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Diet is the sum of food consumed by a person or other organism. But sometimes such conditions occur which may alter the nutrient requirement of an individual or the person cannot tolerate certain nutrients. In such cases the diet is modified to prevent further complications and hasten recovery. Diet therapy is a broad term for the practical application of nutrition as a preventative or corrective treatment of disease.



Fig 7.1 : Food is medicine

7.1 DIET THERAPY

Diet therapy is the branch of dietetics concerned with the use of foods for therapeutic purpose (treatment of disease). It is a method of eating prescribed by a physician to improve health. It usually involves the modification of an existing dietary lifestyle to promote optimum health.

Definition:

Diet therapy is the branch of dietetics concerned with the modification of normal diet to meet the requirements of the sick individual.

7.2 IMPORTANCE OF DIET THERAPY

1. It helps in maintaining good nutritional status
2. It helps in controlling and managing diseases.
3. Healthy immune system will increase energy levels
4. Treat the deficiency diseases
5. Alter nutrient requirement according to the ability of body to use the nutrient.
6. Give rest to an organ or to the body e.g. intravenous fluids in severe vomiting.
7. Maintaining body weight.
8. Identification of food intolerance
9. Overall improvement in body functions.

7.3 ROLE OF THE DIET IN DISEASES

A well balanced diet is very important for a healthy lifestyle, as it helps to cure many chronic illnesses and diseases. A choice of food makes a huge impact on promoting and maintaining good health. The right diet can help to fight nutritional disorders like diabetes, fever, hypertension, constipation, cancer, obesity etc.

1. Diabetes mellitus:

Diabetes is a disease that occurs when blood glucose (blood sugar) is too high. Carbohydrates is the main source of energy and comes from the food eaten. Diabetes occurs due to the lack of insulin (hormones secreted from the pancreas). If insulin is deficient, glucose is not oxidised in the cell resulting in hyperglycemia.

Hyperglycemia is a chronic disorder caused by carbohydrate metabolites and leads to high blood sugar (diabetes).

Remedial measures:

A diabetes diet simply means eating the healthiest food in moderate amounts and sticking to regular mealtimes.

1. Patient should be educated about the chronic nature of the disease.
2. Diet management and carbohydrate distribution.
3. Regular exercise to lower blood sugar levels.
4. Controlling blood glucose levels by medicines.

Table 7.1 Diet for diabetic patient

Foods recommended	Foods to be avoided
<ol style="list-style-type: none"> 1. Complex carbohydrates rich in dietary fibre e.g. millets, wheat pasta, brown bread. 2. More intake of polyunsaturated fatty acids. 3. Good quality proteins e.g. lean meat, fish, egg, pulses, milk. 4. Higher intake of salads, leafy vegetables, etc. 	<ol style="list-style-type: none"> 1. Simple sugars and refined carbohydrates e.g. sugar, jaggery, sweets, 2. Saturated fats and cholesterol containing oils/fats 3. Alcohol, soft drinks, sweetmeats, nuts and oilseeds



Fig. 7.2 : Food for diabetics

2. Fever and infection:

Fever is defined as an elevation in body temperature above normal temperature of 98.6°F. This increase in temperature may be due to infection caused by microorganisms or body reactions. Fever is a classic sign of infection in the body.

Remedial measures:

During fever, the rate of burning calories increases with the increase in temperature. The body needs more calories to function properly in fever than it requires in an ordinary situation. The overall diet during fever should be light, easy to digest and full of fluids.

1. Educate about personal hygiene and cleanliness
2. If eating out, eat cooked food.
3. Have boiled or treated water
4. Drink lots of water and fluid rich foods.
5. Include good quality proteins (eggs, fish, poultry, soup) in properly cooked form.
6. Avoid heavy meals.

Table 7.2 Diet for fever patient

Foods recommended	Foods to be avoided
<ol style="list-style-type: none"> 1. Foods should be liquid to semi-solid consistency. 2. Cereals in form of custard, <i>kheer</i>, boiled rice or <i>roti</i>. 3. Good quality, easy to digest proteins like chicken soup, stew, milk based beverage, soft <i>khichdi</i>, <i>moong dal</i>, boiled vegetables, (bottle gourd, pumpkin) fruit juices, etc. 	<ol style="list-style-type: none"> 1. Solid foods which are hard or tough and require lots of mastication and digestion. 2. Cereals with irritating dietary fibres. 3. Fried, spicy and heavy preparation. 4. Leafy vegetables, raw fruits and vegetables with harsh fibres 5. Pickle, <i>papad</i>.



Fig. 7.3 : A balanced diet in fever and high sweating

3. Hypertension:

It is a condition in which the blood pressure is at above normal level.

Table 7.3 Risk factors for heart diseases

Personal factors	Diet pattern
1. Heredity	1. Alcoholic
2. Smoking	2. Eating rich foods
3. Obesity	3. High in fat and cholesterol
4. Age groups 30-55	4. Low in fibre
5. Tension and stress	5. High salt intake (sodium chloride)
6. Sedentary lifestyle	6. Refined carbohydrate and sugars

Remedial measures:

1. Blood pressure should be controlled
2. Restricting sodium salt consumption
3. Drug therapy
5. Stress management and exercise

Do you know ?
 Normal blood pressure is 80/120 mm Hg

Table 7.4 Diet for hypertension patient

Foods recommended	Foods to be avoided
1. Foods low in sodium	1. Foods rich in cholesterol and fats
2. Cereals e.g. wheat, rice, oat meals, millets	2. Foods rich in sodium
3. All fruits e.g. fresh and canned	3. Baking powder-cakes, cookies
4. Vegetables e.g. cabbage, cauliflower, tomato, potato, onion	4. Soda bicarbonate e.g. all cookies
5. Juices e.g. lime juice	5. <i>Papad</i> , pickles
6. Vegetable oil as cooking medium	



Fig. 7.4 : Foods that lower blood pressure



Fig. 7.5 : High blood pressure herbal remedies

4. Disorder of gastrointestinal tract:

Constipation:

Constipation occurs when a person has difficulty in passing stools or evacuation of hard stools. It is opposite of diarrhoea.

Remedial measures:

1. Mealtimes should be proper and at regular times.
2. Regular toilet habits
3. Proper exercise is necessary
4. More fibre should be included in diet
5. Good intake of fluids

Table 7.5 Diet for constipation

Foods recommended	Foods to be avoided
1. Fluids- at least 1.5 litres water in a day	1. Refined cereals
2. Cereals e.g. wholegrain cereals, millets, oats	2. Dehusked pulses
3. All fruits e.g. raw and fresh	
4. Vegetables e.g. green leafy vegetables, bottle gourd, salads	
5. Milk, butter milk, butter and ghee	
6. Pulses with husk	
7. Vegetable oil as cooking medium	

5. Cancer:

Cancer is a general term for a group of diseases involving abnormal cell growth with the potential to invade or spread to other parts of the body.

Remedial measures:

1. Cancer patients should stick to a healthy, balanced diet
2. It should include plenty of good quality high protein, healthy fats, fruits, vegetables and whole grains,
3. Have limited sugar, caffeine, salt, processed foods and alcohol.
4. Provide clean nourishing food.
5. Diet should be modified according to the symptoms
6. Increased fluid intake specially coconut water.
7. Food rich in natural antioxidants are advised.



Fig. 7.6 : Foods that fight cancer

6. Obesity:

Obesity is a medical condition in which excess body fat has accumulated to the extent that it may have an adverse effect on health.

Table 7.6 Diet for obesity

Foods recommended	Foods to be avoided
<ol style="list-style-type: none"> 1. Vegetables (a colorful variety-not potatoes) and salads 2. Whole fruits (not fruit juices) 3. Nuts, seeds, beans, and other healthful sources of protein (fish and poultry) 4. Plant oils (olive and other vegetable oils) 5. Plenty of fluids. 	<ol style="list-style-type: none"> 1. Alcohol 2. Saturated fats and cholesterol containing oils and fats 3. Refined cereals and sugars

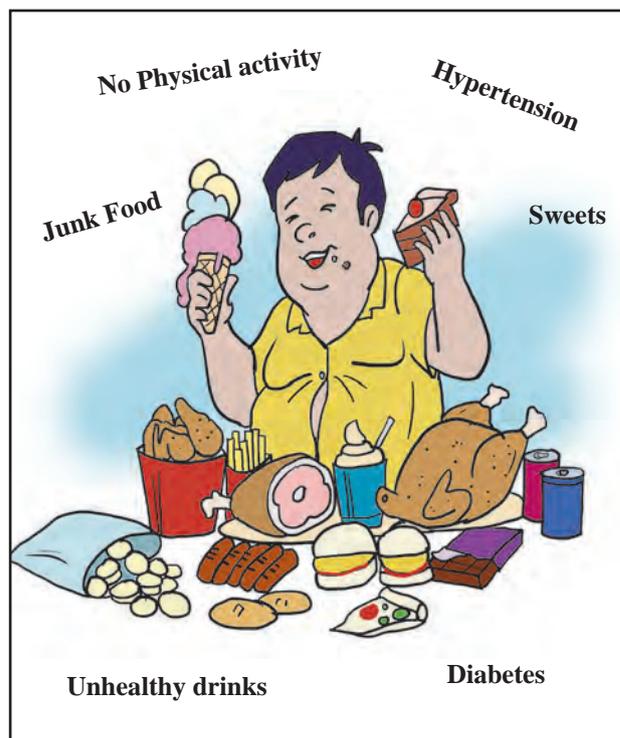


Fig. 7.7 : Reasons of obesity



EAT BREAKFAST EVERYDAY

Breakfast is the most important meal of the day and should never be skipped. It helps you in keeping your calorie intake in control and prevents weight gain.



EXERCISE DAILY

Exercise helps in keeping your body fit and prevent you from becoming overweight by burning the bad calories and releasing the toxins from your body.



EAT MORE FRUITS, VEGETABLES & NUTS

Fruits, vegetables and nuts are a great source of nutrients to help you control your body weight and calorie intake.



GET PLENTY OF CALCIUM

The more calcium in a fat cell, the more fat burns. Apart from dairy food, other sources of calcium are broccoli, oranges etc.



CUT DOWN ON FATTY & SUGARY FOODS

These foods have high amount of calorie and fat which is harmful for our body and leads us towards obesity.

Fig. 7.8 : Five ways to reduce obesity

Points to remember

- Diet therapy is the branch of dietetics concerned with the use of foods for therapeutic purpose (treatment of disease).
- Diet therapy helps in controlling and managing diseases.
- Diabetes is a disease that occurs when blood glucose (blood sugar) is too high. Diabetes occur due to lack of insulin. A diabetes diet simply means eating the healthiest foods in moderate amounts and sticking to regular mealtimes.
- Fever is defined as an elevation in body temperature above normal temperature of 98.6°F. This increase in temperature may be due to infection caused by microorganisms or body reactions. Fever is a classic sign of infection in the body. Overall diet during fever should be light, easy to digest and full of fluids.
- Hypertension is a condition in which the blood pressure is above normal. A diet low in sodium is preferred and cholesterol containing oils / fats and saturated fats should be avoided.
- Constipation (Disorder of gastrointestinal tract) occurs when a person has difficulty in passing stools or evacuation of hard stools. Diet should include plenty of fluids, fibre and avoid refined cereals and sugars.
- Cancer is a general term for a group of diseases involving abnormal cell growth with the potential to invade or spread to other parts of the body. Diet should include plenty of good quality lean protein, healthy fats, fruits, vegetables, whole grains and antioxidants.
- Obesity is a medical condition in which excess body fat has accumulated to the extent that it may have an adverse effect on health. A well balanced diet rich in fruits, vegetables and fluids is advised .

Exercise

Q.1 a. Select the correct option from the given choices.

- i. Which branch of dietetics is concerned with the use of foods for therapeutic purpose (treatment of disease)?
 - a. Diet therapy b. Food service industry
 - c. Physiology d. Pharmacy
- ii. Diabetes is a disease that occurs when blood glucose, also called blood sugar, is _____.
 - a. Low c. Remains same
 - b. High d. Fluctuates
- iii. _____ is a classic sign of infection in the body.
 - a. Fever c. Loss of appetite
 - b. Vomiting d. Loss of weight
- iv. Normal blood pressure is _____ mmHg
 - a. 40/80 c. 60/100
 - b. 120/160 d. 80/120
- v. _____ is a general term for a group of diseases involving abnormal cell growth with the potential to invade or spread to other parts of the body.
 - a. Fever c. Cancer
 - b. Hypertension d. Constipation
- vi Which food helps in lowering blood pressure?
 - a. Garlic c. Salt
 - b. Refined sugars d. Saturated fat

b. Match the correct pairs.

A		B	
i.	Diabetes	a.	Protein and coconut water
ii.	Fever	b.	High salt intake
iii.	Hypertension	c.	Insulin
iv.	Cancer	d.	Need more calories
		e.	Saturated fats

c. Do as directed:

- i. Write true or false.
Water intake in constipation should be at least 1.5 litres..
- ii. By considering the first correlation complete the second correlation.
Fever: elevation in body temperature above normal
Constipation : _____
- iii. Identify the odd one.
 - a. Fruits b. Green vegetables
 - c. Plenty of fluids d. Saturated fats
- iv. Name the word with the help of clue:
Clue: Diabetes occur due to lack of

		s				
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- v. Who am I ?
Clue : I am an antiseptic and help in fighting cancer.

Q. 2 Answer the following questions briefly:

- i. Define diet therapy.
- ii. Give the normal temperature and blood pressure of body.
- iii. What are the risk factors for heart disease ?
- iv. Which foods are to be avoided in obesity?

Q. 3 Write short notes on:

- i. Which foods are recommended in fever?
- ii. Which foods are to be avoided in hypertension?
- iii. Explain the remedial measures for a cancer patient.

Q. 4 Long questions

- i. Explain the remedial measure and diet for a diabetic patient.
- ii. Explain the remedial measure and diet for a cancer patient.

Project:

Select any five diseases and make an album based on its diet therapy.

