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Nutrition Training Modules For Midwives
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FOREWORD

This set of Nutrition Training Modules for Midwives was developed in support of the Health, Nutrition and Family Planning sector’s policy towards greater emphasis on and more vigorous implementation of preventive and promotive health measures. It is a revision of an earlier set of nutrition syllabi which was produced by CARE-Philippines for the use of field nutritionists and health educators. It was revised through the joint efforts of the Ministry of Health’s Nutrition Service Office and CARE-Philippines’ Food Program Department, based on the assessment and recommendations of the nutritionist-dietitians, health educators, nurses, and midwives from the twelve health regions of the country. It also took into consideration the study conducted by MOH-UP Institute of Public Health on “Increasing the Effectiveness of the Barangay Health Workers in the Provision of Nutrition Services within the Primary Health Care Framework”. Before it was finalized, it went through a pretest in Bataan and Rizal.

This publication is viewed as a complement to the MOH “Household Teaching Manual” and “Family Health Guide”. It supports the strategy of providing appropriate and basic nutrition messages in order to contribute to the achievement of the nutrition and health goals.

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Acting Director
Nutrition Service
Ministry of Health
ACKNOWLEDGEMENT

The revision and production of these Nutrition Training Modules for Midwives was made possible through the cooperative efforts of the Nutrition Service Office of the Ministry of Health and CARE-Philippines.

Vital to the development and publication of this material was the support and participation of the officials and staff of both agencies, particularly:

Carmencita Reodica, M.D., Acting Director, Nutrition Service, Ministry of Health

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Geraldine A. Montemayor, Project Development Officer, CARE-Philippines

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Erlinda Natividad, Magdalena David, Julieta de la Cruz, Unita Marie Etorma, Lourdes Conocono, Josephine Guiao, Liberty Importa, Emma Longalong, Josefina Mendoza, Luz See, Aurora Sabado.

Acknowledgement is made of the active participation of the Nutrition Service Office staff, and the Rural Health Personnel and Barangay Health Workers of Bustos, Bulacan and Cardona, Rizal during the pre-test of this material.

Sincere appreciation is extended to the support staff and to all those who in one way or another contributed to the development and production of the Nutrition Training Modules for Midwives.
CONTENT DESCRIPTION AND INSTRUCTIONS

I. Importance of the Training Modules

The revision of the ten sets of Nutrition Syllabi for field workers is part of the effort of the Ministry of Health to update, improve and refine basic educational and training materials for more practical, greater and broader utilization of these by the intended users. Entitled as “Nutrition Training Modules for Midwives”, this new set of training materials is a revision of an earlier set of nutrition syllabi, based on the evaluation and recommendations of different levels of nutrition health workers and educators from the 12 regions of the country.

Covering the more basic and practical areas of nutrition knowledge, this set of training modules has been developed to equip the midwives with basic knowledge on health and nutrition, and to develop skills to enable them to effectively train the Barangay Health Workers who will in turn teach mothers on proper nutrition. It is hoped that through the proper and maximum use of this training module, nutrition education activities in the different health centers can be made more systematic and effective.

II. Who Can Use This Training Modules

This set of training modules is designed and developed for the use of the Rural Health Midwives who will train the Barangay Health Workers on proper nutrition. This material may be used by other field workers and educators like the public health nurses and nutritionists as a reference material in their teaching or training activities.

III. Content of the Training Module

This training module consists of four (4) modules. Each module contains 2-5 lessons. The four modules deal on basic nutrition, nutritional deficiency and health diseases, nutrition among vulnerable groups and meal planning and food management. Each module is provided with an introduction, a list of general and specific objectives, lesson plan, a narrative on the lesson and pre-post test questions and their key answers.

1. Module

The following are the major parts of each of module:

a) Introduction: This is a general description or short summary of the text. It states
the purpose of the module and the importance of the module to the user.

b) Objectives - The behavioral objectives are statements of desired observable outcomes of the teaching-learning activities. It tells the trainer what she expects the trainees to learn after discussing the narrative and accomplishing relevant activities.

c) Content - The text of the module is essentially found in the narrative which contains the basic information which the trainer is expected to transmit and explain in a language and manner understandable by the trainees. Presented in a question and answer format, the narrative contains simplified explanations and examples to aid the midwife in expounding on the topic and to enhance the trainees' comprehension and retention of the information.

d) Pre-Post Test - The pre-post tests are provided to help the trainer evaluate the trainees' level of comprehension and retention of the information taught. A comparison of the pre and post test will tell the trainer the extent of her trainees' understanding and help her identify the concepts which are unclear, not well understood or need further explanation. Key answers to the test questions are also provided.

2. Lesson Plan

Each module is provided with a lesson plan that will serve as a guide for the trainer in the conduct of the training sessions. Each lesson plan contains the following:

a) Objectives: These are more specific statements which describe the behavior of the trainees or the expected outcome after every training session.

b) Content - This is an outline of the subject matter that shall be discussed in order to achieve the objectives.

c) Teaching/Learning Activities - These are suggested teaching and/or learning methods or strategies that shall be used to teach or learn the subject matter. This also includes suggested schemes and activities to enhance learning among the trainees.

d) Teaching Materials - These are suggested basic and minimum materials to be prepared and used in teaching or learning the subject matter.

e) Evaluation - This refers to what and how to assess the extent of knowledge or skills gained by the trainees on every lesson. It also states the trainees expected level of performance in every lesson.

IV. Specific Instructions for the Trainer

1. Before the actual conduct of the training course each trainer should:
1.1 Read the whole training module thoroughly to have a total picture of the training course in terms of its overall goal and specific objectives.

1.2 Read and understand the module thoroughly including the lesson plan. A dry run on the different sessions will familiarize you with the concepts or information, the proper sequence of the topics within a lesson and the methods to use. It will also help you gain more confidence to teach. You may also do further reading about a topic you think you need more information.

1.3 List down the materials to be prepared. If the suggested materials are not available, think of an appropriate alternative.

2. In the actual conduct of the training course, review the module in order to make sure that mastery of each topic is achieved and the suggested activities are understood. Use the lesson plan provided for each module as a guide in the conduct of specific lessons:

2.1 Before discussing the lesson, administer a pre-test using the provided pre-post test questions.

2.2 Discuss the objectives of the lesson.

2.3 Conduct teaching-learning activities. Since the teaching-learning activities are only suggested, you may use other teaching methods you think appropriate as long as the objectives of the lessons will be achieved. See to it that the information you provide to your trainees are adequate and accurate. The narrative contained in each lesson serves as your information source and guide.

2.4 The training materials are only the minimum ones that maybe needed to teach each moduel. Other materials which you think are useful and will facilitate teaching and/or learning may be used.

2.5 The evaluation methods are only suggested. You may use other appropriate methods or strategies too. However, the conduct of the post-test as a form of evaluating the extent of learning is a must.

2.6 Conduct post test after each lesson. Take note that the same questions are contained in the pre and post tests. This is to enable you to compare your trainees' level of knowledge before and after you conduct a training session. Compare the results of the pre and post tests and discuss the questions particularly on the items where difficulty is experienced by your trainees. A feedback on their overall performance is encouraged.
BASIC NUTRITION
INTRODUCTION

Nutrition is of prime importance throughout a person’s life. Basically, it is the study of food in relation to health. Nutrition is also concerned with social, economic, cultural and psychological implications of food and eating. Nutrition knowledge is therefore essential in improving the quality of life of our people.

This module gives an overview of the basics on nutrition for everyone to keep fit and healthy. It provides information on nutrients found in food, their functions and sources.

OBJECTIVES

GENERAL: To equip the trainees with basic knowledge and skills in nutrition to promote family health

SPECIFIC: At the end of the module, the trainees will be able to:
1. Define food and nutrition
2. Cite reasons why the body needs food and discuss its effects on one’s health
3. Identify the major nutrients found in foods and their functions
4. Identify the three food groups, their functions and sources

CONTENT

Lesson 1 — Importance of Proper Nutrition
1. Definition of Food and Nutrition
2. Functions of Food
3. Effects of Good Nutrition
4. Nutrients in Foods and their Functions
Lesson 2

The Three Food Groups

1. Definition

2. The Three Food Groups

3. Description of the Three Food Groups, their Nutrient Content, Importance, Sources and Requirement Per Day

4. The Basic Food Groups as a Tool in Meal Planning
LEsson I

Topic : Importance of Proper Nutrition

Time Allotment : 30 minutes

Objectives : At the end of the session, the trainees will be able to:
1. Define Food and Nutrition
2. Explain why the body needs food
3. Describe the effects of good nutrition
4. Enumerate the nutrients present in foods

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<tr>
<th>CONTENT</th>
<th>TEACHING-LEARNING ACTIVITIES</th>
<th>TRAINING MATERIALS</th>
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<tbody>
<tr>
<td>Definition of food and nutrition:</td>
<td>Administer the pre-test.</td>
<td>Pre-test Questions</td>
<td>The trainees are able to give their correct ideas about food and nutrition.</td>
</tr>
<tr>
<td></td>
<td>Present the objectives of the lesson.</td>
<td>Chalkboard</td>
<td>The trainees are able to cite relevant personal experiences with foods.</td>
</tr>
<tr>
<td></td>
<td>Ask the trainees what they know about food and nutrition. Integrate the correct definitions into the discussion.</td>
<td>Chalkboard</td>
<td>The trainees are able to cite relevant personal experiences with foods.</td>
</tr>
<tr>
<td>How food affects our health</td>
<td>Ask them to cite personal experiences with food on how these have affected their health. Conduct lecture-discussion. Summarize discussion citing personal experiences given.</td>
<td>Narrative on the lesson</td>
<td>The trainees are able to cite relevant personal experiences with foods.</td>
</tr>
<tr>
<td>Nutrients present in foods</td>
<td>Ask them about their ideas of what nutrients are and what they do to the body. Supplement your discussion with pictures of food sources of the different nutrients.</td>
<td>Pictures of food sources of nutrients</td>
<td>The trainees are able to give their ideas about nutrients.</td>
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<td>Contest by groups which consists of matching food with</td>
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NARRATIVE ON IMPORTANCE OF PROPER NUTRITION

1. What is food?

Food is anything which when taken into the body serves to:

- supply energy
- build and repair tissues
- regulate body processes

Aside from these functions, food is valued for its palatability and satiety effects as well as the various meanings associated with it (be it emotional, social, religious, etc.) by individuals, groups or races.

2. What is nutrition?

Nutrition begins with food. It is the food itself and the processes happening to it from the time it is eaten until it is utilized by the body. In other words, nutrition is the study of the food you eat and how the body uses it to keep you healthy.

Good nutrition is eating the right kind and proper amounts of food. Good nutrition is achieved by applying correct nutrition knowledge and practicing good eating habits. It is important to remember that we are what we eat. Nutrition affects how we look, think and behave.

3. Why does the body need food?

Our body needs food for:

Life and growth. Food provides substances which build and repair our organs and tissues like our bones and muscles, internal organs (heart, lungs, liver etc.) and blood.

Energy for work and play. Food supplies our body with energy which enables us to do mental and physical activities. This energy also maintains body
processes like the beating of our heart, circulation of the blood, digestion, and maintenance of normal body temperature.

**Protection against diseases.** Food contains substances which protect us against infections and diseases.

4. **How does food affect our health?**

   Food affects:
   
   • Our physical growth and development; how tall we become, how well our bodies, muscles, etc. are developed.
   
   • Our capacity to work; sufficient food gives energy to accomplish our work.
   
   • Our capacity to think; sufficient food makes us more alert, think better, and help us accomplish our work.
   
   • Our disposition; sufficient food keeps us healthy and well, makes us feel better, hence, making us a more pleasant person to deal with.

5. **What nutrients are present in foods?**

   Foods contain substances called nutrients which perform vital functions in the body. Among the major nutrients found in foods are:

   a. **Carbohydrate**
   
   Carbohydrate provides our body with energy that enables us to perform day-to-day activities. Although it is not the only source of energy, carbohydrate is the least expensive source of energy.
   
   Being the most easily utilized source of energy, carbohydrate spares protein from being used as energy so that it is properly used for body building and repair.
   
   Cereals, bread and bakery products, root crops, noodles, sugar and sugar products are among the common sources of carbohydrates.

   b. **Protein**
   
   Protein is the nutrient which promotes growth and repair of body tissues. Protein is the main constituent of muscles, bones and teeth, internal organs and the blood system.
   
   Protein protects the body from infection. The anti-bodies of the body which are responsible for fighting infection are protein substances.
   
   It is also a source of energy and heat. However, for proper utilization of protein, it is necessary to spare protein from this particular function through adequate intake of carbohydrates. Since protein-rich foods are generally more expensive than carbohydrate-rich foods, it is best and economical to reserve protein for body building functions.
c. **Fat**

Fat serves as a concentrated source of energy. It represents the form in which excess energy is stored in animals.

Fat serves as the carrier of vitamins A, D, E and K. When fat is removed from the diet, the availability of these vitamins for absorption and utilization is affected. Fat is very essential in the absorption of vitamin A.

Fat adds flavor and satiety value. Since it leaves the stomach relatively slowly, it gives a feeling of satiety after a meal and helps delay the onset of hunger pains.

Among the common sources of fat are cooking oil, lard, butter, margarine and fruits like avocado.

d. **Vitamins**

Vitamins are dietary essentials that have to be provided in the diet to ensure proper functioning of the body tissues and organs, absorption and utilization of certain nutrients, and prevention of diseases that arise from inadequate intake or absorption of these nutrients. In general, vitamins help the body fight infection, make skin, eyes and hair healthy, help promote growth and repair of worn-out tissues.

There are different kinds of vitamins that perform various and related functions and help prevent specific deficiency diseases. For instance, vitamin A helps prevent nightblindness and vitamin C facilitates healing of wounds and keeps our gums and skin healthy.

Vitamins are found in green leafy and yellow vegetables, fruits, internal organs like liver, egg yolk, milk, and many others.

e. **Minerals**

Minerals like vitamins, help regulate body processes. They help make our bones and teeth healthy and strong. They are also important in maintaining proper functioning of the nerve and muscle system. Iron and iodine are needed to prevent certain nutritional deficiency diseases like anemia and goiter.

Minerals are found in internal organs like liver, heart, kidney and tongue, lean meat, egg yolk, fish, seaweed, shell foods, leafy green vegetables, fruits and dried beans.

All of these nutrients work together in the body as a team. Therefore, one must eat enough of the foods that provide these nutrients for growth and health. No single food can supply the body with all the nutrients needed by the body. The right combination of food in their right amounts will provide the body with the essential nutrients to keep you fit and healthy. Protein foods are better utilized as body builders when combined with carbohydrates and fats. In the same way, Vitamin A can do its work if fat is available at the same time.
PRE/POST TEST
IMPORTANCE OF PROPER NUTRITION

Instructions: Write the letter of the correct answer on the space provided for:

1. Good nutrition is:
   a) the food itself and the processes that happen to it.
   b) eating the right kind and proper amounts of food.
   c) anything eaten to provide energy, build body tissues and regulate body processes.
   d) what we eat.

2. Cereals like rice, bread and rootcrops are rich in:
   a) protein
   b) vitamins
   c) carbohydrates
   d) minerals

3. Leafy green and yellow vegetables help in:
   a) maintaining normal eyesight
   b) building strong teeth
   c) delaying onset of hunger
   d) supplying energy

4. The food that is an excellent source of protein is:
   a) corn
   b) citrus fruit
   c) ampalaya
   d) milk

5. Which of the following is not a function of food?
   a) builds and repairs body tissues
   b) makes us fat
   c) regulates body processes
   d) supplies energy

       What nutrient which when removed from the diet affects the absorption of Vitamin A?
   a) vitamin
   b) fat
   c) mineral
   d) protein
7. Foods contain substances called:
   a) calories
   b) nutrition
   c) nutrients

8. Which nutrients help heal wounds and keep the gums healthy?
   a) vitamins
   b) proteins
   c) carbohydrates

9. The nutrients which help make our bones and teeth healthy are:
   a) carbohydrates
   b) minerals
   c) fats
   d) all of the above

10. Which of the following foods are rich in minerals:
    a) liver, eggs, dilis, clam
    b) carrots, pechay, eggplant
    c) butter, coconut milk

Answers:
1. b 6. b
2. c 7. c
3. a 8. a
4. d 9. b
5. b 10. a
LESSON 2

Basic Food Groups

45 minutes

At the end of the lesson, the trainees will be able to:

1. Define the Basic Food Groups and describe its uses
2. Describe the functions of each food group
3. Enumerate the food sources in each group and identify the recommended requirements of each food group per day
4. Discuss the importance of the Three Basic Food Groups as a guide and tool for proper food selection and meal planning

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<td>Description of each group, common sources and requirements per day</td>
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<td>The three basic food groups as a guide in food selection and preparation of a balanced diet</td>
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<td>Administer the pre-test.</td>
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<tr>
<td>Present the objectives of the lesson.</td>
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<tr>
<td>Explain the three basic food groups and their functions</td>
</tr>
<tr>
<td>Ask trainees to give examples of different foods in each food group. Discuss the Recommended Daily Allowance (RDA).</td>
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<tr>
<td>Ask trainees to assess the adequacy of the meal eaten earlier in terms of the Basic Food Groups.</td>
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<tr>
<td>Ask them to prepare a one-day sample menu applying the use of the BFG.</td>
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<td>Pre-test</td>
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<td>Questions</td>
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<td>Chalkboard</td>
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<tr>
<td>Poster on BFGs</td>
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<tr>
<td>The trainees can explain the Three Basic Food Groups.</td>
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<tr>
<td>Poster/Flip Class recitation</td>
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<tr>
<td>Chart or Food Models or Actual Food Samples</td>
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<tr>
<td>The trainees are able to assess the adequacy of meals applying the concept of the Basic Food Groups.</td>
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<tr>
<td>Paper and pencil Worksheet for one-day menu.</td>
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<tr>
<td>The trainees are able to plan a one-day menu.</td>
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</table>
Administer the post-test.
Discuss the questions and the correct answers.

80% of the trainees are able to increase their knowledge scores on Basic Food Groups.

NARRATIVE
ON
BASIC FOOD GROUPS

1. What are the three basic food groups?

They are the groupings of various food based on similarity of nutrient content and functions of each food group.

2. What compose the Three Basic Food Groups?

The Three Basic Food Groups are composed of the following:

1. Energy-giving foods or foods rich in carbohydrates and fats (GO FOODS)
2. Body-building foods or foods rich in protein (GROW FOODS)
3. Body-regulating foods or foods rich in vitamins and minerals (GLOW FOODS)

3. How do you describe each group?

Energy Giving Foods

These foods are rich in calories which provide heat to the body. They contain carbohydrate and fats which are the body’s main sources of energy.

Examples of these foods are:

Carbohydrates-rich food: rice, corn, root crops like kamote, cassava, and other cereal foods
Fat-rich foods: lard, cooking oil, butter

Requirement per day for a normal adult:

Rice = 3 servings (1 serving = 1-1/4 cup cooked rice)
Root crops = 1 serving (1 small size)
Sugar = 1 serving (2 tablespoons)
Oil = 3 tbsps daily

Working adolescents and adults who are engaged in heavy manual labor such as farming, carpentry, etc. need additional servings to keep up with their daily activities. Pregnant women need additional servings to better prepare themselves for childbirth.
and lactation. Nursing mothers need more to nourish a growing baby. Children need them for growth.

**Body Building Foods**

These foods are called body-building foods because they make the body grow. Examples of these foods are:
- Fish, chicken, pork, beef, legumes, eggs, milk, dried beans.

These foods are needed:
- by children so that they will grow taller and faster.
- by pregnant women and mothers who breastfeed their babies.
- to repair worn-out or damaged body tissues.
- to help teeth and bones become strong.

Requirement per day:
- fish, meat and poultry = 3 servings (1 serving is as big as a match box)
- cooked legumes = 1 serving or (1/2 cup, cooked)
- Eggs = 2-3 eggs/week if available

**Body Regulating Foods**

These foods are called body-regulating because they speed up the utilization of carbohydrates and proteins by the body and other activities occurring in the body. They are mostly found in fruits and vegetables, particularly the green leafy and yellow vegetables and fruits.

These foods are needed:
- To keep eyes, skin, hair, gums, bones and teeth healthy
- To provide body resistance against diseases
- To enable the body to properly utilize carbohydrates and protein

Requirement per day:
- leafy vegetables = 1 serving (1/2 cup cooked or 1 cup raw)
- fruit = 1 serving (1 slice or 1 medium-sized fruit)

4. **What is the importance of the Basic Food Groups?**

The Basic Food Groups is a very useful tool in planning for a balanced diet. A balanced diet is one that contains all the nutrients needed by the body in their correct amounts. The Basic Food Groups guides us in the proper selection of foods for meals and ensures that our nutrient needs are satisfactorily met.
PRE-POST TEST
BASIC FOOD GROUPS

Instructions: Classify the following foods according to their functions and write GO if they provide energy, GROW if they build body tissues, GLOW if they regulate body processes.

1. Milk
2. Malunggay
3. Rice
4. Banana
5. Munggo
6. Corn
7. Squash
8. Cooking Oil
9. Eggs
10. Guavas

Answers:

1. Grow
2. Glow
3. Go
4. Glow
5. Grow
6. Go
7. Glow
8. Go
9. Grow
10. Glow
NUTRITION IN HEALTH AND DISEASE

TIMBANG SA K'LO
INTRODUCTION

Poor nutrition accompanied by unhygienic and unsanitary practices can result in some diseases or disorders. Prolonged insufficient intake of the essential nutrients can lead to what is called nutritional deficiency diseases. The major nutritional disorders in the country are: Protein-Energy Malnutrition, and Vitamin A deficiency, Iron, Anemia and Goiter or what is commonly termed as VADAG. In addition to these, a number of childhood diseases are prevalent in the country affecting our preschool population.

This module therefore addresses the need for scientific information about the causes, symptoms, prevention and treatment of these diseases or disorders. It covers both the dietary and health management of these diseases.

OBJECTIVES

General
To equip trainors with basic knowledge on nutritional disorders and childhood diseases in the country

Specific
At the end of the module, the trainees will be able to:

1. Describe the common nutritional disorders and childhood diseases
2. Identify the causes and symptoms of each nutritional disorder and childhood diseases
3. Discuss the prevention and treatment of PEM, Vitamin A deficiency, iron deficiency, anemia, and goiter and the common childhood diseases

CONTENT

Lesson 1 — Protein-Energy Malnutrition

1. Definition
2. Causes
3. Types of PEM, their signs and symptoms
4. Prevention of PEM
5. Treatment of PEM
6. Operation Timbang and its use
7. Proper weighing of children.

Lesson 2 — Vitamin A Deficiency
1. Definition
2. Causes
3. Signs and symptoms
4. Preventive measures
5. Treatment

Lesson 3 — Iron Deficiency Anemia
1. Definition
2. Causes
3. Signs and symptoms
4. Groups vulnerable to anemia
5. Hemoglobin Levels
6. Preventive measures
7. Treatment

Lesson 4 — Iodine Deficiency
1. Definition of goiter
2. Persons prone to goiter
3. Places where goiter is highly prevalent
4. Signs of goiter
5. Classification of goiter
6. Causes and effects
7. Prevention and treatment of goiter

Lesson 5 — Common Childhood Diseases
1. Definition
2. Symptoms
3. Prevention
4. Treatment of:
   a. colds
   b. influenza
   c. measles
   d. tuberculosis
   e. pneumonia
   f. diarrhea
LESSON I

Topic: Protein-Energy Malnutrition (PEM)

Time Allotment: 1 hour

Objectives: At the end of the lesson, the trainees will be able to:

1. Define Protein-Energy Malnutrition and identify its causes
2. Discuss the types of Protein-Energy Malnutrition, their signs and symptoms
3. State ways to prevent Protein-Energy Malnutrition
4. Discuss the dietary management of Protein-Energy Malnutrition
5. Demonstrate the use of Operation-Timbang (OPT) in identifying malnourished children

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<td>Pre-test questions</td>
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<td>Discuss the objectives of the lesson.</td>
<td>Chalkboard</td>
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<td>Define malnutrition and identify the groups most affected.</td>
<td>Narrative on the topic</td>
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<tr>
<td></td>
<td>— Definition of malnutrition</td>
<td>Chalkboard</td>
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<td></td>
<td>— Causes</td>
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<tr>
<td>Types of PEM; signs and symptoms of PEM</td>
<td>Show a picture of a malnourished child and draw out from the trainees what they see as features of PEM. Explain the signs and symptoms of each type of PEM.</td>
<td>Picture of a malnourished child, marasmus or kwashiorkor; Chalkboard Narrative on the topic</td>
<td>The trainees are able to cite signs and symptoms of PEM as they see from the visual aids or from field experiences.</td>
</tr>
<tr>
<td>Preventive measures in</td>
<td>Ask trainees how PEM can be prevented.</td>
<td>Narrative on the topic</td>
<td>Question and answer</td>
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<tr>
<td>Dietary Management of PEM</td>
<td>Use of OPT in identifying malnourished children</td>
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<tr>
<td>Discuss further the information given by the trainees.</td>
<td>Ask the trainees the importance of weighing of children and supplement this with the narrative.</td>
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<tr>
<td>With the use of actual foods, draw out from the participants what foods to include in the management of PEM and reinforce their answers with the details of dietary management.</td>
<td>Demonstrate the proper way of weighing a child and how one can use his weight in determining his nutritional status.</td>
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<tr>
<td>Actual foods</td>
<td>Narrative on the topic</td>
<td></td>
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<tr>
<td>The trainees participate actively in the discussion by responding to questions posed.</td>
<td>Trainees can cite importance of weighing.</td>
<td></td>
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</tr>
<tr>
<td>Narrative on the topic</td>
<td>Weighing scale</td>
<td></td>
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</tr>
<tr>
<td>The trainees are able to demonstrate the proper way of weighing a child and classify child's weight-for-age data according to his nutritional status.</td>
<td>Growth Chart</td>
<td></td>
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</tr>
<tr>
<td>Administer the post-test, and discuss the questions and correct answers.</td>
<td>Post-test questions</td>
<td></td>
<td></td>
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<tr>
<td>80% of the trainees increase their knowledge scores on PEM.</td>
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</tbody>
</table>
1. What is protein-energy malnutrition?

Protein-energy malnutrition is a condition resulting from inadequate intake of protein, calories or both in the diet for a long time.

It is very common among preschool children (0-6 years old) from families who are unable to provide adequate food to their children.

2. What are some causes of protein-energy malnutrition?

- Child does not eat the right kind and amount of foods
- Mother lacks the knowledge to prepare the right kind and amount of food
- Mother does not observe proper breastfeeding and child care practices
- Infections like diarrhea, whooping cough, and measles
- Infestation by parasites
- Abrupt weaning of the child and late introduction of supplementary foods
- Prolonged intake of over diluted milk
- Poor environmental sanitation

3. What are the types of protein-energy malnutrition, their signs and symptoms?

**Marasmus** is an outcome of severe calorie deficiency or total lack of food. It has the following signs:

- Child has an old man’s face
- Hair is usually normal in color but may be sparse
- Gross muscle wasting
- Prominent rib bones
- Low folds of skin in the arms, legs and buttocks are seen

**Kwashiorkor** is caused by lack of protein in the diet. It is referred to as, “the sickness the older child gets when the next baby is born”. The following are its signs:

- Edema (swelling of the body)
- Low resistance to infection
- Thin hair, light colored and easy to pluck
- Lack of appetite
- Underweight
- Mild anemia
4. **How can protein-calorie malnutrition be prevented?**

- **Breastfeeding and supplementary feeding**
  
  Since the breastmilk is very rich in calorie and protein, it is advised that mothers start breastfeeding their babies as early as possible and continue with it up to 2 years. Additional or supplementary foods can be introduced at 4 months.

- **Prevent infection through immunization, good hygiene and environmental sanitation.**

  The child should also be immunized within 14 months or before he reaches one year, against diphtheria, pertussis, measles, tuberculosis and poliomyelitis. Immunization as well as the practice of good hygiene and environmental sanitation help prevent the occurrence of diarrhea and other infectious diseases among children and other members of the family.

- **Practice family planning.** With fewer children, each family member has more chances of getting adequate food.

- **Increase family income by engaging in income generating activities and food production.**

- **Bring the child to the health center for regular check-up so that his growth and health are monitored regularly.**

5. **How do you treat children suffering from protein-energy malnutrition?**

- **Refer the child to the nearest health center for treatment and rehabilitation.**

- **Enrich his usual diet by giving him a mixed diet composed of legumes, cereals and vegetables.**

- **Increase the number of meals per day.** A malnourished child should eat 3 full meals and 3 heavy snacks.

- **Increase the variety of foods served.** Gradually add leafy green and yellow vegetables.

- **Add edible oil to increase the energy content of the diet, at the same time making the meals more tasty and acceptable.**

- **If the family can afford it, give high protein animal foods like meat, fish, egg or milk.** This will hasten the recovery of the child.

6. **What is OPT and its use?**

   A child’s weight is a valuable measure of his health and nutritional status. When the baby is weighed regularly and his weight is plotted in a growth chart, you can determine whether the growth of the baby is within normal range or not. When the baby
fails to gain weight on the first 6 months, this is an indication that the child is malnourished.

Growth failure is one of the early signs of malnutrition. Mothers should therefore be advised to have their babies weighed regularly so that their nutritional status can be monitored.

Since weight is the most commonly used measurement in assessing nutritional status, the weight-for-age parameter is used in the Operation Timbang (OPT) in determining the degree of undernutrition in every community. OPT is conducted once a year in every barangay with the objective of determining who and how many are malnourished in order to identify appropriate interventions.

For practical purposes, the equipment being used in OPT is the bar scale or "espada type" which has been proven to be quite a reliable instrument. However, accurate weighing is equally important because this affects the quality of data that are used in planning interventions for malnourished children.

7. How to weigh children properly:

1. Record the name, date of birth and address of the child and the date of weighing.

2. See to it that he is barefooted and wears minimal clothing before putting him on the crib, sling or basket.

3. Hang the bar scale firmly in a place in such a way that the bar scale is free from any obstacles during weighing and that the bar be at eye level for easy reading. Before weighing, see to it that the parts of the bar scale like the bulb are firmly put in place.

4. Before placing the child on the crib, put the pointer at zero.

5. Move the pointer to the right until the bar balances.

6. Read and record the weight to the nearest tenth (0.1) of a kilogram.

7. Put back the pointer to zero before putting down the child from the crib.

8. Compute for his age in months.

9. Using the obtained weight and age in months, determine the child’s nutritional status with the use of a weight chart.

If infant/child is difficult to weigh:

1. Let the mother hold the child while standing on a platform scale.

2. Get the total weight of both mother and child.

3. Get the weight of the mother only.

4. Subtract the actual weight of the mother from the total weight of mother and child.
PRE/POST TEST

PROTEIN AND ENERGY MALNUTRITION

Encircle the best answer:

1. Protein-energy malnutrition is a condition resulting from:
   a. lack of minerals
   b. lack of protein and calories
   c. lack of vitamins

2. Protein energy malnutrition is primarily caused by:
   a. inadequate food intake
   b. poor environmental sanitation
   c. chronic infections

3. The group that is at risk to protein-energy malnutrition consists of the:
   a. preschoolers
   b. elderly
   c. adolescents

4. One essential feature that differentiates marasmus from kwashiorkor is:
   a. edema
   b. diarrhea
   c. muscle wasting

5. The best measure to prevent malnutrition is:
   a. breastfeeding
   b. adequate nutrition
   c. personal hygiene

6. The following can prevent protein-calorie malnutrition, except
   a. supplementary feeding
   b. bottle feeding
   c. immunization
   d. family planning
7. The undernourished child should eat:
   a. 3 meals and no snacks
   b. only lunch and supper
   c. 3 meals and 3 snacks

8. The earliest indicator or sign of malnutrition is:
   a. loss of appetite
   b. growth failure
   c. frequent infection

9. OPT uses this parameter to determine the nutritional status of a community:
   a. weight for height
   b. height for age
   c. weight for age

10. The following are correct weighing procedures, except
    a. reading the weight at eye level
    b. putting the pointer at zero prior to weighing
    c. weighing the child with his slippers on.

ANSWERS:
1. b  6. b
2. a  7. c
3. a  8. b
4. c  9. c
5. b  10. c
LESSON 2

<table>
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<tr>
<td>Objectives</td>
<td>At the end of the lesson, the trainees will be able to:</td>
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<tr>
<td></td>
<td>1. Define vitamin A deficiency and discuss its characteristics</td>
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<td>2. Cite the causes of vitamin A deficiency</td>
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<tr>
<td></td>
<td>3. Identify the signs and symptoms of vitamin A deficiency</td>
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<td>4. Discuss how vitamin A deficiency can be prevented and treated</td>
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<tr>
<td>EVALUATION</td>
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</table>

- Administer the pre-test. |
- Discuss the objectives of the lesson. |
- Discuss one or two items of the pre-test that could serve as the springboard to the discussion. |
- Ask trainees about their concept or idea of Vit. A deficiency based on their personal experiences. |
- Explain the causes of Vit. A deficiency. |
- With the use of a picture, explain the different signs and stages in the development of Vit. A deficiency. |
- Picture of a child with the different signs of Vit. A deficiency |
- Trainees are able to answer questions asked by trainor. |
- Narrative on the topic |

- Pencil and paper and chalkboard |
- Narrative on the topic |
- Chalkboard |
**Prevention of Vit. A Deficiency**

Ask trainees how Vit. A deficiency can be prevented. Reinforce this with more discussion on the prevention of Vit. A deficiency using the narrative. Emphasize the need to take in Vitamin A rich food as well as fats and oil.

**Management of Vit. A Deficiency**

Ask participants some common practices in the management of Vit. A deficiency. Supplement these with a lecture — discussion. Show samples of Vit. A supplements.

Administer the post-test. Discuss the questions and correct answers.

**Narrative on the topic**

Trainees can cite the preventive measures of Vit. A deficiency.

**Question and Answer**

80% of the trainees increase their knowledge scores on Vit. A deficiency after taking the post-test.

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**NARRATIVE ON VITAMIN A DEFICIENCY**

1. **What is Vitamin A deficiency?**

   Vitamin A deficiency or xerophthalmia is a condition that is characterized firstly, by the child’s inability to see in the dark (night blindness); presence of white foamy spots on the side of the eyeball (Bitot’s spots); conjunctival dryness and; gradual blindness due to prolonged deficiency of Vitamin A.

   Children who are malnourished and have had episodes of measles and diarrhea are prone to Vit. A deficiency because these infections lower body resistance, impair, Vit. A absorption and effect many body tissues including that of the eyes.

2. **What are the causes of Vitamin A deficiency?**

   The most common causes of Vitamin A deficiency are:
   - Inadequate intake of Vitamin A rich foods

   -23-
Vitamin A is not absorbed and used by the body due to the lack of fat in the diet.

3. What are the signs and symptoms of vitamin A deficiency?

   Early stage:
   - nightblindness or inability of the individual to see at dusk or in dim light
   - dry and slightly rough eyeball

   Later stage:
   - presence of white spots called Bitot’s spots at the sides of the eyeball
   - softness of eyeball which can result in the collapse of the eyeballs with total blindness

4. How can Vitamin A deficiency be prevented?

   • Breastfeed infants from birth to two years of age.
   • Include Vitamin A-rich foods in the diet such as malunggay, kalabasa, cheese, milk, eggs, papaya, liver.
   • Give foods fortified with Vit. A such as enriched margarine and evaporated milk.
   • Immunize the children before they reach 1 year of age.
   • Provide Vit. A supplements.

5. What do you do with children afflicted with Vit. A deficiency?

   • Refer to the nearest health center.
   • Give immediately:
     - 100,000 I.U. of Vitamin A pellets/capsules every six months for children less than one year old.
     - 200,000 I.U. of Vitamin A pellets/capsules every six months for children 1 year old and above.
PRE-POST TEST
VITAMIN A DEFICIENCY

Instructions: Write T if the statement is true and F if the statement is false.

1. Vit. A deficiency is caused by a prolonged lack of Vit. C in the diet.
2. All pregnant women are easily affected by Vitamin A deficiency.
3. *Matang manok* or inability to see in dim light is the first sign of Vit. A deficiency.
4. Fat is needed in the absorption of Vit. A so that it can be used by the body.
5. Vit. A deficiency can be prevented by eating foods rich in iron.
6. Severe cases of Vit. A deficiency should be treated with Vit. A pellets/capsules.
7. Vit. A deficiency if left untreated can lead to permanent blindness.
8. Breastfed infants are at risk to Vit. A deficiency.
9. Squash and malunggay are rich sources of Vitamin A.

Answers:
1. F
2. F
3. T
4. T
5. F
6. T
7. T
8. F
9. T
10. T
LESSON 3

<table>
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<th>Topic</th>
<th>Iron-Deficiency Anemia</th>
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<td>Time Allotment</td>
<td>45 minutes</td>
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<tr>
<td>Objectives</td>
<td>At the end of the lesson, the trainees will be able to:</td>
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</table>

1. Describe what iron-deficiency anemia is, its causes, its signs and symptoms

2. Identify the groups most vulnerable to anemia and cite the recommended hemoglobin level

3. Discuss the management of iron-deficiency anemia

### CONTENT

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<th>TRAINING</th>
<th>EVALUATION</th>
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</thead>
<tbody>
<tr>
<td>— causes</td>
<td>Administer the pre-test.</td>
<td>Paper and pencil</td>
<td></td>
</tr>
<tr>
<td>— signs and symptoms</td>
<td>State objectives of the lesson.</td>
<td>Chalkboard</td>
<td></td>
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<tr>
<td></td>
<td>Ask the trainees whether anemia is related to low blood pressure. Correct this wrong concept and other wrong beliefs or concepts they may have. Reinforce discussions with an explanation on the causes, signs and symptoms of anemia.</td>
<td>Chalkboard</td>
<td>Trainees can summarize the causes, signs and symptoms of anemia.</td>
</tr>
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<td></td>
<td>Explain to the trainees the definition of ‘vulnerable groups’ and why certain groups are considered vulnerable to iron-deficiency anemia. Write the recommended hemoglobin levels of each group.</td>
<td>Narrative on the topic</td>
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NARRATIVE ON IRON-DEFICIENCY ANEMIA

1. What is an iron-deficiency anemia?
   Iron-deficiency anemia is a condition resulting from a deficiency of iron in the body. Iron is a mineral substance essential in the formation of red blood cells. Red blood cells contain hemoglobin (the red coloring matter of the blood) which carries life-giving oxygen to the different parts of the body. When the hemoglobin level of a person is below the recommended standard, he is said to be anemic. The test for an anemic person is the hemoglobin level and not the blood pressure.

2. What are the causes of iron-deficiency anemia?
   - Diet lacking in food that are rich in iron
     The body cannot form enough blood if it does not have enough iron which is usually obtained from the foods that we eat.
   - Parasitic infections like hookworms, malarial parasites, etc.
     Presence of worms in the intestines and damage of red blood cells by malarial parasites, can result in anemia.
   - Loss of large amounts of blood due to bleeding, menstruation, etc.
   - Low storage of iron to cope with increased demand for iron especially during pregnancy

3. What are the signs and symptoms of anemia?
   - Weakness and dizziness
• Paleness on the inner side of the lips and lower eyelids
• Child is breathless
• In severe cases, swollen face, body and limbs

4. What groups are vulnerable to anemia?

Vulnerable groups are those who are at risk or easily affected by any nutritional problems. The groups most vulnerable to iron deficiency anemia are the following:

• Infants who are born prematurely, or born to anemic mothers
• Children who have not been given supplementary foods at 4 months
• Adolescents who are underweight
• Pregnant women who are underweight or have had several and frequent pregnancies

5. What are the recommended hemoglobin levels for these groups?

Hemoglobin concentrations (at sea level) below which anemia is likely to be present.

<table>
<thead>
<tr>
<th>Group</th>
<th>gms./100 ml.</th>
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<tbody>
<tr>
<td>Children (6 months to 6 years)</td>
<td>11</td>
</tr>
<tr>
<td>Children (6-14 years)</td>
<td>12</td>
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<tr>
<td>Adult males</td>
<td>13</td>
</tr>
<tr>
<td>Adult females, non-pregnant</td>
<td>12</td>
</tr>
<tr>
<td>Adult females, pregnant</td>
<td>11</td>
</tr>
</tbody>
</table>

6. How can anemia be prevented?

• Provide a diet rich in iron such as leafy green vegetables, whole grain cereals, legumes, liver, eggs, and meat.
• Give iron supplements to iron deficient individuals and groups.
• Observe personal hygiene and maintain a sanitary environment to prevent parasitic and malarial infections.

7. How do you treat anemic persons?

• Refer to a doctor for further clinical evaluation.
• Give iron tablets 2 to 3 times a day depending on the severity of anemia.
• Supplement iron tablets with a diet rich in iron.
PRE-POST TEST
IRON-DEFICIENCY ANEMIA

Instructions: Write T if the statement is true and F if the statement is false.

1. A person whose blood pressure is low is said to be anemic.
2. Taking a bath in the evenings can cause anemia.
3. Iron is essential in the formation of red blood cells.
4. Undernourished pregnant women are easily affected by anemia.
5. An anemic person should eat more of green leafy vegetables, legumes, liver, eggs and meat.
6. Pregnant women have higher hemoglobin level than non-pregnant women.
7. Giving iron supplement to lactating women who are not anemic is not beneficial to them.
8. Parasites like worms can also cause anemia.
9. Liver is a good source of iron.
10. Pregnant women and older children (6-14 years) have the same hemoglobin level.

Answers:
1. F
2. F
3. T
4. T
5. T
6. T
7. F
8. T
9. T
10. F
LESSON 4

Topic: Iodine Deficiency (Simple Endemic Goiter)

Time Allotment: 45 minutes

Objectives: At the end of the lesson, the trainees will be able to:

1. Give basic facts about simple goiter
2. Enumerate signs of goiter
3. Describe the different classes of simple goiter
4. Discuss the prevention and treatment of goiter

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<th>TEACHING-LEARNING ACTIVITIES</th>
<th>TRAINING</th>
<th>EVALUATION</th>
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</thead>
<tbody>
<tr>
<td>Discuss objectives of the lesson.</td>
<td>Paper and pencil</td>
<td>Chalkboard</td>
<td>Trainees are able to define goiter and identify what age groups it is most common.</td>
</tr>
<tr>
<td>Ask trainees what they know about simple goiter.</td>
<td>Discuss:</td>
<td>Narrative on the topic</td>
<td>Trainees share what they know about goiter.</td>
</tr>
<tr>
<td>- what is goiter</td>
<td>- who are prone to goiter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- where goiter is prevalent</td>
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</tr>
<tr>
<td>Classifications of goiter</td>
<td>Discuss the different classifications of goiter and how it can be detected.</td>
<td>Narrative on the topic</td>
<td>Trainees can identify different classifications, causes and effects of goiter.</td>
</tr>
<tr>
<td></td>
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<td>Picture of the different grades of goiter</td>
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</table>
NARRATIVE

ON

IODINE DEFICIENCY

(Simple Endemic Goiter)

1. What is Goiter?

Goiter is an enlargement of the thyroid gland, (the H shaped organ found at the lower front part of the neck) due to iodine deficiency.

2. Who are prone to goiter?

- Pregnant and lactating women
- Adolescent boys (9-13 years old) and adolescent girls (12-18 years old)
- Persons whose diet is deficient in iodine.

3. What are the places where goiter is highly prevalent?

It is usually prevalent in inland and mountainous areas where the soil, water and available foods are low in iodine.

4. What are the signs of simple goiter?

- Enlargement of the neck — at the early stage, this sign is not seen but can be felt when the head is stretched backward
- Difficulty in breathing
- Gets tired easily
- Rapid heart beat
• High blood pressure
• Loss of weight in spite of increased appetite

5. **What are the classifications of goiter?**
   - Grade I — Visible only when neck is extended when swallowing
   - Grade II — Visible with head in normal position
   - Grade III — Easily visible from a distance
   - Grade IV — Is of monstrous size

6. **What are the causes of goiter?**
   - Inadequate intake of iodine-rich foods
   - Physiologic stresses which increase the activity of the thyroid glands during pregnancy, lactation and puberty

7. **What are the effects of goiter?**
   - Disfigurement of the neck
   - A goitrous mother may give birth to a child who is mentally and physically retarded (cretin).
   - Difficulty in swallowing and breathing

8. **How can goiter be prevented?**
   - Daily intake of foods rich in iodine. These include oysters, seaweeds, shrimps, tahong, crabs, kuhol, halaan, dried dilis, alamang and vegetables like gabi leaves and kangkong.
   - Use of iodized salt in cooking foods.

9. **How do you manage goiter?**
   - Refer patients to the nearest health center.
   - Give 1-2 iodine tablets daily for as long as there is enlargement.
   - Give intramuscular injection of 1 c.c. iodized oil to population groups aged 1 year to 45 years. Take note, however, that this is not very effective for people over 45 years old.

   **Contraindications of iodized oil injections**, meaning not to be given to persons with:
   - Active pulmonary tuberculosis — Iodine interferes with the fibrotic enclosures of these lesions.
   - Leprosy or recent hemorrhage
   - Hyperthyroidism and/or goiter not due to iodine deficiency.
• Use of iodized salt regularly in cooking.

Certain substances found in raw cabbage, cauliflowers, turnips interfere with the utilization of iodine in the body but these can be destroyed by heating.

**PRE/POST TEST**

**IODINE DEFICIENCY**

Instructions: Choose the letter of the correct answer:

1. Goiter is an enlargement of the:
   a. thyroid gland
   b. salivary gland
   c. pituitary gland

2. Iodine deficiency during pregnancy may result in:
   a. mental retardation
   b. dwarfism
   c. both

3. Goiter is usually prevalent in:
   a. mountainous areas
   b. coastal areas
   c. lowland

4. The goiter that is visible when head is in normal position is classified as:
   a. Grade I
   b. Grade II
   c. Grade III

5. Goiter can be caused by:
   a. inadequate intake of iodine-rich foods
   b. physiologic stresses which increase the activity of the thyroid gland
   c. both

6. Foods rich in iodine are:
   a. seafoods
   b. seaweeds
   c. dried dilis
   d. all of the above

7. Iodized injection is least effective among:
   a. adults over 45 years
   b. 9-13 year old boys
   c. 12-18 year old girls
8. These vegetables contain substances that inhibit absorption of iodine in the thyroid gland:
   a. cabbage
   b. cauliflower
   c. turnips
   d. all

9. Goiter can be prevented by the use of:
   a. iodized salt in cooking and serving foods
   b. iodone tablet
   c. eating food rich in iodine
   d. all

10. The type of goiter that can be treated with iodized oil injection is:
    a. toxic goiter
    b. active pulmonary tuberculosis
    c. simple goiter

Answers:
1. a  6. d
2. c  7. a
3. a  8. d
4. b  9. d
5. c  10. c
## LESSON 5

**Topic**: Common Childhood Diseases

**Time Allotment**: 2 hours

**Objectives**

At the end of the lesson, the trainees will be able to:

1. Describe the symptoms of the diseases:
   
   a. colds
   b. influenza
   c. measles
   d. tuberculosis
   e. pneumonia
   f. diarrhea

2. Explain the prevention of these common childhood diseases

3. Discuss the management of common childhood diseases

<table>
<thead>
<tr>
<th>CONTENT</th>
<th>TEACHING-LEARNING ACTIVITY</th>
<th>TRAINING</th>
<th>EVALUATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administer the pre-test.</td>
<td>Paper and pencil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discuss objectives of the lesson.</td>
<td>Chalkboard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brief description of the common infections</td>
<td>Describe each of the common infections.</td>
<td>Narrative on the topic</td>
<td></td>
</tr>
<tr>
<td>Symptoms of common diseases</td>
<td>Ask trainees their ideas about the symptoms of common infections.</td>
<td>Chalkboard</td>
<td>Question and answer</td>
</tr>
<tr>
<td>- colds</td>
<td></td>
<td></td>
<td>Trainees can enumerate symptoms of common infections.</td>
</tr>
</tbody>
</table>
Prevention of the above common infections

Ask the trainees what practices they observe in preventing common diseases or infections. Supplement these with a thorough discussion on preventive measures.

How to manage common diseases

Ask trainees their common practices on the management of common diseases. Elaborate further on points cited.

Preparation of Oresol

Demonstrate to the trainees the preparation and use of oresol.

Administer the post-test and discuss the correct answers.

Chart showing common diseases and their prevention

The trainees share their practices regarding prevention of common diseases.

Flash cards

Trainees participate actively in the discussion on the management of the different childhood diseases.

Oresol Ingredients

Kitchen paraphernalia like glass, pitcher, and spoon.

Paper and pencil

Post-test questions

80% of the trainees increase their knowledge scores on common childhood diseases.

NARRATIVE ON COMMON CHILDHOOD DISEASES

A. COLDS

1. What is a cold?

A cold is the most common infectious disease. It is caused by a virus transmitted through direct contact with an infected person, droplets from sneezing or coughing, and the use of articles contaminated by the virus.
2. What are the symptoms of colds?

Among the common symptoms of colds are:

**Early stage:**
- runny nose and watery eyes
- sneezing
- headache
- chilly feeling
- loss of appetite
- feeling of dryness or itchiness in the throat

**Later stage:**
- fever

3. How can colds be prevented?

- Avoid crowded places and people who have colds.
- Eat the right kind of foods and drink plenty of fluids.
- Practice personal hygiene.
- Have enough sleep.

4. What do you do in case of colds?

- Take plenty of fluids and Vit. C fruits like guava, caiamansi, guyabano, pineapple, dalanghita, mango, melon, etc.
- Avoid exposure to draft.
- Go to bed early and take plenty of rest.
- Take some aspirin to relieve fever.

B. INFLUENZA

1. What is influenza?

Influenza or "flu" is a highly contagious disease. It spreads from one person to another through sputum, sneezing, coughing, or by kissing or using articles freshly soiled with discharges from the nose and throat of an infected person.

2. What are the symptoms of influenza?

**Early stage:**
- colds
- sore throat
• runny nose and hot eye sensation
• dizziness
• marked body weakness
• joint and muscle pains

Later stage:
• high fever for 3 - 5 days

3. How can influenza be prevented?
• Build and maintain resistance by eating Vit. C and protein rich foods.
• Avoid crowds.
• Practice personal hygiene.

4. What do you do when one has influenza?
• When fever is high, give aspirin and plenty of fluids to bring down the temperature.
• Give soft diet like porridge or soft cooked rice or soft cooked egg.
• Avoid fatty foods like fried fish or meat as these are hard to digest.
• Give energy-giving foods such as cereals, rootcrops and sweets.
• Include foods rich in protein to repair the worn-out tissues.
• Provide plenty of fruits preferably fruit juices and vegetables.
• Refer the patient to the nearest health center.

C. MEASLES

1. What is measles?

Measles is a contagious disease. It is caused by a virus found in discharges from a patient’s nose and throat. It is most common among very young children.

2. What are the symptoms of measles?

Symptoms appear about ten to fourteen days after a child has been exposed to the virus. These are:

Early stage:
• Fever
• Red eyes
• Sore throat
• Sore mouth
• Runny nose
• Coughs
Later stage:

- Appearance of pinkish to reddish, flat to slightly raised rashes starting from the face and neck and spreading to the trunk and limbs.

3. How do you prevent getting contaminated by measles?

- Avoid direct contact with a measles patient.
- Have children immunized against measles.
- Provide good nutrition to build the resistance of the body.
- Promote breast feeding among pregnant and lactating mothers.

4. What do you do with patients who have measles?

- Isolate the patient.
- Give frequent small feedings.
- Increase oral fluids such as water, soups, juices and milk.
- Give sponge bath to lower fever.
- Refer patient to the nearest health center.

D. TUBERCULOSIS

1. What is tuberculosis?

   Tuberculosis is a disease caused by a bacteria called “tubercle bacilli”. It primarily affects the lungs. Young children easily get infected with this bacteria and acquire what is called “primary complex”.

2. What are the symptoms of tuberculosis?

   - Gradual onset of cough with bloody sputum
   - Loss of weight
   - Chest and back pains
   - Afternoon or evening fever for a month
   - Night sweating
   - Gets easily tired

3. How can tuberculosis be prevented?

   - Immunize the child with BCG.
   - Avoid crowded places and close contact with TB patients.
   - Have a regular check-up.
   - Practice personal hygiene.

4. What do you do in case of tuberculosis?

   - Refer the patient to the nearest health center.
   - Give the patient nutritious foods especially protein rich foods such as eggs, milk, meat, fish and mongo to promote healing of lesion.
Include foods rich in vitamins and mineral such as fruits and vegetables, to hasten healing and improve appetite.

Increase calorie intake by giving energy-rich foods such as cereals, root-crops and fats or oil to regain weight loss.

E. PNEUMONIA

1. What is pneumonia?

Pneumonia is a serious contagious disease affecting the lungs. It is caused by a bacteria called pneumococcus which is spread through droplets from a patient's coughing or sneezing, direct contact such as kissing, or the use of articles freshly soiled with discharges from a patient's nose and throat.

2. What are the symptoms of pneumonia?

- Sudden onset of chest and back pains
- High fever with chills
- Headache
- Productive cough with phlegm

3. How can you prevent pneumonia?

- Avoid close contact with pneumonia patients.
- Avoid over crowded place.
- Practice good personal hygiene.
- Eat nutritious foods to build body resistance.

4. What do you do when one has pneumonia?

- Refer to nearest health center
- Get plenty of rest and sleep.
- Give foods rich in protein, vitamins and minerals.

F. DIARRHEA

1. What is diarrhea?

Diarrhea is the passing of three or more stools in a day which contain more water than solids.

2. What causes diarrhea?

The most common causes of diarrhea are the following:

- Infections due to viruses (intestinal flu) bacteria or amoeba
- Infections due to parasites
- Food poisoning (spoiled food)
- Allergic reactions to some foods (like seafoods, cow's milk)
- Over feeding especially among infants
3. Why does diarrhea need immediate attention?

When a young child has diarrhea, he passes loose to watery stools which leads to the loss of a large amount of body fluids and minerals. This results in dehydration, which, if not prevented or treated as early as possible, may lead to serious complications or death within an hour or two.

4. How can diarrhea be prevented?

- Practice personal hygiene. Eating with dirty hands can cause diarrhea.
- Prepare foods sanitarily. Avoid serving contaminated water and food.
- Keep your surroundings free from flies and households pests. Cover foods to protect it from flies.
- Promote breast feeding as breastmilk contains antibodies that provide body resistance against gastro-intestinal infections.

5. What to do with a patient with diarrhea?

- Refer to the nearest health center if patient passes stool more than 3 times within one hour.
- Give soft diet like lugaw, mashed banana, broiled fish and cereals for easy digestion.
- For breastfed infants, do not stop breastfeeding. For bottlefed infants, give diluted milk formula but increase milk proportion as soon as the condition of the child improves.

6. What are the signs of dehydration?

- Sinking of the fontanelle in infants
- Sunken, tearless eyes
- Fast, weak pulse
- Dry mouth
- Loss of elasticity or stretching of the skin
- Sudden weight loss
- Little or no urine which may be dark yellow

7. How do you prevent dehydration?

Dehydration can be prevented by giving an oral rehydrating solution (ORE-SOL) as soon as diarrhea starts. Oresol is a solution which can replace the fluids and nutrients the body loses during diarrhea.

8. How do you prepare Oresol?

- Put five glasses of water in a pitcher (about 1 liter). (Make sure that pitcher is clean and boil the water first if unsafe to drink).
• Open the two compartments of the Oresol pack.
• Pour all contents into a pitcher with water and stir. The Oresol is now ready for drinking.

9. How do you use Oresol?

Oresol is given to a child in small amounts for a certain period of time according to his age:

<table>
<thead>
<tr>
<th>Age (Year)</th>
<th>Duration (hr.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 1 year</td>
<td>24</td>
</tr>
<tr>
<td>1 to less than 2</td>
<td>12</td>
</tr>
<tr>
<td>2 to less than 6</td>
<td>6 - 8</td>
</tr>
<tr>
<td>6 and above</td>
<td>4</td>
</tr>
</tbody>
</table>

If diarrhea persists, continue giving Oresol.

10. How do you prepare an alternative home remedy for diarrhea?

If oresol is unavailable, an alternative solution for diarrhea can be made out of salt, sugar and boiled water.

Procedure:
• Boil water.
• Fill a glass with the boiled water.
• Add one pinch of salt. If the solution tastes saltier than tears, discard it and repeat the preparation.
• Add one level teaspoon of sugar.
• Let solution cool off before giving it.

Give one full glass of the mixture each time the child has diarrheic stools. Continue giving the mixture until the diarrhea stops.

If salt and sugar are not available in the home and the need is immediate, give coconut water instead.

PRE/POST TEST

NUTRITION IN HEALTH AND DISEASE

Instructions: Write ✓ if the statement is correct; write X if the statement is wrong.

1. Colds are caused by a virus called Tubercle Bacilli.

2. Pneumonia is characterized by high fever that lasts for 3-5 days.

3. Personal hygiene is an important measure in the prevention of common diseases/infections.
4. Drugs or medicines are the only effective means of treating common infections.

5. Breastfeeding should be discontinued when an infant has diarrhea.

6. Since almost every child gets sick of measles, it is unnecessary to isolate a person sick of measles.

7. Dehydration can be prevented with the use of Oresol.

8. Foods rich in vitamins and protein play an important role in the management of common infections.

9. Primary complex is a form of tuberculosis among children.

10. Oresol should be given only when diarrhea has worsened.

Answers:
1. X
2. X
3. V
4. X
5. X
6. X
7. √
8. √
9. √
10. X
NUTRITION IN PREGNANCY, LACTATION, INFANCY, AND PRE SCHOOL AGE
MODULE III
NUTRITION IN PREGNANCY, LACTATION, INFANCY AND PRE SCHOOL AGE

INTRODUCTION:

There are certain periods in the life of man where nutrition has to be given special attention. Various segments of the population are classified according to their age and nutritional requirements. The age groups that are easily affected by malnutrition are commonly referred to as the "vulnerable age groups".

This module provides important information about some of the vulnerable age groups namely: the pregnant and lactating mothers, pre-schoolers and infants. It deals with the importance of nutrition and ways to ensure good nutrition during these periods. It also includes food supplementation during infancy.

OBJECTIVES

GENERAL : To equip the trainees with basic knowledge on nutrition in pregnancy, lactation, infancy and preschool age

SPECIFIC : At the end of the module, the trainees will be able to:

1. Explain the importance of good nutrition during pregnancy, lactation, infancy and preschool age
2. Discuss the advantages of breastfeeding
3. Explain when and how supplementary feeding is given and what foods can be introduced
4. State ways of adding variety to a preschool diet

CONTENT

Lesson 1 — Nutrition in Pregnancy and Lactation

1. Importance of good nutrition during pregnancy and lactation
2. How good nutrition contributes to normal pregnancy and lactation
3. Diet of pregnant and lactating women and a one-day sample menu
4. Definition of food fads and fallacies and examples of fallacies during pregnancy

**Lesson 2 — Nutrition in Infancy**
1. Importance of good nutrition in infancy
2. Advantages of breastfeeding
3. Ways to increase breastmilk flow
4. Problems in breastfeeding and how to overcome them
5. Some risks in bottle feeding

**Lesson 3 — Supplementary Feeding for Infants**
1. Reasons why infants need supplementary foods
2. When is supplementary feeding given, what and how foods are prepared and introduced
3. Additional foods recommended for the baby and samples of supplementary food recipes

**Lesson 4 — Nutrition at Preschool Age**
1. Importance of good nutrition during preschool age
2. Some feeding problems among preschoolers
3. Ways of overcoming these feeding problems
4. Ways of adding variety to a child’s diet
5. Preschoolers’ recommended food allowance and sample menus
## LESSON I

**Topic**: Nutrition in Pregnancy and Lactation  
**Time Allotment**: 40 minutes  
**Objectives**: At the end of this module, the trainees will be able to:  
1. Explain the importance of good nutrition during pregnancy and lactation  
2. Describe the diets of pregnant and lactating mothers  
3. Plan one-day menus for pregnant and lactating mothers  
4. Discuss and correct some food fads and fallacies during pregnancy

<table>
<thead>
<tr>
<th>CONTENT</th>
<th>TEACHING-LEARNING ACTIVITIES</th>
<th>TRAINING</th>
<th>EVALUATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Importance of good nutrition during pregnancy</td>
<td>Administer the pre-test. &lt;br&gt;Present the objectives of the lesson. &lt;br&gt;Ask trainees if they know mothers who have had abortion/miscarriage/pregnant births or personally experienced any of these. Draw out some reasons from them why some mothers experience stillbirths/miscarriage or premature births. &lt;br&gt;Stress the importance of nutrition during pregnancy.</td>
<td>Pre-test &lt;br&gt;chalkboard</td>
<td>The trainees are able to share their ideas on the importance of nutrition during pregnancy relating these to personal experiences and observations.</td>
</tr>
<tr>
<td>Diet for the pregnant and lactating mothers</td>
<td>Describe the diet of pregnant and lactating mothers, stressing the need for an increased intake of the three food groups.</td>
<td>Narrative on the topic</td>
<td>Chalkboard</td>
</tr>
</tbody>
</table>
Food fallacies during pregnancy

With the use of the Basic Three Food Groups, show sample menus for pregnant and lactating mothers.

Menus for pregnant/ lactating women

Trainees are able to plan sample menus for pregnant and lactating mothers.

Ask trainees to share common beliefs and practices of pregnant and nursing mothers. Correct fallacies and discuss more using the ones enumerated in the narrative. Conduct a role play.

Chalkboard

The trainees are able to differentiate correct practices from fallacies and correct them through role playing.

Invite pregnant women to talk about their diets during pregnancy and lactation.

Narrative on the topic

Let them cite certain foods which they avoid because of certain beliefs and other foods which they just eat out of mere "liking."

Divide mothers into 2 groups. One group states a misconception, the other group gives the corresponding advice. Give one point for every correct advice.

Paper and pen

80% of the trainees increase their knowledge scores on nutrition in pregnancy and lactation.

Administer the post-test.

Discuss the questions and their correct answers.
NARRATIVE ON NUTRITION IN PREGNANCY AND LACTATION

1. Why is proper nutrition important during pregnancy and lactation?

During pregnancy, proper nutrition is important:

• To meet the nutritional needs of the baby

Pregnancy is a phase in a woman’s life when a fetus is being formed and developed in her womb. The unborn baby is completely dependent on the health, nutrition and well-being of the mother. If the mother does not have good nutrition, the baby is deprived of the nourishment that is needed for his growth and development. Studies show that mothers with good nutrition during pregnancy are likely to give birth to healthy babies. Birthweight which is an indicator of the mother’s state of nutrition during pregnancy is usually low among poorly nourished pregnant mothers.

• To build the mother’s reserves in preparation for child birth and lactation

Giving birth is very strenuous. The mother should have enough energy and strength to endure child birth. She also has to prepare for lactation. She has to build up her nutrient reserves for these conditions.

• To avoid any complications or dangers during pregnancy

Studies also show that mothers in a good state of nutrition during pregnancy have greater chances of normal birth and experience fewer complications.

2. How does good nutrition contribute to normal pregnancy and lactation?

Among well-nourished mothers:

• The incidence of miscarriages, still and premature births is less.

• Infants are in better physical condition at birth and have fewer and less severe illness up to the age of six months.

• Breastfeeding is more advantageous and beneficial since the mother can provide sufficient milk for the baby’s nutritional requirements.

3. What are the diets for pregnant or lactating mothers?

For the pregnant mother:

• Body building foods are increased to meet her nutritional requirement for the growth and development of the fetus and for maternal well-being.

Milk is an excellent food for the pregnant mother. Dried beans and legumes like mongo have almost the same body building substance found in meat, fish,
poultry or eggs. For good nutrition, cook and serve beans and legumes with small amounts of fish or meat.

- Energy-giving foods should be increased to provide nourishment for the following: growth of fetus, growth of the placenta, normal increase in maternal body size.

Cereals like rice and bread are easily digested sources of energy. Rice can be supplemented with corn, yellow camote, gabi and other tubers. Adding small amounts of fat to the diet helps increase the calorie intake of the mother.

- Body regulating foods are increased to meet the increased metabolic processes during pregnancy.

Foods rich in calcium and phosphorous such as dried fish, leafy green vegetables and milk are needed in the formation of bones and teeth. Iron-rich foods are needed to maintain the hemoglobin level of the mother and the growing fetus. Vitamins such as Vit. A, thiamine, riboflavin, niacin and Vit. C are needed in large amounts for tissue and bone formation. Leafy green and yellow vegetables, citrus fruits and internal organs (kidney, liver, heart, brain muscles) should be included in the diet of the pregnant mother.

For the lactating mother:

Preparation for lactation begins during pregnancy and successful lactation depends on adequate diet. The diet is almost the same as the pregnant’s diet except that calorie intake should be greater during lactation, especially as the infant grows and takes larger quantities of milk. The quality of the diet remains essentially the same, high in calories, protein, vitamins and minerals.

In planning for the diet of pregnant and lactating mothers, check on the quality of the diet with the use of the Basic Three Food Groups and the quantity of the diet with the RDA.

The following is a sample of a one-day menu for pregnant and lactating mothers.

<table>
<thead>
<tr>
<th>Breakfast</th>
<th>PREGNANT</th>
<th>LACTATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fried Fish (small)</td>
<td>1 pc.</td>
<td>1 1/2 pcs.</td>
</tr>
<tr>
<td>Rice</td>
<td>1 1/2 cups</td>
<td>1 2/3 cups</td>
</tr>
<tr>
<td>Milk</td>
<td>1 cup</td>
<td>1 cup</td>
</tr>
</tbody>
</table>

Morning snack
Boiled yellow camote | 1 pc. | 1 pc. |

Lunch
Fish sinigang (with vegetables)
Fish (medium) 1 pc. 1 pc.
(Vegetables) 1 cup 1 cup
Rice 1 cup 2 cups
Mango 1½ slices 1½ slices

Afternoon snack
Boiled peanuts ½ cup ½ cup

Supper
Sauteed vegetables 1 cup 1 cup
Pork Adobo 1 medium size 1 medium size
Rice 1 3/4 cups 2 cups
Banana 1 pc. 1 pc.

4. What are food fads and fallacies?
These are wrong beliefs, attitudes and practices regarding food. Since these are wrong beliefs, they should be corrected.

5. What are some common food fallacies during pregnancy?

- Duhat or other dark-colored food affect the skin color of the baby.
  
  This is not true. The skin color of the baby is influenced by hereditary factors called genes.

- Squash when eaten by a conceiving mother can cause dullness in the baby.
  
  This is not true because squash is one of the vegetables rich in Vitamin A that the pregnant woman needs for good eyesight and smooth, clear skin.

- Conceiving mothers should not eat crab because this can cause deformities like six fingers in babies.
  
  Crabs are needed by pregnant women because it is rich in protein and iodine needed precisely for building body tissues. Mothers should all the more eat crab as long they are not allergic to it.

- Eggplant can cause beri-beri.
  
  It is not true that eggplants cause beri-beri. Beri-beri among pregnant mothers is brought about by prolonged lack of vitamin B₁. The richest source of vitamin B₁ or thiamine, are lean pork, liver and heart, legumes and under-milled rice.

- Eating vegetables with bagoong during early lactation causes stomach trouble.
  
  As long as the mother is used to eating this food and it does not cause allergic reactions, it should not bother her.
Lactating mothers must not eat eggs and eggplant because they make the body itchy.

There is no scientific evidence to show that these foods cause itchiness unless the mother is allergic to them.

PRE/POST TEST
NUTRITION IN PREGNANCY AND LACTATION

Instructions: Write ✓ if the statement is true; X if the statement is false.

1. A well nourished pregnant mother has lesser chances of having complications during pregnancy compared to an undernourished mother.
2. Proper nutrition during pregnancy ensures adequate flow of breast milk during lactation.
3. Low birth weight babies are born to mothers who have had adequate nutrition during pregnancy.
4. Having big babies during pregnancy causes long painful and difficult delivery.
5. Even if a pregnant mother is well nourished, she still has to take iron tablets.
6. A pregnant mother has greater nutrient needs than a lactating mother.
7. During pregnancy and lactation a mother should have an increased intake of body building, body regulating and energy giving foods.
8. Eating eggs and eggplants during lactation makes a pregnant woman itchy.
9. A conceiving mother should refrain from eating squash because she will give birth to a dull baby.
10. A lactating mother should limit her food intake in order to reduce her weight.

ANSWERS:

1. ✓ 6. X
2. ✓ 7. ✓
3. X 8. X
4. X 9. X
5. ✓ 10. X
LESSON 2

**Topic** : Nutrition in Infancy

**Time Allotment** : 30 minutes

**Objectives** : At the end of the module, the trainees will be able to:

1. Explain the importance of good nutrition during infancy
2. Explain the importance of breastfeeding
3. Enumerate ways to increase breastmilk flow
4. Discuss some problems in breastfeeding and ways to overcome them
5. Explain some risks in bottlefeeding

<table>
<thead>
<tr>
<th>CONTENT</th>
<th>TEACHING-LEARNING ACTIVITIES</th>
<th>TRAINING</th>
<th>EVALUATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Importance of good nutrition in infancy</td>
<td>Administer the pre-test.</td>
<td>Pre-test questions</td>
<td>The trainees are able to participate in the discussion and answer correctly questions asked by the trainor.</td>
</tr>
<tr>
<td></td>
<td>Present the objectives of the lesson.</td>
<td>Chalkboard</td>
<td>Narrative on, the topic</td>
</tr>
<tr>
<td></td>
<td>Ask trainees why good nutrition is important during infancy, and reinforce discussion with a flipchart or poster</td>
<td></td>
<td>Narrative on the topic</td>
</tr>
<tr>
<td>Advantages of breastfeeding</td>
<td>Ask trainees who among them practice or have practiced breastfeeding and why. Start the discussion on this.</td>
<td></td>
<td>Poster on the topic</td>
</tr>
<tr>
<td>Ways to increase breastmilk flow</td>
<td>Lecture-discussion</td>
<td></td>
<td>Poster on breastfeeding and increasing breastmilk</td>
</tr>
</tbody>
</table>
Problems of breastfeeding and how to overcome them

Let trainees who had problems in breastfeeding share their experiences.

Discuss how their problems can be overcome.

Suggested scheme for the role play: A mother who wants to give up breastfeeding shares her experiences. Another mother gives proper advice and cites the advantages of breastfeeding.

Some risks in bottlefeeding

Let mother-trainees who bottlefeed, talk on difficulties they encounter. Explain further the risks in bottlefeeding.

Administer the post-test.

Discuss the questions and their correct answers.

Narrative on the topic

The trainees are able to discuss the pros and cons of breastfeeding.

Trainees are able to participate actively in the discussion.

80% of the trainees increase their knowledge scores on nutrition in infancy.

NARRATIVE
ON
NUTRITION IN INFANCY

1. What is the importance of good nutrition in infancy?

A child grows and develops more rapidly during the first year of life than at...
any other time. On the average a baby should double his weight by the fifth to sixth month and triple it by the end of his first year. This rapid growth of bones, muscle and tissues can take place only if the baby is getting enough of the right kind of foods.

2. What are the advantages of breastfeeding?

- Breastmilk is the best natural food for babies. It contains the right mixture of proteins, fats, sugars, vitamins and minerals needed by a growing baby.
- The concentration and types of protein in breastmilk are ideal for the infant's growth and are less likely to cause allergic reactions.
- Colostrum, the first yellowish milk secretion has immune bodies that gives the baby immunity against some gastro-intestinal infections and common illnesses during the first six months of life.
- Breastfeeding saves time and money because breastmilk is available 24 hours and needs no special preparation.
- Breastfeeding offers an excellent opportunity for the mother to develop a stable and close bond with her child.
- Breastfeeding aids the infant in developing a sense of trust and confidence in his mother.
- Breastfeeding promotes birth spacing.

3. What are some ways to increase breastmilk flow?

- Breastfeed your baby regularly. You may start breastfeeding 30 minutes after the baby's birth. Continuous sucking of the breast increases breast flow.
- Put the baby to the other breast after 8 to 10 minutes of nursing. Subsequent feedings should start on the second breast to ensure complete emptying. Maximum emptying of the breast enhances milk production.
- The mother's position during feeding may vary. She may lie on her side or sit upright making sure that the infant has access to the breast.
- The mother may initiate breastfeeding either by touching her infant's cheek with her nipple to induce the baby's rooting reflex or by placing her nipple and areola in the infant's mouth.

4. What are some problems in breastfeeding and how does one overcome them?

- Flat or inverted nipple. These are common in women who have first babies. If a nipple is not protractile, the baby will have difficulty in feeding.

What to do:

Teach her to press her nipple and pull it gently. She should do this for several minutes everyday. Her nipple will grow longer.

-55-
• Swollen or engorged breast. Sometimes a mother's breast makes more milk than what her baby needs during the first week after delivery. The breasts become painful and swollen with milk if not emptied regularly.

What to do:

Teach the mother to express her milk when her breast is full. She should wash her hands and get a clean cup or bowl. Using both hands, squeeze gently from the base of the breast and areola between fingers and thumb and let the milk squirt into the cup. If an engorged breast is not emptied, the amount of milk will decrease quickly.

• Swollen nipples. Nipples are very sensitive. If the skin is very soft and the baby sucks very hard, soreness develops. Sometimes the soreness develops into a crack which is very painful and can be a source of infection.

What to do:

Keep the skin soft by rubbing the areola and nipple with some oil. Do not let the baby suck for too long at the start. Change your position so that when the baby sucks, the line of pressure is not always on the same place. Put some antiseptic ointment if the soreness has developed into a crack.

5. What are some risks in bottle feeding?

• Milk is easily contaminated with germs from dirty bottles, rubber teats, spoon, water or hands. This danger is great in homes where there is little fuel, no running water or no time for sterilizing the feeding bottle and teats.

• Except for breast milk, no other milk has any agents that can protect the child from infections.

• Bottle milk gets spoiled if it is not used quickly or if not stored properly. This happens much more quickly in a hot climate.

• Cow’s milk and powdered milk are often diluted too much because such milk is very expensive. If they are diluted, the children do not get adequate nourishment and will not grow normally.

• The rubber teat of the bottle may have holes that are too small or too large. If the hole is too small, the child may struggle to get the milk and swallow a lot of air but not enough milk. Too large a hole on the other hand, may cause rapid feeding and sometimes vomiting.
PRE/POST TEST
NUTRITION IN INFANCY

Instructions: Write the letter of the correct answer in the space provided.

1. Breastfeeding can be started as early as:
   a. 30 minutes after delivery
   b. one hour after delivery
   c. 3 days after delivery

2. Colostrum is that yellowish secretion that protects the baby from:
   a. pneumonia
   b. diarrhea
   c. tuberculosis

3. The best food for the baby during the first six months is:
   a. lugaw
   b. cow’s milk
   c. mother’s milk

4. Breastmilk flow can be increased by:
   a. continuous sucking of the breast
   b. taking in plenty of water
   c. eating energy giving foods

5. Swollen or engorged breasts can be avoided by:
   a. rubbing the nipple with some oil
   b. taking antibiotics
   c. emptying them regularly

6. On the average a baby should double his weight by the:
   a. first month of his first year
   b. fifth or sixth month of his first year
   c. end of his first year
7. The following are advantages of breastfeeding except:
   a. it is nutritious
   b. it is convenient and economical
   c. it contains colostrum which makes the baby sickly.

8. Bottle feeding can be risky because of which of the following:
   a. it does not have a protective substance
   b. it is easily contaminated with germs
   c. it is often over diluted because of cost
   d. all of the above
   e. only b and c

9. The following are some problems in breastfeeding except:
   a. swollen or engorged breast
   b. flat or inverted nipple
   c. sagging breast
   d. swollen nipples

10. The following are ways to increase breastmilk flow except:
    a. regular breastfeeding
    b. eating fruits and taking more of soup
    c. initiating breastfeeding

ANSWERS:

1. a       6. b
2. b       7. c
3. c       8. d
4. a       9. c
5. c       10. b
LESSON 3

Topic: Supplementary Feeding for Infants

Time Allotment: 45 minutes

Objectives: At the end of the module, the trainees will be able to:

1. State the reasons why the infants need supplementary food
2. Discuss when supplementary feeding is given, what and how foods are introduced.
3. Enumerate pointers in preparing supplementary foods for infants

<table>
<thead>
<tr>
<th>CONTENT</th>
<th>TEACHING-LEARNING ACTIVITY</th>
<th>TRAINING EVALUATION MATERIALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Importance of supplementary feeding</td>
<td>Administer the pre-test.</td>
<td>Pre-test questions</td>
</tr>
<tr>
<td>When can supplementary feeding be given. What and how foods are prepared and introduced</td>
<td>Present the objectives of the lesson.</td>
<td>Chalkboard</td>
</tr>
<tr>
<td></td>
<td>Ask trainees why supplementary foods are needed by the body. Supplement their answers with lecture-discussion.</td>
<td>Narrative on the topic</td>
</tr>
<tr>
<td></td>
<td>Ask trainees about common infant feeding practices particularly on what, when and how supplementary foods are introduced and prepared. Reinforce this with lecture discussion.</td>
<td>The trainees are able to share their ideas about supplementary feeding.</td>
</tr>
</tbody>
</table>
| Pointers on how to prepare supplementary foods for the baby | Demonstrate the different ways of preparing supplementary foods for the infants. | Trainees participate actively in the discussion.

Actual foods and paraphernalia
Trainees are able to apply concepts learned through a return demonstration.
NARRATIVE
ON
SUPPLEMENTARY FEEDING FOR INFANTS

1. Why is supplementary feeding necessary?

An infant can depend on breast milk as a single source of nourishment from birth up to 6 months of life. But as he grows older, his demands for food increases. At this stage, there is a need to supplement breast milk with other foods or additional nutrients.

2. When is supplementary feeding started?

Supplementary feeding is started not earlier than the fourth month but not later than the sixth month. This is necessary to provide added nutrients for the rapidly growing baby as well as to introduce him to new tastes and textures of foods.

3. How do you give supplementary feeding to an infant?

- Food for infant aged four to six months:

Since a baby has no teeth yet at this stage and is used only to breastmilk, initially he should be given food that is soft and has no strong, spicy flavor. Food should be introduced gradually by type and amount. If a certain cereal is the staple diet of the family, it should serve as the first food of the infant. The cereal should be made into porridge or made very soft by adding water. Initially, the porridge may be very thin, but as the child grows older, it can be prepared thicker. Addition of too much water, does not increase the amount of calories.

- Food for babies aged six months to one year:

In the second half of the first year of life, a baby can take a more varied diet. Once he has started eating the cereal porridge, well cooked legumes and other vegetables can be mixed with the cereal or given separately. New food items should be given in small amounts at the start. Gradually, the quantity can be increased. However, the child should not be forced to eat more than he can accept. Vegetables should be very soft, mashed and strained of fiber.
If a family eats and can afford meat and poultry, it is worth feeding the baby with these. Meat or fish should be minced or finely chopped. A soft-cooked egg can be mixed with the porridge or given alone. Milk from animals should be boiled before it is served to children. After introducing a new food, it is good to wait for a few days before introducing another food.

In preparing and feeding the baby, good personal hygiene should be observed. Hands should be washed with soap and water prior to food preparation and feeding to remove germs that may contaminate the food and cause illness to the baby.

4. **What are some supplementary foods that can be given to the baby?**

Milk is the basic food of the baby. However, other foods are added to his diet from time to time to meet the increased nutritional needs for his rapid growth and development. Giving him food other than milk will accustom him to varieties in food flavors and textures from liquid to semi-solid and finally solid foods so that good eating habits can be developed early.

The following foods are recommended for the baby:

**Cereal Foods**

Cereals such as *lugaw* or oatmeal may be offered to the baby. These foods must be well cooked and mashed. Add breastmilk or part of the milk formula to the cereal. This is the first semi-solid food given to the infant at 4 months.

**Fruits**

Ripe banana, ripe papaya or ripe mango may be given at three months or four months. These should be mashed for easy chewing by the baby. Fruit juices can be introduced as early as one month.

**Vegetables**

Vegetables like carrots, squash, abitsuelas, sayote, potatoes and camote tops may be given at 3-4 months. These should, however, be cooked until very soft and mashed or strained through a sieve.

**Eggs**

Hard-cooked egg yolks or mashed with a little margarine, or butter and salt may be given at 4-5 months. At nine to ten months, the baby can begin to have the whole egg.

**Meat, Fish and Poultry**

Very finely ground meat, liver, poultry and thoroughly boned and flaked fish can be given at 5-6 months.
**Mongo and Other Dried Beans**

Dried beans must be cooked very well and mashed. These can be given at 5 months.

**Fats and Cooking Oil**

Margarine, butter or cooking oil may be added to the baby's food at 5 or 6 months. One-half teaspoon may be added at five months and may be increased to 2 tsps. as the baby reaches seven months.

**Other Foods**

Custards, simple puddings, plain ice cream, gulaman with or without milk may also be given.

The following are samples of easy to prepare food recipes for babies

**Egg Yolk/Rice Soup**

**Ingredients:**

- ½ cup meat or chicken broth
- 2 tablespoons boiled rice
- 1 egg yolk, beaten
- 1 tablespoon evaporated milk
- 1/4 teaspoon salt

**How to Prepare:**

1. Add broth to rice and mash with a spoon. Bring to a boil.
2. Combine egg yolk, milk and salt and add to rice-broth mixture.
3. Lower heat and cook for 3 minutes.

**Mixed Vegetable – Mongo Puree**

**Ingredients:**

- 1/4 cup water
- 4 tablespoons mongo
- 1 cup chopped malunggay
- 1/4 teaspoon salt
- 1 tablespoon evaporated milk

**How to Prepare:**

1. Add water to mongo and bring to a boil.
2. Add malunggay leaves and salt and boil for 15 minutes.
3. Remove from fire.
4. Mash thoroughly and pass through a sieve.
5. Add milk and cook for 2 minutes longer stirring constantly.
PRE/POST TEST
SUPPLEMENTARY FEEDING FOR INFANTS

Instructions: Choose the letter of the correct answer.

1. Supplementary feeding should be started on the:
   a. fourth month
   b. fifth month
   c. sixth month

2. The first supplementary food to be introduced to the infant should be:
   a. vegetables
   b. cereal
   c. meat

3. Vegetables that are given to the baby should be:
   a. spicy
   b. sweet
   c. mashed

4. Supplementary foods should be given in addition to milk in order:
   a. to meet increased needs of baby in the period of growth and development
   b. to accustom him to varieties in food flavors and texture
   c. both a and b

5. After introducing a new food, another food maybe introduced:
   a. on the same day
   b. a few days after
   c. on the following day

6. A more varied diet of vegetables, meat and eggs can be given at:
   a. 5 months and above
   b. six months to one year
   c. strictly at 1 year

7. Whole egg can be given at:
   a. any time
   b. 4 - 5 months
   c. 9 - 10 months
8. The following are correct ways of introducing food to the baby except:
   a. giving the whole egg upon initial introduction.
   b. giving soft, mashed and strained foods.
   c. gradual introduction of a new food.

9. Which of the following statements is correct:
   a. Supplementary foods should not be given earlier than six months and not later than 1 year from birth.
   b. Supplementary food should not be given earlier than the fourth month but not later than six months from birth.
   c. Supplementary foods should be given when the baby has teeth already.

10. Which of the following statements is wrong:
    a. A breast-fed baby does not need supplementary food since mother's milk is completely nutritious.
    b. The growing baby needs supplementary foods to meet his increasing nutrient needs.
    c. Supplementary feeding is as important as breastfeeding.

ANSWERS:
1. a  2. b  3. c  4. c  5. b  6. b  7. c  8. a  9. b  10. a
LESSON 4

**Topic**: Nutrition at Pre school Age

**Time Allotment**: 45 minutes

**Objectives**: At the end of the module, the trainees will be able to:

1. State the importance of good nutrition during preschool age
2. Enumerate some feeding problems among preschoolers
3. Discuss ways to overcome feeding problems among preschool children
4. Give some pointers in preparing and serving foods for the preschoolers
5. Describe the diet of a preschooler

<table>
<thead>
<tr>
<th>CONTENT</th>
<th>TEACHING-LEARNING ACTIVITY</th>
<th></th>
<th>EVALUATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Importance of good nutrition during preschool years</td>
<td>Administer the pre-test.</td>
<td>Paper and pencil</td>
<td>The trainees are able to give their opinions and reactions to questions posed.</td>
</tr>
<tr>
<td>Problems in feeding the preshooler</td>
<td>Present the objectives of the lesson.</td>
<td>Chalk and board</td>
<td>Chalkboard</td>
</tr>
<tr>
<td></td>
<td>Ask the trainees why good nutrition is important to preschool children.</td>
<td></td>
<td>The trainees are able to cite problems and give their own ideas on how to overcome feeding problems from either personal experiences or observations.</td>
</tr>
<tr>
<td></td>
<td>Ask trainees to share common problems encountered in feeding the preshooler. Elaborate on their answers.</td>
<td>Chalkboard</td>
<td></td>
</tr>
</tbody>
</table>
### How to overcome feeding problems among preschoolers

Ask trainees how these problems were solved.

### Pointers in preparing and serving food for the preschoolers

List some tips in preparing and serving foods.

### Diet for the preschoolers

Show and discuss recommended amounts of food for the preschooler and a sample family menu.

Administer the post-test and discuss the questions and correct answers.

Trainees are able to plan a one-day menu for a preschooler.

### NARRATIVE ON AT PRESCHOOL AGE

1. **Why is good nutrition important during preschool years?**
   - Rapid growth necessitates increased intake of body-building foods.
   - Increased activity requires additional energy-giving foods.
   - Mental development needs more body-building foods for the rapidly growing brain.

2. **What are the problems in feeding the preschoolers?**

   A preschool child is sometimes a difficult child. His appetite is erratic and his behavior capricious. He may lose interest in food between the second and third year and the mother may become anxious. The following are some problems encountered by mothers:
   - Eating too little
• Eating too much
• Dawdling — a child who dawdles is one who lingers and plays while eating.
• Gagging — a child who gags is one who feels like vomiting especially when fed coarse food.

3. What are some ways to overcome feeding problems among preschoolers?
• Give their meals at the right time. Eating junk foods between meals destroys their appetite for the main meals.
• Give nutritious snacks like glazed yellow camote, boiled peanuts, milk or fruit juices instead of candies and softdrinks.
• Offer nutritious food first before sweets, cakes and pastries. They may not even touch your nourishing dishes if they see candies on your table.
• Re-introduce nutritious foods they dislike. Don’t give up but don’t force food either. In 1-2 weeks you will see that they will slowly begin to like the new food.
• Never use food as punishment or reward.

4. How do you add variety to a child’s diet?
• Use milk instead of water in cooking cereals or add powdered or evaporated milk to porridge.
• Add raw eggs to porridge as soon as cooked. The heat of the porridge will cook the egg.
• Serve legumes like mongo as meat extenders during mealtime or as snack items.
• Form chopped meat or fish into patties or balls and serve as omelette or in soups.
• Stuff boiled potatoes or yellow camote with mixed vegetables, roll in beaten egg and fry.
• Cook vegetables like squash or yellow camote cubes and abitsuelas strips and serve in broth.
• Serve fruits in different ways as juices or shaped into cubes, balls, and rings.

5. What and how much food to give the preschool child?

Daily Recommended Amounts of Food for a Preschool Child:

<table>
<thead>
<tr>
<th>Food Group</th>
<th>Recommended Amounts by Age Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 - 3 years</td>
</tr>
<tr>
<td>Body Building Foods:</td>
<td></td>
</tr>
<tr>
<td>Whole milk</td>
<td>1 cup</td>
</tr>
<tr>
<td>Fish, meat and poultry</td>
<td>1/4 cup cooked</td>
</tr>
</tbody>
</table>
### A SAMPLE MENU FOR A PRESCHOOL CHILD BY AGE CATEGORY

<table>
<thead>
<tr>
<th>Sample Family Menu</th>
<th>Amount of Serving for</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 - 3 years</td>
</tr>
</tbody>
</table>

#### Breakfast:
- **Papaya**: 2 Tbsp. 1 small slice
- **Rice**: ½ cup, cooked ¾ cup, cooked
- **Fried Egg**: ½ egg ½ egg
- **Milk**: ½ cup ½ cup
- **Sugar**: 2 tbsps. 2 tbsps.

#### Snack:
- **Pan de sal with margarine**: 2-3 small pieces 2-3 small pieces
- **Milk**: 1/4 cup 1/4 cup
- **Sugar**: 2 tsp. 2 tsp.

#### Lunch:
- **Pochero**: 1.0 cm. cube 1.5 cm. cube
- **Meat**: cooked lean meat cooked lean meat
- **Pechay**: 1/4 cup 1/3 cup
- **String beans**: 2 tbsps. 1/4 cup
- **Rice**: ¾ cup, cooked 1 cup, cooked
- **Banana**: 2 tbsps. 1 small banana

#### Supper:
- **Fish paksiw**: 1 small 1 medium size
- **Mongo guisado with malunggay**: 1/4 cup 1/4 cup
- **Rice**: ½ cup, cooked 1 cup, cooked
- **Mango**: 1 1/3 tbsps. 1 small slice
PRE/POST TEST
NUTRITION AT PRESCHOOL AGE

Instructions: Write ✓ if statement is true, X if false.

1. A preschool child needs energy giving food for his/her increasing activity.
2. A child's food habits and preferences are developed at home by the food served by the family.
3. Foods served to preschoolers should be spicy to stimulate their appetite.
4. One way of enriching the preschooler's diet is by using milk instead of water in cooking cereals.
5. When a child dislikes a particular food offered to him, one should not offer it again.
6. Giving foods like candies and chippies in between meals will increase a child's appetite for main meals.
7. A poor diet weakens a preschool child's resistance to infection.
8. Preschool children are difficult to feed. A mother should use food as a reward or punishment.
9. A 4-6-year-old preschooler has a greater food requirement than a 1-3 year old one.
10. Softdrinks also give nutrients. Children can drink as often as the family can afford.

ANSWERS:
1. ✓ 6. X
2. ✓ 7. ✓
3. X 8. X
4. ✓ 9. ✓
5. X 10. X
MEAL PLANNING AND FOOD MANAGEMENT
MODULE IV
MEAL PLANNING AND FOOD MANAGEMENT

INTRODUCTION

When the prices of food commodities increase without a corresponding increase in income, there is a need to plan our meals properly. Because of other basic needs, we should be spending only about 30-50% of our income for food. Without planning, we may end up spending all our income, but our nutritional needs are still unmet. Thus, the need for meal planning.

This module introduces the principles and processes of meal management. Application of these principles can help you provide meals that are not only nutritious but clean, economical and pleasing to your families.

OBJECTIVES:

GENERAL : To improve the Rural Health Midwives' ability to teach BHWs how to manage properly limited resources for food.

SPECIFIC : At the end of the module, the trainees will be able to:

1. Explain the rules in meal planning
2. Discuss pointers for proper food selection, purchasing and storage.
3. Enumerate pointers in food handling for safe consumption and nutrient conservation.

CONTENT

Lesson 1 Meal Planning

1. Definition of Meal Planning
2. Importance of Meal Planning
3. Rules in Meal Planning
4. Planning Nutritious Meals
Lesson 2  Food Selection, Purchasing and Storage

1. Importance of Food Selection and Buying
2. Proper Food Selection /Buying Techniques
3. Importance of Food Storage
4. Proper Food Storage Techniques

Lesson 3  Food Handling and Preparation

1. Proper Food Handling, its Definition and Importance
2. Food Handling Tips
3. Nutrient Conservation through Proper Food Handling
# Lesson 1

## Topic
Meal Planning

## Time Allotted
45 minutes

## Objectives
At the end of this lesson, the trainees will be able to:

1. Explain what meal planning is
2. Discuss the importance of meal planning
3. Explain rules in meal planning
4. Plan a nutritious meal applying the rules in meal planning

<table>
<thead>
<tr>
<th>CONTENT</th>
<th>TEACHING-LEARNING ACTIVITIES</th>
<th>TRAINING MATERIALS</th>
<th>EVALUATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definition of Meal Planning</td>
<td>Administer the pre-test. Discuss the objectives of the lesson. Ask trainees about their idea of meal planning. Discuss further the definition of meal planning.</td>
<td>Pencil and paper Chalkboard</td>
<td>Pre-test</td>
</tr>
<tr>
<td>Importance of Meal Planning</td>
<td>Ask trainees why it is important to plan meals. List reasons on the board and discuss them point by point.</td>
<td>Narrative on the topic</td>
<td>Trainees are able to explain the importance of meal planning.</td>
</tr>
<tr>
<td>Rules in Meal Planning</td>
<td>Using a flash card, flash the rules in meal planning. Ask trainees what they understand by the rule flashed out. Elaborate on this topic.</td>
<td>Flash cards Narrative on the topic</td>
<td>Trainees can express their understanding or idea on the rules in meal planning.</td>
</tr>
<tr>
<td>Nutritious meal Planning</td>
<td>Show a sample menu and ask trainees what they think about the menu in terms of its adequacy.</td>
<td>Sample food plan Narrative on the topic</td>
<td>Trainees express their reactions on the menu.</td>
</tr>
</tbody>
</table>
Ask each trainee to plan a one-day menu for her family to be submitted on the next meeting. Paper and pencil Worksheet on sample Food plan.

Administer the post-test and discuss the correct answers. Post test questions 80% of trainees increase their knowledge on meal planning.

NARRATIVE ON MEAL PLANNING

1. What is Meal Planning?

Meal Planning is the process of thinking ahead of time and deciding what foods to include in the diet, and how much and how food will be prepared and served. It is also the proper combination of foods that will give the essential nutrients needed by the human body daily, taking into consideration the financial means of the family, physiological state of the members of the family, food availability and some important cultural practices. Meal Planning is not confined to thinking for the kind of foods to prepare but also considers the amount that will go to each member of the family.

2. Why is meal planning important?

We plan meals to be able to:

- Provide nutritious and sanitary meals
- Provide varied interesting, palatable and pleasing meals
- Economize available resources for food and avoid wastage
- Prepare and serve meals with minimum time and energy

3. What are the rules in meal planning?

- Meals should meet the nutritional needs of the family.

Different foods contain different nutrients in varying amounts. Some foods are richer in certain nutrients than others. Since no one food is complete, it is practical and economical to combine different kinds of foods. The Basic Food Groups is a good guide in selecting foods that meet the nutritional needs of the various members of the family. First, we have to choose the foods that supply
protein, minerals and vitamins and then add carbohydrate-rich foods and oil as fillers and to add flavor. A one-dish meal which contains a protein food (meat or fish), vegetables and oil will turn out cheaper and at the same time provide a combination of nutrients.

- Meals must be within the family’s food budget.

The ability of the homemaker to spend the most out of her family’s food budget is dependent on her knowledge on wise buying and proper food selection. The smaller the amount available for food, the more it is important that a homemaker knows how to select foods that will meet the nutritional needs of her family.

Here are some ways to economize on food expense:

- Buy foods in season for they are cheaper.
- Shop around and compare the food prices and buy from stores that offer the best market value.
- Prepare nutritious “one-dishmeals” enough for the family such as “sinigang, pancit, chopsuey”, etc.
- Serve foods that are readily and easily prepared.
- Make use of left overs.

- Meals must be pleasing and satisfying:

Remember that meals prepared nutritiously must be eaten and not go to waste. Therefore, meals should appeal to our senses to induce us to eat. This can be done by:

- serving attractive foods.
  For example, kamote tops salad served with tomatoes
- serving foods that blend well. Begin with a soup and follow it up with a fish or meat dish then serve last some fruits or sweets for dessert.
- serving food at their proper temperature.
  For example, soup, rice and fish should be served hot while salads should be served cold.
- serving meals that appease hunger and do not cause any distress or discomfort.

- Meals should be prepared with a minimum amount of time and energy.

Prepare foods that are simple but nutritious so that the homemaker can also have time for other activities.
4. How do we plan nutritious, low cost meals for the family?

1. Use a daily food guide in planning food combinations which provide the nutrients in the amounts needed daily.

2. Plan a variety of body-building food by including eggs and legumes twice a week. Because meat sources are generally expensive, you may substitute them with fish and legumes which are nutritious and cheaper. Other body-building foods that are inexpensive yet nutritious are diliis, clams, alamang, galunggong, mongo, beans, kadyos, etc.

3. Plan a variety of energy foods by including a serving of rootcrops twice a week and other types of cereals like corn grits, cassava, gabi, ubi, potatoes and camote, all of which are good sources of calories. Limit the use of sugars and concentrated sweets as sources of energy. Use cooking oil or coconut milk for better utilization of fat-soluble vitamins (A, D, E, K).

4. Plan two servings of vitamins A and C-rich fruits and vegetables daily.

Here’s how to do it:

First, decide on what protein dish (pang-ulam) to serve. For example, sinigang na isda.

Second, decide on what fruit or vegetables to include to complete the dish. For example, tomatoes and kangkong.

Third, decide on how rice will be served or what additional energy food will supplement rice. In this example, you come up with the following menu:

Fish Sinigang
Tomatoes/Kangkong
Rice
Fried Camote/Saba

5. In planning your meals, see to it that they consist of body building, energy giving and body regulating foods as illustrated in the sample menu. A balanced menu should then consist of the following:

For breakfast:  For lunch or supper:

<table>
<thead>
<tr>
<th>Fruit/ Juice</th>
<th>Protein dish</th>
<th>Leafy, yellow and other vegetables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protein dish</td>
<td>Rice</td>
<td>Rice</td>
</tr>
<tr>
<td>Rice or bread</td>
<td>Beverage (coffee, milk, tea and ginger tea, chocolate)</td>
<td>Fruit or dessert</td>
</tr>
</tbody>
</table>
Below are sample menus for breakfast, lunch and supper:

**BREAKFAST**
- Fried tinapa
- Ripe tomatoes
- Rice
- Coffee with milk

**LUNCH**
- Pork sinigang with sitaw and gabi
- Rice
- Banana

**SUPPER**
- Mongo guisado with Ampalaya leaves
- Rice
- Papaya

6. **How do you determine the adequacy of your meals?**

A good way to find out whether or not the food served is adequate is to compare the meals we eat with the Basic Three Food Groups. This is the simplest and quickest method of menu evaluation. It is based on the assumption that, if each of the three food groups is properly represented in the day's meals and served in recommended amounts, an average healthy individual is able to meet his nutritional needs.

This method consists of simply comparing the meals with the Basic Three Food Groups as illustrated on the following page. However, it is not enough that each of the three food groups is represented. The meals should also consist of foods that meet the recommended allowance in order to have adequate nutrition.

The following is an illustration of how to check on the adequacy of the meals eaten by comparing menu with the Basic Three Food Groups.

### SAMPLE MENU

#### ENERGY

<table>
<thead>
<tr>
<th>Breakfast</th>
<th>Lunch</th>
<th>Supper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fried tinapa</td>
<td>Pork sinigang</td>
<td>Mongo guisado</td>
</tr>
<tr>
<td>with tomatoes</td>
<td>with sitaw</td>
<td>with Ampalaya</td>
</tr>
<tr>
<td>Rice</td>
<td>and gabi</td>
<td>leaves</td>
</tr>
<tr>
<td>Coffee with sugar</td>
<td>Rice</td>
<td>Rice</td>
</tr>
<tr>
<td>Milk for children</td>
<td>Banana</td>
<td>Papaya</td>
</tr>
</tbody>
</table>

### BASIC THREE FOOD GROUPS

<table>
<thead>
<tr>
<th></th>
<th>Energy</th>
<th>Body Building</th>
<th>Body Regulating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breakfast</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Lunch</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Supper</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
</tbody>
</table>

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PRE-POST TEST
MEAL PLANNING

INSTRUCTIONS: Write √ if the statement is true and X if the statement is false.

1. Meal Planning is important because it saves us time, money and energy.
2. A well planned meal provides us with all the essential nutrients needed by each member of the family.
3. When we plan our meals, the first item that we should consider are the body building foods.
4. Buying foods that are in season is one way of economizing on food.
5. The first food that should be served first during mealtime is rice.
6. A well planned meal is elegant, tasty and expensive.
7. Gabi, ubi, cassava and corn are good alternates to rice.
8. If we take in vitamin supplements, we don’t have to eat fruits.
9. Only families with limited food budget need the daily food guide.
10. Busy mothers don’t have to recycle leftovers.

ANSWERS:
1. √  6. X
2. √  7. √
3. √  8. X
4. √  9. X
5. X  10. X
# LESSON 2

## Topic
Food Selection, Purchasing and Storage

## Time Allotment
1 hour

## Objectives
At the end of the lesson, the trainees will be able to:
1. Define and cite the importance of food selection.
2. Discuss proper food selection and purchasing techniques
3. Discuss ways to conserve nutrients and prevent spoilage through proper storage

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<th>Importance of Foods Selection and Buying</th>
<th>TEACHING-LEARNING ACTIVITIES</th>
<th>TRAINING MATERIALS</th>
<th>EVALUATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administer the pre-test.</td>
<td></td>
<td>Pen and paper</td>
<td></td>
</tr>
<tr>
<td>Present the objectives of the lesson.</td>
<td></td>
<td>Chalkboard</td>
<td></td>
</tr>
<tr>
<td>Collect assignment given in the previous lesson. Ask the trainees what pointers they considered when they planned their menu. Relate this with food selection. Discuss the importance of proper food selection.</td>
<td>Chalkboard</td>
<td>Trainees are able to cite the importance of food selection.</td>
<td></td>
</tr>
<tr>
<td>Ask the trainees about some practices in food selection. Supplement these with a checklist on proper food selection.</td>
<td>Checklist</td>
<td>Trainees are able to explain the importance of food selection in the course of the discussion.</td>
<td></td>
</tr>
<tr>
<td>Ask the trainees about their ideas on food storage and why proper food storage is important. Explain this in greater detail.</td>
<td>Narrative on the topic</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Proper Food Storage Techniques

Ask the trainees about their common food storage practices. Reinforce these with the details on proper food storage.

Administer the post-test and discuss the questions and answers.

Narrative on the topic: Trainees are able to discuss proper food storage techniques.

NARRATIVE ON FOOD SELECTION, PURCHASING AND STORAGE

1. What is proper food selection?

Proper food selection is choosing and buying the right kinds and amounts of food for the family's needs. It is the key to good nutrition and enjoyment of meals at affordable costs.

2. Why is proper food selection important?

This phase of meal management should be given time and importance by homemakers because it helps them get the most out of their money and ensures safe, nourishing, adequate and better meals.

3. How do you select and purchase food properly?

Firstly, prepare a market list based on what you plan to eat for the next two to six days.

The market list consists of the foods to buy and their specifications as to the cut of meat and weight or bulk/volume.

Secondly, buy from vendors who have reliable weighing scales. Buy early in the day to be able to buy fresh foods.

Buy only wholesome or fresh foods because they are more palatable and nutritious. The fresher the food, the less is the chance of spoilage.

Some pointers in the selection and buying of food:

a. Meat — Fresh meat should be firm to the touch, and free from off-odors. The color
of fresh meat is bright red for beef, and light pink for pork. Abnormally dark colors may be due to old age, disease at the time of slaughter, improper bleeding and prolonged storage in chilling rooms or defrosting.

b. Fish — Good quality fresh fish is free from off-odor, has bright, clear eyes, firm and resilient flesh, reddish pink gills and intact and smooth scales.

c. Seafoods — Fresh clams have tightly closed shells and are not slimy. Fresh crabs (alimango) should be alive when bought. Shrimps have firm shells, not soft to the touch, not greyish nor pinkish; with intact head, if possible bought alive.

d. Poultry — Live poultry should be healthy. Dressed or drawn chicken is free from visible pin feathers free from green spots and bruises, should not have water beneath the skin. The skin should be dry and firm, without cuts, scars or bruises. Fat is well distributed but not abundant, wings spring back into place when pulled out. Breastbones are well-fleshed and the legs are short and fleshy.

e. Eggs — Fresh eggs are usually heavy and have coarse shells. They should be free from cracks which are entry points for micro-organisms.

f. Fruits and vegetables — Fresh fruits should be mature but not over ripe, free from surface blemishes and bruises due to decay. Good calamansi fruits should be plump, shiny and dark green in color.

Leafy vegetables should be free from dirt and not shrivelled or wilted.

Rootcrop should be firm, without dark spots, free from dirt and have no deep “eyes”.

Rice should be free from undesirable odor and weevils. Old stock expands better when cooked.

g. Beverages — Freshly ground coffee is aromatic when brewed, chocolate or cocoa should be free from rancid taste/odor.

4. What is proper food storage?

Proper food storage is keeping food fresh and safe until it is consumed or cooked.

5. Why is proper food storage important?

Proper storage prevents food contamination and spoilage and helps preserve the flavor, texture, and nutrient content of food.

6. How do we store foods properly?

Usually a housewife buys food supplies that will last her family’s need for two days or until the next market day. She can store some or most of the perishable conveniently in the refrigerator if it is available. If there is none, she has to use different methods of food preservation to make the food last longer.
7. **How do we store food in the refrigerator?**

- Highly perishable items like fish, meat, poultry and shrimps are stored in the freezer compartment. They must be cleaned first and then placed in clean plastic bags properly dated and labelled. Place packs that are to be used later at the back portion.
- Less perishable food like processed meats are placed in the chiller compartment.
- Fruits and vegetables are placed in the refrigerator’s bottom vegetable bin wrapped in perforated plastic container.
- Milk and beverages are placed in covered bottles.
- Wipe eggs with dry clean cloth and put them on the eggs compartment.

8. **How do we store food when there is no refrigerator?**

- Store cooked foods in screened cabinet.
- Fish, meat, poultry can be stored in dry or cooked form to avoid spoilage. They can be preserved by cooking them in vinegar and salt.
- Store dry cereals in air-tight containers.
- Place rootcrops in dark dry places with good ventilation and away from rodents and ants.
- Store dried beans in dry clean, air-tight bottles where dried chili or bay leaves are mixed with the beans. Sun dry once in a while.
- Vegetables especially leafy ones should be wrapped in banana leaves occasionally sprinkled with water to prevent wilting.

**PRE-POST TEST**

**Food Selection, Purchasing and Storage**

**INSTRUCTIONS:** Write T if the statement is true; F if the statement is false.

1. Proper food selection is important to ensure safe, and adequate meals.
2. Fresh foods are more nutritious than canned goods.
3. Fresh beef is known for its light pink color.
4. When eggs have smooth shells, it is an indication that they are fresh.
5. When vegetables are wilted, some of its nutrients are lost.
6. When foods are not stored properly, much of their nutrients are lost.
7. Refrigeration is the only way to store food.
8. Rootcrops such as camote or potato should be stored in a dark dry place.
9. A market list is only useful when we have much money to buy foods.
10. It is advisable to buy less fresh food because they are cheaper.

ANSWERS:
1. T 6. T
2. T 7. F
3. F 8. T
4. F 9. F
5. T 10. F
LESSON 3

Topic: Food Handling and Preparation

Time Allotment: 45 minutes

Objectives: At the end of the session, the trainees will be able to:

1. Define and explain the importance of food handling
2. Discuss the different ways of handling food for consumption
3. Enumerate pointers in handling food to conserve its nutrients

<table>
<thead>
<tr>
<th>CONTENTS</th>
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<tbody>
<tr>
<td>Proper Food Handling</td>
<td>Administer the pre-test.</td>
<td>Chalkboard</td>
<td></td>
</tr>
<tr>
<td>— definition</td>
<td>State the objectives of the lesson.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>— importance</td>
<td>Draw out from the trainees their ideas on food handling and its importance. Supplement their answers with a discussion.</td>
<td>Chalkboard</td>
<td></td>
</tr>
<tr>
<td>Food Handling Tips</td>
<td>Cite common practices of housewives and ask the trainees to identify the correct practices and correct their misconceptions if there are any. Discuss some pointers on food handling using the narrative.</td>
<td>Chalkboard</td>
<td>Trainees are able to give their correct ideas on the importance of food handling.</td>
</tr>
<tr>
<td>Nutrient Conservation Through Proper Food Handling</td>
<td>Ask trainees how they prepare the following: — vegetables and fruits — meat/fish and poultry — rice From their answers, distinguish the right from wrong practices.</td>
<td>Chalkboard</td>
<td>Narrative on the topic</td>
</tr>
</tbody>
</table>

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Elaborate on this with a lecture-discussion, emphasizing nutrient conservation.

Summarize the important points in the lesson.

Administer the post-test and discuss the answers

80% of trainees increase their knowledge on food handling and preparation.

NARRATIVE ON FOOD HANDLING AND PREPARATION

1. What is food handling?
   Food handling is the proper selection, storage, preparation, cooking and serving of food to prevent loss of nutrients and food contamination.

2. Why is proper food handling important?
   • Proper food handling ensures retention of nutrients thus, prevents wastage.
   • Proper food handling makes food safer to eat, thus, ensures better health and nutrition.

3. What are some pointers in handling food to keep it safe for consumption?
   • Observe personal hygiene:
     — Have clean hands and nails and clean working clothes when preparing foods.
     — Cover mouth when coughing or sneezing and then wash hands before handling foods again.
     — Don’t allow persons with infectious diseases to handle food.
   • Get rid of insects and other household pests by cleaning all food storage areas.
   • Cook meat thoroughly before eating.
   • Fish and shellfish should not be eaten raw unless obtained from safe sources.
   • Vegetables should be washed thoroughly and then boiled or steamed.
   • Fruits eaten with their skin or peelings should be thoroughly washed with soap and water to remove spray residues.
4. How do we conserve nutrients in preparation and cooking?

One important aspect in food handling and preparation is nutrient conservation. By preventing nutrient losses, we are able to get the most of our money’s worth at the same time meet our nutritional needs. Below, are some pointers on how to conserve nutrients during food preparation and cooking:

- Select fresh fruits and vegetables at the right maturity and buy at the peak of the season. They should be free from defects and bruises.
- Buy fresh produce as needed, refrigerate, but do not store long in the refrigerator to prevent wilting. The shorter the time between harvest and cooking, the more nutrients are present in vegetables.
- Nutrients are found in the skin or just beneath the skin of fruits and vegetables. Wash them before paring and cutting and not after. Peel them very thinly.
- Do not thaw frozen vegetables but drop them in boiling water.
- In cooking vegetables and fruits, keep the skin intact. Use minimum amount of water and do not discard the stock or cooking water. Utilize them for soups and sauces.
- Avoid overheating fats and reusing cooking oil many times to prevent rapid onset off-flavors and rancidity.
- Cook for the shortest time possible. Steaming, waterless cooking, pressure cooking are recommended because nutrient losses are reduced.
- Avoid undue stirring and keep pan covered. Uncovering the pan for the first few minutes of cooking retains the natural green color and allow escape of strong odors.
- Serve vegetables immediately after cooking to conserve vitamins.

5. What are the ways to have varied, pleasing and satisfying meals?

- Use proper condiments and spices.
- Use proper techniques in food preparation. For example, vegetables may be shredded or cut in strips, cubes, etc.
- Use proper cooking techniques.
  a. Cook vegetables for a short time to retain their natural colors and textures and to prevent loss of nutrients. Cook strong-flavored vegetables in uncovered saucepan to evaporate the unpleasant odor.
  b. In cooking frozen vegetables, do not thaw, just drop in boiling water while still frozen.
c. Avoid overcooking protein foods such as meat, fish and seafoods. Too high a temperature makes the food tough and causes high shrinkage.

d. Frozen meats should be thawed first at room temperature before cooking. If cooked while frozen, the food becomes tough and dry.

e. When-cooking hard-cooked eggs, cool immediately to prevent discoloration of the yolk.

PRE-POST TEST
FOOD HANDLING AND PREPARATION

INSTRUCTIONS: Write T if the statement is true; F if the statement is false.

1. Proper food handling is important to prevent loss of nutrients in food.
2. Rice should be washed several times before cooking.
3. Fruits eaten with their skin should be thoroughly washed with soap and water.
4. Vegetables should be cooked with plenty of water.
5. Foods should be continually stirred during cooking to avoid burning.
6. Fruits and vegetables should be washed before and after peeling or paring.
7. Keeping pots covered while cooking will prevent nutrient loss.
8. Fish and shellfish should not be eaten raw.
9. Overheating of oil is one way of preventing off-flavors.
10. In cooking vegetables, the cooking water can be thrown away since it contains nothing but water.

ANSWERS: