

# Combating Malnutrition

Preventative Healthcare



Training Pac

## INSTRUCTIONS

This Training Pac has a text and separate Workbook that contains the exercises for the text. Follow these steps:

1. Read through the entire text to obtain an overview of the text content.
2. Become familiar with the Objectives at the beginning of each section.
3. Then reread the text while completing the exercises in the Workbook.

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### Objectives

When you have successfully completed this Training Pac, you will be able:

- To learn what foods a person must eat to be healthy and avoid malnourishment
- To learn important things you can do to recognize and prevent malnutrition
- To learn about vitamins and how they can benefit the health of everyone
- To learn how to treat malnourished children and get them on the road to health

# I. WHAT TO EAT TO BE HEALTHY

## SICKNESSES CAUSED BY NOT EATING WELL

Good food is needed for a person to grow well, work hard, and stay healthy. Many common sicknesses come from not eating enough.

A person who is weak or sick because he does not eat enough, or does not eat the foods his body needs, is said to be poorly nourished – or *malnourished*. He suffers from *malnutrition*.

Poor nutrition can result in the following health problems:

### In Children

- Failure of a child to grow or gain weight normally
- Slowness in walking, talking, or thinking
- Big bellies, thin arms and legs
- Common illnesses and infections that lasts longer, are more severe, and more often cause death
- Lack of anxiety, child is sad and does not play
- Swelling of feet, face, and hands, often with sores or marks on the skin
- Thinning, straightening, or hair loss, or loss of its color and shine
- Poor vision at night, dryness of eyes, blindness

### In Anyone

- Weakness and tiredness
- Loss of appetite
- anemia
- Soreness in the corner of the mouth
- Painful or sore tongue
- “burning” or numbness of the feet

Although the following problems may have other causes, they are sometimes caused and often made worse by not eating well:

- Diarrhea
- Frequent infections
- Ringing or buzzing in the ears
- Headache
- Bleeding or redness of the gums
- Skin bruises easily
- nosebleeds
- Stomach discomfort
- Dryness and cracking of the skin
- Heavy pulsing of the heart or of the “pit” of the stomach (palpitations)
- Anxiety (nervous worry) and various nerve or mental problems
- Cirrhosis (liver disease)

Poor nutrition during pregnancy causes weakness and anemia in the mother and increases the risk of her dying during or after childbirth. It is also a cause of miscarriage, or of the baby being born dead, too small, or defective.

**Eating right helps the body resist sickness.**

Not eating well maybe the direct cause of the health problems just listed. But most important, poor nutrition weakens the body's ability to resist all kinds of diseases, especially infections:

- Poorly nourished children are much more likely to get severe diarrhea, and to die from it, than are children who are well nourished.
- Measles is especially dangerous where many children are malnourished.
- Tuberculosis is more common, and gets worse more rapidly, in those who are malnourished.
- Cirrhosis of the liver, which comes in part from drinking too much alcohol, is more common and worse in persons who are poorly nourished.
- Even minor problems like the common cold are usually worse, last longer, or lead to pneumonia more often in persons who are poorly nourished.

**Eating right helps the sick get well.**

Not only does good food help prevent disease, it helps the sick body fight disease and become well again. So when a person is sick, eating enough nutritious food is especially important.

Unfortunately, some mothers stop feeding a child or stop giving certain nutritious foods when he is sick or has diarrhea – so the child becomes weaker, cannot fight off the illness, and may die. Sick children need food! If a sick child will not eat, encourage him to do so.

Feed him as much as he will eat and drink. And be patient. A sick child often does not want to eat much. SO feed him something many times during the day. Also, try to make sure that he drinks a lot of liquid so that he urinates (passes urine) several times a day. If the child will not take solid foods, mash them and give them as much as gruel.

Often the signs of poor nutrition first appear when a person has some other sickness. For example, a child who has had diarrhea for several days may develop swollen hands and feet, a swollen face, dark spots, or peeling sores in his legs. These are signs of severe malnutrition. The child needs more good food! And more often. Feed him many times during the day.

During and after any sickness, it is very important to eat well.

EATING WELL AND  
KEEPING CLEAN  
ARE THE BEST  
GUARANTEES  
OF GOOD HEALTH



## II. WHY IS IT IMPORTANT TO EAT RIGHT?

People who do not eat right develop malnutrition. This can happen from not eating enough food of any kind (general malnutrition or “under nutrition”), from not eating the right kinds of foods (specific types of malnutrition), or from eating too much of certain foods (getting too fat).

Anyone can develop general malnutrition, but it is especially dangerous for:

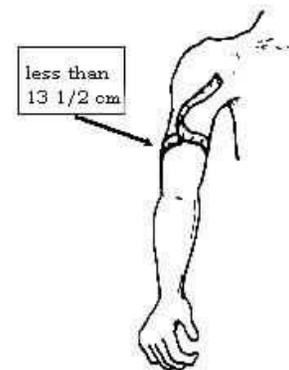
- Children, because they need lots of food to grow well and stay healthy;
- Women of child-bearing age, especially if they are pregnant or breast feeding, because they need extra food to stay healthy, to have healthy babies, and to do their daily work;
- Elderly persons, because often they lose their teeth and their taste for food, so they cannot eat much at one time, even though they still need to eat well to stay healthy.

A malnourished child does not grow well. She generally is thinner and shorter than other children. Also, she is more likely to be irritable, to cry a lot, to move and play less than other children, and to get sick more often. If the child also gets diarrhea or other infections, she will lose weight. A good way to check if a child is poorly nourished is to measure the distance around her upper arm.

### Checking Children for Malnutrition: The Sign of the Upper Arm

After 1 year of age, any child whose middle upper arm measures less than 13.5 cm. around is malnourished – no matter how “fat” his feet, hands, and face may look. If the arm measures less than 12.5 cm., he is severely malnourished.

Another good way to tell if a child is well nourished or poorly nourished is to weigh him regularly; once a month in the first year, then once every 3 months. A healthy, well-nourished child gains weight regularly.



## III. PREVENTING MALNUTRITION

To stay healthy, our bodies need plenty of good food. The food we eat has to fill many needs. First, it should provide enough energy to keep us active and strong. Also, it must help build, repair, and protect the different parts of our bodies. To do this we need to eat a combination of foods everyday.

### MAIN FOODS AND HELPER FOODS

In much of the world, most people eat one main low-cost food with almost every meal. Depending on the region, this may be rice, maize, millet, wheat, cassava

Potato, breadfruit; or banana. This main food usually provides most of the body's daily food needs.

However, the main food alone is not enough to keep a person healthy. Certain helper foods are needed. This is especially true for growing children, women who are pregnant or breastfeeding, and older people.

Even if a child regularly gets enough of the main food to fill her, she may become thin and weak. This is because the main food often has so much water and fiber in it, that the child's belly fills up before she gets enough energy to help her grow.

We can do 2 things to help meet such children's energy needs:

1. Feed children more often – at least 5 times a day when child is very young, too thin, or not growing well. Also give them snacks between meals.



CHILDREN, LIKE CHICKENS,  
SHOULD ALWAYS BE PECKING.



2. Also add high energy “helper foods” such as oils and sugar or honey to the main food. It is best to add vegetable oil or foods containing oils – nuts, groundnuts (peanuts), or seeds, especially pumpkin or sesame seeds.



To meet her energy needs, a child would need to eat this much boiled rice.

If the child's belly fills up before her energy needs are met, the child will become thin and weak.



But she needs only this much rice when some vegetable oil is mixed in it.

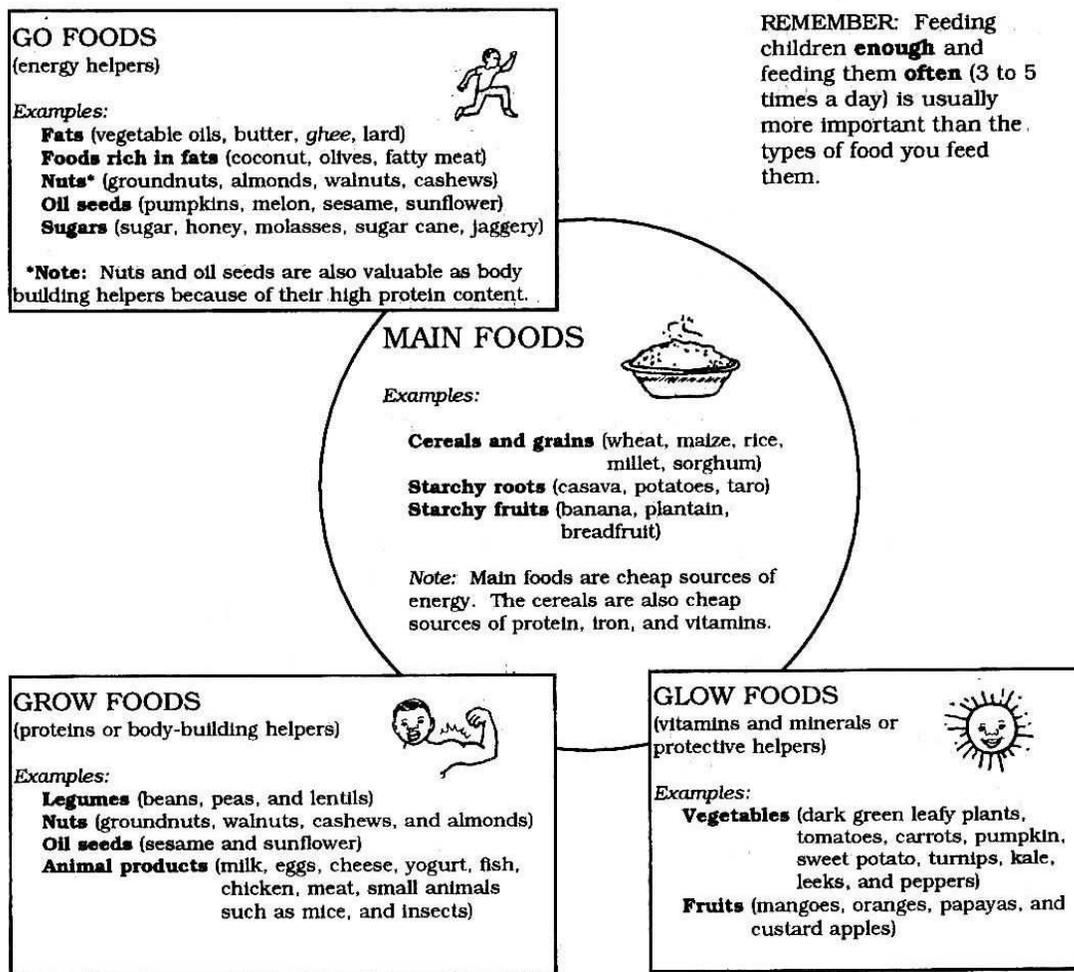
High energy foods added to the main food help supply extra energy. Also, 2 other kinds of helper foods should be added to the main food:

When possible, add body-building foods (proteins) such as beans, milk, eggs, groundnuts, fish and meat.

Also try to add protective foods such as orange or yellow fruits and vegetables, and also dark green leafy vegetables. Protective food supply important vitamins and minerals.

## EATING RIGHT TO STAY HEALTHY

The “main food” your family eats usually provides most-but not all- of the body’s energy and other nutritional needs. By adding helper foods to the main food you can make low-cost nutritious meals. You do not have to eat all the food listed here to be healthy. Eat the main foods you are accustomed to, and add whatever “helper foods” are available in your area. Try to include “helper foods” from each group, as often as possible.



*Note to nutrition workers:* This plan for meeting food needs resembles teaching about “food groups”, but places more importance on giving enough of the traditional “main food” and above all, giving frequent feedings with plenty of energy-rich helpers. This approach is more adaptable to the resources and limitations of poor families.

## IV. HOW TO RECOGNIZE MALNUTRITION

Among poor people, malnutrition is often most severe in children, who need lots of nutritious foods to grow well and stay healthy. These are different forms of malnutrition:

## MILD MALNUTRITION

This is the most common form, but it is not always obvious. The child simply does not grow or gain weight as fast as a well-nourished child. Although he may appear rather small and thin, he usually does not look sick. However, because he is poorly nourished, he may lack strength (resistance) to fight infections. So he becomes more seriously ill and takes longer to get well than a well-nourished child.

Children with this form of malnutrition suffer more from diarrhea and colds. Their colds usually lasts longer and are more likely to turn into pneumonia. Measles, tuberculosis, and many other infectious diseases are far more dangerous for these malnourished children. More of them die.

It is important that children like this get special care and enough food *before* they become seriously ill. This is why regular weighing or measuring around the middle upper arm of young children is so important. It helps us to recognize mild malnutrition early and correct it.

Follow the guidelines for preventing malnutrition.



## SEVERE MALNUTRITION

This occurs most often in babies who stopped breast feeding early or suddenly, and who are not given sufficient high energy foods often enough. Severe malnutrition often starts when a child has diarrhea or another infection. We can usually recognize children who are severely malnourished without taking any measurement. The 2 main examples are:

### DRY MALNUTRITION – OR MARASMUS

This child does not get enough of any kind of food. He is said to have *dry malnutrition* or marasmus. In other words, he is starved. His body is small, very thin and wasted. He is little more than skin and bones.

This child needs more food – especially energy foods.



THIS CHILD IS JUST SKIN AND BONES

## WET MALNUTRITION – OR KWASHIORKOR

This child's condition is called "wet malnutrition" because his feet, hands, and face are swollen. This can happen when a child does not eat enough "body-building" helper foods – or proteins. Or it can happen when he does not get enough energy foods, and his body burns up whatever proteins he eats for energy.

Eating beans, lentils, or other foods that have been stored in a damp place and are a little moldy may also be a part of the cause.

This child needs more food more often  
– a lot of foods rich in energy, and some foods rich in protein.

Also try to avoid foods that are old, and maybe spoiled or moldy.



THE CHILD IS SKIN, BONES AND WATER

## OTHER FORMS OF MALNUTRITION

Among poor people, the most common forms of severe malnutrition are due to either hunger (marasmus) or lack of protein (kwashiorkor). However, other forms of malnutrition may result when certain vitamins and minerals are missing from foods people eat. Many of these specific types of malnutrition are discussed more fully later:

- Night blindness in children who do not get enough vitamin A.
- Rickets from lack of vitamin D.
- Various skin problems, sores on the lips and mouth, or bleeding gums from not eating enough fruits, vegetables, and other foods containing certain vitamins.
- Anemia in people who do not get enough iron.
- Goiter from lack of iodine.

## WAYS OF EATING BETTER WHEN YOU DO NOT HAVE MUCH MONEY OR LAND

There are many reasons for hunger and poor nutrition. One main reason is poverty. In many parts of the world a few people own most of the wealth and the land. They may grow crops like coffee or tobacco, which they sell to make money, but which have no food value. Or the poor may farm small plots of borrowed land, while the owners take a big share of the harvest. The problem of hunger and poor nutrition will never be completely solved until people learn to share with each other fairly.

But there are many things people can do to eat better at low cost - and by eating well gain strength to stand up for their rights. Some suggestions for increasing food production include improved use of land through rotating crops, contour ditches, and irrigation; also ideas for breeding fish, beekeeping, grain storage, and family gardens. If a whole village and a group of families works together on some of these things, a lot can be done to improve nutrition.

When considering the question of food and land, it is important to remember that a given amount of land can feed only a certain number of persons. For this reason, some people argue that "the small family lives better". However, for many poor families, to have children is an economic necessity. By the time they are 10 or 12 years old, children of poor families often produce more than they cost. Having a lot of children increases the chance that parents will receive the help and care they need in old age.

In short, lack of social and economic security creates the need for parents to have many children. Therefore, the answer to gaining a balance between people and the land does not lie in telling poor people to have smaller families. It lies in redistributing the land more fairly, paying fair wages, and taking other steps to overcome poverty. Only then can people *afford* small families and hope to achieve a lasting balance between people and land.

When money is limited, it is important to use it wisely. This means cooperation and looking ahead. Too often the father of the poor family will spend the little bit of money he has on alcohol and tobacco rather than on buying nutritious food, a hen to lay eggs, or something to improve the family's health. Men who drink together would do well to get together sometime when they are sober, to discuss these problems and look for a healthy solution.

Also, some mothers buy sweets or soft drinks (fizzy drinks) for their children when they could spend the same money buying eggs, milk, nuts, or other nutritious foods. This way their children could become more healthy for the same amount of money. Discuss this with the mothers and look for solutions.

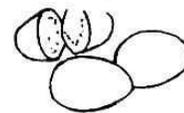
NO



IF YOU HAVE LITTLE MONEY  
AND WANT TO HELP YOUR  
CHILD GROW STRONG:

DO NOT BUY HIM A SOFT DRINK  
OR SWEETS - BUY HIM 2 EGGS  
OR A HANDFUL OF NUTS.

YES



BETTER FOODS AT LOW COST:

Many of the world's people eat a lot of bulky, starchy foods, without adding enough helper foods to provide the extra energy, body-building, and protection they need. This is partly because many helper foods are expensive - especially those that come from animals, like milk and meat.

Most people cannot afford much food from animals. Animals require more land for the amount of food they provide. A poor family can usually be better nourished if they grow or buy plant foods like beans, peas, lentils, and groundnuts together with a main food such as maize or rice, rather than buy costly animal foods like meat and fish.

People can be strong and healthy when most of their proteins and other helper foods come from plants.

However, where family finances and local customs permit, it is wise to eat when possible, some food that comes from animals. This is because even plants high in protein (body-building helpers) often do not have all of the different proteins the body needs.

Try to eat a variety of plant foods. Different plants supply the body with different proteins, vitamins, and minerals. For example, beans and maize together meet the body's needs much better than either beans or maize alone. And if other vegetable and fruits are added, this is even better.

Here are some suggestions for getting more vitamins, minerals, and proteins at low cost.

1. Breast milk. This is the cheapest, healthiest, and most complete food for baby. The mother can eat plenty of plant protein and turn it into the perfect baby food—breast milk. Breast feeding is not only the best for baby, it saves money and prevents diseases!

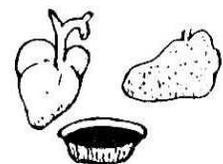
2. Eggs and chickens. In many places eggs are one of the cheapest and best forms of animal protein. They can be cooked and mixed with foods given to babies who cannot get breast milk. Or they can be given along with breast milk as the baby grows older.

Eggshells that are boiled, finely ground, and mixed with food can provide needed calcium for pregnant women who develop sore, loose teeth or muscle cramps.

Chicken is a good, often fairly cheap form of animal protein – especially if the family raises its own chickens.

3. Liver, heart, kidney, and blood. These are especially high in protein, vitamins, and iron (for anemia) and are often cheaper than other meat. Also fish is often cheaper than other meat, and is just as nutritious.

4. Beans, peas, lentils and other legumes are a good cheap source of protein. If allowed to sprout before cooking and eating, they are higher in vitamins. Baby food can be made from beans by cooking them well, and then straining them through a sieve, or by peeling off their skins, and mashing them.



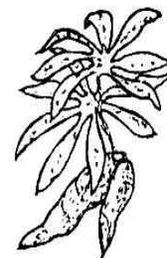
Beans, peas, and other legumes are not only a low cost form of protein. Growing these crops makes the soil richer so that the crops will grow better afterwards. For this reason, crop rotation and mixed crops are a good idea.



5. Dark green leafy vegetables have some iron, a lot of vitamin A, and some protein. The leaves of sweet potatoes, beans, and peas, pumpkins and squash, and baobab are especially nutritious. They can be dried, powdered, and mixed with babies' gruel.

Note: Light green vegetables like cabbage and lettuce have less nutritional value. It is better to grow ones with dark-colored leaves.

6. Cassava (manioc) leaves contains 7 times as much protein and more vitamins than the root. If eaten together with the root, they add food value at no additional cost. The young leaves are best.



7. Lime-soaked maize (corn). When soaked in lime before cooking, as is the custom in much of Latin America, maize is richer in calcium. Soaking in lime allows more of the vitamins (niacin) and protein to be used by the body.

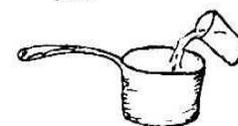


8. Rice, wheat, and other grains are more nutritious if their outer skins are not removed during milling. Moderately milled rice and whole wheat contain more proteins, vitamins, and minerals than the white, over-milled product.

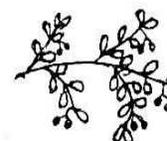


Note: The protein in wheat, rice, maize, and other grains can be better used by the body when they are eaten with beans or lentils.

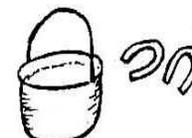
9. Cooked vegetables, rice, and other foods little in water. And do not overcook. This way fewer vitamins and proteins are lost. Be sure to drink the leftover water, or use it for soups or in other foods.



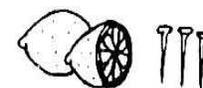
10. Many wild fruits and berries are rich in vitamin C as well as natural sugars. They provide extra vitamins and energy. (Be careful not to eat berries or fruit that are poisonous.)



11. Cooking in iron pots or putting a piece of old iron or horseshoe in the pan when cooking beans and other foods adds iron to food and helps prevent anemia. More iron will be available if you also add tomatoes.



For another source of iron, put some iron nails in a little lemon juice for a few hours. Then make lemonade with the juice and drink it.



12. In some countries, low-cost baby food preparation are available, made from different combinations of soybean, cotton seed, skim milk, dried fish. Some taste better than others, but most are well-balanced foods. When mixed with gruel, cooked cereal, or other baby food, they add to its nutrition content at low cost.



## V. WHERE TO GET VITAMINS: IN PILLS, INJECTIONS, SYRUPS – OR IN FOODS?

Anyone who eats a good mixture of foods, including vegetables and fruits, gets all the vitamins he needs. It is always better to eat well than to buy vitamin pills, injections, syrups, or tonics.



YES

If you want vitamins, buy eggs or other nutritious foods instead of pills or injections.



NO

Sometimes nutritious food are scarce. If a person is poorly nourished, he should eat as well as he can and perhaps take vitamins besides.

Vitamins taken by mouth work as well as injections, cost less, and are not as dangerous. Do not inject vitamins! It is better to swallow them – preferably in the form of nutritious foods.

If you buy vitamin preparations, be sure they have all these vitamins and minerals:

- ◆ Niacin (niacinamide)
- ◆ Vitamin B<sub>1</sub> (thiamin)
- ◆ Vitamin B<sub>2</sub> (riboflavin)

- ◆ Iron (ferrous sulfate, etc.) – especially for pregnant women. (For people with anemia, multi-vitamin pills do not have enough iron to help much. Iron pills are more helpful.)

In addition, certain people need extra:

- ◆ Folic Acid (folicin), for pregnant Women

- ◆ Vitamin B<sub>6</sub> (pyridoxine), for small children and persons taking medicine for tuberculosis

For small children:

- ◆ Vitamin A
- ◆ Vitamin C (ascorbic acid)
- ◆ Vitamin D
- ◆ Iodine (in areas where goiter is common)

- ◆ Calcium, for children and breast feeding mothers who do not get enough calcium in foods such as milk, cheese, or foods prepared with lime.

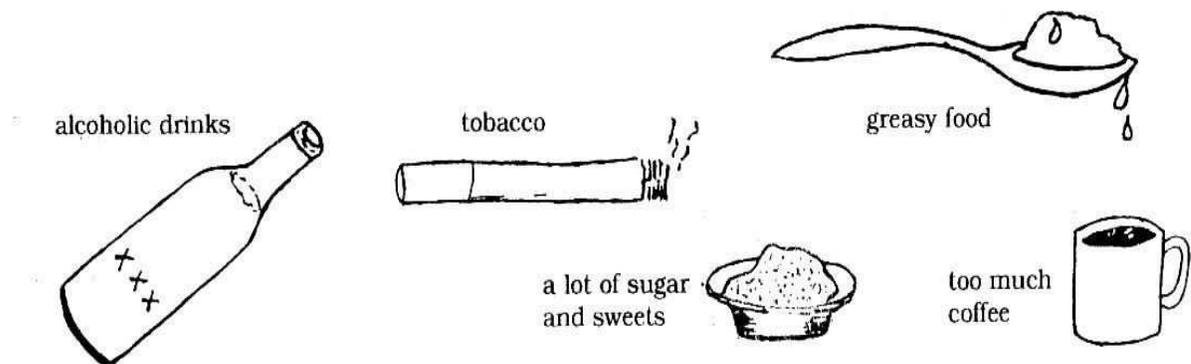
## VI. THINGS TO AVOID IN OUR DIET

A lot of people believe that there are many kinds of food that will hurt them, or that they should not eat when they are sick. They may think of some kinds of foods as “hot” and others as “cold”, and not permit hot foods for “hot” sicknesses or cold foods for “cold” sicknesses. Or they may believe that many different foods are bad for a mother with a newborn child. Some of these beliefs are reasonable but others do more harm than good. Often the foods people think they should avoid when they are sick are the very foods they need to get well.

A sick person has even greater need for plenty of nutritious food than a healthy person. We should worry less about foods that might harm a sick person and think more about foods that help make him healthy – for example: high energy foods together with fruit, vegetables, legumes, nuts, milk, meat, eggs, and fish. As a general rule:

The same foods that are good for us when we are healthy are good for us when we are sick.

Also, the things that harm us when we are healthy do us even more harm when we are sick. Avoid these things:



- Alcohol causes or makes worse diseases of the liver, stomach, heart, and nerves. It also causes social problems.
- Smoking can cause chronic (long-term) coughing or lung cancer and other problems. Smoking is especially bad for people with lung diseases like tuberculosis, asthma, and bronchitis.
- Too much greasy food or coffee can make stomach ulcers and other problems of the digestive tract worse.
- Too much sugar and sweets spoil the appetite and rot the teeth. However, some sugar with other foods may help give needed energy to a sick person or poorly nourished child.

A few diseases require not eating certain foods. For example, people with high blood pressure, certain heart problems, or swollen feet should use little or no salt. Too much salt is not good for anyone. Stomach ulcers and diabetes also require special diets.

## VII. THE BEST DIET FOR SMALL CHILDREN

### THE FIRST 4 MONTHS OF LIFE:

For the first 4 months give the baby mother's milk and nothing else.



Breast milk is the best and purest food for babies. It is better than any baby food or milks you can buy. If you give the baby only breast milk during the first 4 – 6 months, this helps protect him against diarrhea and many infections. It is best not to give extra water or teas, even in hot water.

Some mothers stop breast feeding early because they think that their milk is not good enough for their baby, or that their breasts are not making enough milk. However, a mother's milk is always very nutritious for her baby, even if the mother herself is thin and weak. Also, nearly all mothers can produce all the breast milk their babies need:

- ◆ The best way for a mother to keep making enough breast milk is to breast feed the baby more often. Do not begin to feed the baby other foods before he is 4 months old. After the baby begins to eat other foods, always breastfeed him before giving other foods.
- ◆ If a mother's breasts produce little or no milk, she can often start producing plenty of milk again. She should eat well, drink lots of liquid, and let her baby suck her breasts often, before giving other foods. After each breast feeding, give the baby, by cup (not bottle), some other type of milk-like boiled cow's or goat's milk, canned milk, or powdered milk. (Do not use condensed milk.) Add a little sugar or vegetable oil to any of these milks.

Note: Whatever type of milk is used, some cooled, boiled water should be added. Here are two examples of correct formulas:

#1		#2
2 parts boiled, cooled cow's milk 1 part boiled, cooled water 1 large spoonful sugar or oil for each large glass	A simple line drawing of a tall glass. Two horizontal lines are drawn inside the glass, one near the top and one near the bottom, representing the two parts of milk. A single horizontal line is drawn near the bottom, representing the one part of water. Arrows point from the text to these lines.	2 parts canned evaporated milk 3 parts boiled, cooled water 1 large spoonful sugar or oil for each large glass
		A simple line drawing of a tall glass. Two horizontal lines are drawn inside the glass, one near the top and one near the bottom, representing the two parts of milk. Three horizontal lines are drawn between the two milk lines, representing the three parts of water. Arrows point from the text to these lines.

If non-fat milk is used, add another spoonful of oil.

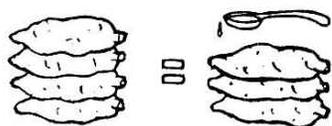
- ◆ If possible, boil the milk and water. It is safer to feed the baby with a cup (or cup and spoon) than to use a baby bottle. Baby bottles and nipples are hard to keep clean and can cause infections and diarrhea. If a bottle is used, boil it and the nipples each time before the baby is fed.
- ◆ If you cannot buy milk for the child, make a porridge from rice, cornmeal, or other cereal. Always add to this some skinned beans, eggs, meats, chicken, or other protein. Mash these well and give them as a liquid. If possible add sugar and oil.

**WARNING:** Cornmeal or rice water is not enough for a baby. The child will not grow well. He will get sick easily and may die. The baby needs a main food with added helper foods.

FROM 4 MONTHS TO 1 YEAR OF AGE:

1. Keep giving breast milk, if possible until the baby is 2 or 3 years old.
2. When baby is between 4 and 6 months old, start giving her other foods in addition to breast milk. Always give the breast first, and then the other foods. It is good to start with gruel or porridge made from the main food such as maize meal or rice cooked in water or milk. Then start adding a little cooking oil for extra energy. After a few days, start adding other helper foods. But start with just a little of new food, and add only 1 at a time or the baby may have trouble digesting them. These new foods need to be well cooked and mashed. At first they can be mixed with little breast milk to make them easier for the baby to swallow.
3. Prepare inexpensive, nutritious feedings for the baby by adding helper foods to the main food. Most important is to add foods that give extra energy (such as oil) and-when-ever-possible-extra iron (such as dark green leafy vegetables).

Remember, a young child's stomach is small and cannot hold much food at one time. So feed her often, and add high-energy helpers to the main food.



A spoonful of cooking oil is added to a child's food means he has to eat only  $\frac{3}{4}$  as much of the local main food in order to meet his energy needs. The added oil helps make sure he gets enough energy (calories) by the time his belly is full.

**CAUTION:** The time when a child is most likely to become malnourished is from 6 months to 2 years old. This is because breast milk by itself does not provide enough energy for a baby after 6 months of age. Other foods are needed, but often the foods given do not contain enough energy either. If the mother also stops breast feeding, the child is even more likely to become malnourished.

For a child of this age to be healthy we should:

KEEP FEEDING HER BREAST MILK –AS MUCH AS BEFORE.  
FEED HER OTHER NUTRITIOUS FOODS ALSO, ALWAYS STARTING WITH JUST A LITTLE. FEED HER AT LEAST 5 TIMES A DAY AND GIVE HER SNACKS BETWEEN MEALS. MAKE SURE THE FOOD IS CLEAN AND FRESHLY PREPARED. FILTER, BOIL, OR PURIFY THE WATER SHE DRINKS. KEEP THE CHILD AND HER SURROUNDINGS CLEAN. WHEN SHE GETS SICK, FEED HER EXTRA WELL AND MORE OFTEN, AND GIVE HER PLENTY OF LIQUIDS TO DRINK.



## ONE YEAR AND OLDER:

After a child is 1 year old, he can eat the same foods as adults, but should continue to breast feed (or drink milk whenever possible).

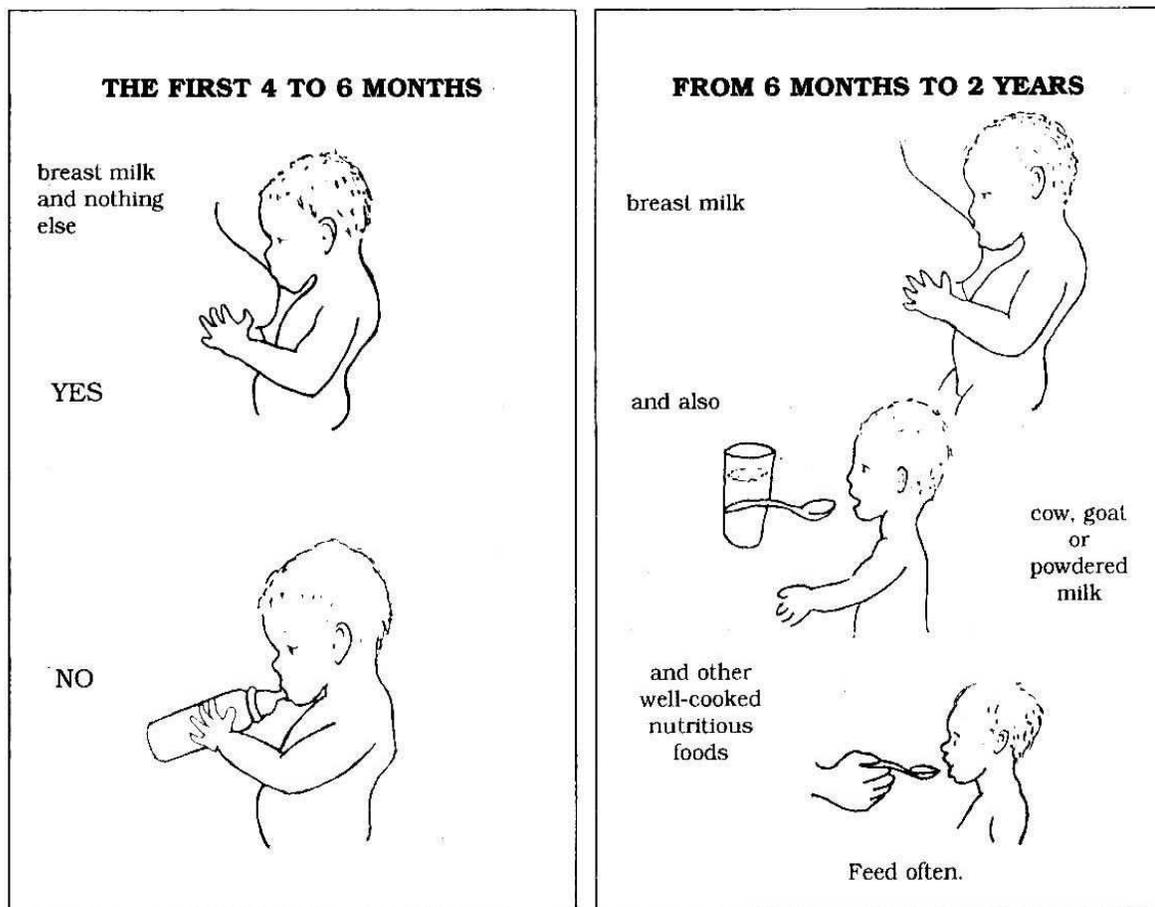
Every day, try to give the child plenty of the main food that people eat, together with “helper” foods that give added energy, proteins, vitamins, iron, and minerals so that he will grow up strong and healthy.

To make sure that the child gets enough to eat, serve him in his own dish, and let him take as long as he needs to eat his meal.

Children and candy: Do not accustom small children to eating a lot of candy and sweets or drinking soft drinks (colas). When they have too many sweets, they no longer want enough of other foods they need. Also, sweets are bad for their teeth.

However, when food supply is limited or when the main foods have a lot of water or fiber in them, adding little sugar and vegetable oil to the main food provides extra energy and allows children to make fuller use of the protein in the food they get.

## THE BEST DIET FOR CHILDREN



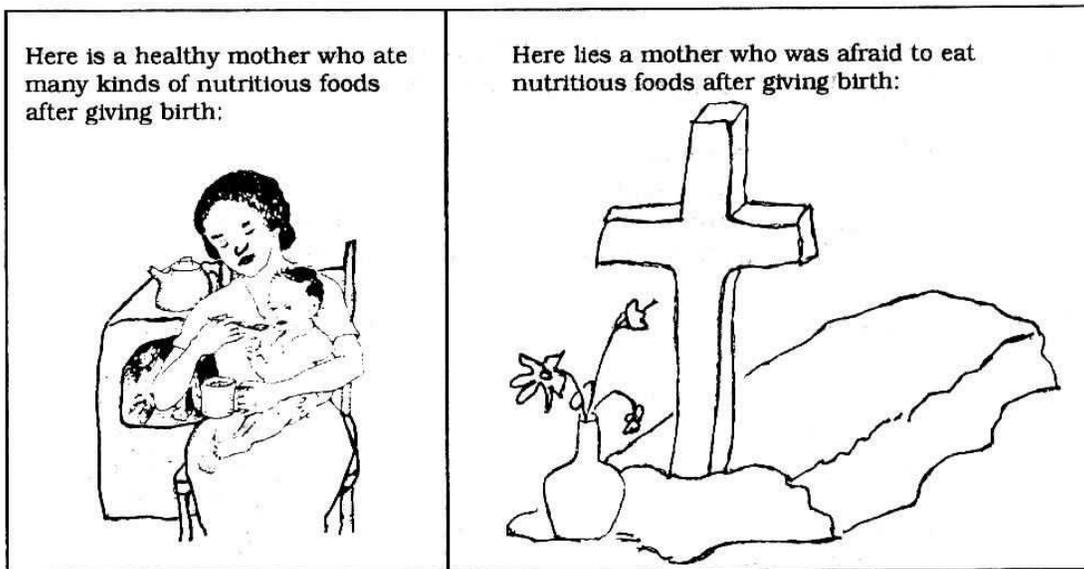
## VIII. HARMFUL IDEAS ABOUT DIET

### 1. The diet of mothers after giving birth:

In many areas there is a dangerous popular belief that a woman who has just had a baby should not eat certain foods. This folk-diet which forbids some of the most nutritious foods and may only let the new mother eat things like cornmeal, noodles, or rice soup makes her weak and anemic. It may even cause her death, by lowering her resistance to hemorrhage (bleeding) and infection.

After giving birth a mother needs to eat the most nutritious foods she can get.

In order to fight infections or bleeding and to produce enough milk for her child, a new mother should eat the main food together with plenty of body-building foods like beans, eggs, chicken, and if possible, milk products, meat and fish. She also needs protective foods like fruits and vegetables, and high-energy helpers (oils and fatty foods). None of these foods will harm her; they will protect her and make her stronger.



2. It is not true that oranges, guavas, or other fruits are bad for a person who has a cold, the flu, or a cough. In fact, fruits like oranges and tomatoes have a lot of vitamin C, which help fight colds and other infections.
3. It is not true that certain foods like pork, spices, guavas cannot be eaten while taking medicine. However, when a person has a disease of the stomach or other parts of the digestive system, eating a lot of fat or greasy foods may make this worse-whether or not one is taking medicines.

## CHILDREN'S GROWTH AND THE "ROAD TO HEALTH"

A healthy child grows steadily. If he eats enough nutritious food, and if he has no serious illness, a child gains weight each month.

A child who grows well is healthy.

A child who gains weight more slowly than other children, stops gaining weight, or is losing weight is not healthy. He may not be eating enough or he may have a serious illness, or both.

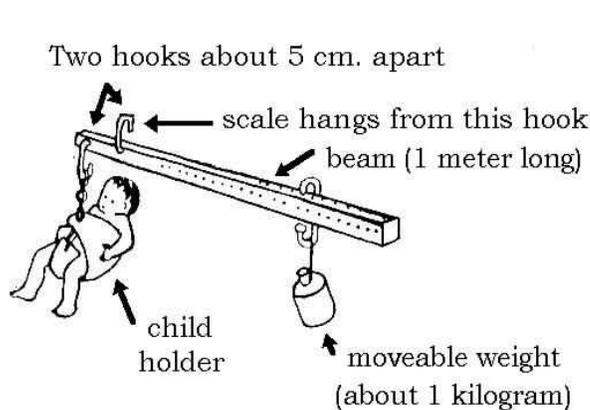
A good way to check whether a child is healthy and is getting enough nutritious food is to weigh him each month and see if he gains weight normally. If a monthly record of a child's weight is kept on a Child Health Chart, it is easy to see at a glance whether the child is gaining weight normally.

When used well, the charts will tell mothers and health workers when a child is not growing normally, so that they can take early action. They can make sure the child gets more to eat, and can check for and treat any illness the child may have.

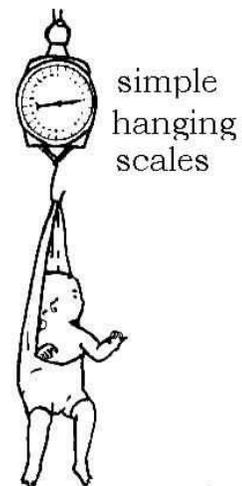
On the next page is a typical Child Health Chart. Similar charts are produced in local languages by the Health Departments in many countries.

It is a good idea for every mother to keep a Child Health Chart for each of her children under 5 years of age. If there is a health center or "under fives clinic" nearby, she should take her children, with their charts, to be weighed and to have a "check-up" each month. The health worker can help explain the chart and its use.

To protect the Child Health Chart, keep it in a plastic envelope.



Weight is correct when beam stays horizontal.



# SAMPLE CHILD HEALTH CHART

**WATCH THE DIRECTION OF THE LINE SHOWING THE CHILD'S GROWTH**

- GOOD**  
Child growing well
- DANGER**  
Not gaining weight, find out why
- VERY DANGEROUS**  
Losing weight. May be ill, needs extra care

**WRITE ON THE CHART**

Any illness e.g. diarrhoea, measles

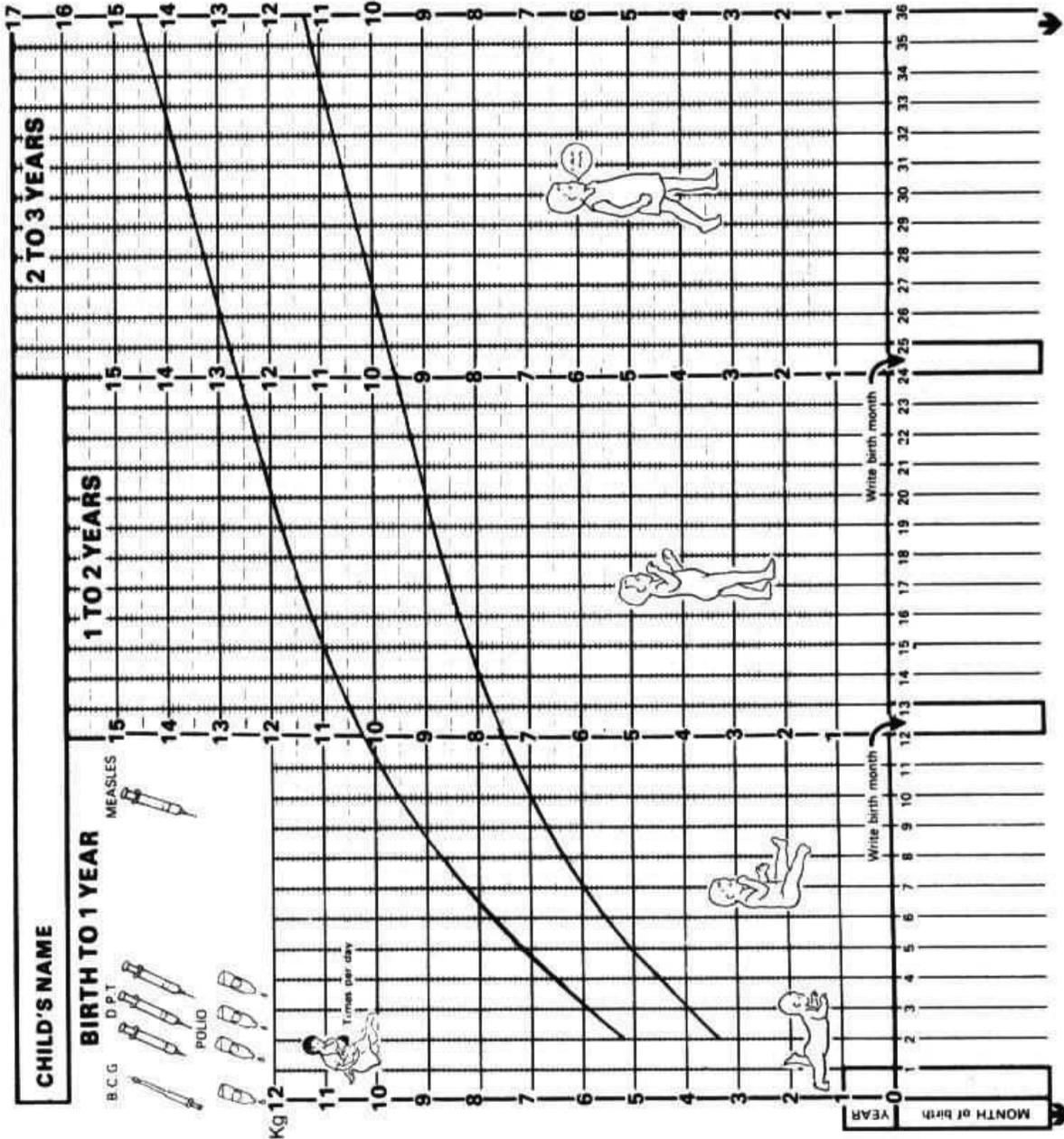
Admission to hospital

Solids introduced

Breast feeding stopped

Birth of next child

like this—



Remember: In children, sicknesses often become serious very quickly. An illness that takes day or weeks to severely harm or kill an adult may kill a small child in hours. So, it is important to notice early signs of sickness and attend to them right away.

## IX. MALNOURISHED CHILDREN

Many children are malnourished because they do not get enough to eat. Or if they eat mainly foods with a lot of water and fiber in them, like cassava, taro root, or maize gruel, their bellies may get full before they get enough energy food for their bodies' needs. Also, some children may lack certain things in their food, like Vitamin A or iodine.

### NOT VERY SERIOUS



small  
underweight  
big belly  
  
thin arms  
and legs

### SERIOUS



sad  
underweight (he may  
gain weight for a while  
because of swelling  
  
dark spots,  
peeling skin,  
or open sores  
  
swollen feet

Malnutrition may cause many different problems in children, including:

In mild cases:

- ◆ Slower growth
- ◆ Swollen belly
- ◆ Thin body
- ◆ Loss of appetite
- ◆ Loss of energy
- ◆ Paleness (anemia)
- ◆ Desire to eat dirt (anemia)
- ◆ Sores in corner of mouth
- ◆ Frequent cold and other infections
- ◆ Night blindness

In more serious cases:

- ◆ Little or no weight gain
- ◆ Swelling of feet (sometimes face also)
- ◆ Dark spots, "bruises", or open peeling sores
- ◆ Thinness or loss of hair
- ◆ Lack of desire to laugh or play
- ◆ Sores inside mouth
- ◆ Failure to develop normal intelligence
- ◆ "dry eyes" (xerophthalmia)
- ◆ blindness

Severe forms of malnutrition are "dry malnutrition" or marasmus, and "wet malnutrition" or kwashiorkor.

## X. CONCLUSION

Signs of malnutrition are often first seen after an acute illness like diarrhea or measles. A child who is sick, or who is getting well after a sickness, has an even greater need for enough good food than a child who is well.

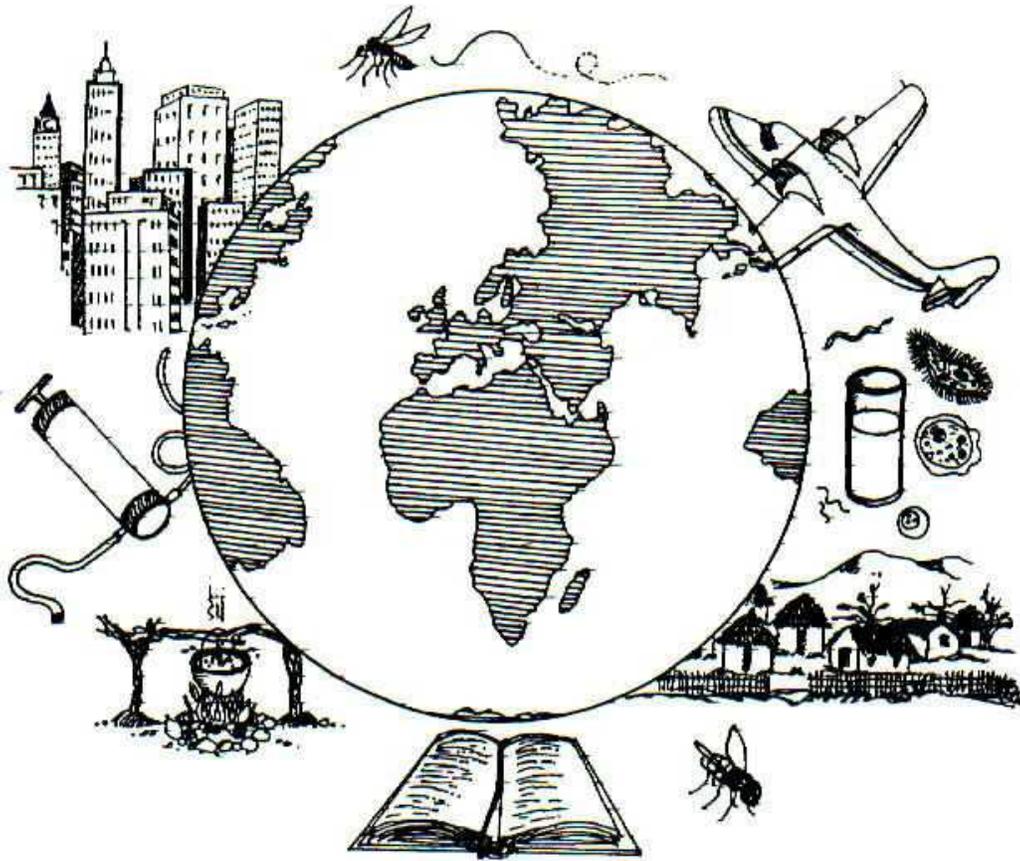
Prevent and treat malnutrition by giving your children ENOUGH TO EAT by feeding them more often. Add some high energy food, such as oil or fat, to the main food the child eats. Also try to add some body-building and protective foods like beans, lentils, fruits, vegetables, and if possible, milk, eggs, fish, or meat.

### Sources of Information

Where There Is No Doctor – David Werner

# Combating Malnutrition

Preventative Healthcare



## Workbook

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

Read section I on page 2 of the Training Pac

Fill in the blanks

1. A person who is weak or sick because he does not eat enough or does not eat the foods his body needs is said to be \_\_\_\_\_ or \_\_\_\_\_.
2. List four health problems that can result from poor nutrition in children.
  - (a) \_\_\_\_\_
  - (b) \_\_\_\_\_
  - (c) \_\_\_\_\_
  - (d) \_\_\_\_\_
3. List six (6) health problems that can result from poor nutrition in anyone.
  - (a) \_\_\_\_\_
  - (b) \_\_\_\_\_
  - (c) \_\_\_\_\_
  - (d) \_\_\_\_\_
  - (e) \_\_\_\_\_
  - (f) \_\_\_\_\_
4. Poor nutrition during pregnancy causes \_\_\_\_\_ and \_\_\_\_\_ in the mother and increases the risk of her dying during or after \_\_\_\_\_.
5. \_\_\_\_\_ helps the body resist sickness.
6. Poor nutrition \_\_\_\_\_ the body's ability to resist all kinds of \_\_\_\_\_, especially \_\_\_\_\_.
7. Eating well and keeping clean are the best guarantees of \_\_\_\_\_.

Score exercises 1 – 7

Read section II on page 3 of the Training Pac

Fill in the blanks

8. Malnutrition is especially dangerous for \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_.
9. After 1 year of age, how can you check if a child is malnourished? \_\_\_\_\_  
\_\_\_\_\_
10. What does it mean if the arm measures less than 12.5 cm. around? \_\_\_\_\_  
\_\_\_\_\_

Read section III on page 4 of the Training Pac

Fill in the blanks

11. The food we eat must help \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_.
12. What two things can you do to meet the energy needs of a child whose belly fills up before their needs are met?
  - (a) \_\_\_\_\_
  - (b) \_\_\_\_\_
13. What are some body-building foods? \_\_\_\_\_
14. What are some protective foods? \_\_\_\_\_
15. Feeding children \_\_\_\_\_ and feeding them \_\_\_\_\_ is usually more important than types of food you feed them.

Score exercises 11 - 15

Fill in the blanks

16. A child with mild malnutrition does not \_\_\_\_\_ or \_\_\_\_\_  
\_\_\_\_\_ as fast as well-nourished child.
17. In whom does severe malnutrition most often occur? \_\_\_\_\_  
\_\_\_\_\_
18. What are the two main examples of severe malnutrition?  
(a) \_\_\_\_\_  
(b) \_\_\_\_\_
19. What are the signs of dry malnutrition? \_\_\_\_\_  
\_\_\_\_\_
20. A child with Marasmus especially needs more \_\_\_\_\_
21. List five (5) signs of wet malnutrition or Kwashiorkor.  
(a) \_\_\_\_\_  
(b) \_\_\_\_\_  
(c) \_\_\_\_\_  
(d) \_\_\_\_\_  
(e) \_\_\_\_\_
22. A child with Kwashiorkor needs more \_\_\_\_\_ helper foods or  
proteins.
23. Marasmus is due to \_\_\_\_\_ while Kwashiorkor is due to  
\_\_\_\_\_.
24. Some suggestions for increasing food production include rotating crops,  
\_\_\_\_\_ and irrigation; also ideas for  
breeding fish, \_\_\_\_\_, grain storage, and \_\_\_\_\_.
25. People can be strong and healthy when most of their proteins and other helper  
foods come from \_\_\_\_\_.
26. Different plants supply the body with different \_\_\_\_\_,  
\_\_\_\_\_, and \_\_\_\_\_.

True or False

- 27. \_\_\_\_\_ Breast milk is the cheapest, healthiest, and most complete food for a baby.
- 28. \_\_\_\_\_ Eggs are a very expensive form of animal protein in most countries.
- 29. \_\_\_\_\_ Liver, heart, kidney and blood are especially high in protein, vitamins, and iron.

Fill in the blanks

- 30. Beans, peas, lentils, and other legumes are good cheap source of \_\_\_\_\_
- 31. What kind of vitamin do dark green leafy vegetables have? \_\_\_\_\_
- 32. Why are cassava leaves better than the root? \_\_\_\_\_  
\_\_\_\_\_
- 33. Why is it better to soak maize in lime before cooking? \_\_\_\_\_  
\_\_\_\_\_
- 34. Rice, wheat, and other grains are more \_\_\_\_\_ if their outer skins are not removed during milling.
- 35. Cook vegetables, rice and other foods in little \_\_\_\_\_.
- 36. Many wild fruits and berries provide extra \_\_\_\_\_ and \_\_\_\_\_.
- 37. Cooking in \_\_\_\_\_ \_\_\_\_\_ helps add iron to food.

Score exercises 16 – 37

DO NOT look back at the Training Pac while completing the Review.

REVIEW #1  
(5 points each question)

Fill in the blanks

- 1. A person who is weak or sick because he does not eat enough or does not eat the foods his body needs is said to be \_\_\_\_\_ or \_\_\_\_\_.
- 2. List four (4) health problems that can result from poor nutrition in children.
  - (a) \_\_\_\_\_
  - (b) \_\_\_\_\_
  - (c) \_\_\_\_\_
  - (d) \_\_\_\_\_

3. List six health (6) problems that can result from poor nutrition in anyone.
  - (a) \_\_\_\_\_
  - (b) \_\_\_\_\_
  - (c) \_\_\_\_\_
  - (d) \_\_\_\_\_
  - (e) \_\_\_\_\_
  - (f) \_\_\_\_\_
4. It is important to feed children well and feed them \_\_\_\_\_.
5. \_\_\_\_\_ and \_\_\_\_\_ are the two main examples of severe malnutrition.
6. \_\_\_\_\_ is due to hunger while \_\_\_\_\_ is due to lack of protein.
7. Eggs are a good form of animal \_\_\_\_\_.
8. Rice, wheat, and other grains are more \_\_\_\_\_.
9. Cooking in iron pots helps add \_\_\_\_\_ to the food.
10. Vitamin A comes from dark green \_\_\_\_\_ vegetables.

True or False

11. \_\_\_\_\_ Eating right helps the body resist sickness.
12. \_\_\_\_\_ Proper nutrition weakens the body's ability to resist all kinds of diseases.
13. \_\_\_\_\_ Eating well and keeping clean are the best guarantees of good health.

Answer the following questions

14. After 1 year of age, how can you check if a child is malnourished? \_\_\_\_\_  
\_\_\_\_\_
15. How can you tell if someone is severely malnourished? \_\_\_\_\_  
\_\_\_\_\_
16. What are two (2) things you can do to meet the energy needs of a child whose belly fills up before their needs are met?
  - (a) \_\_\_\_\_
  - (b) \_\_\_\_\_
17. What are some body-building foods? \_\_\_\_\_  
\_\_\_\_\_

18. What are some protective foods? \_\_\_\_\_  
\_\_\_\_\_
19. What are the signs of dry malnutrition? \_\_\_\_\_  
\_\_\_\_\_
20. What are the two (2) signs of wet malnutrition?  
(a) \_\_\_\_\_  
(b) \_\_\_\_\_

Score exercises 1 – 20

Read section V on page 12 of the Training Pac

Fill in the blanks

1. Vitamins taken by mouth work as well as \_\_\_\_\_, cost less, and are not as \_\_\_\_\_.

Read section VI on page 13 of the Training Pac

Fill in the blanks

2. A sick person has even greater need for plenty of \_\_\_\_\_ than a healthy person.
3. As a general rule; the same foods that are good for us when we are \_\_\_\_\_ are good for us when we are \_\_\_\_\_.
4. Too much greasy food or coffee can make \_\_\_\_\_ and other problems of the \_\_\_\_\_ worse.

True or False

5. \_\_\_\_\_ A lot of sugar is good for a sick or poorly nourished person.
6. \_\_\_\_\_ People with high blood pressure, certain heart problems, or swollen feet should use little or no salt.

Score exercises 1 – 6

Read section VII on page 14 of the Training Pac

Fill in the blanks

7. What is the best and purest food for babies? \_\_\_\_\_
8. Giving the baby only breast milk during the first 4 to 6 months helps protect him against what? \_\_\_\_\_
9. It is safer to feed the baby with a \_\_\_\_\_ than to use a baby bottle.
10. Always add some kind of \_\_\_\_\_ to the porridge if you cannot buy milk for the baby.
11. What does a spoonful of cooking oil added to a child's food do? \_\_\_\_\_  
\_\_\_\_\_
12. Between what age is a child most likely to become malnourished? \_\_\_\_\_
13. Always \_\_\_\_\_, \_\_\_\_\_, or \_\_\_\_\_  
the water a child's drinks.
14. When the food supply is limited what can you do to provide the child with extra energy? \_\_\_\_\_

Score exercises 7 – 14

Read section VIII on page 17 of the Training Pac

Fill in the blanks

15. After giving birth a mother needs to eat the most \_\_\_\_\_ foods she can get.
16. \_\_\_\_\_ Oranges, guavas, or other fruit are not good for a person who has a cold, flu, or a cough. (True or False)
17. \_\_\_\_\_ You can eat certain foods like pork, spices, and guavas when you are taking medicine. (True or False)
18. A child who \_\_\_\_\_ is healthy.
19. What is a good way to check if a child is healthy or not? \_\_\_\_\_  
\_\_\_\_\_
20. It is important to notice \_\_\_\_\_ of sickness and attend to them \_\_\_\_\_.

Read section IX on page 20 of the Training Pac

21. List five (5) problems that may occur from mild cases of malnutrition in children.

- (a) \_\_\_\_\_
- (b) \_\_\_\_\_
- (c) \_\_\_\_\_
- (d) \_\_\_\_\_
- (e) \_\_\_\_\_

22. List five (5) problems that may occur from more serious cases of malnutrition in children.

- (a) \_\_\_\_\_
- (b) \_\_\_\_\_
- (c) \_\_\_\_\_
- (d) \_\_\_\_\_
- (e) \_\_\_\_\_

Read section X on page 21 of the Training Pac

23. When are signs of malnutrition often first seen? \_\_\_\_\_  
\_\_\_\_\_

Score exercises 15 – 23

DO NOT look back at the Training Pac while completing the Review.

REVIEW #2  
(6.5 points each question)

Fill in the blanks

1. \_\_\_\_\_ taken by mouth work as well as injections, cost less, and are not as \_\_\_\_\_.
2. As a general rule: the same foods that are good for us when we are \_\_\_\_\_ are good for us when we are \_\_\_\_\_.

3. Too much \_\_\_\_\_ or \_\_\_\_\_ can make stomach ulcers and other problems of the digestive tract worse.
4. \_\_\_\_\_ is the best and purest food for babies.
5. Giving the baby only breast milk during the first 4 to 6 months helps protect him against \_\_\_\_\_ and many \_\_\_\_\_.

Answer the following questions

6. If you cannot buy milk for the baby, what should you always add to their porridge? \_\_\_\_\_
7. What does a spoonful of cooking oil do if added to a child's food? \_\_\_\_\_  
\_\_\_\_\_
8. What must you always do to a child's drinking water? \_\_\_\_\_  
\_\_\_\_\_
9. When the food supply is limited what can you do to provide the child with extra energy? \_\_\_\_\_
10. What is a good way to check if a child is healthy or not? \_\_\_\_\_  
\_\_\_\_\_
11. List five (5) problems that may occur from mild cases of malnutrition in children.
  - (a) \_\_\_\_\_
  - (b) \_\_\_\_\_
  - (c) \_\_\_\_\_
  - (d) \_\_\_\_\_
  - (e) \_\_\_\_\_
12. List five (5) problems that may occur from more serious cases of malnutrition in children.
  - (a) \_\_\_\_\_
  - (b) \_\_\_\_\_
  - (c) \_\_\_\_\_
  - (d) \_\_\_\_\_
  - (e) \_\_\_\_\_

True or False

13. \_\_\_\_\_ After giving birth it is not important what kind of foods the mother eats.
14. \_\_\_\_\_ Oranges, guavas, or other fruit are good for a person who has a cold, the flu or a cough.
15. \_\_\_\_\_ One sign of malnutrition is when a child is growing normally each month.

Score 1 – 15

**STOP!**

You must now prepare yourself for the Pre-Test. In preparation, you may want to follow one or more of these suggestions:

1. Review the Objectives.
2. Rewrite every incorrect exercises in the Reviews.
3. Reread each section of the Training Pac.
4. Relearn each section you still do not completely understand.

PRE-TEST  
(5 points each question)

Fill in the blanks

1. A person who is \_\_\_\_\_ or \_\_\_\_\_ because he does not eat enough is said to be poorly nourished or malnourished.
2. \_\_\_\_\_ or \_\_\_\_\_ are the 2 main examples of severe malnutrition.
3. \_\_\_\_\_ is due to hunger while \_\_\_\_\_ is due to lack of protein.
4. \_\_\_\_\_, \_\_\_\_\_ and other grains are more nutritious if their outer skins are not removed during milling.
5. \_\_\_\_\_ comes from dark green leafy vegetables.
6. \_\_\_\_\_ taken by mouth work as well as injections, cost less, and are not as \_\_\_\_\_.
7. Giving the baby only \_\_\_\_\_ during the first 4 to 6 months helps protect him against infections and many diseases.
8. After 1 year of age how can you check if a child is malnourished? \_\_\_\_\_  
\_\_\_\_\_
9. How can you check if someone is severely malnourished? \_\_\_\_\_  
\_\_\_\_\_
10. What two (2) things can you do to meet the energy needs of a child whose belly fills up before his needs are met?
  - (a) \_\_\_\_\_
  - (b) \_\_\_\_\_
11. What are some body-building foods? \_\_\_\_\_
12. What are some protective foods? \_\_\_\_\_
13. What must you always do to a child's (or anyone) drinking water?  
\_\_\_\_\_  
\_\_\_\_\_

14. List five (5) problems that may occur from mild cases of malnutrition in children.

- (a) \_\_\_\_\_
- (b) \_\_\_\_\_
- (c) \_\_\_\_\_
- (d) \_\_\_\_\_
- (e) \_\_\_\_\_

15. List five (5) problems that may occur from more serious cases of malnutrition in children.

- (a) \_\_\_\_\_
- (b) \_\_\_\_\_
- (c) \_\_\_\_\_
- (d) \_\_\_\_\_
- (e) \_\_\_\_\_

16. List six (6) health problems that can result from poor nutrition in anyone.

- (a) \_\_\_\_\_
- (b) \_\_\_\_\_
- (c) \_\_\_\_\_
- (d) \_\_\_\_\_
- (e) \_\_\_\_\_

True or False

- 17. \_\_\_\_\_ Poor nutrition weakens the body's ability to resist all kinds of disease.
- 18. \_\_\_\_\_ Eating well and keeping clean are the best guarantees of good health.
- 19. \_\_\_\_\_ After giving birth it is important what kind of foods the mother eats.
- 20. \_\_\_\_\_ Only children suffer from malnutrition.

Score exercises 1 – 20

**STOP!**

You must now prepare yourself for the Final Test. In preparation, you may want to follow one or more of these suggestions:

- 1. Review the Objectives.
- 2. Rewrite every incorrect exercise in the Pre-Test.
- 3. Reread each section of the Training Pac.
- 4. Relearn each section you still do not completely understand.
- 5. Review the Reviews and Pre-Test.

# Combating Malnutrition

## Score Key

## COMBATTING MALNUTRITION SCORE KEY

### Page A

- 1) Poorly...nourished...malnourished
- 2) (a) failure of a child to grow or gain weight normally  
(b) slowness in walking, talking, or thinking  
(c) big bellies, thin arms and legs  
(d) common illnesses and infections that last longer are more severe and more often cause death  
*or lack of energy, child is sad and does not play  
or swelling of feet, face, and hands often with sores or marks on the skin  
or thinning, straightening or hair loss or loss of its color and shine  
or poor vision*
- 3) (a) weakness and tiredness  
(b) loss of appetite  
(c) anemia  
(d) sores in the corner of mouth  
(e) painful or sore tongue  
(f) "burning" or numbness of feet
- 4) weakness...anemia...childbirth
- 5) eating...right
- 6) weakness...diseases...infections
- 7) good...health

### Page B

- 8) children...women...elderly...persons
- 9) if the middle upper arm measures less than 13.5 cm. around the child is malnourished.
- 10) The child is severely malnourished
- 11) Build...repair...protect
- 12) (a) feed the child more often  
(b) add high energy "helper foods" such as oils, sugar or honey to main food.
- 13) Some body building foods are beans, milk, eggs, groundnuts, fish and meat.
- 14) Some protective foods are orange, yellow fruits and vegetables and also dark green leafy vegetables.
- 15) Enough...often

### Page C

- 16) Grow...gain...weight

- 17) In babies who stopped breastfeeding early or suddenly and who are not given sufficient high energy food often enough.
- 18) (a) Dry malnutrition or Marasmus  
(b) Wet malnutrition or Kwashiorkor
- 19) The signs of malnutrition are the face of an old man, always hungry, potbelly, very thin, and very underweight.
- 20) Energy...foods
- 21) (a) swollen "moon face"  
(b) stopped growing  
(c) sores and peeling skin  
(d) swollen hands and feet or color loss in hair and skin or miserable or thin upper arms or wasted muscles
- 22) body-building
- 23) hunger...lack...of...protein
- 24) contour...ditches...beekeeping...family gardens
- 25) plants
- 26) proteins...vitamins...minerals

### Page D

- 27) True
  - 28) False
  - 29) True
  - 30) Protein
  - 31) Vitamin A
  - 32) The leaves contain 7 times as much as protein and more vitamins than roots.
  - 33) Soaking in lime allows more of the vitamins and protein to be used by the body.
  - 34) Nutritious
  - 35) Water
  - 36) Vitamins...energy
  - 37) Iron...pots
- 1) Poorly...nourished...malnourished
  - 2) (a) failure of a child to grow or gain weight normally.  
(b) Slowness in walking, talking, or thinking  
(c) Big bellies, thin arms and legs  
(d) Common illnesses and infections that last longer are more severe and more of ten cause death

*or lack of energy, child is sad and does not play  
or swelling of feet, face, and hands often with sores or marks on the skin  
or thinning, straightening or hair loss or loss of its color and shine*

Page E

- 3) (a) weakness and tiredness  
(b) loss of appetite  
(c) anemia  
(d) sores in the corner of mouth  
(e) painful or sore tongue  
(f) "burning" or numbness of feet
- 4) enough
- 5) Marasmus...Kwashiorkor
- 6) Marasmus...Kwashiorkor
- 7) Protein
- 8) Nutritious
- 9) Iron
- 10) Leafy
- 11) True
- 12) False
- 13) True
- 14) If the middle upper arm measures less than 13.5 cm. around the child is malnourished.
- 15) If the arm measures less than 12.5 cm. around the child is severely malnourished
- 16) (a) feed the child more often  
(b) add high energy "helper foods" such as oils and sugar or honey to the main food.
- 17) Some body building foods are beans, milk, eggs, groundnuts, fish and meat

Page F

- 18) Some protective foods are orange or yellow fruits and vegetables and also dark green leafy vegetables.
- 19) The signs of dry malnutrition are the face of an old man, always hungry, potbelly, very thin and underweight
- 20) (a) swollen "moon face"  
(b) stopped growing  
(c) sores and peeling skin  
(d) swollen hands and feet  
(e) color loss in hair and skin  
*or miserable  
or thin upper arms  
or wasted muscles*

- 1) Injections...dangerous
- 2) Nutritious food
- 3) Healthy...sick
- 4) Stomach...ulcers...digestive...tract
- 5) False
- 6) True

Page G

- 7) Breast milk
- 8) Diarrhea and many infections
- 9) Cup
- 10) Protein
- 11) If a spoonful of cooking oil added to the food means the child has to eat  $\frac{3}{4}$  as much as the local main food to meet his energy needs
- 12) From 6 months to 2 years
- 13) Filter...boil...purify
- 14) Add a little sugar and vegetable oil to the main food
- 15) Nutritious
- 16) False
- 17) True
- 18) Grows...well
- 19) By weighing him each month to see if he is gaining weight normally
- 20) Early...signs...right...away

Page H

- 21) (a) slow growth  
(b) swollen belly  
(c) thin body  
(d) loss of appetite  
(e) loss of energy  
*or paleness (anemia)  
or desire to eat dirt (anemia)  
or sore in corner of mouth  
or frequent colds and other infections  
or night blindness*
- 22) (a) little or no weight gain  
(b) swelling of feet  
(c) dark spots "bruises" or opening peeling sores  
(d) thinness or loss of hair  
(e) lack of desire to laugh or play  
*or sores inside of mouth  
or failure to develop normal intelligence  
or "dry eyes" (xerophthalmia)  
or blindness*
- 23) after an acute illness like diarrhea or measles

- 1) Vitamins...dangerous
- 2) Healthy...sick

Page I

- 3) Greasy...food...coffee
- 4) Breast...milk
- 5) Diarrhea...infections
- 6) Some kind of protein
- 7) It means the child has to eat only  $\frac{3}{4}$  as much of the local food to meet his energy needs.
- 8) You must always filter, boil or purify it
- 9) Add a little sugar and vegetable oil to the main food.
- 10) By weighing him each month to see if he is gaining weight normally
- 11) (a) slower growth  
(b) swollen belly  
(c) thin body  
(d) loss of appetite  
(e) loss of energy  
*or paleness (anemia)*  
*or desire to eat dirt (anemia)*  
*or sores in corner of mouth*  
*or frequent colds and other infections*  
*or night blindness*
- 12) (a) little or no weight gain  
(b) swelling of feet  
(c) dark spots "bruises" or open peeling sores  
(d) thinness or loss of hair  
(e) lack of desire to laugh or play  
*or failure to develop normal intelligence*  
*or sores inside of mouth*  
*or "dry eyes" (xerophthalmia)*  
*or blindness*

Page J

- 13) False
- 14) True
- 15) False

Page K

- 1) Weak...sick
- 2) Marasmus...Kwashiorkor
- 3) Marasmus...Kwashiorkor
- 4) Rice...wheat
- 5) Vitamin A
- 6) Vitamins...dangerous
- 7) Breast...milk

- 8) If the middle upper arm measures less than 13.5 cm. around, the child is malnourished
- 9) If the arm measure less than 12.5 cm. around, the child is severely malnourished.
- 10) (a) feed the child more often  
(b) add high energy "helper foods" such as oils and sugar or honey to the main food.
- 11) Some body building foods are beans, milk, eggs, groundnuts, fish and meat
- 12) Some protective foods are orange, yellow fruits and vegetables and also dark green leafy vegetables
- 13) You must filter, boil, or purify

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- 14) (a) slower growth  
(b) swollen belly  
(c) thin body  
(d) loss of appetite  
(e) loss of energy  
*or paleness (anemia)*  
*or desire to eat dirt (anemia)*  
*or sores in corner of mouth*  
*or frequent colds and other infections*  
*or night blindness*
- 15) (a) little or no weight gain  
(b) swelling of feet  
(c) dark spots "bruises" or open peeling sores  
(d) thinness or loss of hair  
(e) lack of desire to laugh or play  
*or sores inside of mouth*  
*or failure to develop normal intelligence*  
*or "dry eyes" (xerophthalmia)*  
*or blindness*
- 16) (a) weakness and tiredness  
(b) loss of appetite  
(c) anemia  
(d) sores in the corner of mouth  
(e) painful or sore tongue  
(f) "burning" numbness of feet
- 17) True
- 18) True
- 19) False
- 20) False

# FINAL TEST

## COMBATTING MALNUTRITION

NAME: \_\_\_\_\_

DATE: \_\_\_\_\_

SCORE: \_\_\_\_\_

FINAL TEST  
(10 points each question)

energy  
sick  
severely malnourished  
resist  
protective

clean  
weak  
energy  
poorly nourished

body-building  
hunger  
well  
Vitamin A

Fill in the blanks

1. A person who is \_\_\_\_\_ or \_\_\_\_\_ because he does not eat enough is said to be poorly nourished or malnourished.
2. Marasmus is due to \_\_\_\_\_ while Kwashiorkor is due to lack of \_\_\_\_\_.
3. If the upper arm of a child measures less than 12.5 cm. he is \_\_\_\_\_.
4. Yellow fruits and vegetables are \_\_\_\_\_ foods.
5. Beans, milk and eggs are \_\_\_\_\_ foods.
6. A painful sore tongue can be a sign of being \_\_\_\_\_.
7. Adding a little oil or sugar to the main food will help meet the \_\_\_\_\_ needs of a child.
8. \_\_\_\_\_ comes from dark leafy green vegetables.
9. Eating \_\_\_\_\_ and keeping \_\_\_\_\_ are the best guarantees of good health.
10. Poor nutrition weakens the body's ability to \_\_\_\_\_ all kinds of disease.

COMBATTING MALNUTRITION  
FINAL TEST KEY

1. weak...sick
2. hunger...energy
3. severely malnourished
4. protective
5. body-building
6. poorly nourished
7. energy
8. Vitamin A
9. well...clean
10. resist