

UNIT 1 FOOD, NUTRITION AND HEALTH

Structure

- 1.1 Introduction**
 - 1.2 Food and its Functions**
 - 1.3 Meaning of Nutrition**
 - 1.3.1 Nutrients : Action, Interaction and Balance**
 - 1.3.2 Handling of Food and Nutrients by the Body**
 - 1.3.3 Social, Psychological and Economic Aspects of Nutrition**
 - 1.4 The Concept of Health**
 - 1.4.1 Physical Health**
 - 1.4.2 Mental Health**
 - 1.4.3 Social Health**
 - 1.4.4 Spiritual Health**
 - 1.5 Meaning of Nutritional Status**
 - 1.6 Interrelationship between Nutrition and Health**
 - 1.7 Let Us Sum Up**
 - 1.8 Glossary**
 - 1.9 Answers to Check Your Progress Exercises**
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1.1 INTRODUCTION

The word *food* brings to our mind countless images. Food is associated with worship and divinity; with celebration and mourning; with family gatherings and with community feasting. It is closely interwoven with every feature of our existence. This is not surprising because food plays a crucial role in our lives. It sustains us, it nourishes us. It is the "life-giver".

This unit tells you about food and some of its components. It will give you some idea about why food is essential for our survival. You will also be introduced to the terms *nutrition* and *health*.

Nutrition is the term used for the scientific study of food and how it is utilized by the body. Eating the proper kinds of food in the right amounts is essential to keep us healthy. In other words, our health is dependent on our eating pattern. This leads us to the vital question—how much and what should one eat to keep healthy? How much and what, for example, should an infant consume? Similarly, how much and what foods should be consumed by a child, an adolescent, an adult or an old person? Further, what happens when one eats too much or too little? These are the types of questions that a study of nutrition helps us answer.

Objectives

After studying this unit, you will be able to:

- define food, nutrient, nutrition and health
- list the functions of food
- describe in simple terms how food is handled by the body
- discuss the social, psychological and economic aspects of food and eating
- explain the concept of health and
- discuss the relationship between food, health and disease.

1.2 FOOD AND ITS FUNCTIONS

What is food? The term *food* refers to *anything which nourishes the body*. It would obviously include solids, semi-solids and liquids which can be consumed and which help to sustain the body and keep it healthy.

We all know that food is a basic necessity. Have you ever wondered why? Food is essential because it contains substances which perform important functions in our body. These essential substances contributed by our food are called *nutrients*. If these nutrients are not present in our food in sufficient amounts, the result is ill health and in some cases, even death. Food also contains many substances which are non-nutrients e.g. colouring and flavouring substances in food.

Food is, therefore, a complex mixture of different nutrients and non-nutrients.

FUNCTIONS OF FOOD: You are now familiar with the fact that food consists in part of various nutrients. You may be surprised to know that there are over forty essential nutrients which are supplied by the food we eat. These nutrients can be classified into five major categories (based on certain similar features): proteins, carbohydrates, fats, vitamins and minerals. Water is important as a nutrient as well as a food. You will learn more about this aspect in Unit 2, Block 1.

Each of the nutrient categories has a specific physiological role to play. Here the term "physiological role" refers to the role of food in maintaining certain specific body functions. Since food contains nutrients, it has physiological functions too, as you will learn in the subsequent paragraph. Food also has social and psychological functions in addition to physiological ones (Figure 1.1).

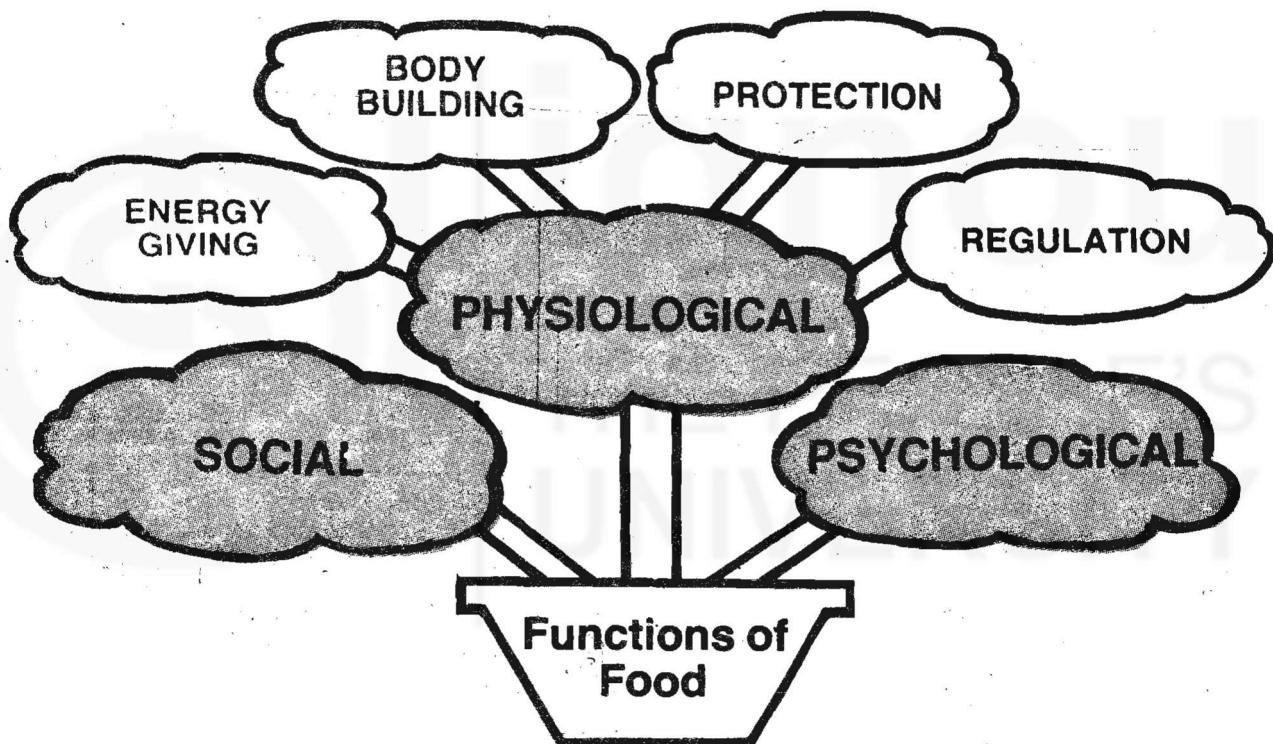


Fig. 1.1 Functions of food

Physiological Functions: The physiological functions performed by food are the *energy-giving, body-building, protective and regulatory functions*. We need energy every moment of our lives for performing various types of activities such as sitting, standing, walking and running and performing all our household and other tasks. You may not be aware of it but several activities take place within the body as well e.g. beating of the heart, contraction of the intestines, expansion and contraction of the lungs. Activities performed within the body also require expenditure of energy. The energy-giving function of food is basically performed by two nutrient categories—carbohydrates and fats. This is why these nutrients are also referred to as the "body fuels". The situation is similar to the burning of coal or wood which are familiar fuels. When these fuels are burnt, energy is released in the form of heat and light. The fire we observe is, in fact, nothing but the conversion of the energy locked up in the fuel to heat energy and light energy. Similarly, carbohydrates and fats are burnt in the body. The energy that these substances contain is released to perform the various activities that we talked about earlier.

Food is also needed for growth and repair. What is meant by these two terms? As you know, our body is made up of millions of units called cells. When growth takes place, new cells are added to the existing ones. The existing ones also increase in size. On the other hand, cells do get worn out and die. These cells have to be replaced. This process is called repair. For both growth and repair, proteins are necessary. We can understand the role of proteins in growth and development if we just think of the tremendous increase in height and weight that occurs from infancy to adulthood. How does this take place? This is made possible by the process of growth.

The other major physiological functions performed by food are the protective and regulatory functions. Let us talk about the meaning of the term 'protective' first. Here protective refers to the role in preventing infection by ensuring proper functioning of the body systems responsible for fighting infections. Even if a person does develop an infection or any other type of illness, food and the nutrients it contains facilitate rapid recovery. A person eating a poor diet would take much longer to recover. He would get ill more easily as well.

The regulatory function mentioned earlier refers to the role of food in controlling body processes. As you are aware, several processes take place in the body such as the beating of the heart, maintenance of body temperature and contraction of muscles. Each of these processes is controlled. Our body temperature, for example, is maintained at 98.4°F or 37°C . Similarly, the rate at which the heart beats is also maintained. This is achieved by certain specific nutrients (among other substances) and is illustrative of their regulatory function. Vitamins, minerals, and proteins contribute substantially to both protective and regulatory functions. So does water.

You are also probably aware that several chemical reactions take place in the body. With the aid of these chemical reactions, simpler substances are used to build more complex ones. Similarly, complex substances are broken down into their simpler components. Figure 1.2 shows you how one or two types of simple units join to form complex substances and how complex substances break down into their simpler units. You will understand this better when you go through Units 2 and 3 of Block 1. The rate at which these reactions proceed is carefully controlled according to the need of the body. Vitamins, minerals and proteins play a major role in controlling these reactions i.e. they act as regulators.

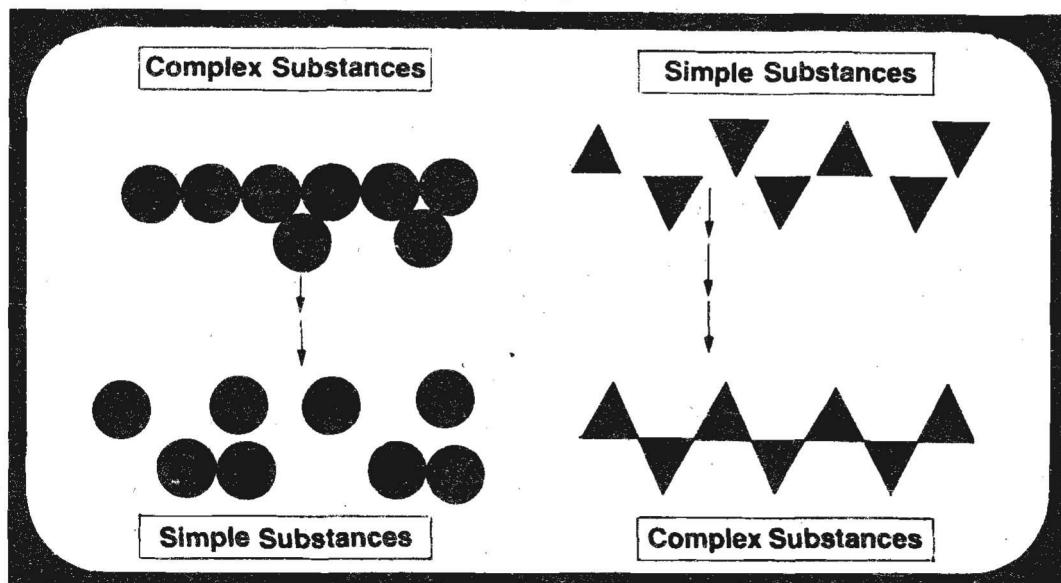


Fig. 1.2 Interconversion of simple and complex substances

Social Functions: Food and eating has significant social meaning. Sharing food with any other person implies social acceptance. When you share a meal with anyone else, you are expressing your acceptance of and friendship and respect for that person. Earlier only persons enjoying equal status in society ate together. A person would never share a meal with someone inferior to him in social terms. Of course, we observe considerable change in this respect now particularly in cities and towns. In a restaurant, for example, any person can eat irrespective of his social background if he has the money to pay for the food.

Food is an integral part of festivity anywhere in the world. You must have surely noticed that joyous occasions such as the birth of a child or a marriage are celebrated by having feasts and serving delicacies. Festivals such as Diwali, Dussehra, Pongal, Onam, Lohri, Holi, Christmas and Id are celebrated by having special and prescribed menus. In all these cases, food serves the function of bringing people together.

Food also has a specific significance and meaning in the religious context. Certain food items such as fruits, sweets and coconuts are offered to the deity in temples. Often sweets are prepared at temples and gurdwaras and distributed to devotees as a benediction or *prasad*. Further, people of a given religious community share a common eating pattern. This is because religious texts and practices strongly recommend some foods while rejecting others. Food thus becomes an integral part of the social and religious life of people.

Psychological Functions: We all have emotional needs such as the need for security, love and attention. Food is one way through which these needs are satisfied. When a mother prepares her child's favourite dish, the child recognizes the fact that she loves him enough to remember his likes and dislikes. He appreciates the attention he is given. As you are aware, when people share food it serves as a token of friendship and acceptance. A child quickly accepts foods eaten by his friends and by people he admires or wants to identify with. He may even accept food he first found distasteful if he observes his friends enjoying it. Sharing the same food as others around him and those he considers important in his social sphere gives him a degree of confidence in himself and reassures him that he will be accepted by others like him.

Food is also closely allied to our emotions. Food often serves as a reward. When a mother wishes to reward her child for doing well in a test, she may buy him a sweet or an ice cream. In this manner, that particular food item evokes pleasant feelings in the mind of the child. On the other hand, certain foods become associated with sickness such as khichri (a rice-dal porridge). This type of food is generally eaten when a person suffers from fever and may, therefore, not be associated with pleasant feelings.

Check Your Progress Exercise 1

- 1) List the three functions of food.

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- 2) Fill in the blanks.

- a) The body-building function of food is related to the presence of
- b) Energy-giving foods are rich in carbohydrate and/or
- c) Vitamins and minerals have and functions.

- 3) Read the following statements carefully. Comment in two sentences on whether the statement relates to the physiological or social or psychological functions of food.

- a) Pankaj is celebrating his birthday. He has called his friends to his house for a party in the evening. His mother has prepared several delicious dishes particularly those which Pankaj likes.

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- b) Nandita is a three year old child. She has grown so much in these three years! Her mother says this is due to her love and care and, of course, the good food she has given Nandita.

1.3 MEANING OF NUTRITION

Nutrition is a scientific discipline with food as the major focus of interest. Nutrition also deals with several other related aspects as the following definitions will illustrate.

The simplest *definition of nutrition* can be expressed thus: "the study of what happens to food once it enters the mouth and thereafter." However, a more detailed definition would be: "*the science of foods, the nutrients and other substances therein; their action, interaction and balance in relationship to health and disease; the processes by which the organism ingests, digests, absorbs, transports and utilizes nutrients and disposes of their end products. In addition, nutrition must be concerned with the social, economic, cultural and psychological implications of food and eating.*" We will now consider each aspect in some detail.

1.3.1 Nutrients: Action, Interaction and Balance

Food, as you know, contains nutrients as well as substances which are non-nutrients. The body needs each nutrient in specific amounts. Some are needed in relatively larger amounts (the macronutrients) and some in smaller amounts (the micronutrients). But they are all equally essential for our health. Each nutrient plays a significant role in the body. The mineral, calcium, for example, helps build strong bones and teeth. This is the *action* of calcium. Similarly, other nutrients have their own specific functions as depicted in Figure 1.3(a). To return to the earlier example, bones and teeth also contain another mineral, phosphorus. Both calcium and phosphorus must be supplied to the body in the required amounts and proportions to ensure the normal growth of bones and teeth. This means that normal growth of bones and teeth and maintenance of their normal structure and function requires an *interaction* between these two nutrients. (Figure 1.3(b))

The concept of *balance* can also be explained by taking the example of calcium and phosphorus. If the diet contains too much phosphorus, it prevents the body from taking in enough of calcium. This creates an imbalance between calcium and phosphorus and affects the bones and teeth. This imbalance can be corrected by consuming foods that supply the two nutrients in the correct proportions.

In the larger context, the term *balance* means that the nutrients needed by the body should be provided in the right amount and proportions. This will, of course, ensure good health as you see in Figure 1.3(c).

You will learn more about the action, interaction and balance of nutrients in Units 2 and 3 of Block 1, and Units 3 and 4 of Block 2.

1.3.2 Handling of Food and Nutrients by the Body

How does the body handle food? We take in food through our mouth where it is chewed and then swallowed. It then passes down into the stomach and thereafter into a long, coiled, tube-like structure called the intestine. Since our body cannot utilize food as such, it alters its nature and converts it into utilizable forms by many specific actions. This process is called *digestion*.

Once digestion is completed, several nutrients are available to the body in a form in which the body can use them further. The process by which nutrients move from the intestine into the blood is referred to as *absorption*. The blood then transports them



Fig. 1.3 Definition of nutrition

to all the cells of the body where they are utilized for different functions.

All the substances in the food which the body *cannot absorb* are thrown out in faeces. The processing and handling by the body of *absorbed nutrients* results in the formation of certain other substances or by-products. Some of these are harmful and need to be thrown out of the body. This is achieved by transferring them from the blood to the urine. The latter is then thrown out of the body. You will learn more about digestion and absorption in the next unit.

1.3.3 Social, Psychological and Economic Aspects of Nutrition

Social and psychological factors determine the acceptability of a particular dietary pattern and the foods included. We might suggest a nutritious diet for a person but it might not be acceptable to him because of socio-cultural reasons, for example. This is the reason why a person's social background and reactions to particular food items have to be carefully considered. Further, economic considerations determine whether foods are available and affordable. Let us now look at each of these aspects in detail.

Social and cultural aspects of eating: Food has a special meaning in the social and cultural context, as you know. Our ancient Vedic tradition emphasizes food as the

life-giver. It further attributes specific qualities to specific foods. It is said that *sattvic* foods, for example, increase intellectual capacity and creativity, energy and cheerfulness. Milk and milk products are regarded as the prominent *sattvic* foods. The *rajasic* foods (foods that stimulate passion) are stated to include fish, eggs and meat while pork and beef are put in the category of *tamsic* foods (stale, reheated, tasteless and impure foods). Contrast this view of food and eating with our modern views, we no longer believe that certain foods or categories of foods (when part of a usual diet) can influence our behaviour to any significant extent. At restaurants and hotels, customers frequently eat reheated food which in the Vedic tradition has the lowest status. Many people, even though they may be vegetarian, do not mind sharing food with non-vegetarian friends. The former, of course, would not consume meat and meat products but may still accept vegetarian foods prepared in kitchens where meat is also cooked. This is a desirable trend. *Tolerance and adaptability to varied eating habits is a healthy sign of progress.*

You must have now realized why nutrition concerns itself not only with the body's handling of nutrients and other food components, but also with food acceptance. We cannot expect members of a community to immediately accept a food just because it is rich in nutrients. We have to consider any food from their point of view. Is it a food rejected by their culture? Is it a food considered to be a "prestige" food in that community? (Here, of course, we mean foods which are accorded a high status because they are expensive or because they are consumed by people of higher status in society). Are all population groups belonging to that community allowed to consume the food item or is it forbidden in the case of pregnant women or infants? *This shows us how important it is to keep a person's socio-cultural background in mind whenever we talk of improving or modifying food-related practices.*

The psychology of eating : How does a person react to food? What psychological factors influence our eating patterns? Consider examples A to C.

Example A: Minnie is a housewife. She gives her whole family vitamin tablets because she thinks this will keep them healthy and full of energy. Her friend tells her that she needs no vitamin tablets because the same vitamins can be supplied by the ordinary foods consumed. Minnie does not agree; for her the vitamin tablet is an answer to all ills.

Example B: Raju, a five-year-old boy, loves to watch television. He sees the numerous advertisements for foods like instant noodles, soft drinks, toffees and chocolate every single day. His mother frequently gets annoyed because he wants her to purchase the foods he sees on television even though she tries to convince him that they are not good for health.

Example C: Sarla has just given birth to a baby boy. Her mother-in-law insists that she consume til laddoos, panjiri and ghee to stimulate the flow of breast milk. (Til laddoos are sweet balls made of jaggery and sesame (til) seeds, panjiri is made of whole wheat flour, sugar, nuts and fat) Sarla does as her mother-in-law advises.

Have you gone through the three examples carefully? You must have noticed the importance of people's attitudes to food in determining the type of foods they select and the quantities they eat. Many factors influence our choice of foods such as advertisements and the attitudes of other people around us. Our reactions to these influences often determine both what we eat and how much we eat. One example is the child who seeks to overcome a feeling of insecurity or inferiority by eating more. Another child may seek to overcome the same feelings by eating less. *Thus our individual reactions to food and to the people around us can have a significant psychological influence on our eating pattern.*

The economics of food : Food costs money. It must be within the reach of people and it must be equitably distributed to all sections of the population. The availability of food and its proper distribution are of great importance. You may have heard of people dying of starvation even when plenty of food was available. In India, for example, agricultural production has consistently increased. However, the problem of distributing our food surplus still remains. As a result large sections of our population do not get enough food. These are only some of the larger economic issues of interest to everyone. Our ultimate aim should be to ensure the good health of all individuals. Towards this end, we need to ask and try to find answers to

questions such as the following with the help of experts from different backgrounds:

- How do we meet the food needs of people who do not have the money to purchase adequate amounts? Should we give them food as payment for work done by them or should we help them out by giving extra food at cheaper rates or free of cost?
- How much food must we produce in order to meet the needs of people?
- How can we ensure that food reaches all sections of people? Is our network of ration shops and the public distribution of food adequate?
- What types of food should be grown? Do we need to increase production of pulses and oilseeds, for example?

These issues are difficult to resolve. It takes time and the coordinated effort of planners, farmers, suppliers and consumers of food products.

Check Your Progress Exercise 2

- 1) List 4 aspects of the study of nutrition.

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- 2) Fill in the blanks.

- a) Nutrient balance can only be achieved by supplying all nutrients in the correct and proportions.
- b) is the process whereby nutrients move from the intestine to the bloodstream.
- c) The acceptance of particular foods by a person would depend on social, cultural, and economic factors.

1.4 THE CONCEPT OF HEALTH

We are all familiar with the term "health". What does this term mean? Let us consider the definition of health proposed by the World Health Organisation (WHO):

"Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity."

This definition tells us that health is a positive state. In other words, health is a state of complete well-being and not just the absence of disease. A person may not be suffering from any disease and yet may not enjoy complete well-being. There are so many times when we feel tired or exhausted and incapable of concentrating on our work. At such times we are not enjoying complete well-being, even though at other times we do. There are also times when we suffer from an infection or periods of ill health. This means no person enjoys full health all the time. However, we call a person healthy if he or she enjoys good health most of the time.

One dimension which is also gaining prominence is spiritual health. You would notice that this dimension is not mentioned in the definition. This is a newer dimension which is gaining recognition though it is still not precisely defined.

Let us now examine each of these different dimensions of health.

1.4.1 Physical Health

The physical dimension of health is familiar to us. When we say a person is healthy, we are generally referring to this aspect. Physical health is easy to detect and describe. A person is physically healthy if he or she looks alert, is responsive, energetic and vigorous. Table 1.1 lists some of the signs whereby a person in good physical health can be identified.

Table 1.1 : Signs of Good Health

Body part/characteristic	Signs of good health
Hair	Shiny, lustrous, healthy scalp
Neck glands	Not enlarged
Skin	Smooth, slightly moist, good colour
Eyes	Bright, clear, no fatigue circles
Lips	Good colour, moist
Tongue	Good pink colour, no lesions
Gums	Firm, good, pink colour; no swelling or bleeding
Teeth	Straight, no crowding, no discolouration
Abdomen	Flat
Legs, feet	No tenderness, weakness or swelling
Skeleton	No malformations
Weight	Normal for height, age, and body build
Posture	Erect, arms and legs straight, abdomen in, chest out
Muscles	Well developed, firm
Nervous control	Good power of concentration, not irritable or restless
Appetite	Good
Digestion and absorption	Normal
Sleep	Good, sound

Source : Adapted from Table 1.1 in *Essentials of Nutrition and Diet Therapy* by Sue R. Williams, 4th ed. (1986)

1.4.2 Mental Health

Mental health implies :

- freedom from internal conflicts
- no consistent tendency to condemn or pity oneself
- a good capacity to adjust to situations and people
- sensitivity to the emotional needs of others
- capacity to deal with other individuals with consideration and courtesy
- good control over one's own emotions without constantly giving in to strong feelings of fear, jealousy, anger or guilt.

You would have realised that mental health is a more complex concept than physical health. It is much more difficult to measure. Though we can usually recognize the extreme cases of mental ill health rather easily, it is difficult to categorize individuals who are normal in other ways but may have a problem understanding another person's viewpoint or being sensitive to the emotional needs of others. Such problems if they are sufficiently serious and persistent would definitely be indicative of poor mental health.

The interrelationship between physical and mental health can be explored with the help of specific examples. High blood pressure is one form of physical ill health. It can be caused by constant stress and poor ability to handle difficult situations (particularly if the individual already has a tendency to develop high blood pressure). This is an example of how mental ill health can cause physical ill health. The reverse can also happen! Physical ill health can also lead to mental ill health. A child who suffered from polio and cannot run or play feels inferior to other children. This may lead him to be dominated by feelings of fear or self pity. Such feelings may constantly trouble him and prevent him from interacting in a normal fashion with others.

1.4.3 Social Health

What is social health? If an individual recognizes that he/she belongs to a family and is able to identify with a wider community, the first step towards social health has been taken. An individual who recognizes his/her obligations towards other members of society and is able to relate to other people around him/her can be described as socially healthy.

It is impossible to realize the goal of social health if mental health has not been achieved. Any type of mental ill health will adversely influence interaction with others and therefore diminish one's ability to be a useful member of society. Similarly, a person who does not enjoy physical health would find it difficult to

achieve social health. Physical ill health often makes one irritable and depressed and unable to reach out to others normally.

How does one recognize social ill health? Criminals are examples of socially ill individuals. They indulge in behaviour that is not socially acceptable and can be called anti-social. Theft, murder and destructive behaviour are examples of anti-social behaviour. Society actively controls such behaviour since ignoring such acts would destroy society itself.

1.4.4 Spiritual Health

Spiritual health is the most difficult to define. We, as Indians, probably understand spirituality more because in our society religious and moral codes of behaviour are easily observable. A healthy individual obeys these moral codes most of the time. The concept of doing good and of not harming others; of believing in the basic forces of goodness and justice whether or not these are worshipped as God; of recognizing the needs of others and trying to fulfil them; of commitment, duty and obligation, these are all characteristics of a spiritually well person. Spiritual health is certainly not easy to attain!

One must also emphasize that blindly following religious practices and customs does not necessarily make a person spiritually healthy. Spiritual health is more a matter of attitudes and a way of looking at situations and people. What is important is concern for others and a genuine desire to help and be of assistance.

Check Your Progress Exercise 3

- 1) Define health.

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- 2) List the four dimensions of health.

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- 3) Suraj is a ten year old boy. He shows no obvious changes in physical appearance and his doctor cannot find any sign of illness. However, he cannot perform as well as his friends at school and he gets tired easily. Would you call him healthy? Give reasons for your answer.

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1.5 MEANING OF NUTRITIONAL STATUS

Nutritional status is the condition of health of an individual as influenced by the utilization of nutrients. How do we determine the nutritional status of a person? The definition makes it sound difficult, doesn't it? To determine nutritional status all you have to do is to put together information about:

- what kind of diet is being consumed;
- what types of illnesses, if any, the person has suffered/is suffering from including any observable signs of ill health such as discoloured skin or bleeding;
- what is the level of nutrients and other substances in the blood and urine (as determined by blood and urine tests).

You will understand the concept better with the help of an example. If a person does not consume enough of vitamin E (one of the water-soluble vitamins), its levels in

the blood will drop and one can predict that the person is likely to get vitamin C deficiency. This finding can be confirmed if a look at the diet reveals very few foods being eaten which are rich in this vitamin.

1.6 INTERRELATIONSHIP BETWEEN NUTRITION AND HEALTH

Nutrition is closely interlinked with health. If a person eats the right kind of foods in the required amounts, he or she will keep good health provided no other factors intervene. On the other hand, a poor eating pattern or eating too little or too much will result in poor health as is depicted in Figure 1.4.

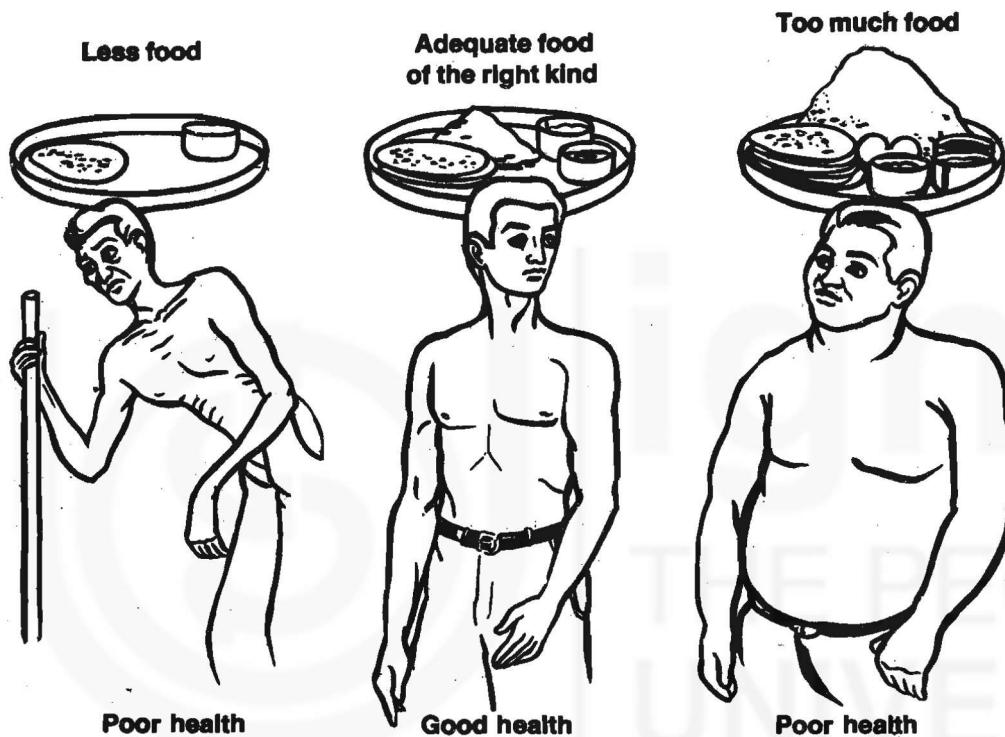


Fig. 1.4 Interrelationship between nutrition and health

It must be emphasized, however, that though good food is one of the crucial factors in ensuring health, it is not the only one. The food eaten must not only be nutritious but it must be wholesome and clean and free from harmful germs. If this is not so, the person eating the food would get ill even if the food is nutritious.

Before we go any further, you need to be familiar with the term "malnutrition". *Malnutrition is an impairment of health resulting from a deficiency, excess or imbalance of nutrients.* In other words, malnutrition refers to both undernutrition and overnutrition. Undernutrition means a deficiency or lack of one or more nutrients and overnutrition means excess of one or more nutrients. Both undernutrition and overnutrition result in ill health.

One prominent example of undernutrition in our country is vitamin A deficiency. When young children do not consume enough vitamin A-rich foods, their eyes are affected and ultimately blindness results.

A disease that we easily relate to overnutrition is extreme overweight or obesity. When a person takes in more energy than he is able to spend on his daily activities, he accumulates fat in the body and his weight increases. If the weight increases substantially, the person becomes obese.

This section has just introduced you to some aspects of the interrelationship between nutrition and health. It will be our aim in this course to tell you much more about these and other issues so that you can apply this information in your day-to-day life.

Check Your Progress Exercise 4

- 1) "Good health cannot be achieved without good food." Comment on this statement in 2-3 sentences.

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- 2) List three different aspects of the interrelationship between nutrition and health.

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1.7 LET US SUM UP

Food has been described as "anything which nourishes the body". Food, we learnt, has many specific functions. It provides energy, helps build the body, protects it against disease and regulates body processes. In addition, it helps to bring people together. It is also a means whereby emotions and feelings are expressed.

Various aspects of the study of nutrition have been enumerated in this unit. Nutrition encompasses the study of food and how it is handled by the body. It also explores the influence of social, psychological and economic factors on our eating patterns.

Health and its various dimensions have also been discussed. Health is a state of complete well-being. It has physical, mental, social-and spiritual dimensions. The interrelationship between these dimensions has been highlighted.

In addition we have talked about the fact that nutrition and health are intimately linked. Good health cannot be achieved without eating the proper kinds of foods in the amounts needed.

1.8 GLOSSARY

Benediction	: Blessing
Cell	: The smallest unit of an organism that is able to function independently
Deficiency	: A condition of the body resulting from an inadequate dietary intake of one or more nutrients
Delicacies	: Special dishes made for certain occasions
Development	: Changes leading to greater complexity and finally leading to maturity of the individual
Diet	: Food items (dishes) you eat during the course of a day
Eating Pattern	: The number of meals, the types of foods served
Growth	: Changes such as increase in size and number of cells
Impairment	: Appearance of ill health
Implication	: Meaning, significance
Infirmity	: Physical or mental weakness
Lesion	: Abnormality in structure and/or function

Menu	: List of dishes included in a particular meal
Nourish	: To make well and strong
Obesity	: Extreme overweight
Tissue	: A number of similar cells in the body together form a tissue

1.9 ANSWERS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress Exercise 1

- 1) physiological; social, psychological
- 2) (a) proteins (b) fats (c) protective, regulatory
- 3) Answer on the basis of what you learnt about the functions of food.

Check Your Progress Exercise 2

- 1) Any four of the following:
 - a) food and nutrients b) processes of ingestion, digestion, absorption, transport and utilization of nutrients and disposal of end products c) social implications of eating d) economic implications of eating e) psychological implications of eating.
 - 2) a) amounts b) absorption c) psychological!

Check Your Progress Exercise 3

- 1) The state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.
- 2) Physical, mental, social, spiritual
- 3) Suraj is not healthy. This is because he is not showing indications of optimum health and optimum functioning even though he is free from disease.

Check Your Progress Exercise 4

- 1) Good health cannot be achieved without good food. This statement is true. Nutrition is one of the major factors influencing the health of an individual. Since food is the source of nutrients, selecting and consuming the right types of food in the right amounts becomes important. If the diet is poor, ill health will result because of deficiency or excess of one or more nutrients.
- 2) Causation of diseases by deficiency or excess of nutrients; effect of nutrients in preventing disease and promoting quick recovery; good nutrition as one of the factors ensuring good health.