HEALTH AND HYGIENE

• A solution of bicarbonate of soda and warm water is a good cleanser and will not make the refrigerator smell.

(d) Clean water:

- As you have learnt previously that many diseases are water borne. For good health, it is necessary to have a plentiful supply of safe piped water from a tube-well or deep hand pump.
- Water should be boiled at least for 5-10 minutes to kill all germs and then kept in a sterilized bottle before drinking.

(e) Storage of food:

- Store food and drinking water in clean and dry place.
- Keep food items covered and out of reach of cockroaches, rodents(rats) etc.
- Maintain temperature for storage of food as per food items.

2.8 WHAT YOU HAVE LEARNT

In this lesson you have learnt the meaning and importance of personal hygiene and Various aspects of hygiene which are needed for healthy living you can now very well understand that by co-ordination, co-operation and proper planning we can improve our hygienic standards and save our country from epidemics and endemics and increase the longevity of the people.

2.9 TERMINAL QUESTIONS

- 1. What is 'Hygiene'?
- 2. Write any four important points of personal hygiene.
- 3. Discuss some important measures to maintain good food hygiene.

2.10 ANSWER TO INTEXT QUESTIONS

2.1

- 1. According to WHO, health can be defined as "Health is the state of complete physical, mental, spiritual and social well-being and not merely absence of disease".
- 2. The state of absence of stress, tension, worry, negative thoughts etc. is mental health.

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Module-1 Notes



	• OUR HEALTH
2.2	
1. False	
2. False	
3. True	
4. False	
5. False	

Module-1	
	2
Notes	



NUTRITION

3.1 INTRODUCTION

To perform various vital functions, our body needs energy. Do you know from where does this energy come from? The answer is 'food'. Food plays an important role in the maintenance of good health and in the prevention and cure of disease. The human body builds up and maintains healthy cells, tissues and organs only with the help of various nutrients. In this lesson, we are going to study about food and nutrition, different types of nutrients and also about balanced diet and dietary management of some deficiency diseases.

3.2 OBJECTIVES

After reading this lesson, you will be able to:

- Explain the definition and functions of food.
- Know what is nutrition and different nutrients.
- Understand the importance of balanced diet.
- Discuss various deficiency diseases and their dietary treatment.

3.3 FOOD AND NUTRITION

All living things need food. Food gives us energy to do work and activities. Our body needs food to grow strong and healthy. The term 'food' refers to anything that we eat and drink and which nourish the body.

Functions of food

The important functions of food include:

- It is essential for the growth of human body.
- It provides the power to the body to resist diseases.





- It provides energy for the production of heat and for the maintenance of all metabolic activities.
- It is essential for the repair of daily wear and tear.

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U INTEXT QUESTIONS 3.1

1) What is food?

2) Lie wo important functions of food.

3.4 NUTRITION AND NUTRIENTS

Nutrition, which depends on food, is also important in the cure of disease. It tells us about what happens to the food when it enters our body.

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Nutrition is the process by which the body <u>ingests</u>, <u>digests</u>, <u>absorbs</u>, <u>transports</u> and <u>utilizes</u> the <u>nutrients</u>. Almost all foods contain nutrients in varying proportions.

Nutrients are the constituents of food that must be supplied to the body in suitable amounts.

Following are the important nutrients which are present in food:

- (a) Carbohydrates (e) Minerals
- (b) Proteins (f) Water
- (c) Fats
- (g) Roughage (Fiber)

(d) Vitamins

Let us now discuss various nutrients in detail:-

Nutrient	Types	Sources	Function	Deficiency
Carbohydrates	Sugars, starches, Fibre	Wheat, rice, potato, sweet potato, milk, sugars, dried fruits etc	 Carbohydrates are the main source of energy for the body function. They regulates fat metabolism and aids in the utilization of body fat (1 gm of carbohy- drate yields 	

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			about 4 calories of energy)		
Proteins	Animal protein Plant protein	Pulses, eggs, fish, peas soybeans, Milk and certain Grains	 Proteins provide the building blocks needed for growth, repair and maintenance of body 		
Fats	Animal and Vegetable fat	Eggs, meat, cheese, milk, butter, ghee, Vegetable oil	 Fats are the rich source of calories for energy They make food tasty and palatable Fat is used in the formation of cholesterol 		
Vitamins	 Fat soluble- Vit. A, D,E, and K Water soluble- Vit. B, Vit.C 				
Vitamin A		Carrots Papaya,Green Leafy Vegetables.	 It is essential for growth, for good vision and immune system. 	 Poor night vision Increased risk of infection Eye damage, may leads to blindness. 	
Vitamin D		Fish liver oil, eggs and sun light.	It is required to absorb calcium and phosphorus for prmal formation of bones and teeth.	 1) Ricket in children 2) Osteomalacia in adults 	
Vitamin E		Vegetable oil, wheat germ, nuts, and seeds	It is a good antioxidant	1) Muscular weakness 2) Habitual abortions	
Vitamin K		Green leafy vegetables, esp. cabbage, spinach and broccoli	It is needed for normal blood clotting	Impairing clotting of blood.	
Vitamin B complex	Vit.B1 Vit.B2 Vit.B6 Vit.B12	Whole wheat cereals, nuts, soyabean, banana, egg, fish and pulses	 Regulate growth Important in carbohydrate and protein metabolism. 	 Fatigue, Loss of appetite, Mental confusion and nervous disorders 	
Vitamin C		Citrus fruits like, orange lemon, guava, amla, chillies	Important antioxidant	 Soregums Joint pains Scaly skin Fatigue and loss of appetite Scurvy and anemia 	
Minarals	Calcium, Iron, Magnesium, Potassium, Sodium, Copper, Iodine etc.	Milk, Green leafy vegetables, whole grain cereals, nut, seeds and fruits	 Help build bones and teeth Maintain fluid and electrolyte balance in the body Helps in developing immunity 	 Muscular weakness Soft and brittle bones Goiter Anemia Reduce resistance to infection 	
Roughage (Fiber)		Whole wheat, whole grains, Dalia, fruits and vegetables	1) Roughage act as ' Broom' in the body and stimulate bowel movements	1) Constipation	

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Notes

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Wrodule-1				 2) It gives bu the diet an helps to sa the appetit 3) It lowers b cholesterol 	lk to d tisfy e lood	
Notes	Water	Drinking w Fruit juices Milk	ater, s, Tea,	 Water helps digestion It helps excre out waste m from the boo the form of u feaces, swea tears 	in ete aterial ty in irine, at and	 Dehydration General weakness Dry skin
	A				*	
	ÍN	TEXT QUESTIONS 3	.2			
	Q.1. Cho	se the correct answer:				
	1.F .*	eins are needed in the b	ody:			
	a.	o provide energy.		()	
	b.	For growth and repair		()	
	с.	To increase weight.		()	
	d.	For making food tasty	/.	()	
	2. Iror	is found in:			2	
	a.	Milk		()	5
	b.	Salt		()	
	C.	Nuts		()	
	a.	Green leary vegetable	S	()	
10	3. wat			(
	- d.			().	
	D.)	
	d.	Vitamin D		()	
	4 Vita	min A is good for:		(
	a	Heart		()	
4	b.	Bones		()	
	C.	Eyes		()	
	d.	Skin		Č)	

You can not eat only fruits, you need something more. You can not eat only vegetables. You need something more. Hence, to maintain normal functioning of the body, we need varieties of food which gives us proteins, carbohydrate, fat, vitamins and minerals.

NUTRITION

A diet containing all the essential food constituents in correct proportions is called a 'balanced diet'.

A balanced diet should have the following qualities:

- It must be rich in various essential nutrients and include foods from all food groups.
- It should provide necessary energy required by the body.
- It should be economical.

3.6 DEFICIENCY DISEASES

Different food gives us different nutrients. So, we must try and eat a little of all types of food everyday.

In adequate intake of essential nutrients in the diet and their improper utilization leads to deficiency diseases.

Deficiency disease is a condition in which a particular nutrient has been inadequate or missing from our daily meals for a prolonged period.

The deficiency symptoms starts showing after inadequate consumption of the specific nutrients for sometime. They may also occur as a result of some other diseases e.g. anemia due to bleeding or worm infestation.

Some Common deficiency diseases are:

Sr. No.	Disease Symptoms		Dietary treatment		
1	Protein Energy Malnutrition (PEM)- Kwashiorkor	 Lack of growth in the children Gastrointestinal disturbances like loss of appetite, nausea and diarrhoea Swelling in hands, feet and face 	Protein rich food such as soyabean, ground nut and pulses.		
2	Marasmus	 Loss of body weight and failure in weight gain Child shows the appearance of an old man 	Wheat dalia, Ragi halwa, Idli, Sweet potato, Green vegetables, Milk and its products are some of the protein rich low cost food itenis.		
3	Anemia	 Yellow pallor (skin and eye colour) Poor digestion General weakness 	 Give extra iron and folate Diet rich in green leafy vegetables like spinach, chaulai etc. Fish, meat, (esp. liver) Cereals and pulses. 		

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3.7 WHAT YOU HAVE LEARNT

In this lesson you read the functions and meaning of food, nutrition and various types of nutrients. Now you can understand that all the nutrients like Carbohydrate, Proteins, Fats, Vitamins, Minerals, Water and Roughage are vitally important and they work together. A well balanced and correct diet play an important role for the maintenance of good health and healing of diseases. Our diet must contain all the food groups in correct proportion.

3.8 TERMINAL QUESTIONS

- What do you mean by deficiency disease? Mention any three deficiency disease with their symptoms and dietary management.
- 2. Write an essay on Nutrition & Nutrients.

3.9 ANSWER TO INTEXT QUESTIONS

3.1

- 1. The term 'food' refers to anything that we eat and drink and which nourish the body.
- 2.
- It provides energy for the production of heat and for the maintenance of all metabolic activities.
- It is essential for the repair of daily wear and tear.
- 3.2
- 1. b
- 2. d
- 3. c
- 4. c



Module-1 Notes

4.1 INTRODUCTION

Disease is often used more broadly to refer to any condition that causes pain, dysfunction, distress, social problems, and/or death to the person afflicted, or similar problems for those in contact with the person. It sometimes includes injuries, disabilities, disorders, syndromes, infections and isolated symptoms. That is why proper knowledge of diseases is necessary. **Not only knowledge of disease but knowledge of its prevention is also very important. In prevention of diseases, vaccination plays an important role. So in this lesson we will also focus on the vaccination.**

4.2 OBJECTIVES

After reading this lesson, you will able to:

- understand the disease & its classification;
- explain some common diseases, their symptoms, treatments and prevention;
- know the importance of vaccination.

4.3 WHAT IS DISEASE?

A **disease** is an abnormal condition of an organism that impairs bodily functions, associated with specific symptoms and signs. In simple words, it is a condition of an individual not feeling well or a condition opposite to health.



Classification of diseases

Diseases can be classified as:

- **1. Air borne:** Disease which occur due to inhalation of germs/from the diseased person through air. E.g. T.B., Influenza, swine flu etc.
- 2. Water borne: Disease caused by drinking contaminated water having microorganisms like bacteria, virus etc. E.g. Cholera, typhoid, Hepatitis, jaundice etc.
- 3. Food borne: Disease caused by taking contaminated or infected food having microorganism. E.g. Food poisoning, Diarrhoea, vomiting, Worm infestation, etc.
- 4. Insect borne: Disease caused by bite of mosquitoes of different types E.g. Malaria, Dengue, filaria etc.

Some common diseases

Let us now discuss some common diseases, their symptoms and their preventive measures:

S.No.	Name of	Caused by	Symptoms	Immediate	Prevention
	Disease			measure	
1	Tuberculosis	Bacteria- Mycobacterium tuberculi	 Fever, Chronic cough with sputum, sudden weight loss, chest pain 	 Isolate the patient. Collect sputum in covered box and disposed away from habitat. Start DOTS treatment 	 Cover mouth and nose while coughing and sneezing BCG vaccine
2	Swine flu	Virus-H1N1	 Fever, cough and cold for more than 3 days. Body ache 	 Blood test for H1N1. Send patient to nearby hospital 	 Cover mouth and nose while coughing and sneezing Avoid going out in a crowded place.
3	Pneumonia	Bactria- Streptococcus pneumoniae	 High fever (sometimes 104°F), shaking chills, cough with sputum, short of breath. 	If fever and cough persist for more than 3 days send the patient to a hospital for proper diagnosis.	1)Vaccination 2) Wearing warm clothes for children
4	Cholera	Bacteria-Vibrio cholerae	 Watery stool Vomiting Pain in stomach with cramps 	To avoid dehydration give ORS, homemade fluids like rice water, lemon water(Shikanji), Lassi,Dal ka Pani, and breast milk for the babies, Coconut water.	 Proper disposal of stool and vomit of the patient. Health education regarding purification of water. Maintain hygiene.

5	Typhoid	Bacteria- Salmonella typhi and Salmonella paratyphi	 Fever, Poor appetite Headache Abdominal pain. 	1) Blood test.	 Maintain Proper personal and food hygiene. Vaccination
6	Jaundice	Contaminated food and water	 Eyes, nails and skin become yellowish Dark yellow Urine Enlarged liver Loss of appetite 	 Blood and Urine test Avoid Oily and fatty diet. 	 Avoid outside food And water. Avoid cut foods.
7	Diarrhoea	Contaminated food and water	 Loose watery stool more than 4-5 times in a day Sunken eyes Dry tongue Weak pulse 	 ORS Homemade fluids like dal ka pani, shikanji, coconut water, buttermilk. 	1) Personal hygiene and cleanliness while cooking and eating food.
8	Worms	Parasites- Hookworm, tapeworm, roundworms.	1)Loose motions with blood and mucus 2) Abdominal Pain	1) Stool test	 Personal and food hygiene Boiling of drinking water safe disposal of human excreta
9	Scabies	Mites- Sarcoptes scabiei	1)Skin Rash 2)Itching	1)Ointments 2) oral medicine	1) Personal hygiene
10	Skin infection	Bacteria, Fungi	 Acne, pimples Lesions on the skin Irritation and itching of the skin 	 In sever case isolate the patients Use of ointments and apply on the skin 	 Personal Hygiene is important Do not share cloths



1. State True false:

1) Swine flu is air borne disease.

- (
- 2) In tuberculosis, there is not chronic cough with sputum.(
- 3) ORS is very effective in treatment of the Diarrhoea. ()

4.4 HIV/AIDS

HIV is Human Immunodeficiency Virus. It infects and weakens the body's immune system. It survives in body fluids such as blood, semen, vaginal and cervical fluids.

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Persons infected with HIV are called HIV positive people. They may look and feel perfectly healthy and can work like normal persons. They may not even know that they are infected and can infect others. PLWHA (People living with HIV/AIDS) is a term commonly used for HIV/AIDS patients.

AIDS

- A = Acquired One gets it from somebody infected. It is not hereditary.
- I = Immune It affects the immune system of the body.
- D = Deficiency Inadequacy of the body's immune system to fight infections.
- S = Syndrome A group of diseases or symptoms. It is not just one single disease.

AIDS is the late stage of HIV infection. A person with HIV is said to have got AIDS when his/her immune system is totally broken down and opportunistic infections (infections that take opportunity to cause diseases because HIV has weakened the body's immune system) invade his/her body. It may take more than 8 to 10 years for a person to develop AIDS after the initial infection with HIV. Most HIV positive people will eventually develop AIDS.

Women are More Vulnerable to HIV infection

Women are more vulnerable to HIV infection because of the following reasons:

- Limited access to information and educational messages.
- Biological vulnerability- large vaginal area and delicate vaginal membrane allow the virus to pass through easily.
- Increased risk of infection from man to woman Higher concentration of virus in the semen; HIV transmission from man to woman more rapid than in the reverse direction.
- Many women suffer from asymptomatic STIs which facilitates HIV transmission.
- Poor access to healthcare services.
- Different social norms most societies are male dominated; women having no say in matters of sexual relationships.
- Lower literacy rates.
- Lower socio-economic status- women often economically dependent on men.
- Passive attitude of women towards sexual issues.

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- Women often require blood transfusion (during childbirth or for treating anemia) and face the risk of infection due to the possibility of infected blood transfusion.
- Lesser social support when infected.

Modes of HIV Transmission

Four main ways or routes of transmission of HIV are:

- 1. By transfusion of infected blood or blood products.
- 2. Having unprotected sex (without a condom) with HIV infected person.
- 3. By infected needles, syringes and other instruments
- 4. By an infected mother to her unborn child during pregnancy or childbirth.

Ways in which HIV is not transmitted

HIV is not spread through:

- Casual contacts such as shaking hands, hugging, eating or drinking from the same utensils, etc.
- Traveling together
- Donating blood
- Mosquito bites (the virus doesn't survive in mosquito's body)

Progression of HIV in the body



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Normal use of toilets and urinals

- Coughing, sneezing (not an air borne disease)
- Caring for people living with HIV/AIDS

The length of time it takes from HIV to develop into AIDS widely differs from person to person.

Preventive Measures

Preventive measures to be taken for protection from HIV include:

- Having appropriate information about HIV/AIDS, and skills to make correct choices.
- Making sure the blood is tested before transfusion.
- Abstaining from sex.
- Resisting negative peer pressure.
- Avoiding alcohol and drugs.
- Not having unprotected sex.
- Having a mutually faithful sexual relationship with an uninfected person.
- Practicing safer sex.
- Not injecting drugs.
- Not sharing needles and syringes with anyone.
- Pregnant women to get tested for HIV.
- Universal precautions to be observed.

How young people can contribute/What can they do:

- Learn and understand basic facts about HIV and its prevention.
- Develop life skills to protect themselves and others.
- Assess personal risk for HIV infection.
- Share information with others.
- Dispel myths.
- Tackle stigma in school and in the community.
- Avoid alcohol and use of drugs that may affect judgment.
- Treat PLWHA with compassion, not discrimination.
- Practice abstinence (not having sex with anyone).



ANTI RETROVIRAL THERAPY (ART)

There is no cure for HIV/AIDS yet. However, now Anti Retro Viral (ARV) drugs are available which stop people with HIV from becoming ill for many years. ARV treatment for HIV or ART consists of drugs that have to be taken by the HIV person for the rest of his/ her life.

ART increases the person's ability to fight the disease. The drugs control the reproduction of the HIV virus, there by reducing HIV levels in blood and semen. They slow down the progression of HIV-related disease and make people with HIV live longer. They reduce symptoms and delay the onset of AIDS. In other words, ART converts HIV infection from a fatal disease to a chronic disease. But they <u>do not cure HIV infection</u>.

4.5 VACCINATION

Vaccination plays an important role in the prevention of diseases. It increases Immune power of human body to fight against microorganisms that causes disease. Because of vaccination, body is always prepared to remove disease causing microorganism from the body.

A **vaccine** is a biological preparation that improves immunity to a particular disease.

Vaccine (injection) of any particular disease contains disease causing microorganism of that disease only. Many times these microorganisms are killed or weakened. Vaccine stimulates body's Immune system to recognize disease causing microorganism and destroy it.

Do you Know

Vaccine is discovered by Edward Jenner's in 1796 (Small pox vaccine)

Methods of administration:

Administration of vaccine may be:

- Oral (E.g. Polio drops)
- By injection (intramuscular, intradermal, subcutaneous injections like BCG, DPT, Hepatitis etc.)
- By puncture
- Transdermal (Under the skin)

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Fig. 4.1 (A) Patient of Polio

Fig. 4.1 (B) Polio Drops

4.6 IMMUNIZATION SCHEDULE

Under National Immunization Schedule, vaccination against <u>some</u> <u>common Communicable diseases is done which is essential for child</u> <u>development and survival.</u> These diseases are Polio, Whooping cough (Pertussis), Tetanus, Measles, Diptheria and Tuberculosis. Most of the child deaths are due to these diseases so it is very important to do active immunization in children from first year of their life.

At Birth	B.C.G for T.B.
	OPV (Oral Polio Vaccine)
	 Hepatitis B – first dose
6-8 weeks	 D.P.T 1st dose
	 Polio-1st Dose
10-14 weeks	 D.P.T 2nd dose
	 Polio-2nd dose
16-20 weeks	 D.P.T 3rd dose
	 Polio-3rd dose
	 Hepatitis B-2nd Dose
9 months	Measles
	 Vitamin A-1st dose
15-18 months	 MMR (Mumps, Measles, Rubella)
	 Vitamin A-2nd dose
16-24 months	 DPT – 1st booster dose
	 Oral Polio – 3rd dose
5-6 years	DT .
10-16 years	TT (Tetanus Toxoid)

Vaccination Chart

Note: 1) Vaccination can be done during minor cough, Cold and mild fever.

- 2) Interval between 2 doses should not be less than 1 month.
- 3) Some other important vaccines which are not included in immunization schedule but can be given to children are chicken pox, typhoid, influenza vaccine etc.

Some Important Vaccine available:

Name of Vaccine	Disease
B.C.G.	Tuberculosis(TB)
TT	Tetanus
OPV	Polio
Small pox vaccine	Small pox
DPT	Diptheria, Pertussis and tetanus
Hepatitis vaccine	Hepatitis A and Hepatitis B
Measles vaccine	Measles
HIb	Meningitis(Brain fever)
Chicken pox vaccine	Chicken Pox



Q.1 State True or False:

- 1. Vaccine prepare by disease causing microorganisms. ()
- 2. Vaccination decreases human Immune response.

Q.2 Match the following:

Vaccine			Disease
	i.	DPT	Tetanus
	ii.	B.C.G.	Polio
		TT	Diptheria, Pertussis and Tetanus
	iv.	Polio Vaccine	Tuberculosis(TB)

4.7 WHAT YOU HAVE LEARNT

In this lesson we studied what are diseases, how diseases are transmitted from one person to another. We have also discussed some common diseases, their causative agent, symptoms and preventive measure for those diseases. We have also discussed HIV/Aids, modes of HIV transmission, preventive measures and Anti Retroviral Therapy (ART).

In this lesson we also learnt about vaccination schedule and some important vaccines.

4.8 TERMINAL QUESTIONS

- 1. What is diseased condition?
- 2. Give classification of diseases with the examples.
- 3. Write a short note on vaccination.

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SUGGESTED ACTIVITY

Collect information regarding outbreaks of diseases in recent years.

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FIRST AID

5.1 INTRODUCTION

Sometimes we cut ourselves or hit or get burns while working in the home. Such incidents cause minor injuries. But when vehicle hits someone or someone falls from a height or gets severe electric shock, the injuries caused are serious. These incidents are called accidents.

Incidents of convulsion, swallowing object in smaller children might lead to serious consequences. These incidents also need immediate action. In all these situations, immediate treatment or first aid is required.

5.2 OBJECTIVES

After reading this lesson, you will be able to:

- 1) Understand the concept of First Aid.
- 2) Learn about different procedures and practice of giving First Aid.
- 3) Provide First Aid to the victim in case of any emergency and save lives.

5.3 FIRST AID

The immediate treatment that is given to the victim of an accident or sudden illness before any medical help arrives is called "**First Aid**". Emergency care is required at any time in life and first aid provided at right time not only saves life but also prevents gross damage of essential parts of the body.

Aim of First Aid:

- It saves Life.
- Helps in early recovery.

