HEALTH AND HYGIENE

8

SYLLABUS

1. Diseases may be caused by a deficiency of nutrients. Protein/calorie malnutrition — brief revision of deficiency diseases on account of lack of specific vitamins/minerals.
2. Diseases may arise on account of malfunctioning of organs — e.g. pancreas — lack of insulin may lead to diabetes, malfunctioning of kidneys can lead to accumulation of toxic substances in the body.
3. Communicable and non-communicable diseases.

   Diseases may be caused by infection — viruses, bacteria, protozoans, fungus, insect bite, ingesting infected food and water, pollution/allergies.

   Examples of each of these.

   How diseases spread : Droplet infection (Coughs, colds, influenza, tuberculosis); water and food-borne diseases (diarrhoea, typhoid, cholera); vector-borne diseases.

   (Malaria, dengue, filaria, plague, yellow fever, gastro-enteritis, polio); contact infection (skin diseases, conjunctivitis, lice, chicken pox), bites (snake poisoning, rabies).

   Note : Detailed treatment of diseases is not required.
4. Fever, allergies.
5. Bites, stings and burns.
6. First Aid measures for cuts, bites, stings and burns. What to do in case of fever.
7. Prevention of disease — routine steps — immunization.
8. Other bad habits that can lead to ill health : lack of personal hygiene and exercise, addictions to fast food, drugs, tobacco.

   * Quizzes, games can be developed by children and tried out amongst themselves or younger students on how to avoid ill-health (E).

HEALTH

Normally, a person is said to be healthy, if he or she is not suffering from any disease. When a person can work hard, interact well with people, enjoy leisure and can adopt to the changes and stresses of life, then he or she is in good health.

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

Physical health and mental health are inter-related. A sound mind in a sound body is an old and appropriate saying for good health.

A healthy human being has generally the following features :

- a clear skin,
- bright, clear eyes,
- a body neither too fat nor too thin,
- fresh breath,
- good appetite,

- sound sleep,
- regular activity of bladder and bowels,
- coordinated body movements.

Disease is a departure from normal health through structural or functional disorder of the body.

CATEGORIES OF DISEASES

There are *two* major categories of diseases :

1. Non-communicable or non-infectious diseases. Such diseases are not caused by any germ, therefore these diseases cannot spread from one person to another (*i.e.*, they are non-transmissible). These are caused due to improper functioning of the body organs. *Examples*: diabetes, heart attack, *etc*.

2. Communicable or infectious diseases. Such diseases are caused by the germs which are called pathogens. When pathogens reach a healthy person, he or she is infected by a communicable disease. Some examples of communicable diseases are cholera, viral fever, chicken pox, malaria, *etc*.

TYPES OF NON-COMMUNICABLE OR NON-INFECTIOUS DISEASES

A simplified classification of non-infectious diseases with some common examples is given below :

1. **Metabolic** – diabetes mellitus, goitre.
2. **Genetic** – Haemophilia, thalassemia.
3. **Allergies** – Hay fever, asthma.
4. **Dietary deficiency** – Beri-beri, scurvy, goitre.
5. **Cancer** – Breast cancer, leukemia.
6. **Degenerative (ageing)** – Arthritis, cataract.
7. **Physical and chemical causes** – Injury, heat, cold, radiation, poisoning.
8. **Mental illness** – Depression, schizophrenia.

1. Metabolic diseases (also called organic diseases). These diseases are caused due to the malfunctioning of various body organs. **Diabetes** is one good example of such diseases. In this disease, pancreas fails to produce sufficient insulin, the hormone which controls the sugar level in the blood. Therefore, sugar starts passing out in urine.

In the case of **heart diseases** such as, heart attack or coronary thrombosis, blood supply to the heart muscles is obstructed and the cardiac muscles fail to function properly.

You have already learnt in your previous class about malfunctioning of kidneys. You know that nephrons in the kidneys help filter out harmful nitrogenous waste materials from our blood, and throw them out from the body in the form of urine. If, for certain reasons, the kidneys fail to function properly, these toxic wastes get accumultated in the blood and cause a disease known as **uraemia.**

2. Genetic diseases or congenital diseases. Such diseases develop at the time of embryonic development due to defects in the genes of the chromosomes inherited from the parents.

Haemophilia. In this disease, the blood clotting takes place very slowly due to the absence of certain special factors in the blood.

Thalassemia is the disease of defective haemoglobin of RBC. A child with such defect needs blood transfusion very frequently.

3. Allergy. Allergy is an unpredictable reaction to a particular substance. This type

of substance is called **allergen**. Different people are allergic to different substances. A few common allergens are dust, spores, pollen, certain clothes, particular medicines, cosmetics, *etc*. The common areas of the body parts which are affected by allergies are skin, respiratory and digestive tracts. Asthma, eczema, diarrhoea, vomiting, nausea, *etc*. are some of the common allergic reactions.

Fig. 8.1 A child suffering from marasmus

Fig. 8.2 A child suffering from kwashiorkor

4. Dietary deficiency diseases

(i) A diet lacking in nutrients, such as proteins, required for the growth and repair of the body, results in degeneration of muscles and body weight. Some of the examples of protein deficiency diseases are kwashiorkor and marasmus.

(ii) **Vitamin deficiency diseases** are nightblindness, pellagra, scurvy and beri-beri (Table 1).

(iii) **Mineral deficiency diseases.** Human body also require different mineral salts. The deficiency of minerals gives rise to disease like anaemia, goitre, rickets, fluorosis, *etc*. (Table 2).

Table 1. Some common vitamin deficiency diseases

Vitamin	Deficiency diseases	Source of vitamin	Function of vitamin
Vit. A (Retinol)	Nightblindness, drying of cornea.	Carrot, yellow fruits, vegetables, butter, fish, milk.	Synthesis of visual purple of retina, growth of skin and hair.
Vit. B_1 (Thiamine)	Beri-beri	Whole grain, egg, nuts, legumes, yeast.	Carbohydrate metabolism, normal functioning of central nervous system.
Vit. B_3 (Niacin)	Pellagra, dermatitis (skin inflammation).	Meat, liver, milk, eggs.	Promotes health of skin and nervous system.
Vit. C (Ascorbic acid)	Scurvy (bleeding gums).	Citrus fruit, tomatoes, germinating seeds.	Develops immunity, permeability of capillary walls.
Vit. D (Calciferol)	Rickets (in childhood) bones turn soft.	Egg yolk, fish liver oil, sunlight, milk, butter.	Controls calcium-phosphorus metabolism.

Note : You have already learnt that if a person eats more proteins, carbohydrates or fats than required by his body, *i.e.*, he consumes more calories, the excess energy produced gets stored in the body as fat. This results in gaining more weight and the person become obese. You know that obesity is harmful in many ways.

Fig. 8.3 Pellagra. This child is suffering from pellagra caused due to lack of vit. B_3 (Niacin). Notice the marks on the neck shaped like a necklace

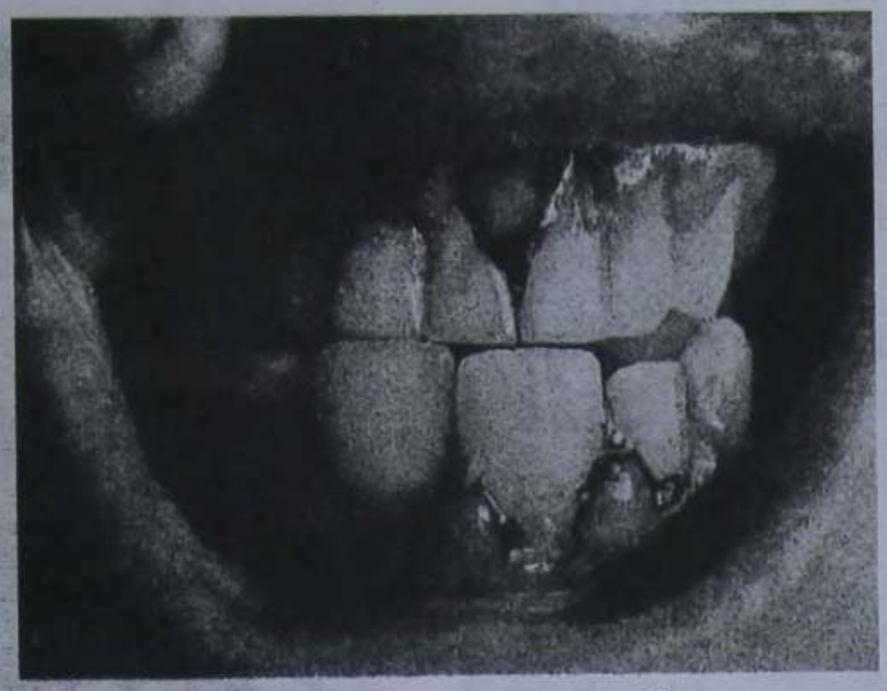


Fig. 8.4 Scurvy, swollen bleeding gums

Fig. 8.6 A person suffering from acute goitre (swelling in the neck)

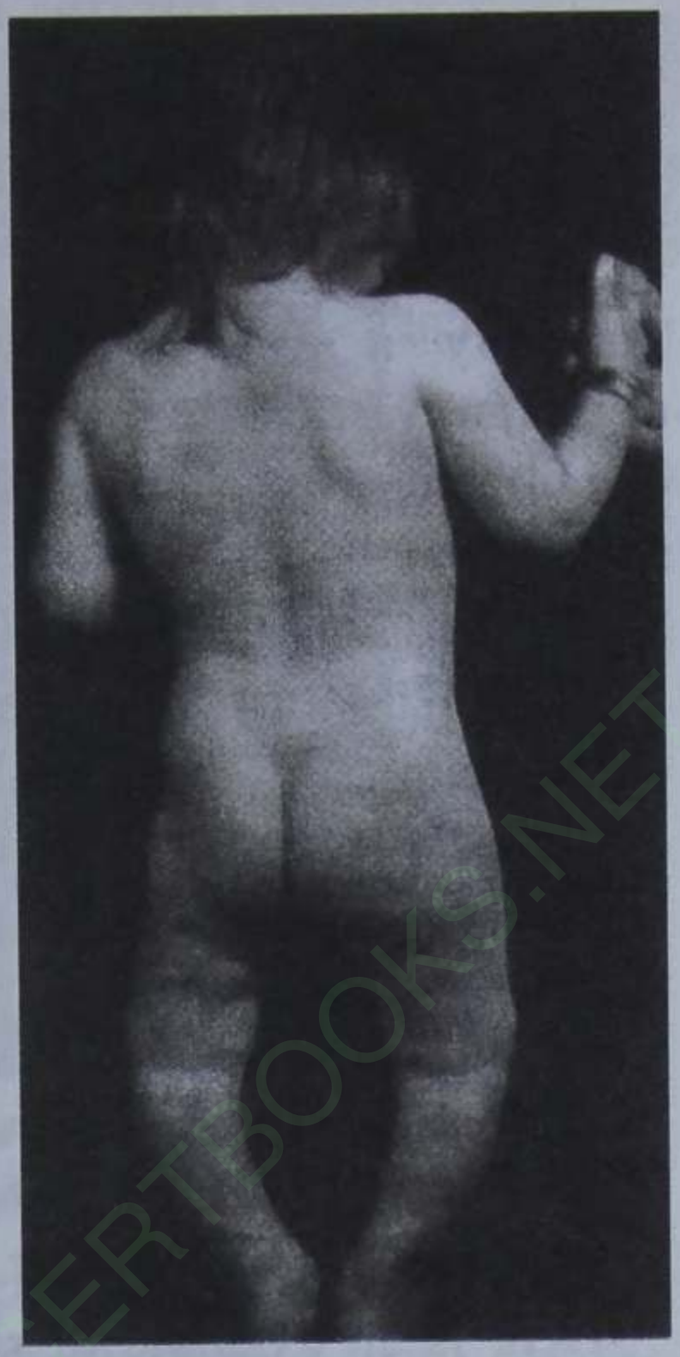


Fig. 8.5 This child is suffering from rickets, a disease in which the bones of growing children do not harden (often bow-legs). It is caused by the lack of vitamin D in the diet

Table 2. Some common mineral deficiency diseases

Mineral	Deficiency diseases	Source of mineral	Function of mineral
Calcium	Weak and brittle bones and teeth.	Milk, egg, green vegetables.	Formation of bones and teeth, essential for blood clotting .
Sodium and potassium	Dehydration, external weakness and pain in muscle contraction.	Fruits, sea food and table salt.	Helps in muscle contraction and nerve cell activity.
Iron	Anaemia.	Green leafy vegetables, banana. cereals, egg yolk,	Formation of haemoglobin in RBC.
Iodine (iodized)	Goitre.	Sea food, table salt.	Controls thyroxine metabolism and general growth of body.

Activity 1

To play a matching game of some deficiency diseases, the kind of nutrients concerned and rich sources of nutrients.

- Take eighteen pieces of stiff chart paper of the size of playing cards. Divide them into three sets of six cards each. Write the names of common deficiency diseases on the first set of six cards. On the second set, write names of the nutrients (minerals or vitamins), whose deficiency causes these diseases. Again, write the name of the natural source of each of these nutrients on the third set.

Here is an example of six such diseases, their nutrients, and one rich source of each.

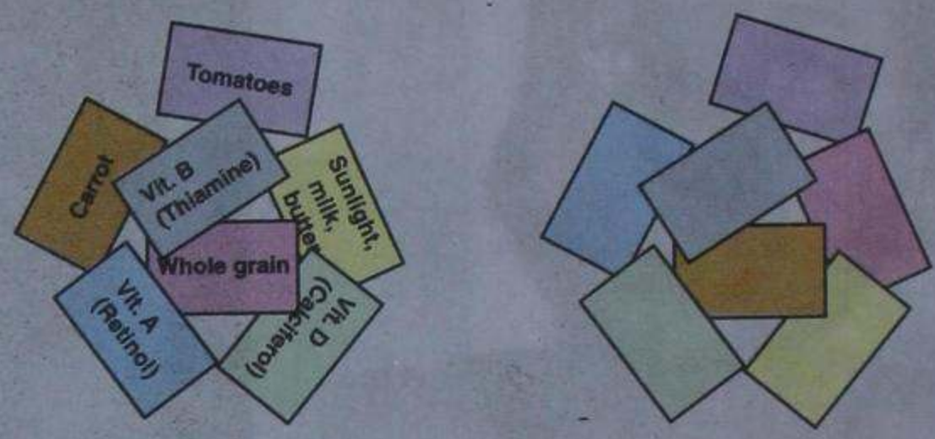
DISEASES	DEFICIENT NUTRIENTS	NATURAL SOURCES
BERI-BERI	THIAMINE	WHOLE GRAINS
RICKETS	VITAMIN D	SUNLIGHT
SCURVY	VITAMIN C	TOMATOES
ANAEMIA	IRON	GREEN VEGETABLES
GOITRE	IODINE	IODIZED SALT
NIGHT-BLINDNESS	VITAMIN A	CARROT

You can paste these on card board pieces or on discarded playing cards.

You can play the game **singly** or in **groups of two** or maximum **three**.

Shuffle the cards all facing downward.

- Distribute **three** cards to each of the players and keep the remaining cards facing downwards on the table.
- If by chance, any player gets the set of correct three cards in the first instance itself, he will declare and open his cards. If he is correct, he is the winner.



- If not, the first person will pick up one card from the pack (lying on the table) and see, if it helps him in matching the correct set. If not, discard one card.
- Keep repeating the turn among the players one by one by picking up one card at a time and discarding the non-matching one, until one gets correct matching set.
- In this situation, he will declare, and if found correct; he will be the winner.
- Keep playing the rounds. It will be an attempt of the players to ultimately get a set of three cards bearing the name of the disease, its concerned nutrient and its one natural source.

5. Cancer or uncontrolled growth of body cells. Cancer is caused due to some of the important factors like smoking, tobacco chewing, addictive drugs, pollution, radiation and even viruses. Agents which cause cancer are called carcinogens.

6. Degenerative diseases. With age, deterioration occurs in the structure and functioning of body cells and organs. Some of the diseases which occur due to old age are, cataract (eye lens turns opaque causing blindness), arthritis (inflammation of joints), arteriosclerosis (hardening of arterial walls which reduces the blood flow), *etc*.

7. Diseases caused due to physical and chemical agents. Sunburn and heat stroke are examples of some diseases caused by physical

agents. Chemical agents which cause diseases are lead, mercury, potassium cyanide, snake bite, poisoning from plants, *etc*.

COMMUNICABLE OR INFECTIOUS DISEASES

> Communicable or infectious diseases are those diseases which spread from one person to another by the entry of microorganisms.

These diseases are caused due to microorganisms such as viruses, bacteria, fungi and protozoa. The disease-causing germs are called **pathogens**. We get such infections through air, water, food, contact, cuts, sexual contact and from agents like mosquitoes, flies, *etc*.

1. Diseases caused by viruses

Cold is the most common infectious disease. It spreads through moisture droplets during sneezing and coughing.

Fig. 8.7 Droplet infection : sneezing or coughing may spread certain diseases

Influenza is another common disease. The symptions of this disease are cold, fever and chill. It spreads through droplet infection.

Mumps develop by the swelling of parotid glands (salivary glands) below the ears. Generally, they spread through a handkerchief, crockery, or utensils used by the patient.

Smallpox is a serious disease which is marked by boils. It spreads by contact and discharge of boils.

It has almost been eradicated from India.

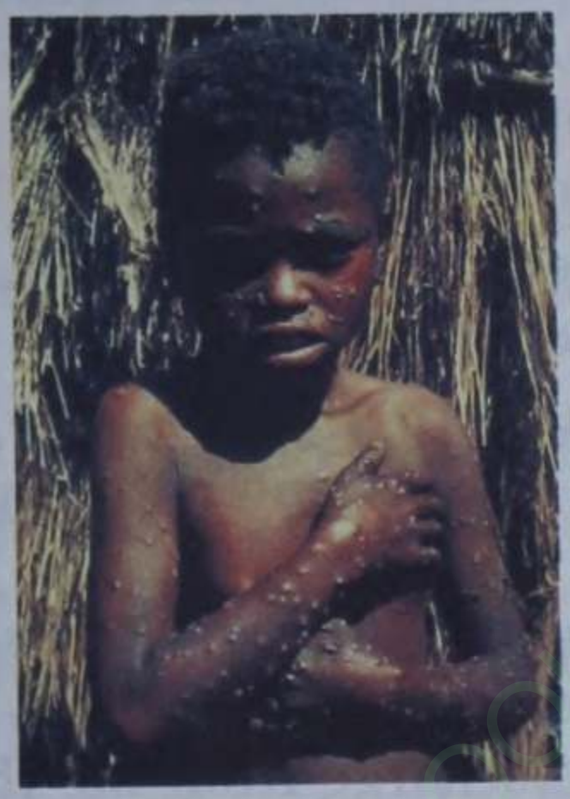


Fig. 8.8 Smallpox is caused by a virus, and is characterised by spots on the skin

Poliomyelitis causes paralysis of the legs. It spreads through discharge from the nose and throat and by faecal matter.

Measles spread by contact. Its symptoms are a nasal discharge, the redness of the eyes and coughing.

Rabies/hydrophobia is a disease caused by the bite of a rabid dog, fox or some other animals. It is a serious disease that affects the central nervous system. Pet dogs must be immunized by a vaccine.

Jaundice / Hepatitis is a disease of the liver. In this disease, the skin, eyes and urine turn yellow. It spreads due to unhygienic food and contaminated water.

AIDS (Acquired Immune Deficiency Syndrome) is caused due to a virus called HIV (Human Immunodeficiency Virus). It weakens the immunity or self-defence mechanism of the human body. AIDS makes the person prone to many other infectious diseases. It spreads through sexual contact, blood transfusion and infected syringes (injection needles). Children may get this

disease through the infected mother's blood during pregnancy.

2. Diseases caused by bacteria

Tuberculosis (TB) : It is usually a disease of the lungs, although other parts of the body may also be affected. It spreads by sputum from an infected person.

Diphtheria : This is usually a disease of children and affects the throat.

Tetanus : In this disease, the jaws get locked. Germs enter through unclean cuts.

Whooping cough (Pertussis) : It primarily occurs in children. It spreads through a discharge from the throat of an infected person. The patient coughs with a peculiar sound.

Pneumonia : It is a disease of the lungs caused by a bacteria.

Cholera : It is due to the infection in intestines. It causes vomiting and loose motions and spreads through contaminated food and water.

3. Diseases caused by moulds and fungi

Fungi enter the body in the form of spores through the skin, mouth and nose.

Ring worm is a disease of the skin, hair or nails. It is marked by ring-shaped patches on the skin and spreads through contaminated clothes and articles.

Athelete's foot : It attacks the skin of the foot, particularly, between the toes.

4. Diseases caused by Protozoa

Malaria : It is caused by a protozoan *plasmodium* which enters the human body through the bite of a female *Anopheles* mosquito. It shows the symptoms of chill and high fever.

Amoebiasis or amoebic dysentery : It is caused by *Entamoeba* and attacks large intestines. Its symptoms are, diarrhoea with gripping pain, alongwith a discharge of mucus. In acute conditions, blood is oozed out. It spreads due to the contamination of food by flies.

5. Diseases caused by worms

Elephantiasis : Highly swollen legs, swollen scrotum in a male and swollen breasts in a female. It spreads by the bite of female *Culex* mosquito.

Ascariasis : The parasite lives in the intestine, and absorbs digested food. It spreads due to unhygienic conditions.

Taeniasis : The parasite is found in the intestine from where it absorbs digested food. It spreads by eating improperly cooked pork or beef.

Fig. 8.9 A tapeworm (Taenia) from the intestine of a human being

Spread of communicable diseases

To continue their race, the pathogens try to come out of the body of an infected person and reach out to more hosts for their survival. These pathogens transfer from a patient to a healthy person, generally, in the following ways :

- Direct method, or
- Indirect method

Direct method : Diseases like measles, chicken pox and fungal infections can spread

through direct contact with an infected person.

Indirect method : This includes the following :

- **Touching and sharing items used by the infected person :** The use of same towel, handkerchief or same bed, or sharing the same utensils which were handled by the patient may spread disease to a healthy person. Diseases like the tuberculosis, common cold, *etc*. may be transmitted by this method.
- **Contaminated food and drink :** Many intestinal diseases spread through vegetables and fruits not washed properly or washed with contaminated water. The germs on infected vegetables and fruits on reaching our alimentary canal, multiply and cause the disease.
- **Vectors and carriers :** Vectors are those organisms (*eg*. house flies, mosquitoes, *etc*.) which carry germs from a source of infection but themselves do not get the infection. *For example*, mosquitoes while feeding on the blood of a malaria patient, get the germs in their bodies, and get them transferred in the blood stream of a healthy person whom they bite.

Fig. 8.10 A fly feeding on a lump of food and contaminating it

Houseflies carry germs from garbage and sewage and deposit them on food. A person will get the disease if he eats such contaminated food.

Fig. 8.11 A mosquito sucking blood from a person's arm

- **Air :** Many viral and bacterial diseases of the respiratory tract are transmitted through air. *For example*, the germs of tuberculosis pass into the air by sneezing or coughing of the patient. These fine droplets remain suspended in the air for quite sometime. The healthy person gets the infection by inhaling the same air with suspended droplets. Common cold, measles, chicken pox, diphtheria spread in this way.

PREVENTIVE MEASURES FOR DISEASES

First aid

As the name suggests, it is the first or the immediate care given to a patient at the time of emergency before he or she is taken to a doctor. *e.g.*, during accidents, heart attack, snake bite, burns, *etc*.

- **Burns :** First aid for burns depend on the degree of burns. One should not pull away clothes stuck to burnt areas and don't cut blisters. Apply any oily substance (ointment, butter, vaseline, *etc*.).
  - — In the case of superficial burns, pour cold water over the burnt area. Then dry that portion and cover with sterile dressing.
  - — In the case of deep burns, never use water and cover the injured part with dressing.

— In the case of chemical burns (due to acid and other chemicals), wash with running water for 10 minutes and then cover with dressing.

- **Bleeding :** In the case of bleeding, raise the affected body part to minimise the gravitational flow of the blood. Wash the cut surface with clean water, press the area with a piece of clean cotton wool, and if possible, apply some mild antiseptic.
- **Fractures :** In the case of fractures, lay the victim comfortably, and loosen or remove the clothes from the affected part. Do not move the fractured part/parts. If the fractured part is an arm, tie a sling to rest the arm on it.
- **Eye :** If anything falls in the eyes, do not rub them. Wash them gently with clean water.
- **Unconsciousness :** If someone falls unconscious, immediately lay the person comfortably on the bed. Loosen the clothes. Let fresh air come into the room.
- **Heart attack :** In the case of a heart attack, immediately lay the person straight horizontally and allow the fresh air to come in.
- **Swallowing poison :** In case some poisonous substance has been swallowed, make the patient drink as much salt water as possible, and try to induce vomiting.
- **Snake bite :** In the case of a snake bite, immediately squeeze out some blood from the wound, and tie it tightly with a rope above that spot to prevent spreading of venom (poison) into the blood stream.
- **Stinging :** In the case of a sting by a bee or a wasp, pull out the sting if still in the wound, and squeeze out some blood to force out the venom. Apply some alkali, like baking soda or lime on that spot.

Fever

When you feel bodyache, cold and your body temperature is more than 98·6°F, it indicates that you are suffering from a fever. **A fever is not a disease but it is a symption of some disease.**

In case of a high fever, you can immediately apply an ice pack or a piece of cloth dipped in ice-cold water on your forehead to bring down the body temperature.

If the fever persists for more time, consult your doctor immediately.

PREVENTIVE MEASURES FOR DISEASES

As is rightly said "prevention is better than cure," we must therefore observe the following prevention for our good health.

1. Prevention of deficiency diseases

- Eat healthy and seasonal fruits and vegetables in proper quantities (adequate balanced diet) to develop body resistance against diseases.

Energy-giving food items | Body-building food items | Protective food items

Fig. 8.12 A balanced diet should include food from all the three groups of food items

- Proper cooking should be done. Cut vegetables should be cooked immediately (otherwise, vitamins may get oxidised).
- Wash vegetables before peeling, and eat whole fruits as far as possible.
- Avoid too much frying of vegetables.
- Food should be properly stored in a refrigerator. Meat and fish should be kept in a deep freezer.
- Drinking water must either be boiled or properly purified with the help of a filter. It should be stored in clean containers with covers.
- One should wash one's hands with soap before eating or handling food, and also after visiting the toilet.
- Keep your surroundings clean.

2. Public Hygiene

Proper disposal of human excreta and domestic wastes

- Sewage and chemical wastes should not be released into the water bodies. Sewage should be chemically treated first before being released into the water bodies to avoid water-borne diseases.

3. Healthy Environment

- Maintain a healthy environment to prevent the spreading of diseases due to the breeding of mosquitoes, house flies and microorganisms.
- Garbage should be kept in covered bins so that flies do not breed on them.
- Do not allow water to stagnate outside your house and in your neighbourhood. All the drains should also be covered. This will avoid breeding of mosquitoes.
- There should be proper sewer lines connected to sewage treatment plants.
- Contamination of drinking water with a little amount of faeces (human excreta) causes a number of diseases.

4. Immunization

Immunization and vaccination can prevent infectious diseases.

5. Personal Hygiene

Hygiene is defined as science and practice of maintaining good health. Taking care of one's own body means personal hygiene.

Care of the skin : Regular bathing with good soap keeps the skin free from dirt, and bad odour.

Hands and nails : Hands should be washed properly before eating food. Nails should be kept short. Nail biting is a bad habit because the dirt goes into the mouth.

Hair : Regular washing of hair should be done with shampoo to remove dirt, dandruff and lice. Combs and hair brushes should not be shared.

Teeth and gums : We should brush our teeth after every meal. Regular brushing and massaging the gums are effective ways to prevent tooth decay and bleeding of gums.

Eye : Wash eyes daily with tap water. Keep proper light while reading and avoid too much viewing of television and working on computers and vides games, *etc*. Protect your eyes from direct sunlight. Trachoma and conjunctivitis are common eye infections which spread through contamination by hand, handkerchief, towel, *etc*.

Nose : The nose must be cleaned at regular intervals to remove dirt trapped by the mucus of nasal chamber. Always cover the nose and mouth while sneezing and coughing to avoid droplet infection.

Ear : Never clean an ear with a sharp object. It could damage the delicate ear drum

which will cause impaired hearing. Ear is a self-cleaning organ. The wax inside the ear traps dirt and germs.

Physical Exercise : To keep the body muscles active, exercise is a must. Exercise helps normal functioning of the heart and lungs, and for better circulation of blood.

Rest : One should take proper rest and sufficient sleep. A normal healthy person requires 6-8 hours of sleep daily.

Healthy habits : One should develop healthy habits like taking food at regular hours, going to bed early, but not just after the meals. One should not take stimulants which disturb sleep and cause other ailments such as tobacco, alcohol, drugs, *etc*. Addiction to fast food (burger, pizza, *etc*.) is also bad for health since it causes bowel problem. Fast foods are deficient in vitamins.

VACCINATION AND IMMUNISATION

Vaccination is the practice of artificially introducing germs or germ substances into the body for developing resistance to particular diseases. Scientifically, this practice is called **prophylaxis** and the material introduced into the body is called the **vaccine**.

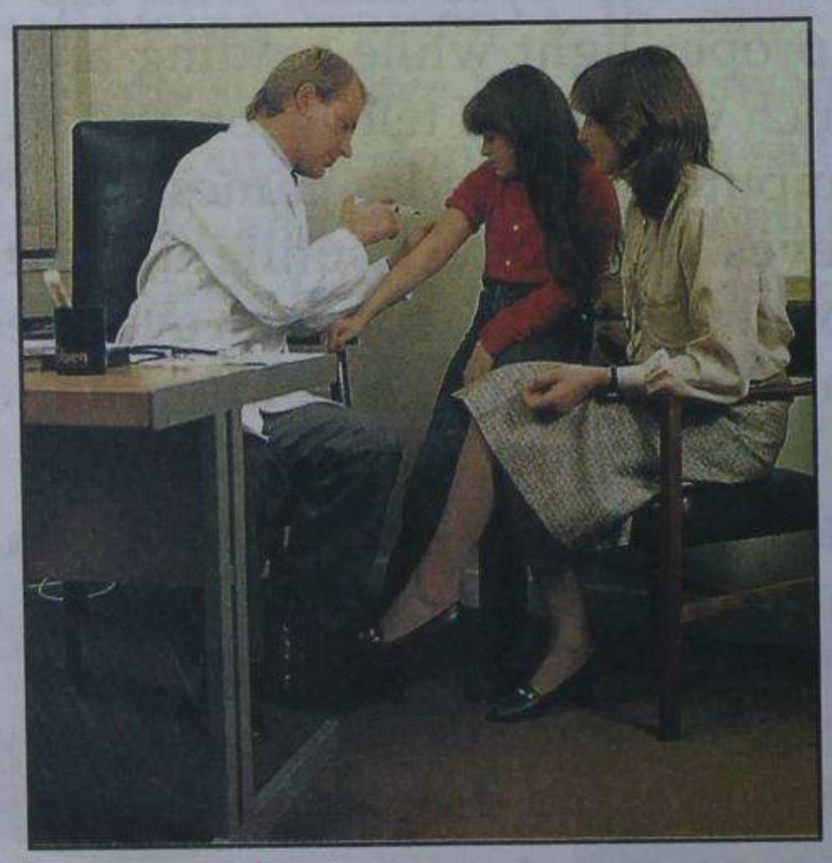


Fig. 8.13 A doctor is inoculating a girl against measles

The vaccine or germ substance is introduced into the body usually by injection (*e.g.* TAB vaccine) and sometimes orally (*e.g.* polio drops). When the vaccine is injected in the body, it stimulates the WBCs to produce antibodies against germs for that particular disease.

The terms "vaccine and vaccination" were originally used only for vaccination against small pox, but now these are used in a general sense.

A vaccine can be prepared by any one of the following four methods :

(1) **Killed germs,** as TAB vaccine for **typhoid,** Salk's vaccine for **poliomyelitis,** and the vaccine for **rabies** (dog-bite).

(2) **Living weakened germs.** The living germs are treated in such a way that they become very weak and as such, they cannot cause the disease. They can induce antibody formation such as the vaccine for **measles,** and the freezed-dried BCG vaccine for **tuberculosis.**

(3) **Living fully virulent germs,** as the vaccine for smallpox. In this vaccination, a person is inoculated with cowpox virus which is very similar to smallpox virus.

Smallpox vaccinations are no more given, because the disease has almost been eradicated from India as per the latest data.

(4) **Toxoids** are vaccines used for diphtheria and tetanus. The toxoids are extracts of toxins secreted by bacteria, and these poisons are made harmless by the addition of formalin, to retain the capacity to produce antibodies (antitoxins). Attempts are being made to develop a vaccine against AIDS also.

IMMUNISATION

Immunisation is a general term used for introducing any kind of dead or weakened germs into the body of a living being for the development of immunity (resistance) against the respective disease or diseases.

Bad habits

Harmful effects of consuming tobacco. Smoking and chewing tobacco or tobacco products increases the risk of lung cancer, heart attack, high blood pressure, cough and irritation. Even non-smokers sitting with active smokers may suffer from such diseases. This is known as passive smoking.

Harmful effects of drinking alcohol. Alcohol is a slow poison, which affects the mental and physical processes of the body. Alcohol may cause damage to the nervous system, blood vessels, the kidneys and the stomach. Excess alcohol causes damage to the liver and gets stored in the form of fat. Alcohol drinking impairs judgement and reduces self-control. It also affects muscle coordination of the body resulting in accidents.

Harmful effects of drugs . Drugs which cause insensible condition in human beings are called narcotic drugs or psychotropic drugs, *e.g.*, morphine, cocaine, heroin and opium. Such drugs cause serious damage to the nervous system and other organs of the body. They affect eyesight and hearing capacity and cause respiratory and heart problems. Due to the habitual use of drugs, addicts find it hard to leave them and may suffer from a variety of health problems and early death.

REVIEW QUESTIONS

Multiple Choice Questions :

1. Put a tick mark (✓) against the correct alternative in the following statements :

(a) Ring worm is caused by
(i) Bacteria (ii) Protozoan (iii) Fungi (iv) Virus.

(b) Deficiency of calcium causes
(i) Poor growth of teeth and gums (ii) Goitre
(iii) Anaemia (iv) Polio

(c) Hay fever and asthma are
(i) Deficiency diseases (ii) Genetic diseases
(iii) Organic diseases (iv) Allergy diseases

(d) Cataract is a disease of :
(i) Ears (ii) Nose (iii) Eyes (iv) Throat

(e) Infectious diseases can be prevented by :
(i) Medicines (ii) Proper food (iii) Immunisation (iv) Exercise

(f) Which one of the following is a genetic disease ?
(i) Scurvy (ii) Leukemia (iii) Goitre (iv) Haemophilia

(g) Which one of the following is a degenerative disease ?
(i) Thalassemia (ii) Beri-beri (iii) Cataract (iv) Diabetes

(h) Pellagra is one disease caused by the deficiency of :
(i) Vit. B_3 (ii) Vit. B_1 (iii) Vit. C (iv) Vit. D

(i) Deficiency of Iodine in one's food can cause :
(i) Beri-beri (ii) Goitre (iii) Scurvy (iv) Pellagra

(j) Which one of the following mineral deficiency diseases can be cured by eating a diet which include green leafy vegetables, banana, cereals, egg-yolk ?
(i) Goitre (ii) Anaemia
(iii) Brittle bones (iv) Pain in muscle contraction

(k) Which one of the following vitamin deficiency diseases can be cured by eating a diet which includes carrot, yellow fruits, vegetables, butter, milk, fish ?
(i) Beri-beri (ii) Dermatitis (iii) Nightblindness (iv) Scurvy

(l) Which one of the following is a communicable disease ?
(i) Measles (ii) Cancer (iii) Heart stroke (iv) Allergy

Short Answer Questions :

1. (a) What is a non-communicable disease?

.....

(b) What is a deficiency disease ?

.....

(c) Name the diseases caused due to deficiency of protein in the diet of a child.

.....

(d) What are communicable diseases? How can they be avoided?

.....

(e) Name any *three* water-borne diseases.

.....

(f) Biting nails should be strictly avoided. Give reason.

.....

(g) Regular exercise and proper rest is a must. Give reason.

.....

(h) Children eating more of fast food tend to suffer from obesity (overweight). Comment.

.....

(i) How can we control spreading of diseases by mosquitoes and houseflies ?

.....

(j) Public hygiene is equally important as personal hygiene. Give reasons.

.....

2. Name the following :

(a) A viral disease caused due to unhealthy sexual contact .....

(b) A bacterial disease caused due to contaminated water .....

(c) A disease caused due to *Plasmodium* .....

(d) A disease caused due to the bite of female *Culex* mosquito .....

(e) A viral disease spread by the bite of a dog .....

(f) A disease caused due to choking of coronary artery .....

3. Define the following terms : Disease, immunisation, pathogen, allergy, AIDS.

.....

.....

.....

.....

4. Fill in the blanks with suitable words :

(a) Anaemia is caused due to the deficiency of .....

(b) Deficiency of Vit. D causes .....

(c) Iodine is required for the secretion of .....

(d) Diabetes is caused due to undersecretion of .....

(e) Kwashiorkor is caused due to the deficiency of .....

(f) Hydrophobia is a disease caused due to the bite of a ..... dog.

5. Find the odd one out :

(a) Typhoid, cholera, jaundice, tuberculosis, tetanus.

(b) Cold, AIDS, plague, malaria, measles.

(c) Scurvy, rickets, haemophilia, pellagra, nightblindness.

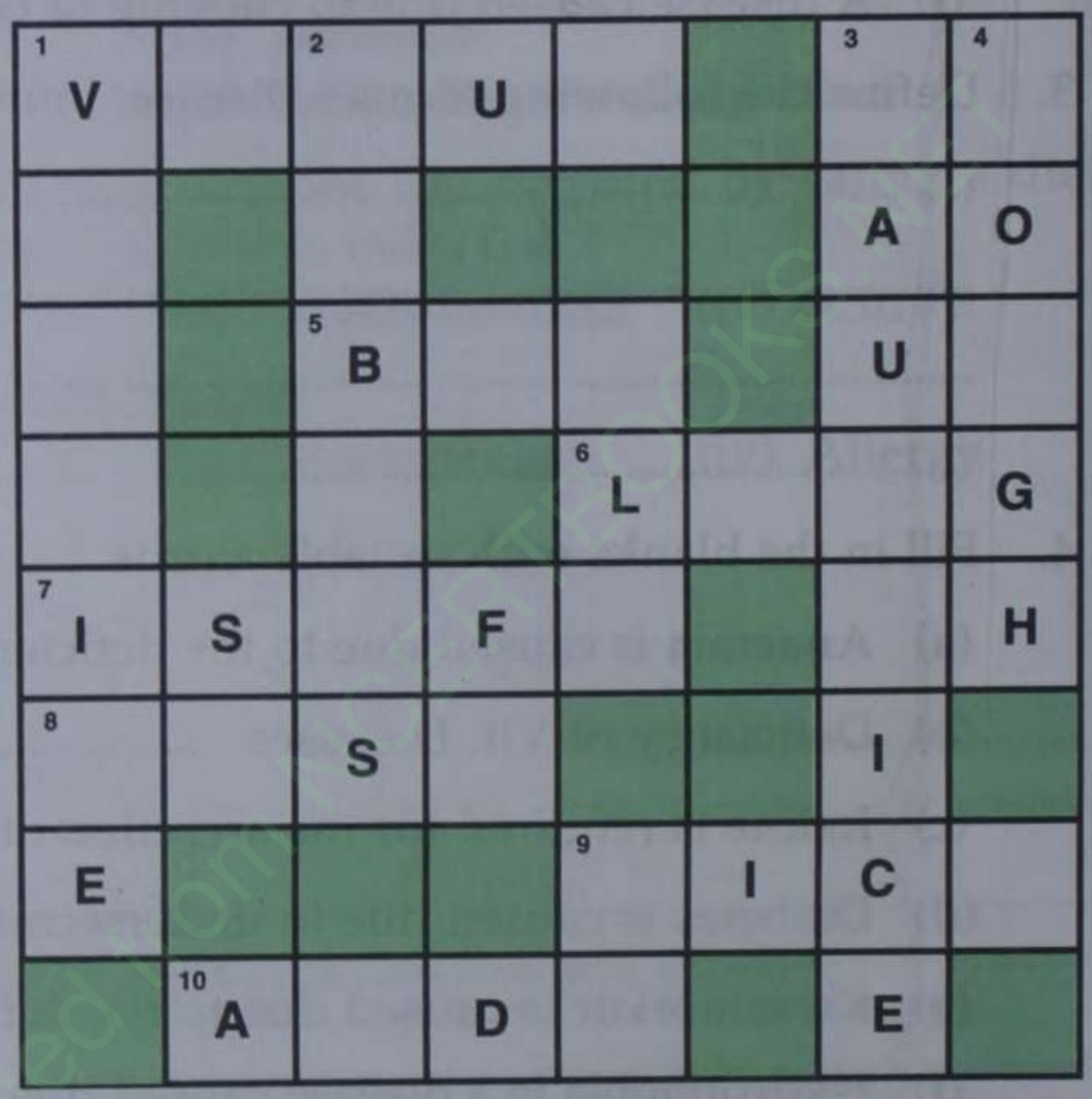
(d) Proteins, carbohydrates, fats, minerals, cancer.

6. Fill in the blank in the following table :

Vitamin	Name of the deficiency diseases	Source of vitamin	Function of vitamin
(a) Vitamin A	.....	.....	.....
(b)	Beri-beri	.....	.....
(c) Ascorbic acid	.....	.....	.....
(d)	Rickets (in childhod) bones turn soft	.....	.....

Long Answer Questions (Write the anser in your note-book)

1. What is vaccination ? Mention the four ways in which vaccine's are prepared, giving the name of one disease for which each type of vaccine is used.
2. Burns can be superficial burns, deep burns or chemical burns. What emergency care you would suggest in each case.
3. Describe the ways in which communicable diseases are transmitted through various indirect methods.
4. Given alongside is a crossword puzzle. Read the clues across and clues downward, and fill up the blank squares. Check up your performance with the correct solution given at the end.



Clues across

1. Category of pathogen that causes diseases, like common cold and mumps.
5. This is the vaccine for preventing tuberculosis.
6. An organ usually affected by tuberculosis.
7. Jumbled spelling of one of the most common insect which visits our exposed foods and contaminates them.
8. Cover this part of your body by a handkerchief while sneezing to prevent droplet infection to others.
9. These may readily grow in your hair, if you do not wash it regularly.
10. A disease that weakens body's defence system against infections.

Clues down

1. Germ or germ - substance introduced into the body to prevent occurrence of an infectious disease.
2. A disease caused by an infected dog, and which affects the central nervous system.
3. A disease in which the eyes, the skin and the urine turn yellow.
4. The disease pertussis is popularly known as whooping .....

Answers :
Clues across : 1. **Virus,** 5. **BCG,** 6. **Lung,** 7. **ISFEL** *i.e.* **Flies,** 8. **Nose,** 9. **Lice,** 10. **AIDS**
Clues down : 1. Vaccine, **2.** Rabies, **3.** Jaundice, **4.** Cough