

Basic concepts of communicable disease and non-communicable disease

Disease can be defined as a condition of the body or some part or organ of the body in which its functions are disrupted or deranged.

Communicable disease

Communicable (infectious) diseases are those diseases for which biological agents or their products are the cause and that are transmissible from one individual to another. The disease process begins when the agent is able to lodge and grow within the body of the host. The process of lodgement and growth of a microorganism or viruses in the host is called infection. Viral fever is the most common form of communicable or infectious disease and it spreads from one host to another because of communication of the virus. COVID-19, a global pandemic, is also caused because of spread of corona virus. HIV is also a communicable infection which is responsible for causation of AIDS. Similarly Malaria, Dengue, Tuberculosis, Chikungunya, Diarrhoea are other examples of communicable diseases.

VARIOUS COMMUNICABLE DISEASES AND THEIR PREVALENCE

1. Malaria

Malaria is caused by Plasmodium parasites. The parasites are spread to people through the bites of infected female Anopheles mosquitoes, called "malaria vectors." Malaria is an acute febrile illness. The first symptoms – fever, headache, and chills – may be mild and difficult to recognize as malaria. If not treated within 24 hours, P. falciparum malaria can progress to severe illness, often leading to death.

2. Tuberculosis (TB)

Tuberculosis (TB) is caused by bacteria (Mycobacterium tuberculosis) that most often affect the lungs. Tuberculosis is curable and preventable. TB is spread from person to person through the air. When people with lung TB cough, sneeze or spit, they propel the TB germs into the air.

3. Pneumonia and Diarrhoeal Disease

Pneumonia is the single largest infectious cause of death in children worldwide. Pneumonia is caused by a number of infectious agents, including viruses, bacteria and fungi. Diarrhoeal disease is the second leading cause of death in children under five years old. Diarrhoea can last several days, and can leave the body without the water and salts that are necessary for survival. Diarrhoea is usually a symptom of an infection in the intestinal tract, which can be caused by a variety of bacterial, viral and parasitic organisms.

4. Dengue and Severe Dengue

Dengue is a mosquito-borne viral disease that has rapidly spread in all regions worldwide. Dengue virus is transmitted by female mosquitoes mainly of the species *Aedes aegypti* and, to a lesser extent, *Ae. albopictus*. These mosquitoes are also vectors of chikungunya, yellow fever and Zika viruses. Dengue is widespread throughout the tropics, with local variations in risk influenced by rainfall, temperature, relative humidity and unplanned rapid urbanization. Dengue causes a wide spectrum of disease. This can range from subclinical disease (people may not know they are even infected) to severe flulike symptoms in those infected. Although less common, some people develop severe dengue, which can be any number of complications associated with severe bleeding, organ impairment and/or plasma leakage. Severe dengue has a higher risk of death when not managed appropriately.

5. COVID-19

COVID-19 is the disease caused by a new coronavirus called SARS-CoV-2. The disease can spread from person to person through small droplets from the nose or mouth, which are spread when a person with COVID-19 coughs or exhales. In most cases, COVID-19 causes mild symptoms including dry cough, tiredness and fever, though fever may not be a symptom for some older people. Other mild symptoms include aches and pains, nasal congestion, runny nose, sore throat or diarrhoea. Some people become infected but don't develop any symptoms and don't feel unwell. Most people recover from the disease without needing special treatment. However, it can cause severe illness and death in some cases.

6. Human Immunodeficiency Virus (HIV)

The human immunodeficiency virus (HIV) targets the immune system and weakens people's defence against many infections and some types of cancer. As the virus destroys and impairs the function of immune cells, infected individuals gradually become immunodeficient. Immunodeficiency results in increased susceptibility to a wide range of infections, cancers and other diseases that people with healthy immune systems can fight off.

Non-communicable (non-infectious) disease

Non-communicable (non-infectious) diseases are those disease that cannot be transmitted from an infected person to another. These conditions include cardiovascular diseases, cancers, diabetes, respiratory diseases, mental health problems and many other problems including some problems caused genetically or environmentally and often manifest themselves singularly or as a combination of two or more such ailments. Non-communicable diseases (NCDs) are also known as chronic diseases as they tend to be of long duration.

VARIOUS NON-COMMUNICABLE DISEASES AND THEIR PREVALENCE

1. Cardiovascular Diseases (CVDs)

Cardiovascular diseases (CVDs) are a group of disorders of the heart and blood vessels. Heart attacks and strokes are usually acute events and are mainly caused by a blockage that prevents blood from flowing to the heart or brain. The cause of heart attacks and strokes are usually the presence of a combination of risk factors, such as tobacco use, unhealthy diet and obesity, physical inactivity and harmful use of alcohol, hypertension, diabetes and hyperlipidaemia.

2. Cancer

Cancer is a generic term for a large group of diseases that can affect any part of the body. One defining feature of cancer is the rapid creation of abnormal cells that grow beyond their usual boundaries, and which can then invade adjoining parts of the body and spread to other organs. Cancer is the second leading cause of death globally after CVDs. Many cancers have a high chance of cure if diagnosed early and treated adequately. Tobacco use is the most important risk factor for cancer.

3. Diabetes

Diabetes is a chronic disease that occurs either when the pancreas does not produce enough insulin or when the body cannot effectively use the insulin it produces. Insulin is a hormone that regulates blood sugar. To prevent diabetes and its complications, people should: achieve and maintain a healthy body weight; be physically active – doing at least 30 minutes of regular, moderate-intensity activity on most days; eat a healthy diet, avoiding sugar and saturated fats; and avoid tobacco use – smoking increases the risk of diabetes and cardiovascular disease.
