Ethiopian TVET-System

Health Extension Service

Level III

Based on Jan.2018G.C Occupational Standard

Module Title: Preventing and Manage nutritional problems

TTLM Code: HLT HES3 TTLM 0919V1

This module includes the following Learning Guides

LG33: Plan and undertake assessment for nutrition related health issues.

LG34: Provide basic nutrition information/ education to the client

LG35:Manage clients with nutritional problem

Instruction Sheet	Learning Guide 33

This learning guide is developed to provide you the necessary information regarding the following **content coverage** and topics:

- Introduction to Nutrition
- Food and Nutrition
- Nutritional assessment and screening
- Identifying nutritional problems
- Identifying nutrition eligible community members
- Conducting Resource mapping
- Developing appropriate interventional plan

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, **upon completion of this Learning Guide, you will be able to**:

- Obtain Client education requirements from community assessment
- Gather Basic educational materials and products according to the directions of the nutrition guideline.
- Consult the community about the appropriateness of the language, cultural value and convenience of time for participation

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below 3 to 6.
3. Read the information written in the information “Sheet 1, Sheet 2, Sheet 3 Sheet 4”, Sheet 5, Sheet 6, and Sheet 7.
4. Accomplish the “Self-check 1, Self-check 2, Self-check 3 and Self-check 4”, Self-check 5, Self-check 6, Self-check 7
5. If you earned a satisfactory evaluation from the “Self-check” proceed to “Operation Sheet 1,
6. Do the “LAP test” in page – 41 (if you are ready)

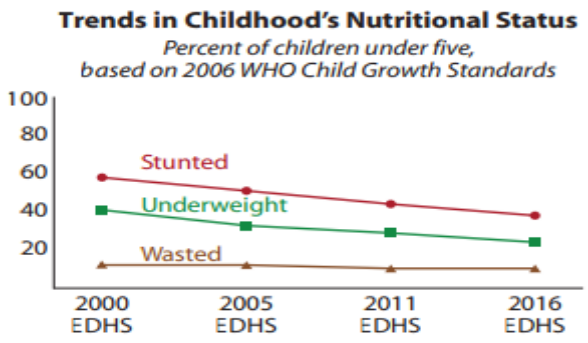
1.1. Concepts of nutrition: The 2016 EDHS measures children's nutritional status by comparing height and weight measurements against an international reference standard.

1.1.1. Children's nutritional status

Nearly 4 in 10 (38%) of children under five in Ethiopia are stunted, or too short for their age. Stunting is an indication of chronic under nutrition. Stunting is more common in Amhara (46%) and less common in Addis Ababa (15%). Children from the poorest households (45%) and whose mothers have no education (42%) are more likely to be stunted. Overall, 10% of children are wasted (too thin for height), a sign of acute malnutrition. In addition, 24% of children are underweight or too thin for their age. The nutritional status of Ethiopian children has improved since 2000. In 2000, more than half of children under five were stunted compared to 38% in 2016.

1.1.2. Women and Men's Nutritional Status

The 2016 EDHS also took weight and height measurements of women and men age 15–49. Overall, 22% of women are thin (body mass index or BMI < 18.5). Comparatively, 8% of women are overweight or obese (BMI ≥ 25.0). Women in urban households are five times as likely to be overweight or obese than rural women (21% vs. 4%). Since 2000, overweight or obesity has increased from 3% to 8% in 2016. Among men, one-third are thin (BMI < 18.5) and only 3% are overweight or obese (BMI ≥ 25.0). Men with more than secondary education (14%) and those from the wealthiest households (10%) are more likely to be overweight or obese. Since 2011, thinness among men has slightly declined from 37% to 33%.



Self-Check -1	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Which one is indication of chronic under nutrition.(1)

   A. Stunting C. under weight

   B. wasting D. Marasmas

2. normal BMI for women is (1)

a. <18.5 c. 18.5-25.00

b. 18.5-22 d.>25.00

Note: **Satisfactory rating 2 points** **Unsatisfactory - below 2 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Information Sheet- 2	Food and Nutrition

2.1. Food and Nutrition

- Food is anything edible (including all foods and drinks) as defined based on the culture and religion of a particular society. What we eat and drink to help keep us alive and well, to help us grow, develop, work and play is called food. Eating the right food is not just about looking good; it's about staying healthy, providing your body with the fuel it needs to function at its best, and preventing certain diseases like, diabetes, hypertension, and cancer. When you eat well, you feel better because food gives us a feeling of comfort and satisfaction. What we eat and how we eat makes up our food habit. Most of our food habits are learned in the home from our parents. The food we eat has nutrients (active chemical substances / active ingredients in food that our body absorbs and utilizes for structural and functional roles) in different proportion.
- Nutrition is the study of how food affects the health survival of human body. Human being requires food to grow, reproduce and maintain good health. Without food, our body could not stay warm, build or repair tissues or maintain heart beat. Eating the right food can help us avoid certain diseases or recover faster when illness occurs

2.1.1. Components of food

- ✓ Food contains different types of nutrients / components or elements. These components include:
  - ✓ Proteins
  - ✓ Carbohydrates (CHO)
  - ✓ Fats and lipids
  - ✓ Vitamins
  - ✓ Minerals
  - ✓ Water

Foods that contain a lot of protein are called body building foods or growing foods and foods that contain a lot of fat or carbohydrate are cold energy giving foods while foods that contain more vitamins and minerals are protective foods

2.1.2. Macro and micro nutrients

- Macro nutrients are nutrients required and consumed in large amount on daily bases. This includes Proteins, Carbohydrates, Lipids (fats and oils) and water.

A. Protein**:** Protein is organic compound containing oxygen, nitrogen, iron, phosphorus, sulphur and cobalt with different proportion. The primary functions of protein are body building &, maintenance of tissue for growth. It is especially important for children, teens and pregnant women. Pregnant women need protein to build their bodies and that of the babies and placentas, to make extra blood and for fat storage. Breast feeding mothers need protein to make breast milk. It is also important for Enzymes, antibody & hormone synthesis. Based on the nutritional value or its essential amino-acid content, protein is classified as:

- ✓ Complete protein: (First class protein or animal source protein) – contains all the essential amino acids in the proportion that is required to support growth and maintain tissues.
- ✓ Incomplete protein: (Second class protein or Protein of plant origin) – contains proteins that do not contain all the essential amino-acids in the proportion required by the body.

- ✓ Food Source of protein**:** Animal source of food - meats, chicken, eggs, milk, fish, cheese. Plant source of food – beans, Legumes, cereals, ground nuts, lentils, Soybeans

  Note- Combining legumes & cereals provides better quality of protein

  Animal foods contain better /good quality of protein than plants source of foods. However, even though plant proteins are usually not as good for body-building as animal proteins, they can become more effective nutritionally when both are mixed with each other.

B. Carbohydrates*:* are organic molecules that are made up of elements of carbon, hydrogen and oxygen. Carbohydrates are the principal source of energy (calories), nearly 65 % of energy for our body is supplied from

carbohydrate. This energy is obtained usually in the form of glucose which all tissues and cells in our body readily use. Hence they are needed in large amount by the body. Carbohydrates are classified in to different categories based on the number of single carbohydrate unit they contain and their functions in the body. They are classified as:

- ✓ Monosaccharide or free sugar- carbohydrate containing single sugar molecule. Ex. Glucose (Dextrose or grape sugar), Galactose/ milk sugar/, Fructose /fruit sugar/, Mannose and Ribose .Glucose - is the major fuel source that is oxidized by cells for energy.
- ✓ Disaccharides- , carbohydrate containing two glucose molecule .Ex. Maltose /malt sugar/, Lactose/ milk sugar/, Sucrose / fruit sugar/. When disaccharides are digested / hydrolyzed they produce simple sugar (glucose, Galactose and fructose)
- ✓ *Polysaccharides* - complex Carbohydrates: Starch, Glycogen (animal starch) and Cellulose are important in nutrition. Cellulose is also called dietary fiber or Roughage. Fiber is a complex carbohydrate that is not digested but passes through the alimentary canal nearly unchanged, and this prevents constipation /compacted stool/ by making the faces soft and bulky. It makes the food bulky / bigger/ and helps a person who is overweight to reduce weight by reducing the nutrient absorption from the intestine and amount of nutrient intake. As a HES worker, you can educate a pregnant mother to take fiber rich diet to prevent constipation as it may be among the commonly occurring miner pregnancy related disorder. Fiber foods are a weapon for weight-loss for obese ones.

- ✓ Food source of Carbohydrates /CHO**/:**The main source of carbohydrates are bread wheat, potatoes of all kind, maize, rice, cassava shiro ,pasta macaroni kocho, banana, sweets, sugar cane, sweet fruits and honey. Other sources of foods like vegetables beans, nuts, and seeds contain lesser amount of carbohydrates.

C. Lipids (Fats and oils**):** are a group of organic compounds, like carbohydrate contains C, H, & 0, and some have phosphorus and Nitrogen. Lipids are commonly referred to as fats. Fats and oils are concentrated sources of energy /yields 9 kcal per gm of fat/ and so are important nutrients for young children who need a lot of energy-rich food. The building blocks of lipid are fatty acids and glycerol or they are the end digestion product of lipids / fats and oils/. Fats can also make meals more tasty and satisfying. Nutritionally, lipids are classified in to two main groups on the basis of their degree of saturation, i.e. .saturated fatty acids and unsaturated fatty acids.

- ➢ Saturated Fatty acids: are usually solid at cool / room/ temperature and found mostly from animal foods (butter, meat).Eating too much saturated fat is not good for health as it can cause health and blood vessels problems.

- ✓ Unsaturated Fatty acids: are usually liquid at room temperature and thus types of fats are healthy fats because they contain no animal fat. Thus types of fats are found from plant source of food.

- ✓ Food source of lipids: Animal source: meat, chicken, milk products, butters, creams, fats, cheese fish, egg .Plant source: Avocado, Ground nuts, Coconut, Vegetable oil, Nuts, Margarine & soya bean

D. Water**:** is the most abundant constituents of the body, comprising roughly two third (60%) of body weight. Every part of the body contains large amounts of water. A person can stay alive without food for a few weeks but it is not possible to stay without water for more than a few days. The average daily

requirement of water for an adult is vary from **2 – 3 liters**. Water is essential for life and it is required for a number of reasons:

- ✓ To make cells and body fluids (blood, digestive juices, breast milk, etc. ,
- ✓ For regulation of body temperature (cooling the body)
- ✓ To washout of body wastes /excreted in the form of urine/
- ✓ Keeping different body organs wet and health.
- ✓ As a carrier it aids digestion, absorption, transportation and excretion of nutrients.
- ✓ Provides mechanical functions (lubrication of joints & visceral organs)
- ✓ Useful for catering (preparation of food)- reduce food born diseases

- Micronutrients are essential nutrients required by the body and consumed by people in small amount. This includes vitamins and minerals. Even though micronutrients are needed in small amount, if they are not supplied to our body in the amount they are required, their deficiency would cause critical ill health.
  a. Vitamins: are indispensable, non-caloric organic compounds / substances/ needed in small amounts in the diet for growth, health & reproduction, in general, are necessary for the body to function normally. They are referred as protective foods because they function as a vital factor for cellular activity and immunity. Most vitamins cannot be synthesized in the body, therefore; they have to be supplied from food. Some vitamins can be synthesized by the body in the amount not sufficient for the body demand. Ex. Vitamin K and B_{12} are synthesized by intestinal microorganisms but not in adequate amount.

✓ **Classification of vitamins**

Vitamins are classified Lipid /Fat/ soluble vitamins are vit A, D, E and K, while Water soluble vitamins are vit. "C" and "B" groups Fruits and vegetables are the best sources of vitamins.

Figure 1:1 food sources rich in vitamins

Table 1:1 Food source and functions of vitamins.

Vitamins	Function	Food source
Vit. A	Normal vision , Immunity Epithelial cells function Normal development of teeth and bones	Breast milk, tomatoes, cabbage, pumpkins, Mangoes, papaya, carrots, Liver, kidney, egg , milk, butter, cheese cream
Vit. B – group	Metabolism of carbohydrates, proteins and fats, co-enzyme, normal nerve cell function	Milk, egg yolk, liver, kidney & heart Whole grain cereals, meat, whole bread, fish, bananas
Vit. C	Collagen formation / prevents gum bleeding/ Aiding wound healing Assisting absorption of iron / for RBC production/	Fresh fruits (oranges, banana, mango, grapefruits, lemons, potatoes) and vegetables (cabbage, carrots, pepper, tomatoes) Breast milk
Vit. D	Needed for absorption of calcium from small intestines Calcification of the skeleton	Produced by the body by using Ultra violet light from the sun, Eggs, butter, fish, Fortified oils, fats and cereals
Vit.E-	Normal growth & development Prevents oxidation of free radicals in the body protects tissue against oxidation promotes normal RBC formation Involves in reproduction.	Sencha /tea/, sunflower oil, red pepper, cotton seed oil, wheat germ, rice bran oil, corn oil, margarine, fish liver
Vit. K	For blood clotting	Green leafy vegetables, Fruits, cereals, meat, dairy products

b. Minerals**:** are inorganic chemical elements / substance/ that do not originate in animals or plants life but rather from the earth's crust. They are important in many biochemical and physiological processes necessary for optimum growth, development and health. They are essential structural components of body tissues.

Table 1.2: Food source and functions of minerals

Minerals	Function	Food sources
Calcium	Bones and teeth rigidity and strength	Milk, cheese and dairy products Foods fortified with calcium, e.g. flour, cereals. eggs, fish, cabbage
Iron	Hemoglobin formation	Meet and meet product, egg, bread, green leafy vegetables, pulses and fruits
Iodin	Normal cellular metabolism	Iodized salt, sea vegetables, yogurt, caws milk, egg and cheese, fish.
Zink	Normal growth & development, Wound healing, immune function, Protein synthesis	Maize, fish, breast milk, meat, beans
Fluorine	Keeps teeth strong	Water
Copper	For iron absorption & a variety of enzyme reaction, RBC formation	Shellfish, liver, nuts, legumes and organ meat

2.1.3. Supplementary food **:** Supplementation is administrations of nutrients in terms of tablet or capsule. Supplementation is a low cost and highly effective means of improving micronutrient status and the quickest means of intervention that can be implemented at the national scale.

Table 1.3: Nutrients considered for supplementation in Ethiopia

Sno	Nutrient	Target group for supplementation
1.	Vitamin A	Under five children and post partum women with 45 days of delivery
2.	Iron	Children, Adolescent, pregnant and lactating women
3.	Folic acid	Children, Adolescent, pregnant and lactating women
4.	Iodine	Children and pregnant women and lactating women
5.	Zink	For children and women

Figure1. 2 supplementary foods

vitamins and minerals https://www.dsm.com/content/dam/dsm/cworld/en_US/documents/what-are-micronutrients.pdf

Self-Check -2	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Which one of the following is micro nutrient (1 points)

   A. protein C. carbohydrate

   B. iron D. fat

2. Which one of the following is macro nutrient(1point)

   A. Iodine C. carbohydrate

   B. iron D. zink

3. inorganic chemical elements / substance/ that do not originate in animals or plants life but rather from the earth's crust(1point)

   A. Minerals C. water

   B. Vitamins D. carbohydrate

Note: **Satisfactory rating - 3 points** **Unsatisfactory - below 3 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Information Sheet-3	Nutritional assessment and screening

3.1. Nutritional assessment is the process of estimating the nutritional status of an individual or group at a given point in time by using different assessment method. Its purpose is to determine the nutritional status of an individual or a community and helps to monitor trends in the change of nutritional status over time. It also helps to monitor the effectiveness of nutritional intervention so as to consider options accordingly.

There are four different methods to collect nutritional information:

a. Anthropometric measurement
b. Clinical assessment
c. Biochemical assessment
d. Dietary assessment

3.1.2. Anthropometric measuring technique: This is the measurement of the various physical dimensions and the gross compositions of the individual body at different age levels and status of nutrition. Anthropometric assessment is done for two purposes, i.e. measurements of growth, and body composition

- **Length:** is measured by using a wooden measuring board (also called sliding board). It is used for measuring the length of children less than two years old to the nearest millimeter. Measuring the child lying down always gives readings greater than the child's actual height by 1-2 cm.
- **Height**: is taken in a standing position for children who are 2 or more years old and for adults. The position of the client should be Frankfurt (where the line passing from the external ear hole to the lower eye lid and parallel to the floor) during measurement, the clients shoulders, buttocks and the heels should touch the vertical stand. Either a stadiometer or a portable anthropometry can be used for measuring. Measurements are recorded to the nearest millimeter.
- **Weight:** The weight of children under two years old is measured by spring balance or Salter Scale, for adults and children over two years old a beam balance is used. The measurement is also to the nearest 0.1 kg for both measurements
- **Converting measurements to indices**

- ✓ **Height for age (H/A)** is an index used for stunting (chronic malnutrition in children).**Stunting** is defined as a low height for age of the child compared to the standard child of the same age. Stunting is an indicator of poor socioeconomic development at the community level.

- ✓ **Weight for height (W/H)** is an index used for assessing wasting, which indicates recent or current acute malnutrition. It is a good indicator of short term malnutrition.
- ✓ **Wasting** is a low weight for the height of the child compared to the standard child of the same height. Wasted children are vulnerable to infection and stand a greater chance of dying.
- ✓ **Weight for age (W/A)** is an index used in growth monitoring for assessing children who may be underweight. You assess weight –for-of all children less than two years old when you carry out your community –based nutrion (CBN) activities every month.

Table 3.1: Indicators derived from weight –for- age and weight- for-height growth measurements and their cut of point

Index	Cut of value based on the standard deviation (SD)/percentage	What it indicates
Weight- for-age	Less than -2 and more than -3	Moderate underweight
Weight -for – age	Less than -3	Sever under weight
Height – for-age	Less than -2 and more than -3 (I.e.70-79.99%of the normal)	Moderate acute malnutrition (MAM)
Height – for- age	Less than -3 (i.e. less than 70% of the normal and or bilateral pitting edema	Sever acute malnutrition (SAM)

- **Measurement of fat mass (fatness)**

- ✓ **Body mass index (BMI)** is the weight of a person in kilogram divided by their height in meters squired. Anon pregnant adult is considered to have a normal BMI when it falls between 18.5-and 25 kg/meter squired. If an adult person has a BMI of less than 16 kg/ m2 they will not be able to do much physical work because they will have poor energy stores. In addition they will be at increased risk of infection due to low immunity. Risk of mortality and morbidity is related to the nutritional status as assessed by the BMI. If peoples are too fat or too thin their health is suffer.

  - ➢ **Body mass index (BMI)** = Weight in kilogram / Height in meter squired

Table 3.2.: Classifications of overweight, obesity and normal BMI

Body mass index	Classification
< 16	Sever chronic energy deficiency
16.0- 16.9	Moderate chronic energy deficiency
17.0- 18.49	Mild chronic energy deficiency
18.5- 24.9	Normal
25.0-29.9	Overweight (pre-obese)
30.0 – 40	Obese
>40	Very obese

- **Mid upper arm circumference (MUAC)** An accurate way to measure fat free mass is to measure the **Upper arm circumference (MUAC).** is the circumference of the upper arm at midway between the shoulder tip and the elbow tip on the left arm. The mid arm point is determined by measuring the distance from the shoulder tip to the elbow and dividing it by two. A low reading indicates a loss of muscle mass.Mid upper arm circumference (MUAC) is a good screening tool in determining the risk of mortality among children, and people living with HIV/AIDS. MUAC is the only anthropometric measure for assessing nutritional status among pregnant women. Is also very simple for use in screening a large number of people, especially during community level screening for community-based

nutrition interventions or during emergency situations .Mid upper arm circumference (MUAC) is therefore used as a screening tool for community based nutrition program such as an outpatient therapeutic program (OTP), for community- based intervention, supplementary feeding program, and enhancing outreach program throughout Ethiopia. A special tape is used to the MUAC of a child**.** The tape has three colors, with the red indicates sever acute malnutrition (SAM), the yellow indicating moderate acute malnutrition and the green indicate normal nutritional status.

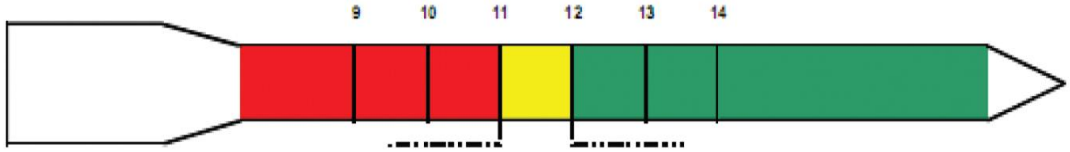


Figure 3.1: MUAC tape

3`.1.3. Clinical assessment method

- As a health extension worker, you are providing health service at community level. While providing the service you may find many people with nutritional deficiency problem. You came across anthropometric measurement method and now you are going to learn how nutritional status of an individual can be assessed using clinical methods that use the nutritional deficiency sign and symptoms.
- Clinical method of nutritional status assessment involves checking the sign of nutritional deficiency at specific places on the body or asking the patient whether they have any symptoms that might suggest nutrient deficiency. The Clinical signs of nutrient deficiency include: pallor (on the palm of hands or the conjunctiva of the eye), Bitot's spot on the eye, pitting edema on the leg, sever wasting and goiter on the neck.

- Checking for bilateral pitting edema in a child

  To determine the presence of edema, apply normal thumb pressure on both feet for three seconds (count the number 101,102,102 in order to estimate three second without using a watch). If a shallow print persists on both feet, the child has nutritional edema (pitted edema

Figure 3.2**:** Checking for bilateral pitted edema on young child in Ethiopia (photo: UNICEF/Dr Tewoldeberhan Daniel)

Grades of edema

Depending on the presence of edema on the different levels of the body it is graded, an increase in grade indicates the severity of edema.

0 = no edema

+ = below the ankle (pitting pedal edema)

++ = pitting edema below the knee

+++ = Generalized edema

- Bitot's spot: is a sign of vitamin A deficiency, the spots are a creamy color and appear on whit part of the eye.

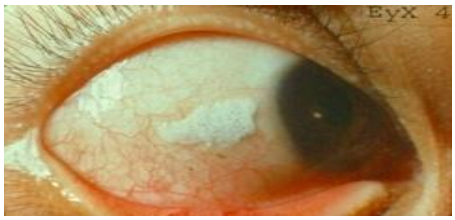


Figure 3.3: Bitot's spot (sign of vitamin A deficiency). (Photo: UNICEF Ethiopia)

- Goiter: is swelling on the neck and is visible sign of iodine deficiency disease

Figure 3.4**:** Goiter in Ethiopian women. (Photo: Linkages / AED, 2005 control of iodine Deficency disorders (IDD) in Ethiopia)

- Visible sever wasting

To determine the presence of visible sever wasting for younger than six months child, you will need to ask the mother to remove all of the child's cloth so you can look at the arms, thighs, and buttocks for loss of muscle bulk. Sagging skin and buttock indicates visible sever wasting as you can see in the figure.

Figure 3.5 : A child with sever visible wasting

3.1.4 Pallor on the palm of hands or conjunctiva is a sign of Iron and folic acid deficiency is estimated to be responsible for half of all anemia cases treating Iron deficiency anemia decreases maternal and child mortality significantly

Figure 3.6 : showing anemia on different body part

Self-Check -3	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Which of the following is the measurement of the various physical dimensions and the gross compositions of the individual body at different age levels and status of nutrition.. (**1 points**)

   A. Anthropometric measurement C. Biochemical assessment

   B. Clinical assessment D. Dietary assessment

2. an index used for stunting (chronic malnutrition in children)is(1point)

   A. height for age C. weight for age

   B. Weight for height D. wasting

Note: **Satisfactory rating – 2 points** **Unsatisfactory - below 2 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Information Sheet-4	Identifying nutritional problems

4.1. Nutritional problems

Nutritional problems or under nutrition is caused by poor feeding and care, aggravated by illness. Deaths in fewer than five old children are caused by under nutrition. Children under five are stunted or too short for their age. This indicates chronic under nutrition. The children who survive may become locked in a cycle of recurrent illness and slow growth, diminishing their physical health, irreversibly damaging to their development and their cognitive abilities, and impairing their capacities. common nutritional deficiency diseases or problems include

4.1.1. Kwashiorkor and its prevention methods: Kwashiorkor is Severe form of acute malnutrition with bilateral oedema and weight-for-height of greater or equal to -2 SD. It will be prevented balanced diet including macro nutrients(Proteins, Carbohydrates, Lipids (fats and oils) and water)

4.1.2. Marasmus and its prevention methods: Marasmus is **s**evere form of acute malnutrition characterized by wasting of body tissues. .

4.1.3. Marasmic-kwashiorkor**:** is severe form of acute malnutrition manifested by bilateral oedema and weight-for-height of less than -2 SD Both marasmus and kwashiorkor are sever form of malnutrition or SAM to mean Sever Acute Malnutrition.

4.1.4. Vitamin deficiency Diseases and their prevention methods: **Vitamin A deficiency** is the most common cause of preventable blindness if it not treated early. Vitamin A deficiency also can cause impaired in immunity and poor epithelial cell function. Vitamin A supplementation is given for children and lactating mothers with the dose

4.1.5. Mineral deficiency diseases and their prevention methods :

- **Iron deficiency anemia:** is the commonest form of anemia in Ethiopia. If untreated early, the consequences of anemia are multiple. Iron deficiency can delay muscular and nervous system development and mental performance, especially in preschool age children. In adults, anemia reduces work capacity, mental performance and reduces tolerance to infections. Iron deficiency anemia can also cause increased maternal mortality due to bleeding problems. Maternal anemia can lead to prenatal infant loss, low birth weight, and pre-term births.

- **Iodine deficiency disease:** is one of the critical micronutrient deficiency diseases in our country

Table :4.1 The major micronutrients, deficiency diseases and their symptoms

Vitamin/ Mineral	Deficiency disease/disorder	Symptoms
Vitamin A	Loss of vision	Poor vision, loss of vision in darkness (night), sometimes complete loss of vision
Vitamin B1	Beriberi	Weak muscles and very little energy to work
Vitamin C	Scurvy	Bleeding gums, wounds take longer time to heal
Vitamin D	Rickets	Bones become soft and bent
Calcium	Bone and tooth decay	Weak bones, tooth decay
Iodine	Goiter	Glands in the neck appear swollen, mental disability in children
Iron	Anaemia	Weakness

Table :4.2. The three major micronutrients deficiency diseases and their prevention.

Nutrient	Deficiency disease	Prevention strategy
Vitamin A	-Night blindness -Total blindness -Weak immunity -Unhealthy epithelial cell	- Breast feeding - Vit A supplementation - Health education on food diversity, horticultural program - Food fortification /feeding of fortified food/
Iron	- Iron deficiency Anemia	- Breast feeding - Iron supplementation - Health education on food diversity and iron rich foods - Deworming
Iodine	- Simple goiter - Poor mental capacity	- Breast feeding - Nutritional education / food diversity - Food fortification with iodine - Iodine supplementation

Self-Check -4	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Severe form of acute malnutrition with bilateral oedema and weight-for-height of greater or equal to -2 SD. (1 points)

   A. kwashiorkor C. marasmic kwash

   B. marasmus D. anemia

2. Match the following vitamins with their corresponding deficiency disease (3 points).

A	B
1.vitamin A	A. scurvy
2. vitamin c	B. Blindness
3. vitamin D	C. Rickets

Note: **Satisfactory rating – 4 points** **Unsatisfactory - below 4 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Information Sheet-5	Identifying nutrition eligible community members

5.1. Calculating number of expected target group for nutritional problem

Under 2 years=8 percent of the total population

Under 5 years=14.6 percent of total population

Pregnant women =4% of the total population

Box 1.1 Calculating the number eligible for nutritional care and support in a *kebele*

The percentage of children under the age of two years in a *kebele* of 5000 people is calculated as follows:

$$\text{Children under two} = \frac{\text{total population} \times 8}{100}$$

$$= \frac{5000 \times 8}{100}$$

$$= 400$$

Self-Check -5	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Assume that the total population in your catchment is 5000, calculate the eligible under 5 year children(1 point)

   A. 730 C. 400

   B. 200 D. 500

2. based on data of question no1 above, calculate eligible pregnant women(1 point)

   A. 730 C. 400

   B. 200 D. 500

Note: **Satisfactory rating – 2 points** **Unsatisfactory - below 2 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Information Sheet-6	Conducting Resource mapping

6.1. Resource mapping: FMOH's annual resource mapping exercise has now fully integrated the supplemental non-health categories and non health donors/IPs for EFY 2019/20 and future nutrition tracking

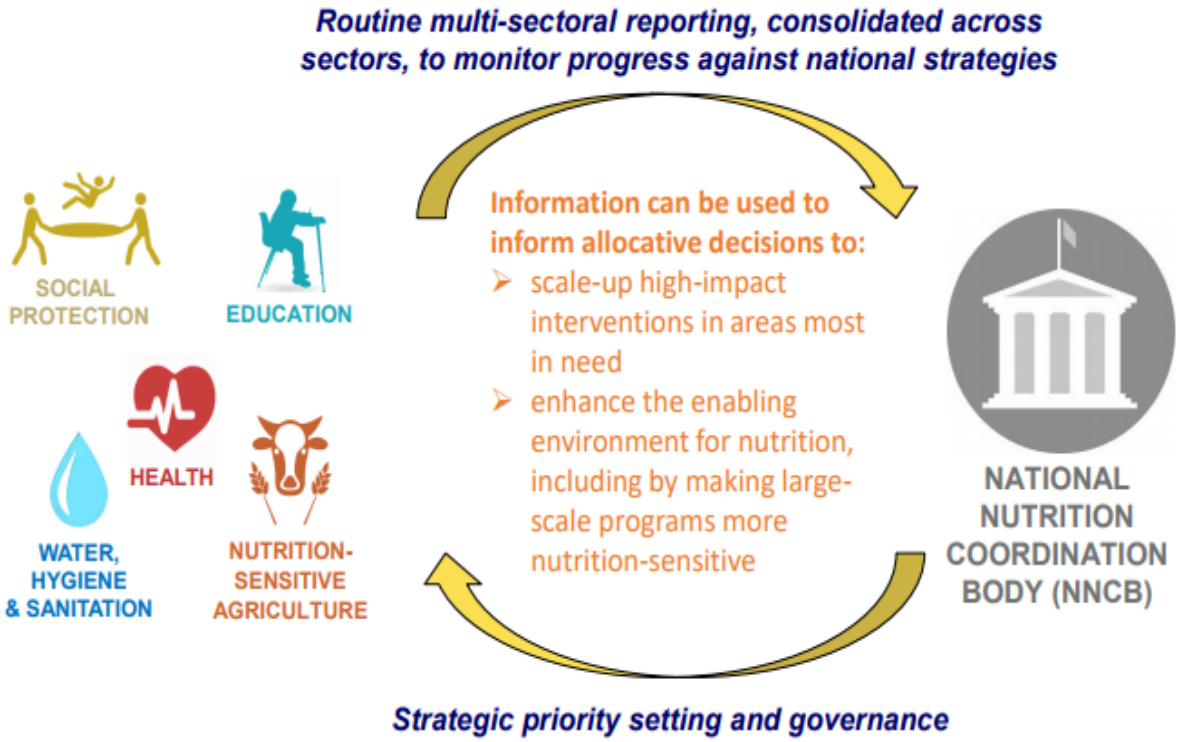


Figure 6.1: multi sectoral resource mapping strategy

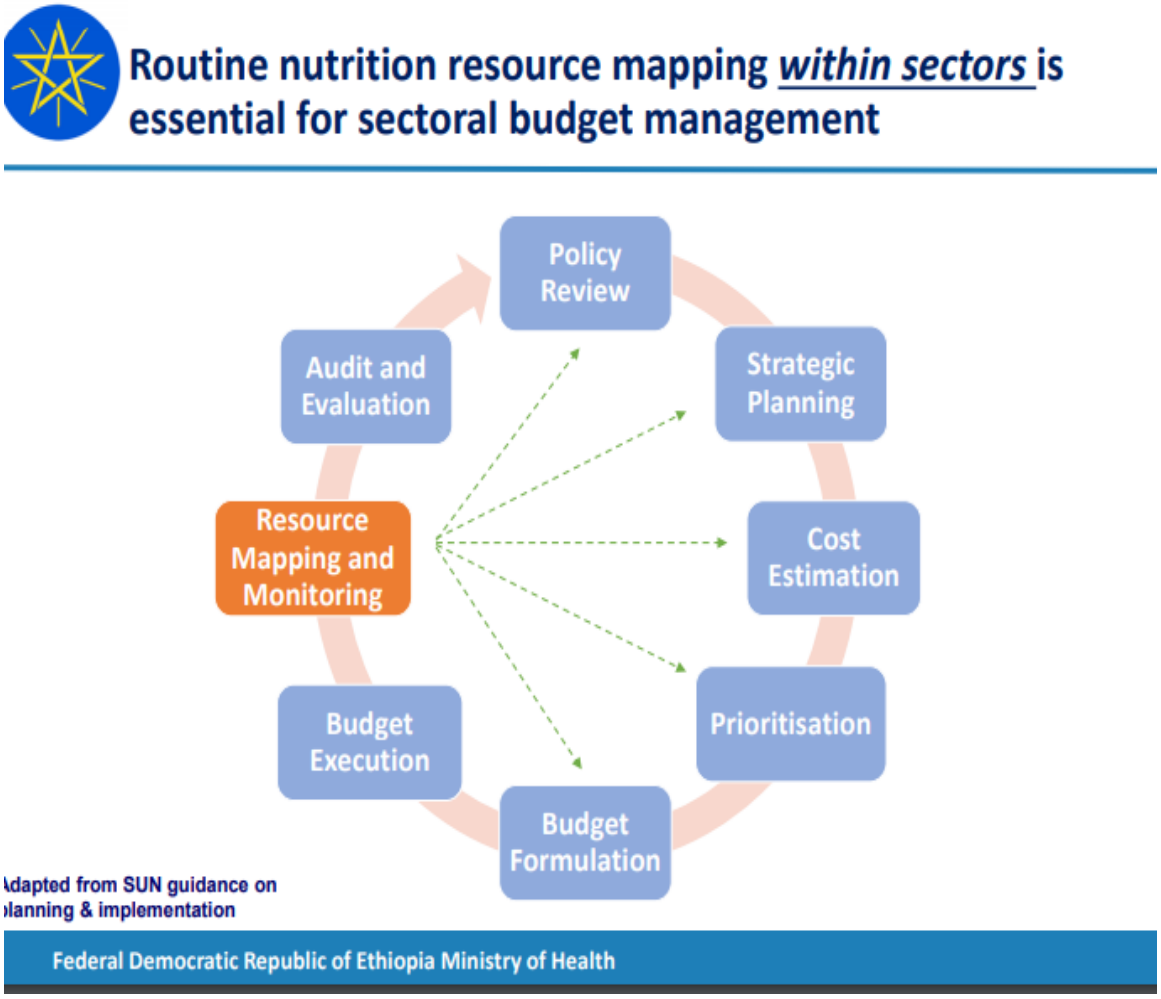


Figure 6.2:resource mapping with in sector

Self-Check -6	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Resource mapping can be used to(2 point)
   A. scale-up high-impact interventions in areas most in need
   B. enhance the enabling¬ environment for nutrition
   C. To make large scale programs nutrition sensitive
   D. all

Note: **Satisfactory rating – 2 points** **Unsatisfactory - below 2 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Information Sheet-7	Developing appropriate interventional plan

7.1. Planning nutritional care and support in your community

When you are planning nutritional care and support in your community, the first step is to calculate the number of children under five, and the number of pregnant and lactating women who might need nutritional care and support in one year. According to the 2007 population statistics of Ethiopia, the number of children under two years is calculated as 8% of the total population, while the number of children under five years of age is 14.6%. The Ethiopian population statistics also indicate that the number of pregnant women is 4% of the general population. This percentage is used to estimate the number of pregnant and lactating mothers in a given community. The percentages will vary to some extent between communities, but can be used to estimate numbers with reasonable accuracy.

Self-Check -7	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. According to the 2007 population statistics of Ethiopia, the number of children under two years is calculated as (2 point)

   A. 16.4% C.14.6%

   B. 8% D.4%

Note: **Satisfactory rating – 2 points** **Unsatisfactory - below 2 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Operation Sheet. 1	Nutritional assessment and screening

1.1. Techniques for Anthropometric measurement

1.1.1. Length measuring Procedure:

Step 1. Greet the mother (care giver)

Step 2. Explain the mother (care giver) what you are going to do for the child

Step 3. Collect the necessary material for the measurement

Step 4. Find assistant to help you to measure a child using this method.

Step 5. Both assistant and measurer are on their knees

Step 6. The assistant holds the child's head with both hands and makes sure that the head touches the base of the board

Step 7. The assistant's arms should be comfortably straight

Step 8. The line of sight of the child should be perpendicular to the base of the board (looking straight upwards)

Step 9. The child should lie flat on the board

Step 10. The measurer should place their hands on the child's knees or shins

Step 11. The child's foot should be flat against the foot piece

Step 12. Read the length from the tape attached to the board.

Step 13. Record the measurement on the questionnaire

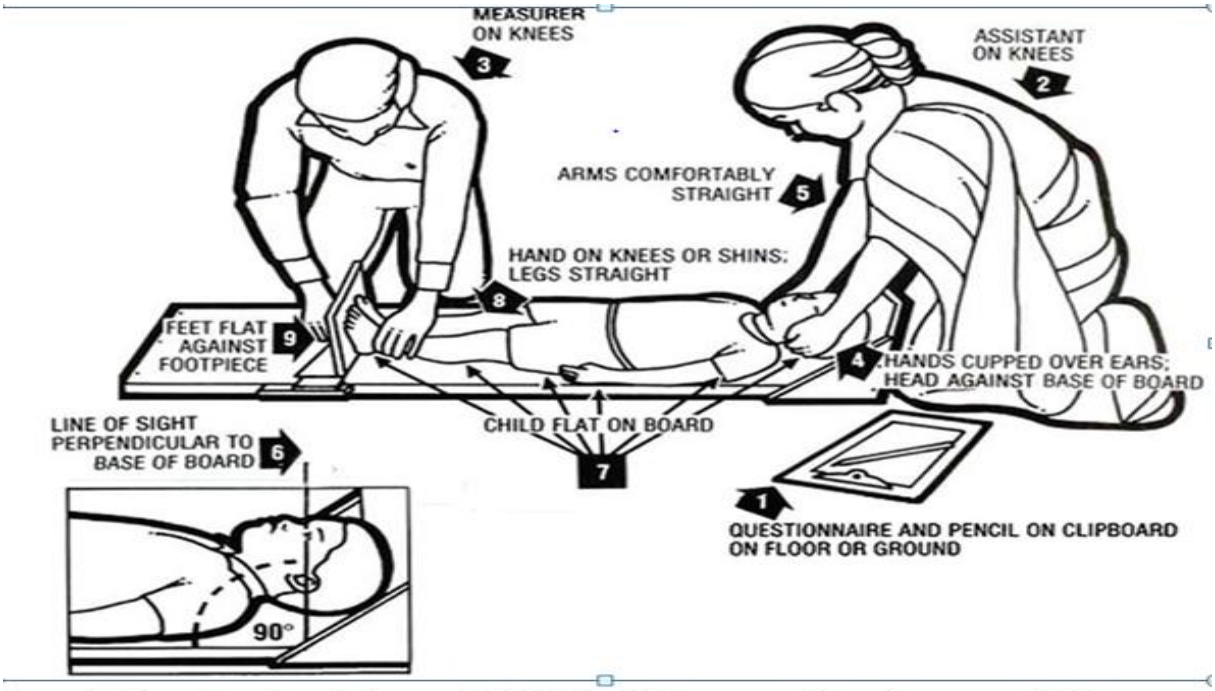


Figure 6: Measuring length, (source UNICEF1986, how to weigh and measure children: assessing the nutritional status of young children).

1.1.2. **Height measurement procedure**

Step 1. Greet the mother if the measurement is done for the child

Step 2. Explain the procedure to the mother what you are going to do for the child

Step 3. Collect all necessary materials for the measurement

Step 4. To measure a child's height, you need assistance

Step 5. Both the assistant and measurer should be on their knees.

Step 6. The right hand of the assistant should be on the shins of the child against the base

of the board

Step 7. The left hand of the assistant should be on the knees of the child to keep them close

to the board.

Step 8. The heel, the calf, buttocks, shoulder and occipital prominence (Prominent area on

the back of the head) should be flat against the board.

Step 9. The child should be looking straight ahead

Step 10. The hands of the child should be by their side

Step 11. The measurer's left hand should be on the child's chin

Step 12. The child's shoulders should be leveled

Step 13. The head piece should be placed firmly on the child's head

Step 14. Record the measurement on the recording form

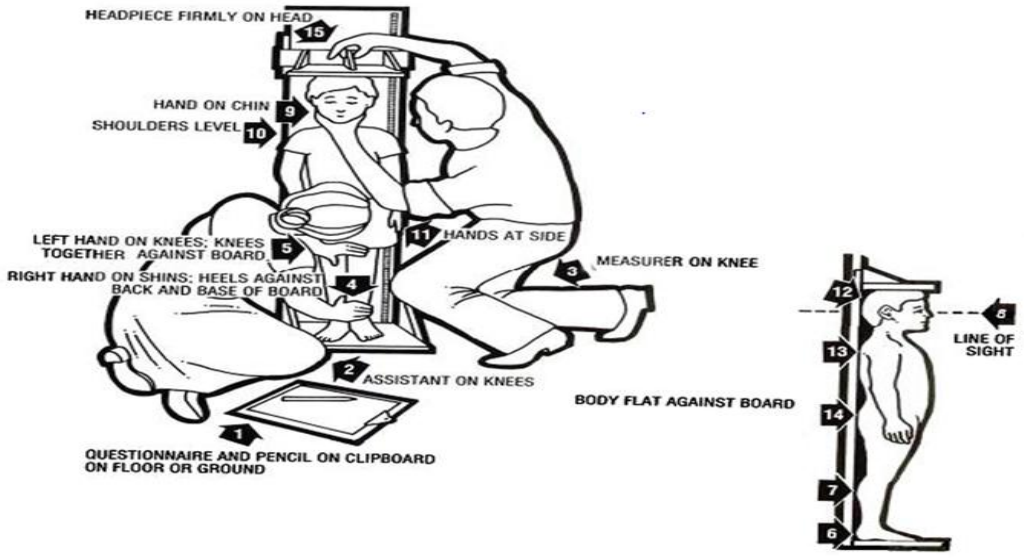


Figure 2: Measuring height. (Source UNICEF, 1986, how to measure children: assessing the nutritional status of young children

1.1.3. **Weight measurement procedure**

Step 1. Greet the client if an adult or the care giver if the client is child

Step 2. Explain what you are going to do for the client

Step 3. Collect the necessary materials for the measurement

Step 4. Adjust the pointer of the scale to zero level.

step 5. Take off the child's heavy clothes and shoes

step 6. Hold the child's legs through the leg holes

step 7. Hold the child's feet

step 8. Hang the child on the Salter Scale

step 9. Read the scale at eye level to the nearest 0.1 kg.

step 10. Remove the child slowly and safely.

Step 11. Record the measurement on the recording form

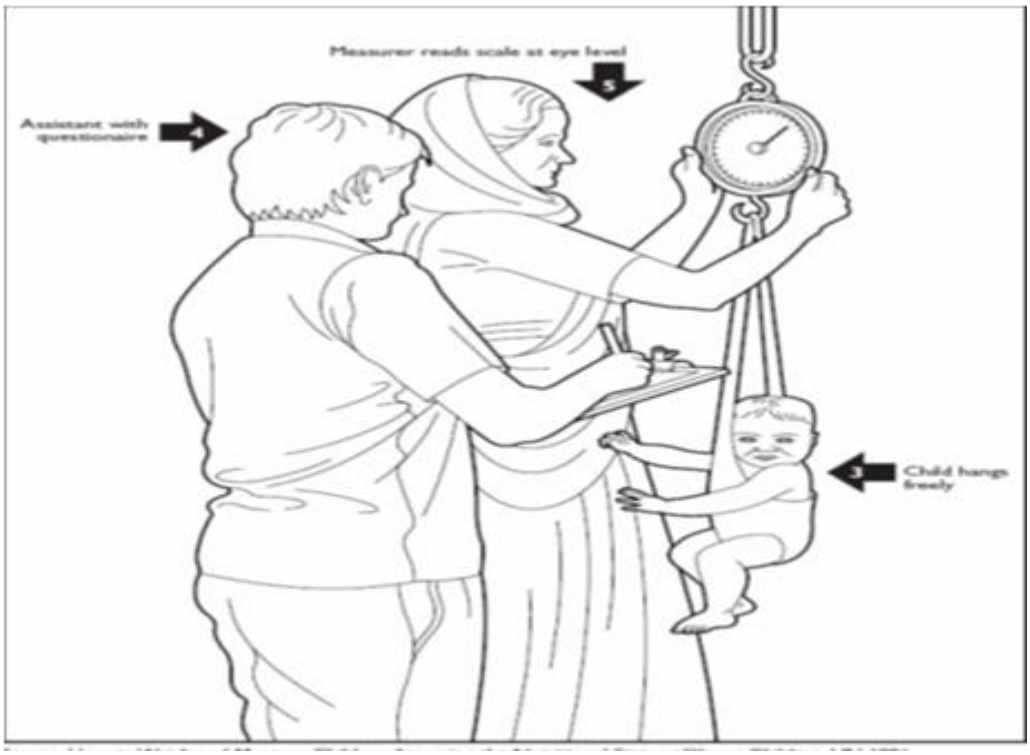


Figure 3: Measuring weight by slanter scale

1.1.4 Measuring Weight for Adults

Step 1. Explain the procedure to the client as you are going to weigh him / her

Step 2. Choose appropriate beam balance since they are adult

Step 3. Ask the person to take off shoes and extra cloths

Step 4. Ask the person to stand straight on the centre of the balance platform

Step 5. If the person cannot stand without help, take MUAC).

Step 6. Read the weight as soon as the indicator on the scale has stabilized.

Step 7. Make sure the weighing scale is calibrated to **zero** before each measurement is taken.

Step 8. Record the weight to the recording form.

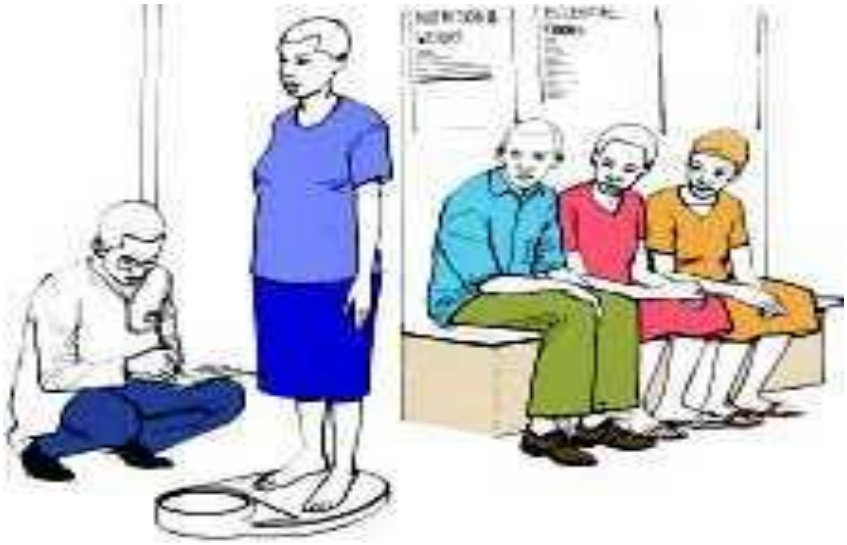


Figure 4: Measurement of adult weight

1.1.5. MUAC measuring **Procedures**

Step 1. Greet the mother (client)

Step 2. Explain to the mother what you are going to do for her child

Step 3. Collect the necessary equipment for the measurement

Step 4. Ask the mother to remove any clothing that may cover the child's left arm

Step 5. If possible, the child should stand erect and sideways to the measurer.

Step 6. Estimate the midpoint of the left upper arm

Step 7. Straighten the child's arm and wrap the tape around the arm at the midpoint. Make sure the numbers are right side up. Make sure the tape is flat around the skin

Step 8. Inspect the tension of the tape on the child's arm. Make sure the tape has the proper tension and is not too tight or too loose

Step 9. When the tape is in the correct position on the arm with correct tension, read the measurement nearest to 0.1 cm

Step 10. Immediately record the measurement

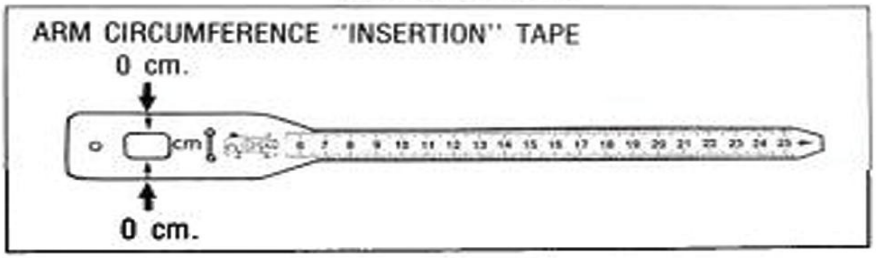
1 LOCATE TIP OF SHOULDER

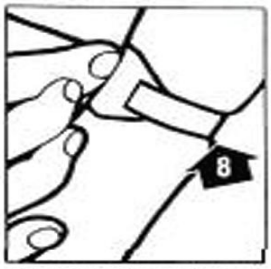
2 TIP OF SHOULDER
3 TIP OF ELBOW

4 PLACE TAPE AT TIP OF SHOULDER
5 PULL TAPE PAST TIP OF BENT ELBOW

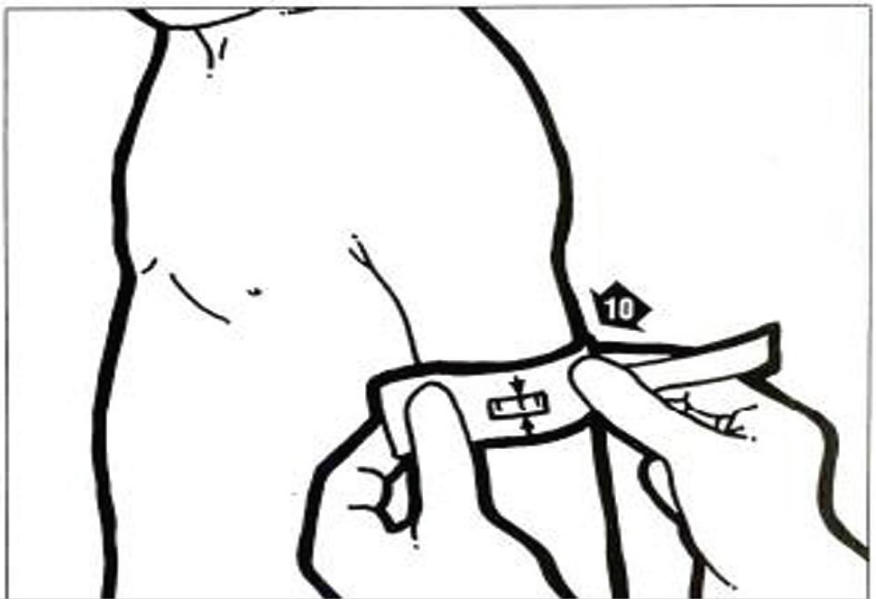
6 MARK MIDPOINT

7 CORRECT TAPE TENSION





8 TAPE TOO TIGHT



LAP Test	Practical Demonstration

Name: _____ Date: _____

Time started: _____ Time finished: _____

Instructions: Given necessary templates, tools and materials you are required to perform the following tasks within 8-12 hours.

Task 1: perform Anthropometric measurement

Instruction Sheet	LG34: Provide basic nutrition information/education to the client

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics:

- Obtaining Clients education requirements
- Gathering basic educational materials and products
- Consult The community about the appropriateness of cultural practices of nutrition
- Practical nutritional preparation and education
- Reporting nutritional problems to woreda health office
- Clients monitoring
- Identifying clients deviations

This guide will also assist you to attain the learning outcome stated in the cover page.
Specifically, upon completion of this Learning Guide, you will be able to::

- confirm The purpose of the information/education based on the nutrition national guideline
- guide The client i to ensure that meal choices are consistent with the nutritional care plan designed in the guideline
- provide Practical nutritional education to support meal and food choices consistent with nutrition care plan
- Appropriate nutrition resources and equipment are made available for teaching
- provide The feedback of plan implementation is to Woreda health office

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below 3 to 6.
3. Read the information written in the information “Sheet 1, Sheet 2, Sheet 3, Sheet 4, Sheet 5, Sheet 6, and Sheet 7”.
4. Accomplish the “Self-check 1, Self-check t 2, Self-check 3, Self-check 4 Self-check 5”, Self-check 6, and Self-check 7

5. If you earned a satisfactory evaluation from the “Self-check” proceed to “Operation Sheet 1 and Operation Sheet 2”
6. Do the “LAP test” **in page – 82**(if you are ready)

Information Sheet-1	Obtaining Clients education requirements

1.1. Clients education ;Nutrition education is asset of learning experiences designed to assist in healthy eating choices and other nutrition behavior

1.1.1. Nutrition information /education for pregnant women: During pregnancy, there is a physiologic change because of the conception. In the intra-uterine life, to grow properly the fetus needs a healthy and well-nourished mother. Therefore, a mother needs additional diet to nourish her unborn child. Energy, protein, essential fatty acids, vitamin A, vitamin C, vitamins B groups (B1, B2, B3, B5, B6, B12, and float), calcium, phosphorus, iron, zinc, copper and iodine are the nutrients demanded in extra amount. Even though these are the nutrients needed in extra amount, women's nutrition during pregnancy and lactation should majorly focus on the three micronutrients (vitamin A, iron and iodine) and extra energy intake and reduction of energy expenditure.

As the unborn child grow, the mother gains weight. Women who do not gain enough weight often have babies that weigh too little (low birth weight). A baby weighing less than 2.5 kg has an increased chance of both physical and mental health problems. Women should gain at least 11 kg during pregnancy. If the mother gains less than this, the baby's chances of survival and health declines. If a mother is overweight, she still needs to gain for her baby's health. She should not try to lose weight while she is pregnant.

1.1.2. Nutrition information /education for lactating mothers: Infants, to grow well and to be healthy, should be on exclusive breast milk (only breast milk) for the first 6 months of age and then followed by complementary feeding (breast milk plus weaning food). A mother has to feed her breast milk at least for two years. Therefore; in order to produce enough breast milk for the growing child lactating mother has to get additional / extra meal. A lactating woman needs at least two extra meals (550 Kcal) of whatever is available at home. In addition a dose of vitamin A (200,000IU) should be given once between delivery and six weeks after delivery. This will enable the baby to get an adequate supply of vitamin A for the first six months. In addition to extra meals and one higm dose of vit A, a lactating mother also needs:

- Iodized salt in her diet
- At least one liter of water per day
- Vitamin A rich foods (such as papaya, mango, tomato, carrot and green leafy vegetables) and animal foods (such as fish and liver).

The average daily recommended calorie allowance for lactating mother is 2600 Kcal.

1.1.3. Nutrition information /education on Child feeding :The period between birth and puberty **/**child hood period / that encompasses the age from birth to 10 years is a critical time for the growth of children. To have a healthy growth, children in the first 6 months of age should be kept only on maternal breast milk (because breast milk is complete and contains all the required nutrients for this age including protective antibody), then at 6 months of age initiate complementary feeding. Starting from a toddler, a child after age one should be slowly weaned to solid foods that the other members of a family consume, obviously in different forms and amounts. Breast feeding should continue atleast for two years because the first 24 months of life is the most important window of opportunity for establishing healthy growth, and it has been approved that optimal feeding of children during this age is critical to break the cycle of malnutrition from generation to generation.

- Poor infant and child feeding practices are the major determinants of malnutrition. A very large proportion of women do not practice optimal breastfeeding and complementary feeding for their children. According to the 2011 EDHS report, In Ethiopia, 51% of children ages 6–9 months are eating complementary foods, while the remaining 49% are not eating the appropriate complementary food on time, i.e. this percent of infants are given complementary food too early or too late. Therefore; as a HES worker, to avert the problem of childhood malnutrition, you have a critical role in addressing the messages of ENA in the context of childhood/ infant and young child/ nutrition.
- The increased requirements of nutrients for late infancy and childhood should focus on energy, protein, and essential fatty acid, calcium and phosphorus. The average daily recommended calorie requirement for children is 1600 Kcal. which is in the range of 1250 – 1800 Kcal.

- Global and National Recommendations for Child Feeding During the First 24 Months
- Key message for optimal breast feeding practice:
  - ✓ Initiate breast feeding within one hour of birth
  - ✓ Breast feed the child frequently day and night
  - ✓ Exclusive breast feeding for the first 6 months of age
  - ✓ Continue breast feeding more frequently even when the child is sick
  - ✓ Position and attach infant correctly at the breast
  - ✓ Offer the second breast after the infant releases the first
  - ✓ The mother should eat more than usual

1.1.4. Nutrition information /education for Adolescent and adults :Adolescent (age of 10 – 19 years) is a period of rapid growth and high physiologic changes take place, which is totally different from adult that is why the body's demand for nutrients is very high. The increased requirements of nutrients include: energy, protein, and minerals (calcium, phosphorus, iron and zinc). The recommended daily requirement of energy is 2800 Kcal. and 2100 Kcal, for boys and girls, respectively.

- Adults (age of 19 to 50 years) are almost accomplished their growth, therefore; the increased required nutrients will not be the same as to adolescents, children, pregnant and lactating mothers. The demand of nutrients her depends on their energy (exercise or workload). The average recommended daily calorie allowance for active adult men & women is 2430 Kcal and 2170Kcal, respectively. Girls and women nutrition should include more iron compared to that of boys and men

1.1.5. Nutrition information /education for the elderly :People in this age group needs some more meals per day as they may not eat much / sufficient amount / at each meal. They need less calories because energy requirement declines with increasing age particularly if physical activity is restricted, however; the amount of protein and other nutrients requirement is similar to that of younger people

Self-Check -1	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. The average daily recommended calorie allowance for lactating mother is(2point)

   A. 2600 Kcal C. 1500Kcal

   B. 2000Kcal D. 1700Kcal

Note: **Satisfactory rating - 2 points Unsatisfactory - below 2 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Information Sheet-2	Gathering basic educational materials and products

2.1. Education materials and products: are used to transmit information and bring positive behavioral change on food and nutrition. It also aims at changing or reinforcing health-related behaviors in a target audience, concerning a specific problem and within a pre-defined period of time, through communication methods and principles

2.1.1. Education materials: include posters, flyers, leaflets, brochures, booklets, messages for health education sessions, radio broadcast or TV spots, training manual, charts, food model etc.

Figure 2:1. Poster on how to prepare supplementary food

Figure 2:2. Nutrition products

Self-Check -2	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

Which of the following is printed education materials (2)

A. Posters C. flyers

B. Radio D. A&C

Note: **Satisfactory rating - 2 points** **Unsatisfactory - below 2 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Information Sheet-3	Consult The community about the appropriateness of cultural practices of nutrition

3.1. Food Cultural and Religious Taboos

- There are very important cultural and religious values regarding to nutrition. For instance, the care given and practice of proper feeding for mothers in the period of peurperium / first 45 days of postpartum/ is a very valuable culture. Even though there are such important cultural food customs, there are a number of cultural and religious food taboos which critically discriminates children's', girl's and women's feeding practice. Food taboos is a condition that restricts / forbidden to be used/ some foods based on age and sex category as culturally or religiously determined in a society. Sometimes, however, these cultural features become the cause of nutritional and health problems.
- Within Ethiopian society some problems have been identified including:
  Pregnancy — women do not receive enough care; the work burden of the mothers is not alleviated.
  Breastfeeding — colostrums discarded; the newborn is forced to swallow butter.
  Infancy/childhood — children eat last; the quality of their food is poor.
  Women — gender bias; women eat last and only have the leftovers.

Self-Check -3	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Which cultural features become the cause of nutritional and health problems. (2)

A. children eat last C. women eat last and only have the leftovers

B. the newborn is forced to swallow butter D. all

Note: **Satisfactory rating - 2 points** **Unsatisfactory - below 2 points**

You can ask you teacher for the copy of the correct answers.

Information Sheet-4	Practical nutritional preparation and education

4.1. Practical nutritional preparation and education: includes Meeting, Demonstration, Communicating messages through the mass media , Use of IEC materials , Peer education

4.1.1. Meeting: is an organized occasion when a number of people come together in order to discuss about a problem and making decisions to solve problems. It is the gathering of large number of people to discus and recommend / undertake solutions for nutritional problems. Meetings are held to gather information, share ideas, take decisions, and make plans to solve problems As a Health Extension service worker, you are expected to attend or conduct meetings to deliver nutritional information / messages, as they are one of the methods of nutritional communication. Therefore; you need to have a clear understanding of what a meeting is and how it is conducted and organized. In order to conduct meetings effectively they have to be planned and the outcomes obtained from the meeting should be evaluated if the intended /desired predetermined objectives are achieved or not. The following shows the planning and conducting steps of a meeting.

- Planning a meeting
  - ✓ It should be need based
  - ✓ Determine the time and place
  - ✓ Announce the meeting through village criers, notice or using invitation latter
  - ✓ Prepare relevant and limited number of agendas / Health issues/.
- Conducting the meeting
  - ✓ Should be led by a leader
  - ✓ Encourage participation as much as possible
  - ✓ Try to reach at consensus based decisions
  - ✓ Use some visual aids to clarify things
  - ✓ Finally, get ready to take actions to solve problems.
  - ✓ Report documentation

4.2. Demonstration**:** is a step-by step procedure that is performed in front of a group of clients. It involves both theoretical teaching and of practical work, which makes it lively. It is used to show how to prepare and do something, like preparing

complementary food for children. One of the main advantages of demonstrations is helping people learn new skills. The size of the group should be small to let members get the chance to practice. It is particularly useful when combined with a home visit. This allows people to work with familiar materials available in the locality. As a Health Extension Service worker, one of your tasks during home visiting is to demonstrate how deferent foods are prepared for pregnant and lactating women as well as for elder infants and children. Therefore; it is mandatory to equip you with the required knowledge, skill and attitudes of demonstration.

4.2.1. Planning the Demonstration

- Identify the needs of the group to learn
- Collect the necessary materials such as models and real objects or posters and photographs.
- Make sure that it fits with the local culture. E.g. for nutrition demonstration you have to use the common food items and local cooking methods.
- Prepare adequate space so that everyone could see and practice the skill.
- Choose the time that is convenient for everyone.

4.2.2. Procedures

- Introduction: Explain the ideas and skills that you are going to demonstrate and the need for it
- Do the demonstrations*:* Do one step at a time, slowly. Make sure everyone can see what you are doing. Give explanations as you go along.
- Questions*:* Encourage discussion either during or at the end of the demonstration. Ask them to demonstrate back to you or to explain the steps.
- Summarize*:* Review the important steps and key points briefly.

4.2.3. Checklist to evaluate a demonstration

- Did the audience learn how to do what was demonstrated?
- What evidence was given that the audience plans to carry out this practice on their own?
- Visit members of the audience to see if they are using the new methods demonstrated.
- How could your demonstration be improved?

4.3. Communicating messages through the mass media: As you have discussed it in your health education sessions, mass media communication is a means of transmitting messages (nutritional information) and facts to a large audience relatively at low cos. It is the best methods for rapid spread of simple information and facts to a large population.. However, the major concerns with this method of communication are availability, accessibility and popularity in a given community. The commonly used mass media are microphones or public address system, radio, television, cinema, newsprints, posters, exhibitions. Mass media includes broadcast media (radio and television) as well as print media (newspapers, books, leaflets and posters)

4.3.1. Advantage:

- Reach many people quickly
- They are believable especially when the source is a credible one.

4.3.2. Limitation:

- One sided (linear)
- Doesn't differentiate the target

4.4. Use of IEC materials: Information, education and communication (IEC) refers to a public health approach aiming at changing or reinforcing health-related behaviors in a target audience, concerning a specific problem and within a pre-defined period of time, through communication methods and principles. While doing the IEC approach, there are materials /teaching aids or job aids/ to be used to facilitate the message delivery. The use of IEC materials such as posters, flyers, leaflets, brochures, booklets, messages for health education sessions, radio broadcast or TV spots, etc. in the process of message / information delivery makes the information clear and understandable by the audience or target population and creates a clear mental picture that helps them to retain the message in their mind. IEC materials are used as a means of promoting desired, positive behaviors in the community. Therefore, as HES worker who usually delivers nutritional education / information / in the community, the use of appropriate IEC materials has a pivotal role in the promotion of the desired positive behavior in the field of nutrition.

4.5. Peer education: Peer Education is an approach to health promotion activities, in which community members are supported to promote health-enhancing change among their peers. Rather than health professionals educating members of the public, the idea behind peer education is that ordinary lay people are in the best position to talk, discus and promote healthy behavior to each other.Research suggests that people are more likely to hear and personalize messages, and thus to change their attitudes and behaviors, if they believe the messenger is similar to them and faces the same concerns and pressures. Numerous studies have demonstrated that their peers influence youth's health behaviors—not only in regard to sexuality but also in regard to violence and substance use. Peer education has the power of changing young people to the desired behavior and makes youth's role modeling doable. Peer education can support young people in developing positive group norms and in making healthy decisions about sex.

4.5.1. A peer education program: is usually initiated by health or community professionals, who recruit members of the 'target' community to serve as peer educators. The recruited peer educators are trained in relevant health / nutritional / information and communication skills. Equipped with these skills, the peer educators then engage their peers in conversations about the issue of concern, seeking to promote health-enhancing knowledge and skills in connection to nutrition. The intention is that familiar people, giving locally-relevant and meaningful suggestions, in appropriate local language and taking account of the local context, will be most likely to be able to promote health-enhancing behavior change.

4.5.2. In the school environment, peer health / nutrition educators are a diverse group of students who are trained to teach fellow students about pertinent health / nutrition issues in a positive, interactive and non-judgmental manner.

Teenagers discussing

4.6. F

and Safety: All over the world, diseases that are caused by consuming unhygienic and unsafe food seriously affect people. We have to give due emphasis to good hygienic practices to prevent and control food borne diseases. Food borne diseases result from eating foods that contain infectious or toxic substances. All food we eat should be safe and free from contaminants such as microorganisms, spoilage and chemicals. However, food Contamination is a serious public health problem in Ethiopia, resulting in food borne diseases that affect many people every year.

4.6.1. Food Hygiene means all conditions and measures necessary for ensuring the safety, wholesomeness, and fitness for consumption of food at all its stages i.e. from its production, processing, storage, distribution, preservation, and service. (WHO/FAO)

- ✓ This is referred to as _from farm to fork‘ or _from farm to table‘, because it includes every stage in the process from growing on the farm, through harvesting, storage and distribution, to finally

eating the food. It also includes the collection and disposal of food wastes.

- ✓ Throughout the chain of this process, there are many unwanted chemicals and microorganisms, directly or indirectly, knowingly or unknowingly, may contaminate the food

4.6.2. Food safety is a scientific discipline describing handling**,** preparation and storage food in ways that prevent food borne illness. This includes a number of routines that should be followed to avoid potentially severe health hazards.

- The tracks within this line of thought are safety between industry and the market and then between the market and the consumer.
-
-
-
-

Figure:4.2 Traditional way of eating at home

- In considering industry to market practices, food safety considerations include the origins of food including the practices relating to food labeling, food hygiene, food additives and pesticide residues, as well as policies on biotechnology and food and guidelines for the management of governmental import and export inspection and certification systems for foods.
- In considering market to consumer practices, the usual thought is that food ought to be safe in the market and the concern is safe delivery and preparation of the food for the consumer.
- Food can transmit disease from person to person as well as serve as a growth medium for bacteria that can cause food poisoning. In developed countries, there are complex standards for food preparation, whereas in lesser-developed countries the main issue is simply the availability of

adequate safe food, which is usually a critical item. In theory, food poisoning is 100% preventable.

- Food hygiene refers particularly to the practices that prevent microbial contamination of food at all points along the chain from farm to table.

- Food safety is a closely related, but broader concept that means food is free from all possible contaminants and hazards. In practice, both terms may be used interchangeably.
- A traditional way of eating food at the household level in Ethiopia, injera with wot (sauce), is shown in Figure below Usually this type of meal is safe, because it is a food that is prepared to eat immediately.
- The overall purpose of food hygiene is to prepare and provide safe food and consequently contribute to a healthy and productive society.
- The five key principles of food hygiene, according to WHO, are:
  - ✓ Prevent contaminating food with pathogens spreading from people, pets, and pests.
  - ✓ Separate raw and cooked foods to prevent contaminating the cooked foods.
  - ✓ Cook foods for the appropriate length of time and at the appropriate temperature to kill pathogens.
  - ✓ Store food at the proper temperature
  - ✓ use safe water and cooked materials

- specific objectives for food hygiene are to:
  - ✓ Prevent food spoilage i.e. changes that make food unfit for consumption due to microbial or chemical contamination
  - ✓ Inform and educate people about simple and practical methods of keeping food safe to protect them against food borne diseases.

- ✓ Protect food from adulteration (intentional contamination).
- ✓ Ensure proper practice in the food trade to prevent the sale of food that is offensive or defective in value and quality

4.7. Food identification: Food is any solid or liquid, when eaten and absorbed by the body produce energy, promotes the growth and repair of tissue; promotes resistance against diseases or maintains and regulates these processes. Food consists of edible materials such as meat, bread and vegetables; it may be raw (like fresh fruit) or cooked, processed or semi-processed. Food is a nutritious substance eaten by us to maintain our vital life processes. It is a fundamental need, a basic right, and a prerequisite to good health

Figure 4.3: Fresh fruit

4.7.1. Food identification/food kind: Food can be described in a number of different ways. Here are some terms you will find useful:

- Perishable foods: food items that have a short storage life and will become spoiled or contaminated if not preserved and handled properly e.g. fish, meat, milk; eggs, vegetables; creamy cake; and the like.
- Semi-perishable foods: food items that have a medium storage life and will become spoiled or contaminated if not preserved and handled properly bread, fruits
- Non-perishable foods (stable foods): foods which are not easily spoiled or contaminated e.g. dry foods; canned foods; sugar and cereals.
- Wholesome food: food, which is sound, clean and free from harmful ingredients – it is suitable for human consumption.

4.7.2. Food hazard: food that is contaminated with biological, chemical or physical agents and, if eaten, will cause ill health.

4.8. Principles of Safe Food Preparation

4.8.1. The key principles for safe food preparation are outlined below.

- Choose foods that are not easily damaged by transportation, accidents or by storage.
- Cook foods thoroughly, especially meat because this can help to kill any microorganisms that might be present in the food
- Eat cooked foods immediately after they are cooked, rather than leave them out and eat later
- Delays in eating cooked food can lead to the growth and reproduction of microorganisms in the cooked foodstuff.
- Store cooked food carefully at an appropriate temperature.
- Either it should be kept cold, ideally in a refrigerator, or it should be kept hot.
- If food must be reheated, be sure to reheat it thoroughly.
- Avoid contact between raw and cooked food.
- Wash hands properly before handling food and before eating.
- Keep all kitchen surfaces and utensils meticulously clean.
- Protect food from animals including insects, rodents and other animals.
- Use safe water in food preparation and for washing fruits and vegetables to be eaten raw

4.9. Food Preservation/storage Methods There are three basic objectives for the preservation of foods:

- Prevention of contamination of food from damaging agents
- Delay or prevention of growth of microorganisms in the food
- Delay of enzymatic spoilage i.e. self-decomposition of the food by naturally occurring enzymes within it.

4.9.1. Dehydration by using of high temperature:-

- Drying by sunlight: vegetables, cereals (traditional method)
- Process heating (milk powder)
- Smoking (fish, meat, cereals (bikil)

4.9.2. Dehydration by chemicals:

- Salting in 18% brine solution (fish, meat)
- Mixing or rubbing with a dry solid salt (butter, meat)
- Dehydration by 65% sugar solution (fruits)
- Pickling in concentrated natural acid solutions like vinegar(vegetables)

4.9.3. Use of temperature methods:

- Pasteurization: is the killing of pathogenic microorganisms and spoilage microbes without appreciably destroying the useful flora and enzymes of milk.
  - ✓ The methods are the holding (batch or vat) method: at 63C0/30 min contact time
  - ✓ High temperature short time (HTST) or flash method: 720C/15 seconds
  - ✓ Ultra high temperature (UHT): 88 one second. All methods are followed by immediate cooling at<100C.
- Sterilization:-the killing of all pathogenic and non-pathogenic microbes by using very high temperature: about 120-1320C such food can be stored at room temperature for long period within the shelf life. Food canning is an example of Sterilization.
- Use of low temperature:
  - ✓ Refrigeration at 0-7.2C0 (32-450F)
  - ✓ Best at 0-4.40C (32-400F)
  - ✓ Freezing <00C
  - ✓ Deep freezing <-180C
- Use of pH regulation:

- ✓ Transformation of food into an acidic state: injera and bread baking, milk products (cheese), pickling (use of vinegar) and the likes. Most bacteria will not grow in pH<4.5
- ✓ Some other methods of food preservation are also used in the food industry.

4.10. Ten golden rules for safe food preparation and consumption (WHO)

- Choose food processed for safety
- Cook food thoroughly
- Eat cooked food immediately
- Store cooked food immediately
- Reheat Cooked foods thoroughly
- Avoid contact between raw and cooked foods
- Wash hands repeatedly
- Keep all kitchen surfaces meticulously clean
- Protect foods from insects, rodents, and other animals
- Use pure water.

Self-Check -4	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. a scientific discipline describing handling**,** preparation and storage food in ways that prevent food borne illness is

   A. Food safety C. food hygiene

   B. Food spoilage D. food contamination

2. ----------is the killing of pathogenic microorganisms and spoilage microbes without appreciably destroying the useful flora and enzymes of milk.

   A. pasteurization C. Sterilization

   B. use of low temperature D.all

Note: **Satisfactory rating – 9 points** **Unsatisfactory - below 9 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Information Sheet-5	Reporting nutritional problems to woreda health office

5.1. Concepts of reports

A report is a part of a documentation which is sharp and short and specially written for a particular purpose and audience. A report consists of specific and important information which is analyzed and applied to a particular problem or issue, often making recommendations for future action.

5.2. Characteristics of reports

- Requirements and content of a report may vary business to business and departments to a department. Thus, to understand the information that written, a report has possess the following;
  - ✓ Clear and well-structured format
  - ✓ Provides a brief of instruction and guideline
  - ✓ Outline of the purpose of report, audience, and issue or problems.
  - ✓ Easy to locate and follow.

5.3. Reporting emergency situations: An emergency is a situation that poses an immediate risk to health, life, property, or environment. Reporting emergency situations are rare but do occur, so having a plan for handling them is helpful. If the practitioner(s) believe his/her client is in imminent danger of killing or injuring themselves or another person,

- Phone the local police or emergency services immediately
- Stay with the person until help arrives
- Ask what is the root cause of emergency situation
- If the root cause is being known:
  - ✓ Instruct the client to give the object to someone for safekeeping
  - ✓ Discuss who can be notified of the risk and weapon and follow up
  - ✓ Listen, but do not judge, argue, threaten, or yell

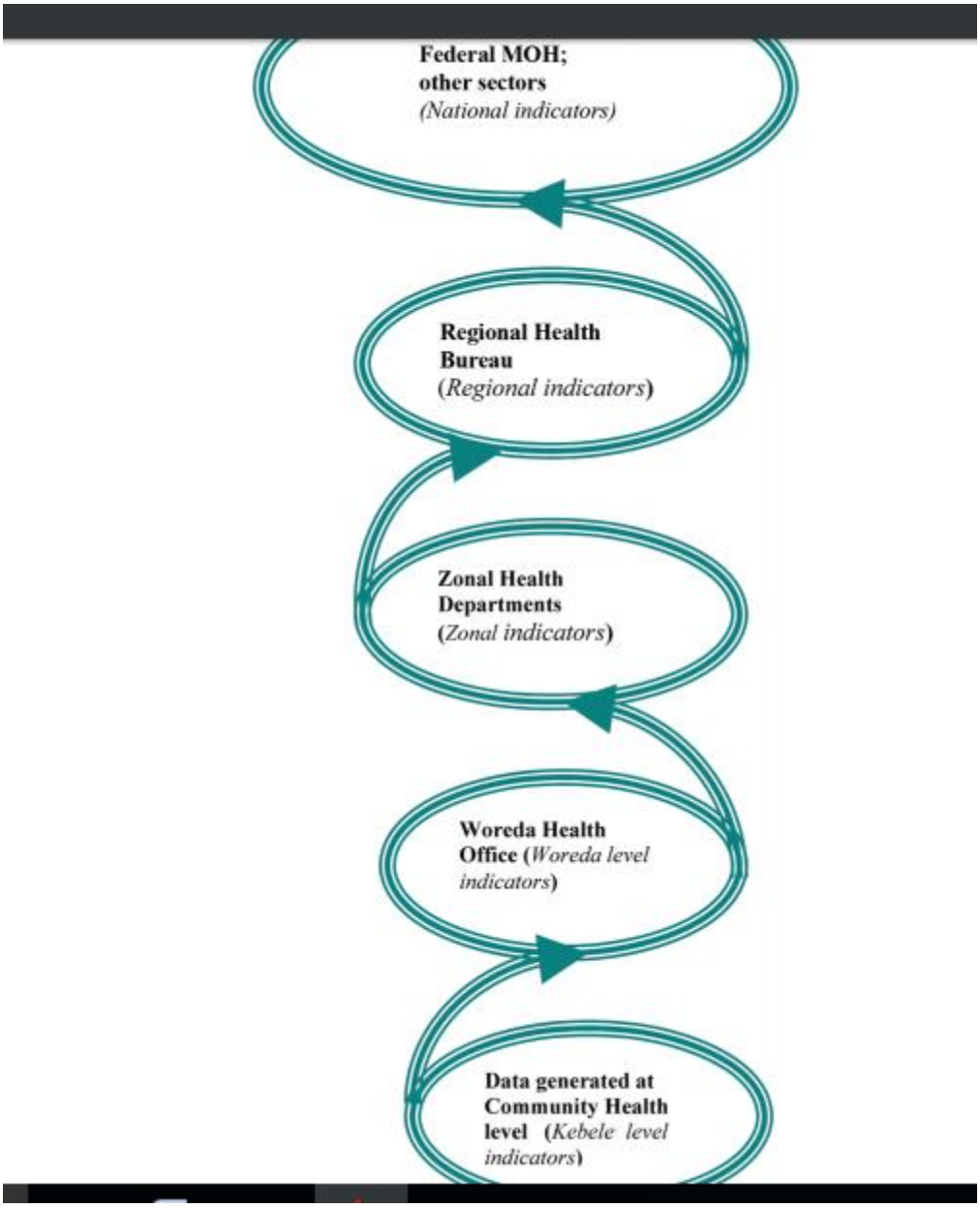


Figure 5.1: How local data informs national decision-makin

Self-Check -5	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Requirements and content of a report may the same business to business and(2point) departments to a department.

   A. True B. False

Note: **Satisfactory rating – 2 points** **Unsatisfactory - below 2points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

6.1. Monitoring: is a process that systematically & regularly checks if your program activities (nutritional information / education and other extension package programs) are being carried out as planned. Information /data/ for monitoring and evaluation of nutritional status is collected through community diagnosis, follow up visit, observation during home visit and by ABCD nutritional assessment techniques /as you have learnt in the previous session. Monitoring is the process of data collection & measurement of progress towards program objectives. Monitoring: Involves in counting what we are doing. Routinely looking at the quality of our services (nutritional information / education).

6.1.1. Types of monitoring

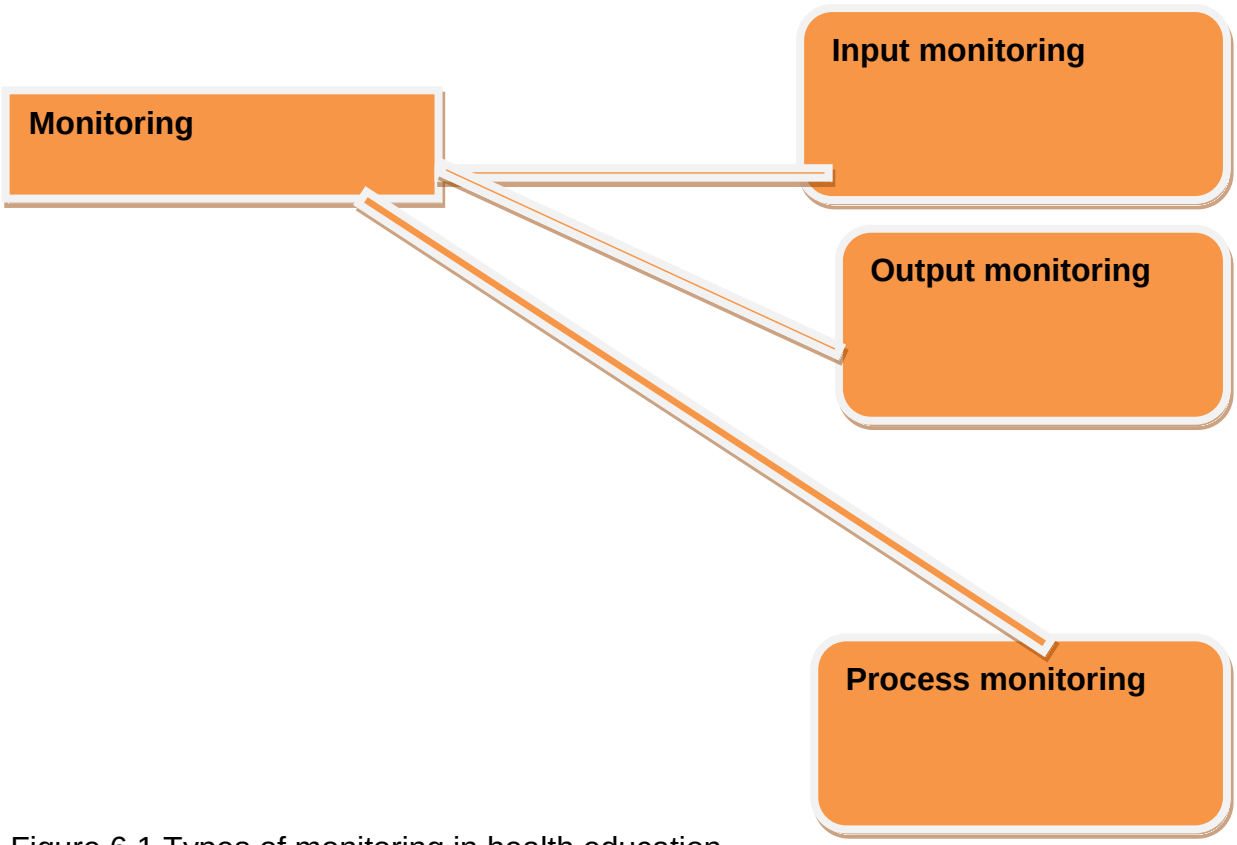


Figure 6.1 Types of monitoring in health education

- **Input monitoring---** Measures the quantity, quality, and timeliness of resources — human, financial and material or equipments like posters, leaflets, flipcharts, computers, LCD and other technological and information — provided for a nutrition health education activity/program

- **Output monitoring--** Measures the quantity, quality, and timeliness of the products or services — that are the immediate result/effect of a nutrition health education activity/program. In output monitoring you need to assess whether the desired product or the output is obtained due to the effective and efficient utilization of the resources.
- **Process monitoring--** Measures the progress of nutrition health education activities in a program and the way these are carried out (for example, referring to the degree of participation).

6.1.2. Monitoring addresses the following questions**.**

- To what extent are planned activities actually realized?

Ex. Exclusive breast feeding practices after information is delivered for lactating mothers and supplementary food practices at 6 months of age for infants after information is delivered for lactating mothers.

- Are we making progress towards achieving our objectives?
- What services are provided?
- To whom,
- When, How often, for how long, in what context?

6.1.3. **The role of monitoring**

- Monitoring has a role in that it helps for early correction of mistakes or wrongs.
- In nutrition it helps to know if a malnourished child is getting good / in good progress/ or deteriorating.
- Monitoring has a role to determine the quality of the services provided and the quality of life.

6.1.4. **Who Should Monitor?**

- Effective monitoring depends on project personnel at all levels / HES/.
- Data for monitoring is collected as part of the regular project implementation activities / Home visit, follow up visit, Routine activities, planed for nutritional assessment programs (campaigns)

6.1.5. **When & how does monitoring conduct?**

- Monitoring systems should be planned in conjunction with overall program design & instituted at the beginning of the programs life.
- Client response is monitored through
  - ✓ Observation of the action
  - ✓ Discussion
  - ✓ interviewing the clients

Self-Check -6	Written Test

- **Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Measures the progress of nutrition health education activities in a program and the way these are carried out (for example, referring to the degree of participation) is.

A. Input monitoring

C. Out put monitering

B. Process monitoring

D. all

Note: **Satisfactory rating – 2 points** **Unsatisfactory - below 2points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Information Sheet-7	Identifying clients deviations

7.1. Concept of client deviation: To be health, the appropriate type and amount of food has to be supplied to the individual age group of people. It is about the nutritional needs at different stages in life.

- The nutrient requirements during the four main stages of the human life vary considerably. What infants and children require is totally different from that of adults and the elderly. In addition, there might be specific nutrients which a pregnant women and lactating mothers need in larger amounts than adult men.
- Therefore, as a HES worker that gives intensive nutritional education to the community, this study session will help you to acquire the basic knowledge about the nutritional requirements of people in different age category, so that, you will be able to deliver the appropriate messages to different segments of population in your community.

7.2. Why identifying client deviation is important? There are a number of factors that influences the nutrient demand of the body. Therefore; in order to estimate nutritional requirements of individuals or groups, we need to consider factors like, Physical activity (whether a person is engaged in heavy physical activity) sex and age, climate, body size and composition, physiological states (pregnancy and lactation). Based on these factors, nutritional requirements in the different segments of the population can be classified into four groups:

7.2.1. Feeding in pregnancy and lactation: Mother needs additional diet to nourish her unborn child. Energy, protein, essential fatty acids, vitamin A, vitamin C, vitamins B groups (B1, B2, B3, B5, B6, B12, and folate), calcium, phosphorus, iron, zinc, copper and iodine are the nutrients demanded in extra amount. Even though these are the nutrients needed in extra amount, women's nutrition during pregnancy and lactation should majorly focus on the three micronutrients (vitamin A, iron and iodine) and extra energy intake and reduction of energy expenditure. A lactating woman needs at least two extra meals (550 Kcal) of whatever is available at home. In addition a dose of vitamin A (200,000IU) should be given once between delivery and six weeks

after delivery. This will enable the baby to get an adequate supply of vitamin A for the first six months. In addition to extra meals and one dose of vit A, a lactating mother also needs:

- Iodized salt in her diet
- At least one liter of water per day
- Vitamin A rich foods (such as papaya, mango, tomato, carrot and green leafy vegetables) and animal foods (such as fish and liver).

7.2.2. Infancy and childhood: Poor infant and child feeding practices are the major determinants of malnutrition. A very large proportion of women do not practice optimal breastfeeding and complementary feeding for their children.

- **Key message for optimal breast feeding practice:**
  - ✓ Initiate breast feeding within one hour of birth
  - ✓ Breast feed the child frequently day and night
  - ✓ Exclusive breast feeding for the first 6 months of age
  - ✓ Continue breast feeding more frequently even when the child is sick
  - ✓ Position and attach infant correctly at the breast
  - ✓ Offer the second breast after the infant releases the first
  - ✓ The mother should eat more than usual

7.2.3. Adolescence and adulthood

- Adolescent (age of 10 – 19 years) is a period of rapid growth and high physiologic changes take place, which is totally different from adult that is why the body's demand for nutrients is very high. The increased requirements of nutrients include: energy, protein, and minerals (calcium, phosphorus, iron and zinc). The recommended daily requirement of energy is 2800 Kcal. and 2100 Kcal, for boys and girls, respectively.

- Adults (age of 19 to 50 years) are almost accomplished their growth, therefore; the increased required nutrients will not be the same as to

adolescents, children, pregnant and lactating mothers. The demand of nutrients her depends on their energy (exercise or workload). The average recommended daily calorie allowance for active adult men & women is 2430 Kcal and 2170Kcal, respectively. Girls and women nutrition should include more iron compared to that of boys and men.

7.2.4. The elderly / old age/: People in this age group needs some more meals per day as they may not eat much / sufficient amount / at each meal. They need less calories because energy requirement declines with increasing age particularly if physical activity is restricted, however; the amount of protein and other nutrients requirement is similar to that of younger people.

Table 7.1: summary of the number of meal required by age category and physiologic state

Person	Age category / status	Number of meal /day
Children	Babies < 6 months	- Only breast milk 8 – 10 times
	Babies 6 - 12months	- Breast milk 8 – 10 times or more - Small meal 3 – 5 times
	Children 1-5 years	-Breast milk 8 times till 2 years of age - Atleast 3 mixed meals plus two snacks
	School age children	- 3 mixed meals plus 2 snacks
Adolescent	10 – 19 years	- 3 mixed meals plus some snacks
Women	Pregnant	- 3 mixed meals plus some snacks
	Lactating	- 3 mixed meals plus some snacks
Elderly		- 3 or more meals / fewer calories/

Self-Check -7	Written Test

- **Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. The nutrient requirements for infants and children is totally different from that of adults and the elderly.(2)

A. Input monitoring B. Out put monitering

Note: **Satisfactory rating – 2 points** **Unsatisfactory - below 2points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

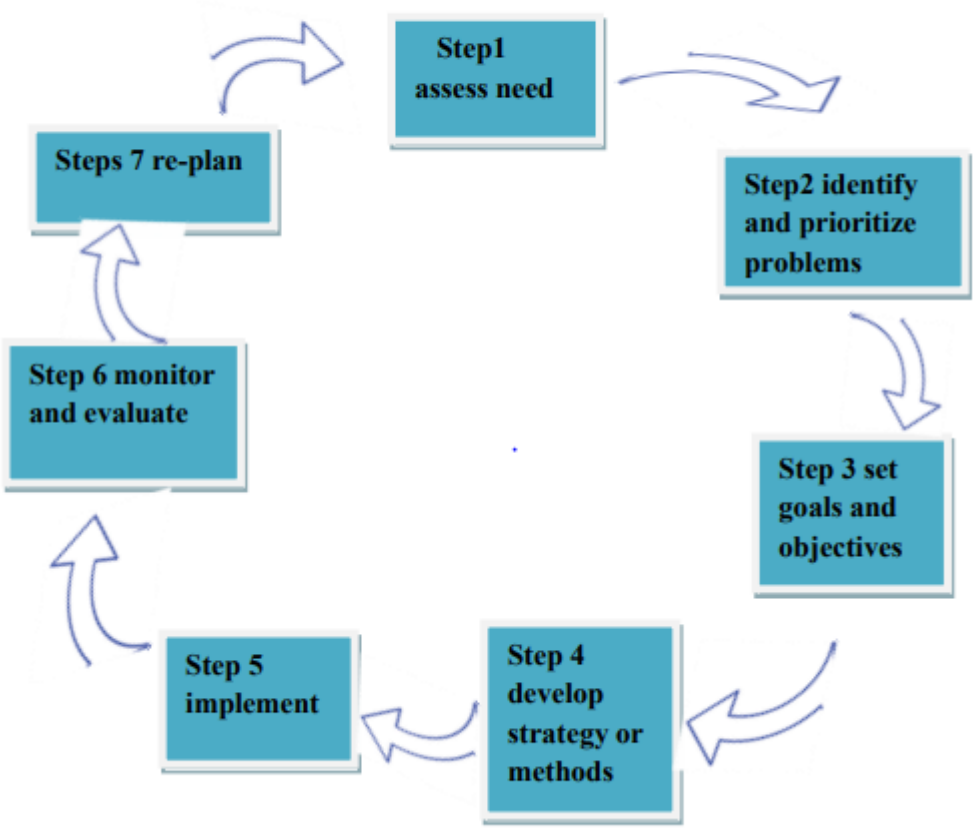
Score = _____

Rating: _____

Name: _____ Date: _____

Operation Sheet- 1	Practical nutritional preparation and education

Steps of health education program planning process



Operation Sheet- 2	Practical nutritional preparation and education

General Demonstration on nutritional preparation and education

Procedures

Step1. Introduction: Explain the ideas and skills that you are going to demonstrate and the need for it

Step2. Do the demonstrations*:* Do one step at a time, slowly. Make sure everyone can see what you are doing. Give explanations as you go along.

Step3. Questions*:* Encourage discussion either during or at the end of the demonstration. Ask them to demonstrate back to you or to explain the steps.

Step4. Summarize*:* Review the important steps and key points briefly

LAP Test	Practical Demonstration

Name: _____ Date: _____

Time started: _____ Time finished: _____

Instructions: Given necessary templates, tools and materials you are required to perform the following tasks within --- hour.

Task1. Plane nutrition education process

Task2. Perform *General Demonstration on* nutritional preparation and education

Instruction Sheet	LG35: Manage clients with nutritional Problems

This learning guide is developed to provide you the necessary information regarding the following content coverage and topics:

- Providing Advice on nutritional problem for clients
- Undertaking Essential Nutrition Action (ENA)
- Managing Low risk conditions
- Referring High risk conditions
- Managing Emergency conditions of nutrition

This guide will also assist you to attain the learning outcome stated in the cover page. Specifically, upon completion of this Learning Guide, you will be able to:

- Advice on nutritional problem for clients ,such as symptom of nutritional problems, the importance of early treatment seeking and compliance of treatment based on national nutritional guideline of FMOH.
- Undertake Essential Nutrition Action (ENA).
- manage Low risk conditions according to the nutrition protocol
- Refer High risk conditions to the next higher health facility
- manage emergency conditions of nutrition according to the standard nutritional guideline

Learning Instructions:

1. Read the specific objectives of this Learning Guide.
2. Follow the instructions described below 3 to 6.
3. Read the information written in the information “Sheet 1, Sheet 2, Sheet 3, Sheet 4 and
4. Accomplish the “Self-check 1, Self-check t 2, Self-check 3 and Self-check 4”
5. If you earned a satisfactory evaluation from the “Self-check” proceed to “Operation Sheet 1, Operation Sheet 2
6. Do the “LAP test” **in page – 100** (if you are ready).

Information Sheet-1	Provide advice on nutritional problem for clients

1.1. Concepts of advice on nutritional problem: Advice is guiding the client to ensure that meal choices are consistent with the nutritional care plan designed in the guideline. It is providing practical nutritional education is to support meal and food choices consistent with nutrition care plan

- After treatment of nutritional problem of a child you advice the mothers about home care; advice on medication, breast feeding or complementary feeding, immunization and prevention mechanisms
- It is helping families to have good balanced diet
- The best way to help individuals in your community prepare a balanced diet is
  - ✓ to learn which foods people use, the amount of different foods available, and how they prepare their meals.
  - ✓ Then you can decide if people need help or further support or information to improve the balance of things they eat.
  - ✓ It helps us identify the food groups people should combine in order to make a balanced diet.
  - ✓ The food groups at the top of the pyramid should be eaten in moderation (small amount) but food groups at the bottom of the pyramid should be eaten in larger amounts.
  - ✓ Advice feeding based on the physical activities, physiologic state, and health condition of the client.

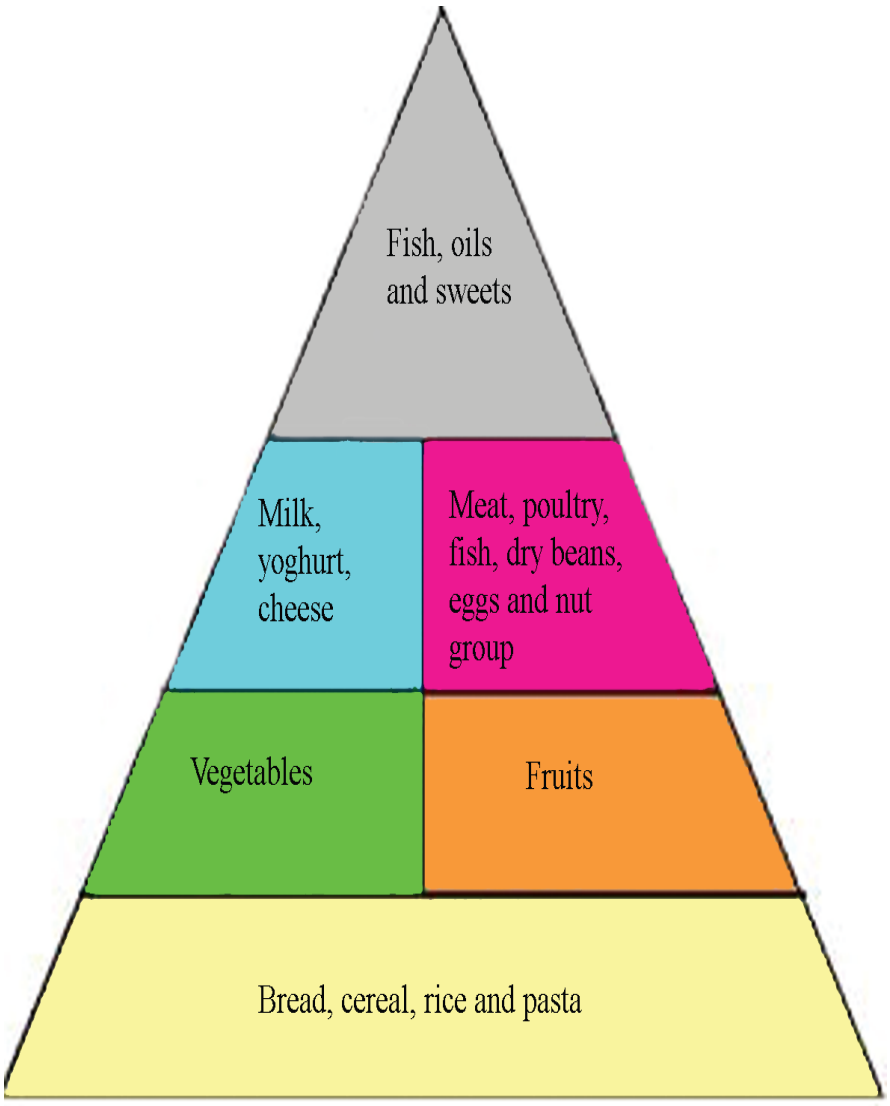


Figure 1.1. Food pyramid

Self-Check -1	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Mention the type of referrals best fits the client's needs in oral and written referrals**.(10 points**)

Note: **Satisfactory rating - 10 points** **Unsatisfactory - below 10 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Information Sheet-2	Undertaking Essential Nutrition Action (ENA)

2.1. Essential Nutrition Actions Approach: is an action oriented approach to nutrition. There are seven action areas:

2.1.1. Promotion of Breastfeeding: Key messages

- Timely initiation of breastfeeding (1 hour of birth)
- Exclusive breastfeeding until six months
- Breastfeed day and night at least 10 times
- Correct positioning & attachment
- Empty one breast before switching to the other
- Estimated decrease of child mortality is 13% if the child is optimally breastfed

2.1.2. Appropriate Complementary Feeding: Key messages:

- Introduce appropriate complementary foods at 6 months
- Continue breastfeeding until 24 months & more
- Increase the number of feeding with age
- Increase density, quantity and variety with age
- Responsive feeding
- Ensure good hygiene (use clean water, food and utensils)

2.1.3. Feeding of the sick child**:**Key messages:

- Increase breastfeeding and complementary feeding during
- and after illness
- Appropriate Therapeutic Feeding.

2.1.4. Women's nutrition**:** Key messages:

- During pregnancy and lactation
  - ✓ Increase feeding
  - ✓ Iron/folic Acid Supplementations
  - ✓ Treatment and prevention of malaria
  - ✓ De-worming during pregnancy
  - ✓ Vitamin A Capsule after delivery

1.1.5. Control of Vitamin A Deficiency:

- Estimated decrease of child mortality is 2%: Key messages:
  - ✓ Promote breastfeeding: source of vitamin A
  - ✓ Vitamin A rich foods
  - ✓ Maternal supplementation
  - ✓ Child supplementation
  - ✓ Food fortification

1.1.6. Control of Anaemia: Key messages:

- Supplementation of women and children (IMCI)
- De-worming for pregnant women and children (Twice/year)
- Malaria control
- Iron rich foods
- Fortifications

1.1.7. Control of Iodine Deficiency Disorders**:**

- Key messages
  - ✓ Access and consumption by all families of iodized salt
  - ✓ How the Essential Nutrition Actions expands coverage of nutrition support in the health sector

1.2. There are six critical contact points in the lifecycle

1.2.1. During Antenatal Care

- Pregnancy: TT
- Antenatal visit, Iron/Folic Acid
- De-worming
- Maternal diet
- EBF
- Risk signs, FP, STI prevention
- Safe delivery, iodized salt

1.2.2. Delivery**;**

- Safe delivery,
- EBF,
- Vitamin A, Iron/Folic Acid
- Diet, FP and STI, Referral

1.2.3. Postnatal and Family Planning:

- EBF, Diet, Iron/Folic Acid

- FP, STI prevention
- Child's vaccination

1.2.4. Immunizations:

- Vaccination, Vitamin A
- De-worming
- Assess and treat infant's anemia
- FP, STI, Referral

1.2.5. Well child and GMP**:**

- Monitor growth
- Assess and counsel on feeding
- Iodized salt
- Check and complete vaccination
- Vitamin A/de-worming

1.2.6. Sick child:

- Monitor Growth
- Assess and treat per IMCI
- Counsel on feeding
- Assess and treat for anemia,
- Check and complete vitamin A
- Immunization/de-worming

1.3. Need to integrate ENA into other health programme

- Child survival EPI+
- Community IMCI
- Health facilities IMCI
- Reproductive Health
- Women's Nutrition
- Lactational Amenorrhea Method
- National immunization Days Polio and Measles
- Nutrition programme positive deviance community
- GMP
- Infectious Diseases, Control of Malaria,
- Tuberculoses HIV/AIDS (PMTCT)

1.4. Need to integrate ENA into other sectors

- Schools, Adolescent nutrition
- De-worming
- Iron supplementation
- School lunch
- Agriculture, food diversification
- Food security
- Women's farmers clubs
- Emergency women to women support
- Sanitation, clean water & sanitation
- Public health education
- Prevention of diarrhoea, malaria, ARI
- Micro-credit, income generation
- Nutrition education

✓ The most visible evidence of good nutrition is a taller, stronger, healthier child who learns more in school and become productive, happy adults who participate in society.

✓ Malnutrition does not need to be severe to pose a threat to survival.

✓ Worldwide, fewer than 20% of deaths associated with childhood malnutrition involve severe malnutrition; more than 80% involve only mild or moderate malnutrition

Self-Check -2	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. The newly born infant is expected to start breast feeding (1 point)
   A. With in 1 hour C. after 24 hours
   B. Within 24 hours D. after 6 hours
2. Complementary feeding is expected to be started(1 point)
   A. 4 month C. 4 Weeks
   B. 6 months D. 6 weeks
3. _____ is an action oriented approach to nutrition(1 point)

Note: **Satisfactory rating - 3points** **Unsatisfactory - below 3points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____

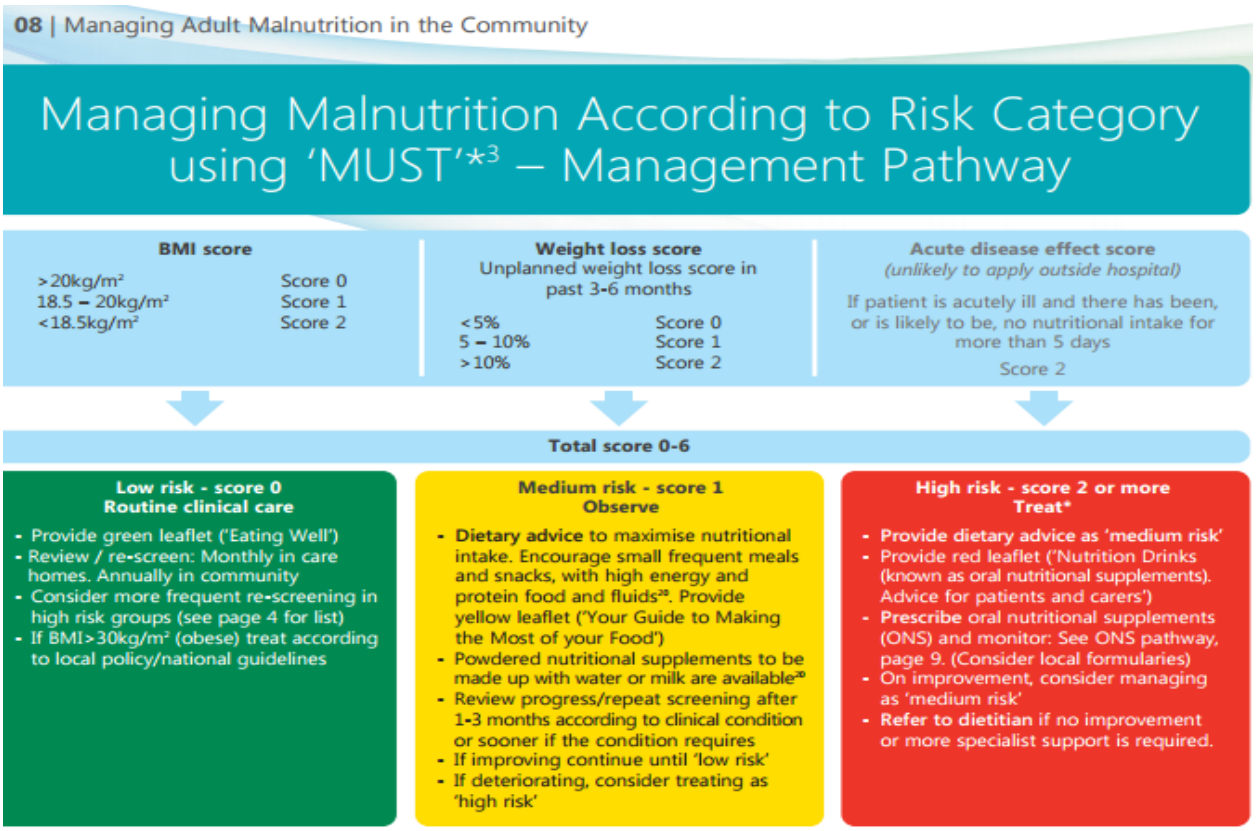
Rating: _____

Name: _____ Date: _____

Information Sheet-3	Managing Low risk conditions Referring High risk conditions

3.1.Who is at risk of nutritional problems?: Anyone can become malnourished if, over a prolonged period of time, they do not consume enough food to fulfill their nutritional needs, or if they have an unhealthy diet. However, the groups who are most at risk from malnutrition are:

- The elderly - particularly those who are in hospital, or institutionalised,
- people with low incomes, or those who are socially isolated,
- people with chronic (long-term) disorders - for example, eating disorders, such as anorexia nervosa and bulimia, and
- people who are recovering from a serious illness, or condition - particularly those with a condition that affects their ability to eat, such as a stroke.



Self-Check -3	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. What are urgent needs? (**3 points**)
2. List out the indicators of urgent needs .(**6 points**)
3. Identify the characteristics of indicators of urgent needs. (**6 points**)

Note: **Satisfactory rating – 15 points** **Unsatisfactory - below 15 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Information Sheet-4	Managing Emergency conditions of nutrition

4.1 Nutrition emergency intervention: is the set up which prevent the death of many peoples in the community. The goal is to protect them from livelihood condition; the intervention focuses to reduce excess mortality during first phase of the emergency situation. The emergency situation may include provisions of food, shelter, control of communicable diseases; follow up curative care and inter sectotial collaborative work in the community. The intervention includes food distribution, food program, include supplementation, and blanket supplementary feeding and therapeutic feeding.

Self-Check -4	Written Test

Directions: Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Mention the importance of conduction effective communications in delivering confirming clients to referral service. (**6 points**)
2. Write the core elements confirming clients to referrals**.** (**6 points**)

Note: **Satisfactory rating – 12 points** **Unsatisfactory - below 12 points**

You can ask you teacher for the copy of the correct answers.

Answer Sheet

Score = _____

Rating: _____

Name: _____ Date: _____

Operation Sheet-1	Techniques of determining the type of referral

Techniques to determine types of referral best fits the client's in oral and written referrals

Step 1- Identify referral service provider internal and external work environments

Step 2- List out the services delivered by the type of services providers

Step 3- Prioritize referral service provider who are voluntary to work

Step 4- Completing agreement formats (MoU) with theses providers

Step 5- Share the results to all concerned body/supervisor

Step 6- Sustain work agreements

Operation Sheet-2	Techniques of preparing appropriate information about the service provider

Techniques for preparing referral

Step 1- Identity appropriate information about referral service provider

Step 2- Analyze client's needs and gaps

Step 3- Consult clients on urgency needs to go to referral services

LAP Test	Practical Demonstration

Name: _____ Date: _____

Time started: _____ Time finished: _____

Instructions: Given necessary templates, tools and materials you are required to perform the following tasks within --- hour.

Task 1- Determine types of referral best fits to clients

Task 2- Prepare the referral by providing appropriate information about service providers

List of Reference Materials

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