

6. HUMAN HEALTH AND DISEASE

Single Page Simple Synopsis

Human health is a state of complete physical, mental, and social well-being, not just the absence of disease. Disease is any harmful deviation from normal body functions that disrupts homeostasis. Health is influenced by a balance of genetics, diet, hygiene, and immunity.

1 Classification of Diseases :

- **Infectious (Communicable) Diseases**

These are easily transmitted from one person to another and are caused by pathogens (e.g., bacteria, viruses, fungi, and parasites).

Ex: COVID-19, Influenza, Tuberculosis, and Malaria.

Prevention: Vaccination, good personal hygiene, and vector control.

- **Non-Infectious (Non-Communicable) Diseases**

These diseases do not spread through contact. They are primarily caused by genetic factors, lifestyle choices, or environmental factors.

Ex: Cardiovascular diseases, cancer, and diabetes.

- **Congenital Diseases**

Genetic defects or chromosomal abnormalities present at birth.

Ex: Down syndrome, haemophilia, and colour blindness.

2. **Factors Affecting Human Health:** Maintaining optimal health requires a multi-faceted approach to avoid the onset of diseases

- **Diet and Exercise:** A balanced diet and regular physical activity are essential for maintaining a healthy metabolism and building natural defenses.
- **Immune System:** The body's primary defense mechanism against pathogens is the immune system, which can be strengthened through proper nutrition and vaccination.
- **Lifestyle:** Avoiding the misuse of drugs and alcohol is critical, as abuse impairs physical and psychological function

FRUIT POINTS

1. **Health** was traditionally viewed as a balance of certain '**humors**' such as the belief that people with 'blackbile' had hot personalities.
2. **William Harvey** disproved the '**good humor**' hypothesis by demonstrating normal body temperature in such individuals and discovering blood circulation.
3. Diseases are grouped into **infectious** (easily transmitted) and **non-infectious** types.
4. **AIDS** is a fatal infectious disease, while **cancer** is a major cause of death among non-infectious diseases.
5. **Pathogens** are disease-causing organisms including bacteria, viruses, fungi, protozoans, and helminths.
6. **Salmonella typhi** is the bacterium responsible for causing typhoid fever in humans.
7. Common symptoms of **typhoid** include sustained high fever (39° to 40°C), weakness, and stomach pain.
8. The **Widal test** is the classic diagnostic tool used to confirm typhoid fever.
9. **Pneumonia** is caused by bacteria like *Streptococcus pneumoniae* and *Haemophilus influenzae*.
10. **Common cold** is caused by Rhino viruses, which infect the nose and respiratory passage but not the lungs.
11. **Ascaris** (roundworm) is an intestinal parasite causing ascariasis, characterized by internal bleeding and blockage.
12. **Wuchereria** (filarial worms) cause elephantiasis, which is chronic inflammation of the lower limbs and genitals.
13. **Ringworms**, caused by fungi like *Microsporum*, result in dry, scaly lesions and intense itching.
14. **Personal hygiene** includes keeping the body clean and consuming uncontaminated food and water.
15. **Public hygiene** involves proper waste disposal and disinfection of water reservoirs.
16. **Vector control** is essential for preventing diseases like malaria and filariasis.

17. **Immunity** is the overall ability of the host to fight disease-causing organisms via the immune system.
18. **Physical barriers** of innate immunity include the skin and mucus coatings of the respiratory and gut tracts.
19. **Physiological barriers** include stomach acid, saliva, and tears.
20. **Cytokine barriers** consist of interferons secreted by virus-infected cells to protect healthy cells.
21. **B-lymphocytes** produce an army of proteins called antibodies to fight pathogens.
22. **T-lymphocytes** do not secrete antibodies themselves but help B-cells produce them.
23. **Colostrum** provides essential IgA antibodies to protect new-born infants.
24. **Auto-immune diseases**, like rheumatoid arthritis, occur when the body attacks its own cells.
25. **Cholera and tetanus** are caused by bacteria. [NEET-2016]
26. **IgE** is the immunoglobulin is responsible for allergic response in human body. [NEET-2017]
27. MALT constitutes about **50%** of the lymphoid tissue in human body. [NEET-2017]
28. Alzheimer's disease is not a autoimmune disease. [NEET-2018]
29. In Elephantiasis disease mosquito transmitted pathogen cause chronic inflammation in lymphatic vessels. [NEET-2018]
30. The infectious stage of plasmodium that enters the human body is **female gametocyte**. [NEET-2020]
31. In **TH cells** of blood corpuscles, HIV undergoes replication and produce progeny viruses. [NEET-2023]
32. Diacetyl morphine is also called as **smack**. [NEET-2023]
33. **Neoplastic** characteristics of cells refer to mass of proliferating cells, rapid growth of cells and invasion and damage to the surrounding tissue. [NEET-2025]