

# NUTRITIONAL CARE OF THE SICK IN THE FAMILY

## 23.1 Introduction

Do you remember the time when you had an upset stomach? You could not eat your normal diet and had to eat foods like Khichdi and curd. Why was it so? What are the changes that need to be made in your normal diet when you suffer from any disease? Why do you need to modify your diet at all when you are suffering from a disease? Does food help in recovery? Apart from diseases caused by infection, there are certain diseases caused by lack or excess of nutrients in the body. What are these diseases? How can these problems be treated with diet? Let us try and find out answers to these questions in this lesson.

## 23.2 Objectives

After reading this lesson, you will be able to do the following:

- explain the need for a special diet;
  - define and explain the term 'Therapeutic Diet';
  - analyse the reasons for basing a therapeutic diet on a normal diet;
  - enumerate the types of modifications of a normal diet;
  - suggest modifications of a normal diet suitable for people suffering from diarrhoea, diabetes, hypertension, fevers, jaundice, constipation;
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- discuss diet of nutrition related problems like PEM, anaemia, deficiency of vitamin A and iodine, and obesity;
- list some false beliefs regarding diet in disease and dieting.

### 23.3 Need for Special Diet

You are all aware that a normal diet satisfies the nutritional needs of a healthy individual. But when a person falls sick there is a malfunctioning of some of the parts of the body, therefore, the nutritional needs of a sick person change. For example, in diabetes, the pancreas do not produce insulin which is needed to digest sugars. In such a cases, presence of the normal amount of sugars in the food will be harmful to the system. In jaundice there is malfunctioning of the liver hence digestion of fats is affected and presence of normal amounts of fats in the diet will be harmful to health. In case of diarrhoea, there is loss of body fluids with every passage of stool. Also, the digestive system is unable to cope with the solid food eaten. Under these circumstances, if one goes on eating normal food the system will be burdened and damaged. Body fluids which have been lost have to be replaced otherwise the body will suffer. Hence, there is a need to modify the food eaten. Can you suggest some more reasons for changing diets during diseases? Here are some reasons :

- to maintain good nutritional status
- to correct nutritional deficiencies
- to provide a change in the consistency of diet : liquid or semi-solid
- to bring about change in the body weight, if required.

### 23.4 Therapeutic Diet

Do you know what is meant by 'Therapeutic Diet'?

**Therapeutic diet is the special diet given to a person suffering from a disease, to facilitate recovery. It is a modification of the normal diet.**

Consider the example we have quoted earlier, once again. Is change in diet helping the person to recover from disease? Yes, certainly. When sugars are withdrawn from food, insulin is not required to digest these. When fats are taken off the diet, the liver can relax and take time to recover. Similarly, if fluids are lost from the body in diarrhoea drinking fluids certainly helps.

#### Some points to remember

While modifying the diet of a patient, we must keep the following points in mind:

1. Do not plan a completely different diet. Can you tell why we should only modify the normal diet and not change it completely? Yes there are three reasons for this -
  - (i) This way, the therapeutic diet is more acceptable to the patient, as it is based on foods patient is used to eating.
  - (ii) A diet which is almost the same as that of the other members of the family makes the patient feel not so different from others.
  - (iii) It is easy to produce such a diet. To make a completely different diet for the sick person will use up a lot of time and energy.

2. Try to include only those foods in the meal, which are liked by the patient, otherwise food may not be eaten at all.
3. Serve the meal in an attractive way in a pleasant mood, so that the patient feels like eating.

### 23.5 Types of Modifications of a Normal Diet

The types of modifications that may have to be made are as follows:

1. In diet consistency
2. In nutrient content
3. In interval and frequency of feeding

#### 1. Modifications in diet consistency

In some diseases the thickness of the food has to be changed. The food can be served in two consistencies.

1. Liquid
2. Semi solid

Sometimes, it becomes difficult to eat normal food. For example in diarrhoea and fever you serve a liquid diet. This liquid diet includes milk, fruit juices, coconut water, nimbu-pani, tea, lassi, soups, cold drinks, etc. When one is little better you can serve. Khichdi, curd, custard, kheer, fruits, bread, cooked vegetables, etc. Do you notice that the consistency of all these foods is semi-solid?

#### 2. Modifications in nutrient content

Depending on the nature of the disease, modifications may need to be made in one or more nutrients in the diet. The modifications in nutrient content can be made in terms of an increase or decrease in amount of the nutrient. For example, salt has to be reduced in high blood pressure, intake of carbohydrates has to be restricted in case of diabetes and fluid intake has to be increased in the case of diarrhoea.

#### 3. Modifications in interval and frequency of feeding

Normally you eat 3-4 meals a day, i.e. breakfast, lunch, tea and dinner.

In sickness, you find it difficult to eat the amount you usually eat at one time. But your body must get all the nutrients in correct amounts. Small amounts of food at intervals of 2-3 hours is the solution for time problem. Modification in frequency of feeding means as many as 8-10 small meals in a day may be given to a patient instead of 3-4 meals.

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#### Intext Questions 23.1

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1. Fill in the blanks using appropriate words :
    - (i) The diet of the sick should be..... normal diet.
    - (ii) Therapeutic diet helps a patient in..... from a disease.
    - (iii) Diet for a patient should meet the..... of the patient.
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2. Write 'T' against true and 'F' against false statements:
- Sick people need only medicines for getting better.
  - Diet plays no role in helping the patient to get well.
  - Liquid diet consists of foods like nimbu-pani, fruit juices, coconut water, etc.
  - The normal diet meets nutritional needs of all sick individuals.
  - The modified diet shou'd be as similar to the normal diet as possible.
3. In diet therapy modifications of a normal diet are in terms of:
- - 
  -
4. Categorise the following food stuffs into liquid and semi-solid foods:  
Sago kheer, soup, custard, khichdi, lassis, fruit juice
- Liquids : -----
- Semisolid foods: -----

DISEASES	MODIFICATIONS IN			FOOD TO BE	
	Diet consistency	Nutrient content	Interval & frequency of feeding	Taken	Avoided
Diarrhoea	Liquid/semi solid	Low fibre	Frequent meals, intervals of 1-2 hrs	Soups, banana, biscuits, sago khichdi, potato, boiled egg, curds, washed dhals	Chillies, whole pulses, fried food, guava, fruit with skin, leafy vegetables, pastries, milk
Fever	Semi solid diet	High calorie, high protein	Frequent meals at 2-3 hrs interval	Milk, egg, chicken, fish, juices, fruits, soups, lassi, dalia, kheer	
Diabetes	No change	Normal diet with no sugar	Meals taken at fixed time, take 6 small meals / day	Vegetables, roti, dal, milk, curd, fruit, egg	Sugar, sweet, honey, jam, jellies, cakes, pastries, sweetened fruits, cold drinks, potato
Hypertension	No change	Low calorie, low cholesterol, low salt	No change	Roti, dal, vegetable, milk, fruit	Foods rich in cholesterol and salt like cheese, butter, egg yolk, pickles, chutneys, papads, sauces, tinned fruit
Jaundice	Start with liquids slowly go to a normal diet	Low fat	Small frequent meals at 1-2 hrs intervals	Roti, vegetable, dal, milk, fruit, sugar	Fried food-puri, pakoda, samosa
Constipation	No change	High fibre, drink lots of water	No change	Atta with husk, whole pulses, green leafy vegetables, guava	Refined foods like suji, rice, candies, bread, maida

## 23.6 Specific Diet in Diseases

Now let us see what kind of food should be given to persons suffering from different diseases. These disease may be due to infection—fever, hepatitis, or diarrhoea; malfunctioning of some part of the body—hypertension, diabetes or constipation; or could be due to lack of a nutrient in food or its faulty utilisation—night blindness, goitre, beriberi, etc. In each case food plays a role in helping the patient to recover.

### Intext Questions 23.2

1. Match the diseases given in column A with the therapeutic diets given in column B

	Column A	Column B
(i)	Diarrhoea	(a) Low sugar diet
(ii)	Fever	(b) Low fibre diet
(iii)	Diabetes	(c) Low salt diet
(iv)	Hypertension	(d) High protein, high energy diet
(v)	Jaundice	(e) High protein, low energy diet
(iv)	Constipation	(f) High protein, low energy diet
		(g) High fibre diet
		(h) Low fat
		(i) High fat

2. List five foods rich in each of the following nutrients

- (a) Carbohydrates \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_  
 \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_
- (b) Proteins \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_  
 \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_
- (c) Fibre \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_  
 \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

## 23.7 Diet in Nutrition Related Problems

There are certain diseases which are related to the deficient or excess intake of food, or nutrients present in food. You have read about these nutrition related problems in the previous lesson. Now you will learn what diet has to be given in these nutrition related problems.

### 1. EPM

Can you recall why EPM happens? Yes, because the food of the child is deficient in carbohydrates and proteins. What diet will you give to a patient of EPM? Yes, you will give increased amount of energy and proteins, i.e. milk, curd, egg, dal, meat, roti, butter, oil, sugar etc. Most of the protein should be of good quality.

**Good quality protein contains all the essential amino acids and their biological value is high.**

## 2. Vitamin A Deficiency

What type of diet will you give to a person suffering from vitamin A deficiency?

Give plenty of vitamin A rich foods, eg, liver, eggs, pumpkin, carrots, fish, milk, green leafy vegetables, papaya, oil and ghee fortified with vitamin A along with a balanced diet. If the vitamin A source is vegetarian then give extra fat for absorption of vitamin A, as it is a fat soluble vitamin.

## 3. Iron Deficiency

Do you remember the sources of iron rich foods in a balanced diet? Yes, you are right. Green leafy vegetables, whole cereals and pulses are cheap and good sources of iron. Animal foods like liver are good but they are expensive. Jaggery is also a rich source of iron. Include sufficient vitamin C rich foods like guava, lemon since vitamin C helps in iron absorption.

## 4. Iodine Deficiency

In iodine deficiency the use of iodised salt should be practised whenever cooking.

## 5. Obesity

You have read and understood the dietary management of undernutrition. Certain problems can arise due to overnutrition or obesity. A person becomes fat when she eats more than she needs, so the excess energy is stored as fat in adipose tissue. How do you assess whether a person is obese or not? A person is considered overweight if the body weight is more than 10% of normal weight, but if the weight is more than 20-25% above normal then the person is obese.

How do you calculate the normal weight?

$$\text{Normal weight} = \begin{array}{l} \text{Height in cm} - 100 \text{ (for males)} \\ \text{Height in cm} - 105 \text{ (for females)} \end{array}$$

Suppose a person's height is 150 cm then the normal weight for a male would be 50 kg and for a female it would be 45 kg. Now you can also calculate your normal weight and tell whether you are underweight, overweight, or obese.

How do you reduce weight by dieting? You try to reduce sources of energy in your diet (eg, oil, sugar). The other important thing along with a controlled diet is to exercise, if you want to reduce weight. Avoid foods like fat, cream, sugar, cold drinks, fruit juices, puri, parantha. Take more of fruits, salads, and soups.

## 23.8 Wrong Beliefs Regarding Diet

There are many wrong beliefs prevalent among people regarding diet. We present here only a few myths and the facts regarding those myths.

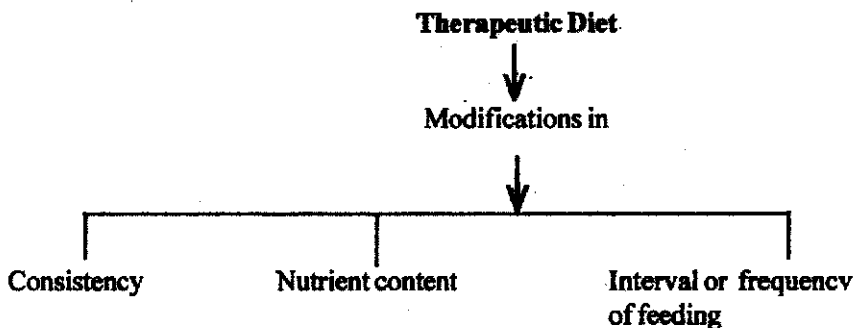
1. **Myth : Diabetics can not eat rice or potatoes.**  
**Fact: A little amount can be taken daily.**
2. **Myth : Jaundice patients should not take fats or turmeric in their diet.**  
**Fact : Fats must be excluded for a while but turmeric is not harmful during jaundice.**
3. **Myth : Crash dieting or eating very little is good for losing weight fast.**  
**Fact : Starvation diet is harmful to the body. A controlled, high fibre, low calorie diet is recommended.**
4. **Myth : In diarrhoea, stop eating.**  
**Fact : The body needs food to help recover. Stopping eating of food only aggravates the problem.**
5. **Myth : In fever do not give hot foods.**  
**Fact : There is nothing like hot and cold food.**

**Intext Questions 23.3**

1. **Fill in the blanks :**
  - (i) Diseases can be treated by medicines and \_\_\_\_\_ also.
  - (ii) Nutrition related problems relate to \_\_\_\_\_ or \_\_\_\_\_ intake of food.
  - (iii) Eating \_\_\_\_\_ salt is a good way of treating iodine deficiency.
  - (iv) Normal weight for a man with a height of 160 cm is \_\_\_\_\_ kg.
  - (v) For weight loss \_\_\_\_\_ and \_\_\_\_\_ go hand in hand.
2. **Give 5 examples of each.**
  - (i) Vitamin A rich foods \_\_\_\_\_
  - (ii) Iron rich foods \_\_\_\_\_
  - (iii) Foods rich in fats \_\_\_\_\_
3. **Classify the following into categories of underweight, overweight, obese, normal weight**

	<b>Height (cm)</b>	<b>Weight (kg)</b>	<b>Sex</b>	<b>Category</b>
(i)	150	40	F	_____
(ii)	155	75	F	_____
(iii)	170	70	M	_____
(iv)	172	82	M	_____
(v)	160	50	M	_____
(vi)	153	55	F	_____
(vii)	180	105	M	_____
(viii)	175	75	M	_____

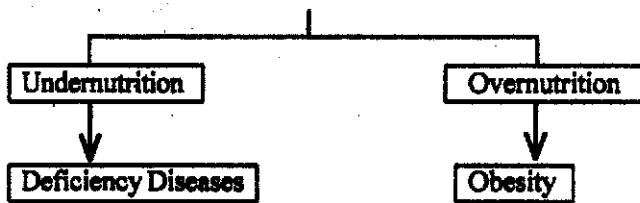
### 23.9 What You Have Learnt



**Diet in different diseases**

Low fibre, semi solid	— Diarrhoea
High calorie, high protein	— Fever
Normal diet with no sugar	— Diabetes
Low calorie, low cholesterol, low salt	— Hypertension
Low fat	— Jaundice
High fibre	— Constipation

**Nutrition Related Problems**



- (1) EPM
- (2) Vitamin A deficiency
- (3) Iron deficiency
- (4) Iodine deficiency



### 23.10 Terminal Exercise

1. Why is there a need to change the diet during disease condition?
2. Enumerate the types of modifications of normal diet.
3. Define and explain the term 'Therapeutic diet' with examples.
4. Give some reasons for basing a therapeutic diet on a normal diet.

### 23.11 Answers to Intext Questions

- 23.1. 1. (i) modified (ii) recovering (iii) needs  
 2. (i) F (ii) F (iii) T (iv) T (v) T  
 3. (i) Diet consistency (ii) Nutrient content (iii) Interval and frequency of feeding  
 4. Liquid food : lassi, juice, soup  
 Semi solid foods : Sago kheer, Khichdi, custard
- 23.2 1. (i) b (ii) d (iii) a (iv) c (v) g (vi) f  
 2. Carbohydrates : Potato, rice, sugar, honey, jaggery, mango, cheeku  
 Proteins : Pulses, paneer, curd, milk, chicken, fish, meat, egg  
 Fibre : Whole wheat, whole pulses, raw fruits, raw vegetables, whole grain cereals
- 23.3 1. (i) diet (ii) deficient, excess (iii) iodised  
 (iv) 60 (v) diet, exercise  
 2. refer to text  
 3. Underweight : (i), (v)  
 Overweight : (iv), (vi)  
 Normal : (iii), (viii)  
 Obese : (ii), (vii)