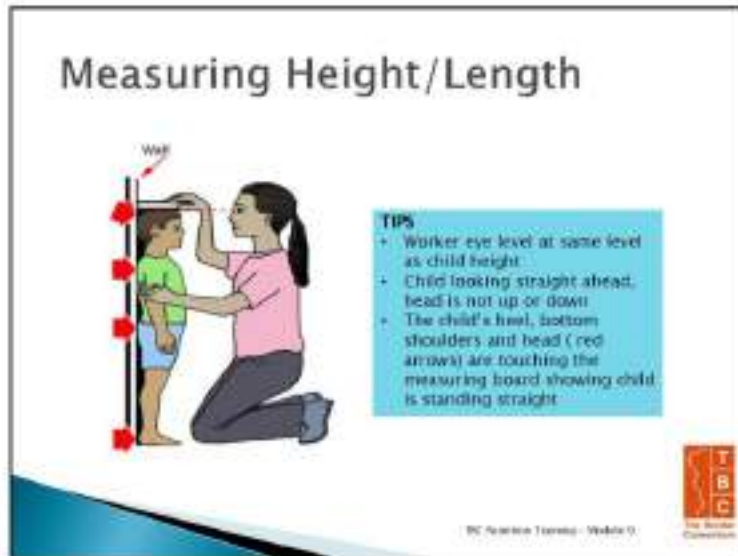
- ▶ Measuring Height/Length & Weight in children aged 6-59 months

HC Qualification Training – Module 6

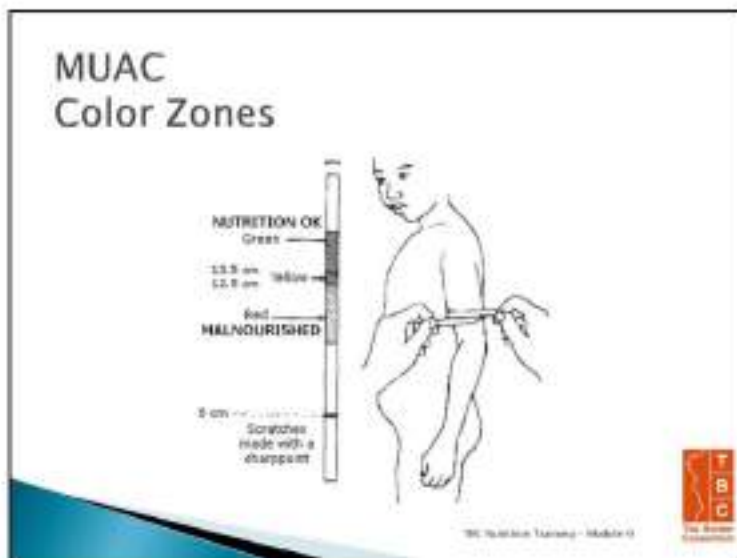
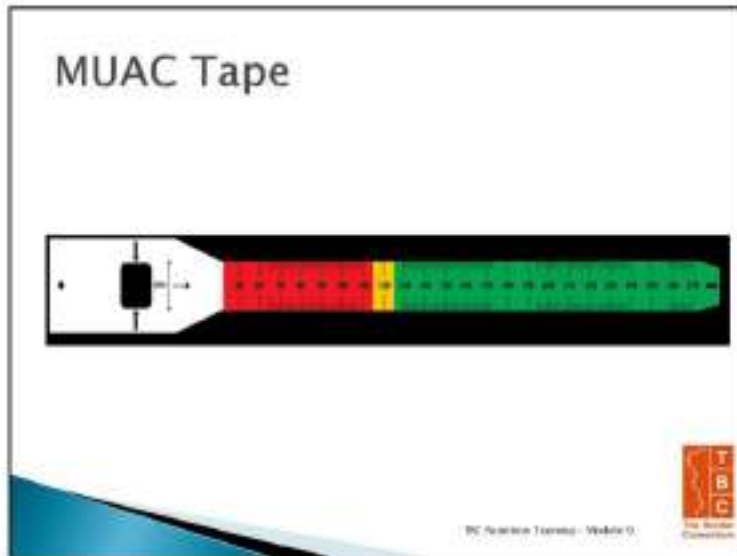




From - [https://www.cdc.gov/healthyweight/assessing/bmi/childrens\\_bmi/measuring\\_children.html](https://www.cdc.gov/healthyweight/assessing/bmi/childrens_bmi/measuring_children.html)



From – How to Weight and Measure Children Assessing the Nutritional Status of Young Children in Household Surveys. United Nations, Department of Technical Co-operation for Development; United Nations. Statistical Office. National Household Survey Capability Programme 1986.



From – Mother, Infant and Young Child Nutrition and Malnutrition at [www.motherchildnutrition.org/early-malnutrition-detection/detection-referral-children-with-acute-malnutrition/screening-for-acute-malnutrition.html](http://www.motherchildnutrition.org/early-malnutrition-detection/detection-referral-children-with-acute-malnutrition/screening-for-acute-malnutrition.html).



## Using MUAC Tape

### Resources:

- ▶ Video - <https://youtu.be/3pQUtOsjjSY>
- ▶ Visit the MUAC Community website at <http://muac.org>  
Visit us on-line at <http://motherchildnutrition.org> -  
<http://healthphone.org>

BC Nutrition Training - Module 9



### *Optional Slide*

## Practical Biometrics – WFH “z-score” Understanding Cut-Off Points

- ▶ For “population-based” assessment, including surveys and nutritional surveillance, the z-score is widely recognized as best system for analysis and presentation of anthropometric data

(Source: WHO)

<http://www.who.int/nutgrowthdb/about/introduction/en/index4.html>

(See TBC – 2015 Nutrition Survey Report to CCSDPT Agencies – Graph showing z-score results of stunting)

BC Nutrition Training - Module 9



*Optional Slide*

## Cut-Off Points–Deciding who has Malnutrition

- Moderate Malnutrition
  - <-2 WFH z-score and  $\geq$ -3 z-score
  - <12.5 cm MUAC
  
- Severe Malnutrition
  - <-3 WFH z-score
  - <11.5 cm MUAC

*Optional Slide*

## Z-Score What is it?

A **z-score**, also known as a standard score, is a measure for how far a measurement is above or below the population mean or average

It is expressed in “standard deviations”

- Moderate malnutrition z-score is when weight-for-height measurement is more than 2 standard deviations from the average, but less than 3 standard deviations from the average

## Anthropometry: Opportunity for Nutrition Counselling and Education (1 of 3)

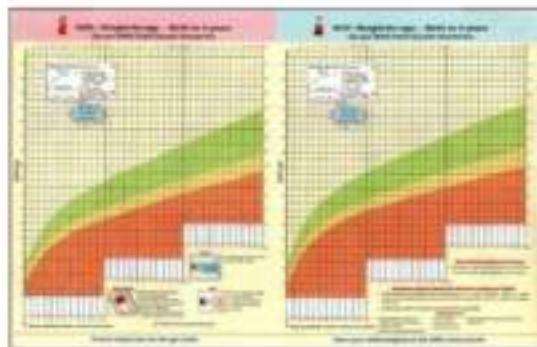
Nutrition workers can:

- ▶ Use Growth Chart (weight-for-age) to explain nutritional status of child by showing child's weight change over time on growth chart
- ▶ Explain Green, Yellow and Red Zones on growth chart to introduce growth monitoring

90 Nutrition Training – Module 9



## Sample Growth Chart (WFA) Green, Yellow and Red Zones (2 of 3)



90 Nutrition Training – Module 9



### Anthropometry: Opportunity for Nutrition Counselling and Education (3 of 3)

- ▶ **Green zone** - growth is good - encourage to continue feeding
- ▶ **Yellow zone** - growth faltering - advise to feed more and additional; explain suitable diets (SFP)
- ▶ **Red zone** - danger zone - explain to feed more and give advice on feeding - REFER to medical services - (TFP)

© 2010 Nutrition Training - Module 10



### Summary: Anthropometry (1 of 2)

- ▶ Anthropometry is essential way to measure nutritional status
- ▶ Measures:
  - Age
  - Sex
  - Weight
  - Height / Length
  - MUAC

...to determine nutritional status

© 2010 Nutrition Training - Module 10





## Summary: Anthropometry (2 of 2)

- ▶ Anthropometry is commonly recommended measuring procedure, especially in emergency/humanitarian settings when children are at high risk from malnutrition
- ▶ Anthropometry measurements (with other clinical observations) can help nutrition and community workers decide to refer children to SFP or TFP or continue "standard" IYCF programs

WHO Nutrition Training – Module 6



## Anthropometry Exercise Demonstration and Practice

- ▶ **Trainer demonstration of, and Participant practice** with correctly measuring height/length, weight and MUAC using appropriate measuring tools
  - Hanging scale
  - Measuring board for height/length
  - MUAC tape
  - Growth Monitoring Chart
  - Reference slides #18-31
  - YouTube video – <https://youtu.be/3pQUt0sJJ5Y>

WHO Nutrition Training – Module 6





**MODULE 10**

**NUTRITION SURVEYS**

**SESSION PLAN & HANDOUT**



## **Nutrition Surveys – An Introduction**

### **Module 10 - Session Plan**

#### **Session 1: Module 10 - Nutrition Surveys-Introduction**

**Duration:** 300 mins - 5 hrs. (Plus 15 mins Break x 2 and 1 hour Lunch break)

##### **10.1 Introduction: Trainer's Notes**

**The Trainer introduces the topic by stating the following:**

- This module is closely connected to the Module on Anthropometry - Measuring Malnutrition – Module 9.
- It is **an introduction to basic survey concepts and procedures**

##### **10.2 Learning Objectives – Slide 2 (15 mins, Slides 2-3)**

**Trainer presents module objectives**

**After the session, participants should be able to:**

- Describe 4 types of surveys
- List common planning steps
- State principles of random sampling
- Describe common sources of bias in nutrition surveys
- Explain checking reliability of nutrition survey report
- Calculate prevalence of acute malnutrition
- Describe importance of confidence intervals

##### **10.3 Training methods and content – Slide 3**

**Methods:**

**The trainer will use the following training methods:**

- Illustrated Lecture Presentation with large and small group discussions
- Question & Answer discussions

**Trainer presents Content/Topics and explains as needed**

- Objective of nutrition surveys
- Types of nutrition surveys
- Nutrition survey plans and procedures
- Sampling
- Reliability
- Bias
- Calculating prevalence

**Session 2****Objective of nutrition survey – Slide 4**

**Trainer shows Slide 4 and says that nutrition surveys are designed to measure the nutrition/malnutrition status within any given population or group.**

The objective of a survey is to measure:

- Severity
- Extent
- Distribution
- Causes of malnutrition

within any given population or group. In the case of TBC's Nutrition Survey, carried out every two years, it measures nutritional status of children 6 – 59 months of age and living in the camps.

**TBC 2 yearly Nutrition Survey – Objectives – Slide 5**

**The survey measures nutritional status and extent of healthy practices:**

- Malnutrition rates
- Micronutrient deficiencies
- Feeding practices (IYCF)
- Nurse school enrolment
- Household Hunger Scale (HHS)

It measures:

- How severe – what kind of malnutrition and how significant – stunting vs. wasting vs. underweight
- How many malnourished - extent
- How widespread – where and who - distribution within camps and among all camps

And

- Healthy practices – how much feeding, how many going to nurse school, how much household hunger

**Nutrition Surveillance – Definition – Slide 6**

**Trainer shows Slide – Nutritional Surveillance - says that the relationship between nutrition survey and nutrition surveillance is as follows:**

- Nutrition surveillance is a regular organized effort to check nutritional status in order to make decisions that will lead to better nutrition in population
- It combines nutrition/ food and other relevant information from different sources
- An organized nutrition survey is one part of nutrition surveillance activity

**Repeat Slide 7 – Objectives of Nutrition Survey are to:**

- Assess, monitor and evaluate the nutritional and/or poverty situation of a population
- Identify groups of highest malnutrition risk
- Reveal the type, size and seriousness of nutritional problems and their possible causes
- Identify appropriate nutrition interventions
- Estimate the numbers of people needing assistance

**Trainer should stress need for systematic scientific nature of survey work, need for accuracy and link to policy and program responses for proper targeting so that those who are malnourished and/or at risk are served effectively**

**Types of Nutrition Surveys – Slide 8-9**

**Trainer introduces Slide 8 and says that it is useful to know about different kinds of survey**

- **Rapid (rural) appraisal**
  - The most important principle to understand regarding rapid (rural) appraisal (RRA) is that this is not a methodology of information gathering, per se, but a creative, structured use of a particular set of investigative tools for assessing a situation – participatory consultation and dialogue
    - 5 common appraisal tools are:
      - Key informant interviews
      - Focus group discussions
      - Group interviews
      - Structured observation
      - Informal surveys
- **Rapid assessment**
  - Exploratory method for early assessment of nutritional status during beginning of project design
  - Existing data, official interviews, community interviews, community mapping and visits, group discussion
- **Baseline Survey**

- Population survey to find out the type and size and causes of malnutrition, those affected and possible types of program interventions
- Conducted at beginning of program to justify targeting to be able to show change or progress with follow-up surveys
- **Follow-up Survey**
  - Similar to baseline survey and conducted at different time(s) in order to show nutrition progress
  - Use same questionnaire and measure nutrition in the same population as in baseline

### **Session 3**

#### **Nutrition survey plan and procedures – Slide 10**

##### **Trainer introduces survey-planning procedure**

This describes a general process because the different types of surveys will have additional requirements (Use TBC process as much as needed)

- Collection of available information on the nutritional situation and other information - demographic, socioeconomic and environment, community data in the survey region
- Planning and preparation of the nutrition survey – who will do what and when
- Budgeting
- Implementation of the nutrition survey
- Survey Data processing, evaluation and analysis
- Distribute of results of nutrition survey and
- Prepare to act on the survey results

#### **Sampling - key method to help the accuracy, credibility and reliability of the survey result – Slide 11**

##### **Trainer**

##### **Types of sampling - ways to select the people to be surveyed**

- **Cannot survey everyone – logistics and expense**
  - **So we have to calculate correct sample using special statistical techniques**
  - **Note:**
    - Calculating sample size and selecting sample are very important parts of survey design
    - Poor sampling can cause “bias” (inaccuracy) in survey results
    - Need tools to
      - calculate sample size,
      - create sampling frame, and
- Carry out random sampling**

#### **3 kinds of reliable sampling – Slide 12**

- **Simple Random Sampling**
- **Systematic Sampling**
- **Cluster Sampling**

### Sampling Methods Explained – Slide 13

#### Simple Random Sampling - (Numbers “out of a hat” method)

- Simple random sampling is the basic sampling technique where we select a group of people (a sample) for study from a larger group (a population). Each individual is chosen entirely by chance and each member of population has equal chance of being chosen in sample.

#### Systematic Sampling – (first random number then every say, 10th)

- Systematic sampling is a random sampling technique used frequently as it is both simple and reliable. In systematic random sampling, researcher first randomly picks the first subject from the population. Then, the researcher will select each n'th (say 10th) subject from the list.

#### Cluster Sampling - (random selection from each by cluster)

- Researcher selects groups or clusters, and then from each cluster, selects the individual subjects by either simple random or systematic random sampling. The Researcher can even choose to include the entire cluster and not just subset from it.

(Reference website: <https://explorable.com/what-is-sampling?gid=1578>)

Trainer can use the example of National Lottery winning numbers selection to illustrate the different sampling methods

- Simple random sampling - Current method is random drawing from all numbers
- Systematic sampling – first number is randomly chosen then each subsequent number is say every 1,000<sup>th</sup> number
- Cluster sampling – each number is random but every city where the lottery is sold has a random number chosen from it

**Persons responsible for these tasks should already be trained and know about sampling and survey statistics.**

**BREAK – 15 mins**

**Bias – Slides 14-15, 30 mins**

**“Bias” means that choices (like choosing survey sample size) are not random and so results may not represent whole population.**

**4 main biases**

- Selection Bias
- Measurement Bias
- Confounding
- Recall Bias
  
- Selection Bias – selection of “who” is included in sample is not random so sample doesn’t represent whole population
- Measurement Bias – A measurement is biased if it systematically over or understates the true value of what we are measuring (e.g., using a faulty scale increased all weight measurements)
- Confounding – what we measure is being influenced (unknowingly by us) by something else which we are not measuring
- Recall Bias – people remember incorrectly – i.e., what they think you want to know, what they think they remember – e.g., what they fed to their children yesterday

**Optional Content – 30 mins**

---

**Reliability – Slide 16****What is RELIABILITY?**

- Reliability is the way to check our measuring tools (such as sampling) to make sure that they measure what we say they are designed to measure

**We say a measuring tool is RELIABLE if every time we use it we can get the same measurement results.**

**See Table in Slide 16 to see how we measure reliability of a sample:**

**Our sample is RELIABLE if:**

- ...“out of range” WFH children measured, is less than 3% of the sample size
- ...“out of range” HFA children measured is less than 5% of the sample size
- ...The ratio of children 6-29 months to children 30-59 months is between 0.78 – 1.18 with ideal = 0.98
- ...In other words we have a fair balance between age groups
- ... the ratio between girls and boys is between 0.8 and 1.2

## Session 5

### Calculating Prevalence of Malnutrition – Slides 17 - 18

$$\frac{\text{Number of people with malnutrition}}{\text{Number of people measured}} \times 100 = \text{Prevalence (as \%)}$$

- Percentage figure gives you an idea of size of the program coverage, investments needed – funds, staffing and supplies and urgency/severity

Trainer can refer to the following website for more details 2016 -

<http://data.unicef.org/topic/nutrition/malnutrition/>

<http://data.unicef.org/wp-content/uploads/2016/09/UNICEF-Joint-Malnutrition-brochure.pdf>

And

[http://www.who.int/nutgrowthdb/publications/worldwide\\_magnitude/en/](http://www.who.int/nutgrowthdb/publications/worldwide_magnitude/en/)

BREAK – Lunch – 60 mins

### Reporting Results – The TBC Nutrition Survey Report – Slides 19 -26 – 60 mins (Break as needed)

Illustrated Lecture presentation with discussion and Q & A

Trainer explains the following:

- The reason to use the TBC Report is to explain how a nutrition survey is carried out.
- The TBC Nutrition Survey is a key (every 2 yrs.) activity to set policy and decide program actions.
- It is the “evidence-base” for policy and program decisions take by TBC and partners.
- Because it is so important it must be as scientifically and statistically “valid” (i.e., credible and reliable) as possible.

Trainer introduction:

1. Every 2 years, TBC with health agency partners, conducts a border-wide nutrition survey covering all camps as part of nutrition surveillance system. The results are used for policy and program decisions to strengthen nutrition and related services. In this session, we will review the survey process used and the report format to learn how a survey is actually conducted.
2. If the TBC survey manager is available, this person could be invited as a GUEST SPEAKER to talk about the camp survey experience – especially the logistics aspects, training, questionnaire used and the discussion and action taken by managers on the RESULTS.



3. Copies of the 2015 Report are available for participants to look at during the presentation. Every participant can receive a copy of the Executive Summary.

**Each slide describes the content of each section of the Report**

**Report Format – Slide 19**

This slide gives a good overview of the survey process all on one page

**Definitions and Benchmarks – Slide 20**

This part of the Report describes what types of malnutrition we are surveying and what the measuring standards for them are according to WHO

**Executive Summary – Slide 21**

This part of the Report is a summary and gives all the highlights of the activity – objectives, process, results and next steps (usually the part that goes to the upper level manager and/or policy makers)

**Background – Slide 22**

This part of the report gives us important background information concerning the survey activity – past history, social and other economic context, population and/or community activities relevant to the survey work

**Methodology – Slide 23**

This part of the Report describes the process used – sampling, survey plan, questionnaire, activities – e.g., logistics and training

This survey used random sampling with children 6 – 59 months of age. TBC trained health agency staff to implement surveys in all camps using field-tested questionnaires in local language – data was processed using SPSS software Version 9 – WHO Growth Standards were used to report the main anthropometry results

**Results – Slide 24**

This part of the report tells us the results of the Survey – in this Report the survey looked at:

Malnutrition rates – average acute or wasting malnutrition, chronic stunting malnutrition, micronutrient deficiencies, supplementary feeding coverage, Vitamin A deficiencies and helminths, feeding practices, Nursery School enrolment and Household Hunger Scale (HHS)

**Discussion and Recommendations - Slide 25**

This part of the Report explains the results and what it means for the current program effectiveness and what is recommended for the future

This is called “evidence-based programming” – the results of the survey provide data that is the “scientific evidence” for how well the program works and what it will do next to improve nutrition

### Appendices - Slide 26

This part of the report includes – survey malnutrition results by camp, survey form, training outline and survey protocol (for transparency)

### Module Conclusion – 30 mins: Trainer concludes the module by saying the following


- Nutrition surveys are a key part of running a successful program to address malnutrition especially amongst at risk children in emergency and humanitarian situations
- It is a specialized task and uses established scientific standard processes and tools – this module is an introduction to nutrition surveys – basic concepts and processes
- Using the correct survey procedures will produce accurate results that can then be used as evidence for policy and program development
- Some important concepts we covered are survey types, sampling, reliability, planning and reporting results
- The TBC 2 yearly survey is a state-of-art border-wide survey that gives nutrition data, which is then used for program policy and program changes

### Materials

- **Flipchart, markers and tape**
- **Computer and LCD projector for PowerPoint and YouTube video**
- **Handouts: Copy of PowerPoint Slides, Copy of Page 14, TBC Nutrition Survey Report – Z-Score Graph showing stunting**
- **Copies of TBC 2015 Nutrition Survey Report**
- **PowerPoint Slides – Nutrition Survey presentation**
- **References:**

### Reference websites

- Sampling: <https://explorable.com/what-is-sampling?gid=1578>)
- 2016 Global Nutrition data reference - <http://data.unicef.org/topic/nutrition/malnutrition/>
- <http://data.unicef.org/wp-content/uploads/2016/09/UNICEF-Joint-Malnutrition-brochure.pdf>
- [http://www.who.int/nutgrowthdb/publications/worldwide\\_magnitude/en/](http://www.who.int/nutgrowthdb/publications/worldwide_magnitude/en/)
- **Nutrition Reference web portal - WHO – e-Library for Evidence for Nutrition Action (eLENA )** <http://www.who.int/elena/en/>
- **UNICEF – Nutrition in Emergency/Humanitarian Settings- eTraining module**
  - <http://www.unicef.org/nutrition/training/list.html>



Nutrition Curriculum


Nutrition Survey,  
Analysis and  
Interpretation

Module 10

## Learning Objectives

After this session, participants should be able to:

- › describe 4 types of surveys
- › list common planning steps
- › state principles of random sampling
- › describe common sources of bias in nutrition surveys
- › explain how to check reliability of nutrition survey report
- › calculate prevalence of acute malnutrition
- › describe TBC Nutrition Survey Report content



TBC Nutrition Training - Module 10

## Contents

We will look at:

- Objective of nutrition surveys
- Types of nutrition surveys
- Nutrition survey plans and procedures
- Sampling
- Reliability
- Bias
- Calculating prevalence
- Confidence interval

TBC Nutrition Training – Module 02



## Nutrition Survey Objectives

- A nutrition survey measures...
  - severity
  - extent
  - distribution
  - causes of malnutrition

**...in a group (population)**
- For TBC Survey, the group measured is children 6–59 months of age

TBC Nutrition Training – Module 02



## Nutrition Survey Example TBC Objectives

- ▶ TBC nutrition survey measures...
  - Malnutrition rates (prevalence)
  - Micronutrient deficiencies
  - Feeding practices (IYCF)
  - Nursery school enrollment
  - Household Hunger Scale (HHS):
    - How severe - what kind of malnutrition (stunting, wasting, underweight)
    - How many - extent
    - How widespread - distribution
  - Healthy practices - feeding, nursery school, household **hunger** ...in a population

TBC Nutrition Training - Module 10



## Nutrition Surveillance

- ▶ Nutrition surveillance is
  - keeping regular organized effort to check nutritional status
  - make decisions leading to better nutrition in population
- ▶ Nutritional surveillance system can collect and combine nutrition/food/health and other "survey" information, such as climate/weather/food harvests, to help make nutrition policy and program decisions
  - e.g. FEWS surveillance system - an early warning hunger system/program in parts of Africa

TBC Nutrition Training - Module 10



## Nutrition Surveys Overall Objectives

- ▶ Assess, monitor and evaluate nutritional and/or poverty situation of population
- ▶ Identify groups at highest malnutrition risk
- ▶ Reveal type, size and seriousness of **nutrition problems** and possible **causes**
- ▶ Identify appropriate nutrition interventions
- ▶ Estimate number of people needing assistance

TIC Nutrition Training - Module 02



## Types of Nutrition Surveys (1 of 2)

- ▶ Rapid appraisal (RRP)
  - Rapid (rural) appraisal is creative, structured use of investigative tools for assessing a situation (participatory consultation - 5 key methods are - key informant interviews, focus group discussions, group interviews, structured observation & informal surveys.)
- ▶ Rapid assessment (RAN)
  - Exploratory method for early assessment of nutritional status during beginning of project design (existing data, official interviews, community interviews, community mapping and visits, group discussion)

TIC Nutrition Training - Module 02



## Types of Nutrition Surveys (2 of 2)

- **Baseline Survey**
  - Population survey to find out type, size and causes of malnutrition, those affected and possible types of interventions
  - Conducted at beginning of program to justify targeting and be able to show change/progress with follow-up surveys
- **Follow-up Survey**
  - Similar to baseline survey and conducted at different times to show nutrition progress
  - Uses same questionnaire and measures nutrition in same population as baseline

## Nutrition Survey Steps

1. Collect information on nutritional situation and other information (people, social system, economy and environment/geographic data in survey region)
2. Plan and prepare nutrition survey in coordination with partners
3. Implement nutrition survey
4. Process, evaluate and analyze survey data
5. Distribute survey results
6. Prepare to act on survey results with stakeholders

## Sampling Methods (1 of 3)

Sampling is mathematical and statistical way of selecting a smaller sample of entire population – for logistics and cost reasons we can't survey everyone!

- Calculating sample size and sample selection are very important for accuracy, credibility and reliability
- Poor sampling can result in "biased" results
- Need tools to:
  - Calculate "sample size" – subset of larger population
  - Create "sampling frame" – reasoning for how and who to select
  - Carry out "random sampling" – picking survey respondents by chance

\*\*Persons responsible for these tasks should already be trained and know about sampling and survey statistics\*\*



## Sampling Methods (2 of 3)

### 3 Types

- **Simple Random Sampling**  
(Pick numbers "out of a hat" method)
- **Systematic Sampling**  
(first chose a random number then chose every say, 10<sup>th</sup>)
- **Cluster Sampling**  
(random selection from each by cluster)

Reference website: <https://explorable.com/what-is-sampling/gid=1578>





## Sampling Methods Explained (3 of 3)

- **Simple Random Sampling** (Pic numbers "out of a hat" method)
  - Basic sampling technique where we select group of people (sample) for study from larger group (population). Each individual chosen entirely by chance and each member of population has equal chance of being chosen.
- **Systematic Sampling** (first random number then every say, 10<sup>th</sup>)
  - Random sampling technique frequently used for its simplicity and periodic quality. In systematic random sampling, researcher first randomly picks first item or subject from the population. Then selects each n<sup>th</sup> (say 10<sup>th</sup>) subject from list.
- **Cluster Sampling** (random selection from each by cluster)
  - Researcher selects groups or clusters, and then from each cluster, selects individual subjects by either simple random or systematic random sampling. Researcher can even opt to include entire cluster and not just a subset from it.

TBC Nutrition Training - Module 02



## Possible Bias in Nutrition Survey (1 of 2)

"Bias" means choices are not random

- Types of bias include:
  - Selection Bias
  - Measurement Bias
  - Confounding
  - Recall Bias

TBC Nutrition Training - Module 02



## Types of Bias in Nutrition Survey

(2 of 2)

- **Selection Bias** – selection of “who” is included in survey not random so doesn’t represent whole population
- **Measurement Bias** – measurement is biased if it systematically over or understates true value of what we are measuring (e.g., faulty scale increased all weight-for-height measurements)
- **Confounding** – what we measure is influenced (unknowingly) by something else which we are not measuring
- **Recall Bias** – people remember incorrectly, i.e. what they think you want to know, what they think they remember (e.g. what they fed their children yesterday)

TBC Nutrition Training – Module 10



## Reliability

“reliable sample” is good as gives expected result

Variable/Test	Acceptable range
Sample size	Greater than calculated sample size
Out of usual range values (Weight-for-Height) are:	Less than 3% of sample size
Out of usual range values (Height-for-Age) are:	Less than 5% of sample size
Age ratio of 6-29 months to 30-59 months is:	Between 0.78 and 1.18
Age ratio = (8-29 mos.)/(30-59 mos.)	Ideal ratio = 0.98
Overall sex ratio	Between 0.8 and 1.2

TBC Nutrition Training – Module 10



## Calculation of Prevalence of Malnutrition (1 of 3)

What percentage of people have wasting malnutrition?

- Calculated by measuring wasting malnutrition in sample of population (selected randomly), then dividing number of people found with wasting from sample by number of people in whom it was measured. Prevalence is often expressed as a %.

$$\frac{\text{Number of people with malnutrition}}{\text{Number of people measured}} \times 100 = \text{Prevalence (as \%)}$$

## Calculation of Prevalence of Malnutrition (2 of 3)

- Total number of children with weight-for-height (WFH) < -2 z-score
- Divided by: Total number of children who were had WFH measured
- Prevalence of Malnutrition = x 100

## TBC Report (1 of 8) Biennial Nutrition Survey

### Report Format

Title: Nutrition Survey Report to CCSDPT Health Agencies

- Acronyms
- Definitions and Benchmarks
- Executive Summary
- Background
- Methodology
- Results
- Discussion and Recommendations

### Appendices

- Malnutrition Rates by Camp
- Survey Form
- Training Outline and Nutrition Survey Protocol

TBC Nutrition Training – Module 02



## TBC Report (2 of 8) Definitions and Benchmarks

- Malnutrition
  - Acute Malnutrition–Wasting
  - Chronic Malnutrition – Stunting
  - Cut-off points (WHO standards)
- WHO Classification – Global Acute Malnutrition (GAM) and Global Chronic Malnutrition (GCM)
- Micronutrient Malnutrition
- Selective Feeding Programs
- Vitamin A

TBC Nutrition Training – Module 02



## TBC Report (3 of 8) Executive Summary

- Summary of full report for senior executives
- 4 page summary of survey process
- Summary of results

TBC National Training – Module 02



## TBC Report (4 of 8) Background

Usually includes information about:

- Purpose
- Previous studies
- Baseline data
- Location and organization
- Any other social, economic or political information which may have influenced survey work

TBC National Training – Module 02



## TBC Report (5 of 8) Methodology

- › Sampling
  - Questionnaire
  - Training
  - Supervision
- › Survey Procedure
- › Data Analysis



## TBC Report (6 of 8) Results

- › Malnutrition Rates
- › Feeding Practices
- › Micronutrient Deficiencies
- › Supplementary /Therapeutic Program Coverage
- › Household Hunger Scale (HHS)
- › Vitamin A Supplementation Coverage
- › Deworming Coverage
- › Nursery School Feeding Program Coverage



## TBC Report (7 of 8) Discussion and Recommendations

- **Discussion** = survey conclusions based on results (what the results/data mean)
- **Recommendations** = policy and program actions for future based on survey "evidence"  
e.g., 2015 Report included 18 separate recommendations for action



TBC Nutrition Training - Module 10

## TBC Report (8 of 8) Appendices

- This part of report includes
  - Malnutrition results by camp
  - Survey forms
  - Training outline
  - Survey protocol (for scientific and research transparency to show how survey was conducted)



TBC Nutrition Training - Module 10

## Note

The Objective of a nutrition survey is not only to obtain information on the nutrition situation of a community in survey area for program purposes, but also to provide information for helpful feed back to individuals and the community.

# Thank You!



**MODULE 11**

**SELECTIVE FEEDING PROGRAMS**

**SESSION PLAN & HANDOUTS**



## Selective Feeding Programs

### Module 11 - Session Plan

#### Session 1: Module 11 Selective Feeding Programs

Duration: 195 mins (3.25 hrs)

#### 11.1 Introduction - 15 mins

**The Trainer introduces the topic by stating the following:**

- Child and maternal nutrition is often seriously affected during times of emergency or humanitarian crises
- In the world today, about 95.6 million people are affected by humanitarian crises in 2016 (Office for the Coordination of Humanitarian Affairs - OCHA) due to conflicts, epidemics and natural disasters with many at risk from malnutrition
- In the camps, while the immediate humanitarian situation may have passed, there is still the possibility for emergency crises to happen
- Humanitarian workers need to have some understanding of the role of special feeding programs in dealing with acute malnutrition, which often occurs during humanitarian and or emergency crises
- This module will cover 2 types of feeding programs – Supplementary and Therapeutic Feeding Programs (SFP/TFP) and compare them with IYCF feeding approaches.

#### 11.2 Learning Objectives – Slide 2

**Trainer presents module objectives**

**After this Session, participants will be able to:**

1. Identify standard objectives of SFP and TFP approaches
2. Identify nutrition situations when SFP and TFP approaches are needed
3. Describe characteristics of SFP and TFP approaches
4. Describe the possible link between IYCF and SFP/TFP approaches

#### 11.3 Training methods and content

**Methods:****The trainer will use the following training methods:**

- Illustrated Lecture Presentation with large and small group discussions

**Trainer presents Content/Topics and explains as needed****Content – Slide 3**

- Malnutrition and humanitarian situation
- Food and nutrition assistance in emergencies and post-emergencies
- Supplementary feeding program (SFP) guidelines
- Therapeutic Feeding Program guidelines (TFP)
- Management of malnutrition cases and referral system
- IYCF vs SFP/TFP – IYCF approach as prevention of malnutrition and promotion of growth

**Session 2****Malnutrition and Humanitarian Response - Slide 4 (Slides 4 – 12 = 60 mins)****Trainer presents Slide 4 by highlighting the following:**

- Acute malnutrition common in humanitarian/emergency crises
- 2 types of malnutrition classification – acute malnutrition and severe acute malnutrition (SAM)
- Acute malnutrition (moderate) increases risk of child death by 3 times – SAM increases risk of child death by 9 times
- Therefore programs for prevention and treatment of malnutrition are important part of any humanitarian or emergency response
- Due to emergency nature of the situation, URGENT response often needed
- SFP and TFP are designed to be both “quick to implement” and effective in reducing malnutrition – rapid setup and rapid results

**Trainer presents Slide 5**

- Food and nutrition assistance in humanitarian emergency and post-emergency situations are designed to:
  - Deliver timely and adequate (quantity and quality) food to affected people/groups
  - Be targeted first to those most in need – usually children, nursing mothers and pregnant women
  - The main issues are – quantity and quality of food, speed of delivery/distribution and proper targeting

**Trainer asks participants to describe any experience (past or present) they have had in their community that have followed this pattern.**

**Trainer presents Slide 6**

- Types of Feeding Programs
  - General Food Distribution
  - Selective Feeding Program
    - Supplementary Feeding Program (SFP)
      - Targeted Feeding Program
      - Blanket Feeding Program
    - Therapeutic Feeding Program (TFP)

**Trainer presents Slide 7**

- What is a Supplementary Feeding Program (SFP)?
  - SFP provides additional food rations to moderately malnourished children and adults
  - SFP uses “global standards” to measure “malnutrition”
  - Use weight-for-height z-score and/or mid-upper arm (MUAC) measurements (WFP Guidelines)

**Trainer explains briefly globally agreed growth chart measures for WFA, WFH z-score and MUAC measurements. Other Modules cover in depth – “Child Growth and Development – Module 7” and “Measurement of Malnutrition – Anthropometry” - Module 9**

**Trainer presents Slide 8**

- Objectives of SFP for children
  - Treat and rehabilitate moderately malnourished children
  - Improve nutritional status, general health and resistance to infections
  - Improve mental and physical development of children
  - Provide nutrition education to mothers/caregivers
  - Increase community awareness
  - Usually 2 types of programs – Targeted and Blanket

**Trainer presents Slide 9**

- **Targeted SFPs**
  - Prevent moderate acute malnutrition (in children) from getting worse and becoming severe acute malnutrition (SAM)
  - Rehabilitate affected child
  - Provide food supplement to general ration for moderately malnourished adults and specially at-risk persons such as nursing mothers and pregnant women

**Trainer presents Slide 10**

- **Blanket SFPs**

- To prevent widespread malnutrition by food or micronutrient supplementation and reduce death risk amongst at-risk groups – children 6-59 months of age, nursing mothers/or pregnant, elderly and already-sick

**Trainer presents Slide 11-12**

- **Side by Side Summary Matrix - Comparing Blanket and Targeted SFPs**
- **Objectives of SFP/TFP**

**Trainer presents Slides 13- 14**

- **Categories of SFP and When to Close SFP**
  - Categories of SFP
    - SFP with Curative focus – promote weight gain
    - SFP with Preventive focus – stop worsening of nutritional status due to worsening emergency situation/crisis
  - Close SFP –when?
    - General acute malnutrition (GAM) rate is less than 10%
    - Food distribution stable and reliable
    - Effective health services created
    - There is no seasonal worsening of nutritional status
    - Population size stable – no newcomers

**BREAK – 15 mins**

**Session 3 - 75 mins**

**Trainer presets Slide 15 (Slides 15 – 23, 60 mins)**

- **What is TFP?**
  - Therapeutic is a word which means healing, treatment, rehabilitation
  - Therefore TFP provides both **medical and nutritional treatment** to children who have not improved in SFP or children who have suffered a serious prolonged emergency without treatment or support
  - TFP addresses situation of high-risk of mortality (death)
  - Situation is more complicated and therefore needs combination of medical and nutritional assistance

**Trainer presents Slide 16**

- **TFP – Main Objectives**
  - Medically and nutritionally rehabilitate severely malnourished children (i.e. children with WFH z-score <-3 and bilateral edema – feet swelling with pitting)
  - Improve nutritional status in children not progressing well who are already enrolled in SFP

**Trainer presents Slide 17**

- **TFP Admission Criteria**

- Severely malnourished under 5 years presenting with recognized symptoms
- Low birthweight babies
- Orphans younger <1 year
- Mothers who have a child under 1 year of age and cannot breastfeed (breastfeeding failure)

**BREAK – LUNCH – 60 mins**

**Trainer presents Slide 18 – Optional technical slide showing who qualifies for SFP or TFP using WFH**

- **Decision Tree – Entry into TFP using Weight for Height (WFH) measurement**
  - Global Acute Malnutrition (GAM)
    - WFH <-2 z-score = SFP
  - Severe Acute Malnutrition (SAM)
    - WFH <-3 z-score = TFP

**Trainer presents Slide 19**

- **Community-based Management of Acute Malnutrition (CMAM) – Principles**

**To succeed, the community-based feeding program must have:**

- Maximum access and coverage of the community
- Timeliness – on time access and delivery
- Appropriate nutritional as well as medical care
- Care services for as long as needed

**Trainer presents Slide 20**

- **Severe Acute Malnutrition (SAM) – when to refer to hospital/medical services**
  - Medical complications exist
  - If child age is 6 months and has visible severe wasting or edema of both legs
  - If child is >6 months and weight-for-height is <-3 z-score or MUAC <11.5 cm and has at least 1 of following symptoms showing serious medical condition:
    - Ongoing vomiting
    - High fever
    - Hypothermia
    - Lower respiratory tract infection
    - Severe anemia
    - Unconsciousness
    - Lethargy, child not alert
    - Convulsions
    - Hypoglycemia
    - Severe dehydration

**Trainer presents Slide 21 - 22**

- **World Health Organization – WHO Guidelines for treating Severe Acute Malnutrition (SAM)**

#### **Initial Phase**

- Treatment continues until child is stable or appetite returns
- Treat infections
- Correct dehydration
- Treat anemia
- Correct vitamin A deficiency
- Give constant nursing care
- Keep child warm
- Follows 2-4 hrly feeding schedule -with Phase I High Energy Milk (HEM)

#### **Rehabilitation**

- Constant nursing care
- Frequent feeding
- With parent and or caregiver – child is actively encouraged and stimulated

**Trainer presents Slide 23**

**There is a growing trend in treating SAM using high-density nutritious manufactured foods – e.g., “Plumpy Nut” or RUTF**

**SAM care – using Ready to Use Therapeutic Foods (RUTF) - (UNICEF-WHO Guidelines 2013)**

- “Revolutionary” - Treatment of uncomplicated forms of SAM among children
- RUTF used in community-based approach
- RUTF is medical intervention NOT a solution for all forms of childhood malnutrition
- RUTF in community based program must follow international guidelines for medical treatment of SAM, essential primary health care as well as best IYCF practices
- RUTF not a stand-alone activity – used in supervised setting

#### **Session 4 – 15 mins**

**Trainer presents slide 24**

**There is a connection between IYCF programs, SFPs and TFPs.**

- IYCF programs focus on promoting good nutrition for on-track child growth and development and are designed to PREVENT acute malnutrition during normal times

- However, during emergencies and humanitarian crises, regular IYCF practices can be disrupted and when this happens and nutrition declines, then SFP and TFP programs have a role
- Therefore, SFP and TFP activities fight against acute malnutrition (both moderate and severe) when regular IYCF is disrupted
- The longer- term goal of any nutrition program in an emergency setting should be to re-establish regular international “gold-standard” IYCF programs once SFPs and TFPs succeed
- An effective nutrition manager and or community worker knows the appropriate role for each kind of feeding program – IYCF vs SFP vs TFP

### Summary – 15 mins

Trainer shows Slide 2 again - learning objectives - and reviews each learning objective and how the objectives were covered. Trainer asks participants if they have any questions. Trainer answers accordingly.

### Trainer says in Summary:

- It is important to understand role of specialized feeding programs in our camps
- We follow and promote international standard IYCF and have shown very good results in reducing stunting, which is result of CHRONIC malnutrition
- During emergency or humanitarian crisis, good IYCF and health care practices can be disrupted leading to acute moderate and/or severe malnutrition
- We need to have basic understanding of SFP and TFP approaches for dealing with acute malnutrition, when to apply them and what are their benefits.
- SFPs and TFPs address moderate and severe acute malnutrition, helping children and communities return to good nutritional status and reestablish good IYCF practices

### 11.4 Materials

- **Flipchart, markers and tape**
- **Computer, LED Screen**
- **PowerPoint Presentation – Selective Feeding**
- **Handouts**
  - **Optional Handout** – UNHCR GUIDELINES BOOKLET - SELECTIVE FEEDING: THE MANAGEMENT OF MALNUTRITION IN EMERGENCIES - January 2011 (108 pages)  
**(Available for free download via the web - <http://www.unhcr.org/4b7421fd20.pdf>)**
  - **PowerPoint presentation** – Selective Feeding Programs slide presentation
- **Nutrition Information Reference web portal (free) -**
  - World Health Organization – e-Library for Evidence for Nutrition Action (eLENA ) <http://www.who.int/elena/en/>



TBC Handout – Differences between Blanket & Targeted Programs, Objectives & Target Groups

## Differences between Blanket and Targeted Programs

Blanket Supplementary Feeding Program	Targeted Supplementary Feeding Program
<p>Generalized SFP for prevention purposes can be implemented when there is no full basic ration available under following conditions:</p> <ul style="list-style-type: none"> <li>• Problems in delivery/distribution of general ration</li> <li>• Prevalence of acute malnutrition &gt; 15% – 20% among children under 5 years</li> <li>• Prevalence of acute malnutrition &gt; 10% – 15% for children under 5 years, plus aggravating factors*</li> <li>• Seasonal major food insecurity</li> </ul>	<p>Implementation of SFP for selected individuals in vulnerable groups required under these circumstances:</p> <ul style="list-style-type: none"> <li>• Prevalence of acute malnutrition &gt; 10% among children under 5 years</li> <li>• Prevalence of acute malnutrition &gt; 5% – 9% among children under 5 years, plus aggravating factors*</li> </ul>




TBC Nutrition Training – Module 11

## Objectives and Target Groups of Targeted & Blanket SFP

Programs	Objectives	Target Group
Targeted SFP	<ul style="list-style-type: none"> <li>• Reduction of % of severe acute malnutrition in &lt;5</li> <li>• Reduction of &lt;5 mortality rate</li> <li>• Prevention of further deterioration in nutritional status</li> </ul>	<ul style="list-style-type: none"> <li>• &lt;2 z-score WFH (Moderately malnourished &lt;5 years)</li> <li>• Malnourished &gt;5 years</li> <li>• Children discharged from TFP</li> </ul>
Blanket SFP	<ul style="list-style-type: none"> <li>• Reduction of &lt;5 mortality rate</li> </ul>	<ul style="list-style-type: none"> <li>• Children &lt;5 years in general</li> <li>• Pregnant &amp; nursing mothers</li> <li>• Socially and/or medically needy individual cases</li> <li>• Elderly persons</li> </ul>




TBC Nutrition Training – Module 11



Nutrition Curriculum

Selective Feeding Programs

Module 11



## Learning Objectives

After this session, Participants should be able to:

- › identify objectives of Supplementary and Therapeutic Feeding Program (SFP/TFP) approaches
- › identify when SFP/TFP approaches are needed
- › list characteristics of SFP/TFP approaches
- › describe link between Infant and Young Child Feeding (IYCF) and SFP/TFP approaches



## Contents

We will look at:

- Introduction of malnutrition and humanitarian response
- Food and nutrition assistance in Emergencies and Post-emergencies
- SFP guidelines
- TFP guidelines
- Management of malnutrition cases and referral system
- IYCF approach as prevention of malnutrition and promotion of growth



## Malnutrition and Humanitarian Response

- Acute malnutrition is public health concern, often common during humanitarian crisis
- Severe acute malnutrition (SAM) is highest risk of death – 9 times higher compared to normal children
- Humanitarian response is important for prevention and treatment of malnutrition
- Urgent response is essential



## Food and Nutrition Assistance in Emergencies and Post-emergencies

- Deliver food in timely and adequate (quantity and quality) way to affected population to reduce malnutrition and mortality
- Target those most in need



## Types of Selective Feeding Programs



## What is SFP?

- SFP is program to provide additional food for moderately malnourished children (or adults)
- Programs use global standards to measure "malnutrition" such as weight-for-age, weight-for-height and MUAC measurements



## Objectives of Supplementary Feeding Programs for Children

- Treat and rehabilitate malnourished children
- Improve nutritional status, general health and resistance to infection
- Improve physical and mental development of children
- Provide nutrition education to mothers / caregivers
- Increase community awareness of nutritional problems
- Two types - Targeted and Blanket



## Targeted SFPs

Main aim is:

- To prevent moderately malnourished from becoming severely malnourished and to rehabilitate them

Another purpose is:

- To provide food supplement to general ration for moderately malnourished individuals, pregnant and nursing mothers and for others at-risk nutritionally



## Blanket SFPs

- Main aim is to prevent widespread malnutrition and reduce excess mortality by providing food/micronutrient supplement for all members of group. For example: children under 5 years, pregnant women and nursing mothers, etc.



## Differences between Blanket and Targeted Programs

Blanket Supplementary Feeding Program	Targeted Supplementary Feeding Program
<p>Generalized SFP for prevention purposes can be implemented <b>when</b> there is no full basic ration available under following conditions:</p> <ul style="list-style-type: none"> <li>• Problems in delivery/distribution of general ration</li> <li>• Prevalence of acute malnutrition &gt; 15% - 20% among children under 5 years</li> <li>• Prevalence of acute malnutrition &gt; 10% - 15% for children under 5 years, plus aggravating factors*</li> <li>• Seasonal major food insecurity</li> </ul>	<p>Implementation of SFP for selected individuals in vulnerable groups required under these circumstances:</p> <ul style="list-style-type: none"> <li>• Prevalence of acute malnutrition &gt; 10% among children under 5 years</li> <li>• Prevalence of acute malnutrition &gt; 5% - 9% among children under 5 years, plus aggravating factors*</li> </ul>

TBC Nutrition Training - Module 11



## Objectives and Target Groups of Targeted & Blanket SFP

Programs	Objectives	Target Group
Targeted SFP	<ul style="list-style-type: none"> <li>• Reduction of severe acute malnutrition in &lt;5</li> <li>• Reduction of &lt;5 mortality rate</li> <li>• Prevention of further deterioration in nutritional status</li> </ul>	<ul style="list-style-type: none"> <li>• &lt;2 z-score WPH (Moderately malnourished &lt;5 years)</li> <li>• Malnourished &gt;5 years</li> <li>• Children discharged from TFP</li> </ul>
Blanket SFP	<ul style="list-style-type: none"> <li>• Reduction of &lt;5 mortality rate</li> </ul>	<ul style="list-style-type: none"> <li>• Children &lt;5 years in general</li> <li>• Pregnant &amp; nursing mothers</li> <li>• Socially and/or medically needy individual cases</li> <li>• Elderly persons</li> </ul>

TBC Nutrition Training - Module 11



## Categories of SFP

- Curative SFP
  - to promote weight gain among moderately malnourished children
  
- Preventive SFP
  - to prevent deterioration of nutritional status



## When to Close SFP?

An SFP can be closed when:

- General acute malnutrition rate is  $<10\%$  and there is:
  - Reliable food distribution
  - Effective health and disease control measures
  - No seasonal deterioration of nutritional status
  - Stable population size





## What is a TFP?

A Therapeutic Feeding Program:

- provides both medical and nutritional treatment to children with severe acute malnutrition (SAM) or to children who have not improved in an existing SFP

## TFP Objectives

Two main objectives:

- Rehabilitate severely malnourished children via nutrition and medical actions
- Help children not progressing in SFP to gain weight

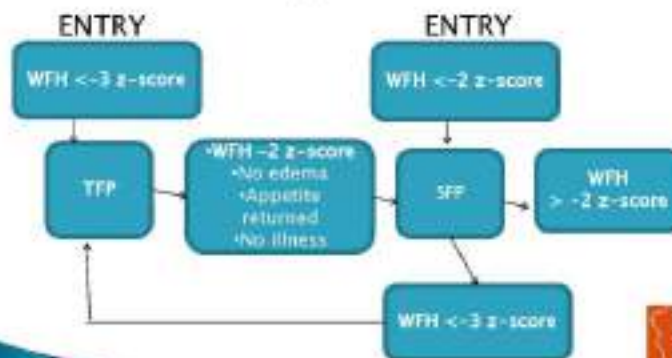
## TFP Admission Criteria

- Severely malnourished children <5 years
- Low birth weight babies
- Orphans younger <1 year
- Mothers unable to breastfeed



TFP Nutrition Training - Module 11

## How to Decide which Child Enters which Type of TFP



TFP Nutrition Training - Module 11

## Community Based Management of Acute Malnutrition (CMAM)

### Principles

- Maximum access and coverage of feeding programme
- Timeliness – for access and best results
- Appropriate medical and nutritional care
- Care for as long as needed

TBC Nutrition Training – Module 11



## Acute Malnutrition – When to Refer to Hospital?

- Medical complications
- Age up to 6 months and visible severe wasting or edema of both legs
- Age >6 months and weight-for-height <-3 z-score or MUAC <11.5 cm with at least one of following symptoms:
  - ongoing vomiting
  - high fever
  - hypothermia
  - lower respiratory tract infection
  - severe anemia
  - unconsciousness
  - lethargy, not alert
  - convulsions
  - hypoglycemia
  - severe dehydration

TBC Nutrition Training – Module 11



## WHO Guidelines for SAM care

### 1. Initial Treatment Phase

- continues until child's condition stable or appetite returned
- treat infections
- treat anemia
- correct dehydration
- correct vitamin A deficiency
- constant nursing care
- keep child warm
- Follow 2–4 hrly feeding with Phase 1 High Energy Milk (HEM), start with small amount

TIC Nutrition Training – Module 11



## WHO Guidelines for SAM care

### 2. Rehabilitation Phase provides

- Constant nursing care
- Frequent feeding
- With parent or caregiver, child is actively encouraged and stimulated by social contact and play

TIC Nutrition Training – Module 11



## Severe Acute Malnutrition (SAM) Care Ready to Use Therapeutic Foods (RUTF)

- RUTF is medical treatment for SAM, not a solution for all forms of childhood malnutrition
- RUTF have completely changed treatment of uncomplicated forms of SAM
- Use of RUTF is undertaken through community-based management of acute malnutrition, following international guidelines
- Used with appropriate medical treatment, essential primary health care and best IYCF practices

Source: UNICEF Position Paper 2013

YCI Nutrition Training – Module 11



## Comparing: IYCF vs. SFP and TFP

- IYCF:
  - focuses on good nutrition for young child growth and development
  - designed to prevent acute and chronic malnutrition
- SFP and TFP are programs to address existing acute malnutrition

**^A nutrition program manager should be able to manage both approaches as needed^**

YCI Nutrition Training – Module 11



## IYCF Approach (1 of 2)

### Survival, Growth, Development & Reduce Stunting

- IYCF approach is proven to improve child survival, growth and development and reduce stunting
- IYCF shows essential role of **breastfeeding** and **complementary feeding** as major factors in child survival, growth and development
- IYCF shows importance of **breastfeeding as "preventive intervention"** with single largest impact on reducing child death (mortality)
- IYCF shows that **improvement of complementary feeding** is most effective to improve child growth
- **Together with maternal nutrition interventions, IYCF contributes to reducing stunting**

IYCF Nutrition Training – Module 11



## IYCF Approach (2 of 2)

### Survival, Growth, Development & Reduce Stunting

- **Exclusive breastfeeding for 6 months**
- **Breastfeeding and complementary feeding of nutritious food combined from 6 months onwards**
- **BF and CF continues until at least 24 months**

IYCF is combined with **good routine services** such as:

- Systematic growth monitoring
- Prevention of infections
- Safe water and sanitation
- Timely treatment and referral for illness
- Attention to proper maternal nutrition, especially during pregnancy and breastfeeding

IYCF Nutrition Training – Module 11



## Conclusions: SFP & TFP

SFP & TFP – Emergency and Humanitarian focus:

- Need to understand different feeding program models for dealing with acute malnutrition
- And **when** each type of program is appropriate



## Conclusions: IYCF

- Need to know that the correct IYCF approach is strongest program model for child survival, growth and development and together with good maternal nutrition most effective approach in reducing stunting
- IYCF has a non emergency-humanitarian focus



**MODULE 12**

**MATERNAL NUTRITION**

**SESSION PLAN & HANDOUTS**





## Maternal Nutrition

### Module 12 - Session Plan

#### Session 1: Module 12 – Maternal Nutrition during Pregnancy and Breastfeeding, and Consequences of Maternal Malnutrition

**Duration: 265 minutes - (4.4 hrs), Plus 15 mins break x2 (mid-morning and mid-afternoon during the roleplay exercise) with an additional 1 hr for lunch**

#### 12.1 Introduction – key summary notes for Trainer

In this Session, the main underlying learning points are:

- Proper maternal nutrition is needed for successful pregnancy
  - Good fetal development
  - Full term pregnancy
  - Successful delivery
  - Correct birth weight of newborn
- Proper nutrition is needed for mother’s good overall health to meet additional nutrition and health needs of a pregnant woman
- Proper maternal nutrition is critical during breastfeeding for the infant and also the breastfeeding mother
- Consequences of maternal malnutrition can be severe with both immediate and long-term effects for mother and child

#### 12.2 Learning Objectives

**After this Session, participants will be able to:**

- Describe nutrition requirements during pregnancy
- Describe nutrition requirements during breastfeeding
- List consequences of maternal malnutrition

#### 12.3 Training methods and content

The session uses the following training methods in order:

- Full Group (Plenary) Discussion - Trainer-led Question & Answer/Discussion (Maternal Nutrition experiences)
- Illustrated Lecture with PowerPoint – distributed handout after session – Maternal Nutrition (During Pregnancy, Breastfeeding, and Consequences of Maternal Malnutrition)
- Optional Role-play exercise “Dealing with Challenges” - using Lecture information and Counselling Card Reference Guidelines with concluding discussion on dealing with behavior and belief challenges

**Presentation - Learning Objectives: (Slide 2) – 15 mins**

Trainer presents Slide 2 – Objectives

After this session, Participants will be able to:

- Describe nutrition requirements during pregnancy
- Describe nutrition requirements during breastfeeding
- List consequences of maternal malnutrition

**PLENARY GROUP - Question and Answer Session with Discussion – 30 mins**

**Slide 3** - Trainer opens discussion session by asking the full group to participate in plenary exercise by listing in their notebooks as many answers as they know for each for the following maternal nutrition questions? *Shows Slide 3*

- Based on your own work and life experiences:
  - Why do we need good nutrition DURING PREGNANCY?
  - Why do we need good maternal nutrition During EXCLUSIVE BREASTFEEDING?
  - What CHALLENGES to good maternal nutrition have you experienced?

Trainer asks for selection of answers and lists them on flip chart.

Trainer leads large group discussion to draw out 3 following general conclusions.

As needed Trainer can summarize some of the following general conclusions from the group discussion about Maternal Nutrition

- Successful growth of fetus in womb
- Successful personal maternal health to meet additional physical demands for expectant woman’s changing body
- Successful breastfeeding for good breast milk supply

Good maternal nutrition

1. Proper nutrition is needed for good mother’s overall health – i.e., to meet additional nutrition and health needs of pregnant woman
2. Proper maternal nutrition is needed for successful pregnancy - i.e., proper growth of fetus
3. Proper maternal nutrition also crucial during breastfeeding for both mother and infant – so that mother can produce adequate breast milk supply and for her to have enough energy and good health for her infant and self-care activities

**Slides 4 – 5** Trainer shows Slides 4 and says:

For our training today, Slide 4 shows four content / topics to be covered

### **Illustrated Lecture Presentation with PowerPoint**

Trainer says: Let us begin the presentation – it is a lecture with slides – please take notes – please feel free to ask questions. The slides will be given to you for your reference.

The following first set of slides cover basic information about good maternal nutrition during pregnancy.

### **Slides 5 – 14 - Nutrition during Pregnancy – 60 mins**

**Trainer presents slides explaining each learning point**

- **Slides 5-9 cover the following**
  - Why is good nutrition necessary?
  - Time – how long to practice good maternal nutrition
  - Special Note - Adolescent girl nutrition
  - Benefits of proper maternal nutrition
- **Slides 10-14 cover the following**
  - Nutrients needed for pregnancy – micro- and macronutrients,
  - Pregnancy care,
  - Balanced diet
  - Taboos and myths

#### **Trainer notes – macro and micro nutrients recommended diet**

- Energy foods
- **Protein foods**
- Iodine – for brain development
- **Vitamin A** – immune system function, vision, vitamin D – bone, muscles and nerve development, and vitamin C – bones cartilage, tendons, skin development and immune function
- **Folate and vitamin B12 – DNA production**
- **Iron** (Used for hemoglobin production in blood - prevent iron deficiency anemia – anemia means not enough red blood cells to transport oxygen needed by body – affects adult energy and fetus growth. **(Anemia is common occurrence in SE Asia.)**)
- Zinc – supports DNA formation and cell growth

**Please Note - Bolded nutrients listed are the most crucial nutrients for good fetal development.**

- **Recommended Daily diet during pregnancy – diet recommendations**
  - 4 glasses milk or milk products (calcium and vitamins)
  - 3 portions of meat, fish, eggs and/or beans (protein for body building)
  - 4 portions of fruits and vegetables (for micronutrients)
  - 6 portions of rice, bread or cereals

- Lots of liquid – safe water, juice and soup
- For mother and fetus
- Avoid alcohol, other drugs, smoking and medicines not prescribed by doctor or antenatal clinic

Trainer asks if there are any questions and answers as needed.

Trainer then refers to the need to make sure that women and their families can be educated about good nutrition for successful pregnancy. The TBC IYCF Nutrition Education and Counselling activities can help bring this vital information to those who need it.

The following slides give some guidance about using existing TBC IYCF Counselling Cards:

**Slide 15 - IYCF Nutrition Education - Expecting mothers and their families are:**

- Educated about correct levels of micronutrients via diet and or supplementation
- Know how to have adequate diet of protein, energy and healthy foods, especially for macronutrients (energy and body building foods)

**Note - IYCF Counselling Cards provide good starting point for educating expecting mothers and their families about appropriate diet during pregnancy. See the following:**

- **Card Number 1 – IYCF Nutrition for Pregnant and Breastfeeding Women - for Community Workers**
- **Card Number 1 – IYCF Nutrition for Pregnant Women - for Grandmothers**

**Slide 16 -Trainer says that some of the recommended recipes in the TBC IYCF KWO Cookbooks are good starting point for talking about nutritionally appropriate recipes for expecting mothers.**

**Slide 16 - IMPORTANT REMINDER**

**“The most important nutrients to check for during pregnancy are adequate protein, iron, folic acid and vitamin B12.”**

**BREAK – 15 mins**

Trainer now introduces section on Maternal Nutrition for Breastfeeding

**Slides 17 – 21 Nutrition during Breastfeeding - 40 mins**

- **Slide 17 - 18 - Why is good nutrition needed during breastfeeding?** (Exclusive BF first 6 months)
  - Infant derives ALL nutrients for growth and health from mother’s breast milk
  - A malnourished mother can suffer from “depletion” of her body’s micronutrients, protein and energy supplies as demands of breast milk production and exclusive breastfeeding draws from her body’s nutrition stores

- A mother can become weak and at greater risk of becoming sick due to infection if her micronutrients, protein and energy supplies are not replaced by proper nutrition while breastfeeding
- A breastfeeding mother must eat a well-balanced diet to meet both her and her infant's nutritional needs
- **Slides 19 – 20 What's needed** – nutrients and eating practices (ask participants to recall Slides 7 – 9 on nutrition for pregnancy)
- Presents Slides 19 – 20 - Trainer says, "In general, a good nutritious balanced diet during pregnancy is also a good diet for successful breastfeeding." Presents slides 19-20
  - Nutrients – protein, energy foods, calcium, vitamins A and C, folate, iron, iodine and zinc
  - The same balanced nutritious diet is needed as during pregnancy – i.e. staple foods (energy), beans, meat, fish (protein) and vegetables plenty of fruit (health).
  - Increased amounts needed to replace nutrients and energy passed on to infant during breastfeeding through mother's breast milk
    - Extra amounts can include additional servings of milk and high protein snacks or an additional small energy meal every day
  - Extra amounts of fluids also needed– safe water, milk and natural juices

Trainer asks for any questions on maternal nutrition for successful breastfeeding.

- **Slide 21 - Trainer then introduces Challenges to Exclusive BF**

**Important Reminder - "Establishing good nutrition practices during pregnancy will make it easier to continue good nutrition practices while breastfeeding"**

- **Slide 21 - Trainer begins by saying** "Let us remind ourselves that there are often traditional and other beliefs about nutrition that can be challenges to successful breastfeeding. How can we deal with this situation?"
- **Challenges** – dealing with some common traditional beliefs about exclusive BF
  - See and use key messages in IYCF Counselling Cards about benefits and procedures of early initiation of BF and making sure exclusive BF continues for 6 months –Counselling Cards Number 3 – 6 for Community Workers
  - Some common fears concerning exclusive breastfeeding
    - Mother does not have enough milk supply
    - Breast milk does not have all nutrients needed by the infant therefore they need additional foods/liquids
    - Infant needs other foods, especially something sweet, during exclusive breastfeeding period to stimulate infant's appetite
    - In hot weather, infant needs water

### **Consequences of maternal malnutrition**

Trainer now introduces the next section by saying, “There are serious consequences to poor or inadequate maternal nutrition for both the expecting and breastfeeding mother and the fetus and infant. Knowing these consequences is important to motivating people to practice good maternal nutrition.” The next 2 slides describe these consequences. Trainer shows and discusses slides.

- **Slides 22-23 Consequences of Maternal Malnutrition - (20 mins)**
- Main consequences of Maternal Malnutrition
  - For the mother
    - Increased RISK of maternal medical complications and death
    - Increased RISK of infection and illness
    - Anemia
    - Lack of physical strength, energy and productivity
  - For the child
    - Consequences for fetal and infant health
      - Increased risk of fetal, neonatal and infant death
      - Increased risk of poor fetal growth during pregnancy, low birth weight and premature birth
      - Increased RISK of infection
      - Birth defects such as
        - Mental retardation – due to poor brain development in womb
        - Physical birth defects due to folate and other micronutrient deficiencies

Trainer asks if there are any questions. Provides answers and shows the next slide.

- **Slides 24 – 26 - Session Summaries by Trainer**

Trainer presents Session Summary slides and refers to 3 learning objectives – 1. Good pregnancy nutrition, 2. Good nutrition for exclusive breastfeeding and 3. Consequences of maternal malnutrition

---

**Optional Additional Notes for Trainer to expand on “Benefits” of good maternal nutrition (Slides 8 and 9) and “Consequences” of maternal malnutrition – Slides 27-29**

**Good Maternal Nutrition is a priority for the following reasons:**

1. Proper nutrition is needed for expecting mother’s good overall health to meet additional nutrition, energy and health needs of a pregnant woman so that she is strong and healthy enough for the demands of her pregnancy and forthcoming delivery

2. Proper maternal nutrition is needed for the proper growth of the fetus leading to a successful pregnancy and delivery
3. Proper maternal nutrition is also critical during exclusive breastfeeding for both mother and infant – so that mother can produce adequate breast milk supply and for her to have enough energy and good health for herself and for infant and self-care activities
4. Expectant and breastfeeding mothers and infants will have good maternal and infant nutrition and health when they follow a correct antenatal care visit schedule and eat well-nourished balanced diet of staple foods, meat, fish beans vegetables and fruit and safe water and liquids with proper attention to important micronutrients such as iron, folate, vitamins A, D, C, B12 and others
5. **Benefits** of good maternal nutrition are a successful pregnancy, good fetal growth, healthy delivery and good pregnancy recovery and ongoing maternal health
6. Consequences of **maternal malnutrition** are serious for both expectant woman's health and pregnancy - anemia, infection, the growth and development of fetus – birth defects, low birth weight and prematurity and the growth and development of the infant – slow growth, immune system strength
7. The consequences of maternal malnutrition are immediate and long-term for both mother and child

Trainer asks for any questions. Gives answers as needed.

#### **BREAK – LUNCH - 1 hr**

#### **(Optional) Exercise – Educating and Counselling Expecting and Breastfeeding Mothers on Proper Maternal Nutrition**

**120 minutes – (20 mins preparation/15 mins presentation x 6 groups plus one mid-session Break**

Trainer says let us practice using some of the new information we have learnt today about maternal nutrition and information available in TBC's IYCF Counselling Cards in role-play situations for pregnancy and breastfeeding scenarios.

#### **“Suggestions for dealing with traditional behavior and beliefs/ food myths during pregnancy and breastfeeding “**

- **Slides 27– 29 Role Play Situations**

Trainer:

1. Shows slides with different chosen scenarios

2. Divides large group into 6 groups (as participant numbers allow) and assigns scenarios to each group
3. Tells participant groups to prepare role play counselling session to address given situation – one participant to play role of mother and/or grandmother
4. Tells participant to use information from session as well as information provided in Counselling Cards to correctly counsel “mother” or “grandmother” – 15 minutes role play for each group – 15 mins preparation
5. Tells each group to have a written list of key messages they hope to successfully communicate
6. Distributes Counselling Cards as required
7. Leads whole group to discuss key messages and judges success of each role play
8. Adds any key messages not included
9. Summarizes role-play findings at completion of all groups and stresses that it is important to be able to communicate effectively for successful maternal nutrition.
10. Gives Handout – Role Play Exercise

**General Role Play Theme is counselling those “not eating properly during Pregnancy and during Breastfeeding”**

**Role-play - Use information from both this Module and relevant skills and education from Counselling Cards for Community Workers and for Grandmothers to counsel in the following situations**

**(Community Health Worker Cards 1, 8 – 10, Grandmother Cards 1 – 6) and other cards as participants wish**

**1. Expectant Mother 1: -**

A young first-time expecting mother says she is afraid of eating extra because she might become too fat and find it hard to lose weight after delivery.

**Some possible key messages to communicate:**

- Her body and fetus need extra nutrients for extra growth – since she wants to have a healthy baby, good maternal nutrition is best way to achieve this
- Balanced diet with small additional meal is all that is needed – recommend daily diet
- Highlight protein foods and healthy foods with proper vitamins and minerals through her diet and supplements from antenatal clinic
- Antenatal care checkups and weigh-ins will help her keep track of her baby’s growth and her own weight gain

**2. Expectant Mother 2:**

An expecting mother (her second child) says she does not want to eat extra because she is afraid that her baby will be too big and she will have a difficult delivery.

**Some possible key messages to communicate:**



- Her body and fetus need extra nutrients for extra growth – since she wants to have a healthy baby then good maternal nutrition is best way to achieve this because the fetus gets all its nutrition for growth and development from her
- Balanced diet with small additional meal is all that is needed – recommend daily diet
- Antenatal care checkups and weigh-ins will help her keep track of her baby’s growth and her own weight gain
- Important for baby to be born with good birth weight so it will be strong to start life – fight diseases and have good brain and body growth
- If she is worried about difficult birth, then antenatal visits are very important so that health staff can monitor fetus’s correct growth

### 3. **Grandmother:**

New mothers cannot produce enough breast milk especially when baby is first born so they should feed baby other liquids while waiting for milk to start flowing.

#### **Some possible key messages to communicate:**

- Normal birth weight baby has enough food stores when it is born to help with the transition to breastfeeding
- By suckling at the breast, the baby will stimulate milk production so it is important that the mother is eating enough to meet the demand on her body created by the first suckling efforts

### 4. **Breastfeeding Mother: Food**

- She worries that she will produce too much milk if she eats “too much.” Baby will not be able to cope.

Or,

- She worries that she cannot produce enough milk no matter how much she eats because she is a small person and her baby will be hungry

#### **Some possible key messages to communicate: “Too much”**

- Generally babies can feed on demand to empty the breast milk supply – breastfed babies generally will not over feed themselves
- If worried that breast supply is too much, she can get help from clinic staff about what to do to prevent breastfeeding problems. Community Workers can help teach hand expressing techniques

#### **Some possible key messages to communicate: “Not enough”**

- Body size does not affect milk production – production comes from having enough good nutrition and food and through regular breastfeeding to stimulate production
- Provide some dietary guidelines – see slide 10
- Teach correct attachment technique - By helping baby have good attachment, the baby will be able to feed well and get enough nutrition from the breast

## 5. **Breastfeeding Mother: Food taboos**

Food taboos during pregnancy – cannot eat eggs, (“Cold vs. hot foods”) watermelon, mangoes, shrimp, fish etc. – choose some common food taboo practices in your community

Some key messages to communicate:

- Understand why the food taboo exists and how important it is.
- Explain how nutrients help the fetus or babies grow, be strong, have good brain development, and develop strong immunity.
- Help mother to identify other acceptable foods that can be added to the diet and provide good nutrients. For example, similarly nutritious pawpaw could substitute for vitamin A-rich mango “taboo.” (If not taboo!)

### **Materials and References**

- **Flipchart, markers and tape**
- **Handout: Counselling Cards – one set each - Community Workers and Grandmothers**
- **Handout: Copy of Material Nutrition PowerPoint**
- **Role Play Exercise handout – Addressing Challenges to Good Maternal Nutrition through Counselling (on following page)**
- **Presentation PowerPoint – Maternal Nutrition**
- **References specifically for Maternal Nutrition available via the *Internet***
  - **CARE (2013). “Maternal Nutrition and Maternal and Child Health” – Nutrition and Integrated Programming – USA**
  - **LINKAGES - Academy for Educational Development (2004). “Maternal Nutrition during Pregnancy and Lactation”. Washington, USA [www.linkagesproject.org](http://www.linkagesproject.org).**
  - **TBC – Counselling Cards for Community Workers, Counselling Cards for Grandmothers – 2015 – Bangkok, Thailand**

## Handout

### TBC Nutrition Curriculum Training of Trainers

#### Module 12 - Maternal Nutrition

#### Exercise Handout – Addressing Challenges to Good Maternal Nutrition through Counselling

#### Role Play

#### Situation - Not eating enough during Pregnancy and during Breastfeeding

**Role-play** - Use information from both this module and the relevant skills and education cards from the Counselling Cards for Community Workers and for Grandmothers to counsel in the following situations (Community Health Worker Cards 1, 8 – 10, Grandmother Cards 1 – 6)

#### 1. Expectant Mother 1:

A young first-time expecting mother says she is afraid of eating extra because she might become too fat and find it hard to lose weight after delivery.

#### Some possible key messages to communicate:

- Her body and fetus need extra nutrients for extra growth – since she wants to have a healthy baby good maternal nutrition is best way to achieve this
- Balanced diet with small additional meal is all that is needed – recommend daily diet
- Highlight protein foods, and healthy foods with proper vitamins and minerals through her diet and supplements from antenatal clinic
- Antenatal care checkups and weigh-ins will help her keep track of her baby's growth and her own weight gain

#### 2. Expectant Mother 2:

An expecting mother (her second child) says she does not want to eat extra because she is afraid that her baby will be too big and she will have a difficult delivery.

#### Some possible key messages to communicate:

- Her body and fetus need extra nutrients for extra growth – since she wants to have a healthy baby then good maternal nutrition is best way to achieve this because fetus gets all nutrition for growth and development from her
- Balanced diet with small additional meal is all that is needed – recommend daily diet
- Antenatal care checkups and weigh-ins will help her keep track of her baby's growth and her own weight gain
- Important for baby to be born with good birth weight so it will be strong to start life – fight diseases and have good brain and body growth
- If she is worried about difficult birth, then antenatal visits are very important so that health staff can monitor fetus's correct growth

### 3. **Grandmother 1:**

New mothers cannot produce enough breast milk especially when baby is first born so new mother should feed baby other liquids while waiting for her milk to start flowing.

#### **Some possible key messages to communicate:**

- Normal birth weight baby has enough food stores when born to help with transition to breastfeeding
- By suckling at the breast, baby will stimulate milk production so it is important that mother is eating enough to meet demand on her body created by first suckling efforts

### 4. **Breastfeeding Mother:**

She worries that she will produce too much milk if she eats “too much.” Baby will not be able to cope.

Or,

She worries that she cannot produce enough milk no matter how much she eats because she is a small person and her baby will be hungry

#### **Some possible key messages to communicate: “Too much”**

- Generally, babies can feed on demand to empty breast milk supply – breastfed babies generally will not over feed themselves
- If worried that breast supply is too much, she can seek help from clinic staff about what to do to prevent breastfeeding problems. Community Workers can help teach hand expressing techniques

#### **Some possible key messages to communicate: “Not enough”**

- Body size does not affect milk production – production comes from having enough good nutrition and food and through regular breastfeeding to stimulate production
- Provide some dietary guidelines – see slide 10
- Teach correct attachment technique - By helping baby have good attachment, the baby will be able to feed well and get enough nutrition from the breast

### 5. **Breastfeeding mother: Food taboos**

Food taboos during pregnancy – cannot eat eggs, (“Cold vs. hot foods”) watermelon, mangoes, shrimp, fish etc. – choose some common food taboo practices in your community

Some key messages to communicate:

- Understand why the food taboo exists and how important it is.
- Explain role of nutrients and how they help fetus or baby – help them grow, be strong, have good brain development and strong immunity.
- Help mother identify other acceptable foods that can be added to the diet and provide good nutrients. For example, vitamin A-rich mango “taboo” could be substituted by similarly nutritious pawpaw

-----



## Learning Objectives

After this session, participants will be able to:

- describe maternal nutrition requirements during pregnancy
- describe maternal nutrition requirements during breastfeeding, especially for exclusive breastfeeding period
- list consequences of maternal malnutrition

TBC Nutrition Training - Module 12



## Introductory Exercise

Based on your work and life experience:

- Why do we need good maternal nutrition DURING PREGNANCY?
- Why do we need good maternal nutrition DURING EXCLUSIVE BREASTFEEDING?
- What CHALLENGES to good maternal nutrition have you experienced?

TBC Nutrition Training – Module 10



## Content

- Maternal Nutrition during Pregnancy
- Maternal Nutrition during Breastfeeding
  - especially for exclusive breastfeeding period
- Consequences of Maternal Malnutrition
- Optional Exercise – Role Play: "Counselling for Better Maternal Nutrition"

TBC Nutrition Training – Module 10



## Maternal Nutrition during Pregnancy

(1 of 10)

Why is good maternal nutrition necessary?

- Good maternal nutrition during pregnancy is directly linked to health status of growing fetus and to having a healthy newborn
- A well-nourished pregnant woman is more likely to have successful pregnancy and be strong and healthy enough for herself and for good fetal development

TBC Nutrition Training – Module 10



## Maternal Nutrition during Pregnancy

(2 of 10)

For how long must good maternal nutrition be practiced?

- 9 months during pregnancy, plus at least 6 months during exclusive breastfeeding

*A balanced and nourishing diet is needed while pregnant and during recommended 6 months exclusive breastfeeding – “1000 Days” service delivery approach addresses maternal and infant nutrition and health care from conception through first 6 months of an infant’s life.*

TBC Nutrition Training – Module 10



## Adolescent Girls' Nutrition

(3 of 10)

**Special Note:** Experts now agree that good maternal nutrition starts with special nutrition attention to adolescent girls, especially anemia & obesity control, and balanced nutrition and micronutrients

➤ **Actions to improve adolescent girls' nutrition\***

- young adolescent girl is still a child & has her own body growth needs, but often she will soon become a mother
- adolescent pregnancy is associated with higher risk of maternal mortality & morbidity, stillbirths, neonatal deaths, preterm births and low birth weight

➤ **In addition to actions to prevent adolescent pregnancy and encourage pregnancy spacing, efforts are required to ensure pregnant and lactating teenage mothers are adequately nourished (\*British Medical Journal, 2015)**



TBC Nutrition Training - Module 10

## Maternal Nutrition during Pregnancy

(4 of 10)

**What are benefits of good maternal nutrition?**

- Linked to better breastfeeding
  - Which provides for better infant health
  - Means better child growth and development
- With correct maternal nutrition, child less likely to be born with nutrition-related birth-defects and/or mental and physical disabilities (e.g. *birth defects from folate, iodine deficiencies during pregnancy*)
- Vitamin A deficiency can lead to weakened immune systems and more risk of infection



TBC Nutrition Training - Module 10



## Maternal Nutrition during Pregnancy (5 of 10)

### Other Benefits:

- Some new scientific medical evidence shows that exclusively breastfed infants have less risk of chronic diseases later in life, better immune systems in childhood and better brain development
- Some evidence shows that mothers who breastfeed are also protected from certain diseases including risks of breast cancer

TBC Nutrition Training – Module 10



## Maternal Nutrition during Pregnancy (6 of 10)

### Nutrients needed for pregnancy: macro- & micronutrients

- Energy foods
- **Protein foods**
- **Vitamins B12, A, D and C**
- **Folate**
- **Iron\***
- Iodine
- Zinc

\*(Iron is needed to prevent iron deficiency in the blood, called anemia. Anemia during pregnancy can seriously affect both the expecting mother and the fetus.)

*Nutrients listed in bold are most crucial nutrients for good fetal development.*

TBC Nutrition Training – Module 10



## Maternal Nutrition during Pregnancy (7 of 10)

### Proper nutrition practices during pregnancy and pregnancy care practices:

- Expectant mothers and their families are:
  - Educated about correct levels of required micronutrients needed in the diet and/or supplementation
  - Know how to prepare and serve adequate diet of protein, energy and healthy foods for expectant mother and growing fetus

TBC Nutrition Training – Module 10



## Maternal Nutrition during Pregnancy (8 of 10)

### Proper nutrition practices during pregnancy and pregnancy care practices:

- Infant and Young Child Feeding (IYCF) Counselling Cards provide good starting point for educating expecting mothers and their families about appropriate nutrition during pregnancy
- For example see:
- Card Number 1 – Nutrition for Pregnant and Breastfeeding Women - for Community Workers
  - Card Number 1 – Nutrition for Pregnant Women - for Grandmothers

TBC Nutrition Training – Module 10



## Maternal Nutrition during Pregnancy

(9 of 10)

### Daily diet during pregnancy: food consumption recommendations

- 4 glasses milk/milk products (for calcium and vitamins)
- 3 portions of meat, fish, eggs and/or beans (protein for body building)
- 4 portions of fruits and vegetables (for micronutrients)
- 6 portions of rice, bread or cereals
- Lots of liquids – safe water, juice and soup
- Avoid alcohol, other drugs, smoking and medicines not prescribed by the doctor or antenatal clinic staff

Recommended recipes in TBC's KWD Cookbooks are good starting point for talking about nutritionally appropriate recipes for expecting mothers with appropriate modification for adult consumption

TBC Nutrition Training – Module 10



## Maternal Nutrition during Pregnancy

(10 of 10)

### Dealing with traditional and other food taboos/myths during pregnancy:

- Identify and understand common harmful local pregnancy food myths/beliefs
- Use Counselling Card communication techniques described in introductory sections to identify, listen, discuss and counsel pregnant women and their families
- Educate expectant mothers and others in family circle about benefits of good eating habits and disadvantages of harmful food myths during pregnancy
- *Counselling Cards 9 – 12 for Grandmothers provides practical guidance for promoting correct infant feeding and other health issues*

TBC Nutrition Training – Module 10



## IYCF Nutrition Education

- ▶ **Expecting mothers and their families are:**
  - Educated about correct levels of micronutrients via diet and/or supplementation
  - Know how to have adequate diet of protein, energy and healthy foods, especially for macronutrients (energy and Body Building Foods)
  - Seek proper clinic care and monitoring during pregnancy
- ▶ **IYCF Counselling Cards** provide good starting point for educating expecting mothers and families about appropriate diet during pregnancy
  - Card Number 1 - Nutrition for Pregnant and Breastfeeding Women - for Community Workers
  - Card Number 1 - Nutrition for Pregnant Women - for Grandmothers

TBC Nutrition Training - Module 10



## TBC KWO Cookbooks and Reminder

- ▶ The TBC KWO Cookbooks are good starting point for talking about nutritionally appropriate recipes for expecting mothers
- ▶ **Pregnancy Nutrition Reminder**
  - Most important nutrients to check for during pregnancy are adequate protein, iron, folic acid and vitamin B12

TBC Nutrition Training - Module 10



## Maternal Nutrition during Breastfeeding (1 of 5)

### **Why is good nutrition needed during breastfeeding?** (Exclusive BF first 6 months)

- Infant derives ALL nutrients for growth and health from mother's breast milk
- Malnourished mother can suffer from "depletion" (weakness) of her body's micronutrients, protein and energy supplies as demands of breast milk production and exclusive breastfeeding draws from mother's inadequate body nutrition stores

## Maternal Nutrition during Breastfeeding (2 of 5)

### **Why is good nutrition needed during breastfeeding?** (Exclusive BF first 6 months)

- A mother becomes weak and is at greater risk of becoming sick due to infection if her micronutrients, protein and energy supplies are not replaced by balanced, nourishing diet while she is breastfeeding
- A breastfeeding mother must eat well-balanced diet to meet both her and her infant's nutrition needs

## Maternal Nutrition during Breastfeeding (3 of 5)

### What's needed: nutrients and eating practices for BF

BF mothers need:

- Same balanced nutritious diet as for pregnancy – i.e., staple foods (energy), beans, meat, fish (protein) and plenty of vegetables and fruits (protective)
- Increased amounts needed to replace nutrients and energy passed on to infant during breastfeeding through mother's breastmilk

Extra amounts can include:

- additional servings of milk and high protein snacks or one additional small energy meal every day
- Extra amounts of fluids are also needed (safe water, milk, and natural juices)

TBC Nutrition Training – Module 10



## Maternal Nutrition: Breastfeeding Mother (4 of 5)

### Daily diet for breastfeeding: food consumption recommendations

- 4 glasses milk /milk products (calcium and vitamins)
- 3 portions of meat, fish, eggs and/or beans (protein for body building)
- 4 portions of fruits and vegetables (micronutrients)
- 6 portions of rice, bread or cereals
- Lots of liquid – safe water, or juice and soup
- *Plus extra nutritious high protein snacks, liquids like milk or one small extra meal for breastfeeding mother*

*\*Avoid alcohol, other drugs, smoking and medicines not prescribed by doctor or antenatal clinic staff\**

TBC Nutrition Training – Module 10



## Maternal Nutrition: Challenges of Exclusive Breastfeeding (5 of 5)

### Dealing with common traditional beliefs about exclusive BF

- Some common fears concerning exclusive breastfeeding
  - Mother does not have enough milk supply so baby will get hungry
  - Breast milk does not have all nutrients needed by infant, therefore need additional foods/liquids before 6 months of age
  - Infant needs other foods, especially something sweet, during exclusive breastfeeding period to stimulate infant's appetite
  - In hot weather, infant needs water
- See and use key messages in IYCF Counselling Cards about benefits and procedures of early initiation of BF and making sure exclusive BF continues for 6 months – See Counselling Cards (Number 3 – 6) for Community Workers

TBC Nutrition Training – Module 10



## Consequences of Maternal Malnutrition (1 of 2)

### Main consequences

- For mother
  - Increased RISK of maternal medical complications and death during pregnancy and/or delivery
  - Increased RISK of infection and illness
  - Anaemia – iron poor blood
  - Lack of physical strength, energy and productivity

TBC Nutrition Training – Module 10





## Consequences of Maternal Malnutrition (2 of 2)

### Main consequences

- ▶ For fetal and infant health
  - Increased risk of fetal, neonatal and infant death
  - Increased risk of poor fetal growth during pregnancy, low birth weight and premature birth
  - Increased RISK of infection
  - Birth defects such as:
    - Cretinism (due to inadequate brain development in womb)
    - Physical birth defects due to folate and other micronutrient deficiencies during pregnancy

TBC Nutrition Training – Module 10



## Session Summary (1 of 3)

### Maternal Nutrition is priority because:

- Proper nutrition needed for good expectant mother's overall health to meet additional nutrition, energy and health needs during pregnancy so mother is strong and healthy enough for demands of pregnancy and delivery
- Special attention can be paid to proper nutrition for adolescent girls to prepare them for future pregnancy
- Proper nutrition needed for proper growth of fetus leading to successful pregnancy and delivery

TBC Nutrition Training – Module 10





## Session Summary (2 of 3)

- Proper maternal nutrition is also critical during exclusive breastfeeding for the sake of both the mother and the infant
- The mother needs to produce good breast milk supplies for feeding and needs nutrition herself for her to have enough energy and good health for herself and for infant and self-care activities
- Expectant and breastfeeding mothers and infants will have good maternal and infant nutrition and health when they follow a correct antenatal care visit schedule
- Requires a well-nourished, balanced diet of:
  - staple foods, meat, fish, beans, vegetables, fruit and safe water and liquids with proper attention to important micronutrients (iron, folate, vitamins A, D, C and B12)

TBC Nutrition Training – Module 10



## Session Summary (3 of 3)

- Proper maternal nutrition is critical during exclusive BF for mother and infant – so that mother can produce good breast milk supply and to have enough energy and good health for herself and for infant and self-care activities
- Consequences of maternal malnutrition are immediate and long-term for both mother and child
- Maternal malnutrition affects health of both mothers and children and, as result has broad impacts on family, community, economic and social development

TBC Nutrition Training – Module 10



## Optional Exercise- Maternal Nutrition (1 of 3)

### General Theme – Not eating properly during pregnancy and during breastfeeding

- ▶ **Role-play** – Use information from both this module and relevant skills and education from Counselling Cards for Community Workers and for Grandmothers to counsel in the following situations
- ▶ **Use Community Health Worker Cards** – Numbers 1, 8 – 10, Grandmother Cards 1 – 6) and other cards as participants wish
- ▶ **Time : 110 minutes – (20 mins preparation/15 mins presentation x 6 groups**

TBC Nutrition Training – Module 10



## Optional Exercise-Maternal Nutrition (2 of 3)

### **Counselling Scenarios**

#### **1. Expectant Mother 1:**

- ▶ A young first-time expecting mother says she is afraid of eating extra because she might become too fat and find it hard to lose weight after delivery.

#### **2. Expectant Mother 2:**

- ▶ An expecting mother (her second child) says she does not want to eat extra because she is afraid that her baby will be too big and she will have a difficult delivery.

#### **3. Grandmother:**

- ▶ New mothers cannot produce enough breast milk, especially when baby is first born, so they should feed baby other liquids while waiting for milk to start flowing.

TBC Nutrition Training – Module 10



## Optional Exercise- Maternal Nutrition

(3 of 3)

### Counselling Scenarios

#### 4 & 5 Breastfeeding Mother: Food (2 scenarios)

- › She worries that she will produce too much milk if she eats "too much." Baby will not be able to cope. **And,**
- › She worries that she cannot produce enough milk no matter how much she eats because she is small person and her baby will be hungry

#### 6. Breastfeeding Mother: Food taboos

- › Food taboos during pregnancy - cannot eat eggs, ("Cold vs. hot foods") watermelon, mangoes, shrimp, fish etc. - choose some common food taboo practices in your community



TBC Nutrition Training - Module 10

## References

- › CARE (2013). "Maternal Nutrition and Maternal and Child Health" - Nutrition and Integrated Programming - USA
- › LINKAGES Academy for Educational Development (2004). "Maternal Nutrition during Pregnancy and Lactation". Washington, USA  
[www.linkagesproject.org](http://www.linkagesproject.org).
- › TBC - Counselling Cards for Community Workers, Counselling Cards for Grandmothers - 2015 - Bangkok, Thailand



TBC Nutrition Training - Module 10

