

INFECTIOUS DISEASES

LEPROSY (Hansen's disease)



Introduction

- In India prevalence rate of leprosy is approximately 0.67/10000 population. Annual new case detection rate is 9.27 per 1,00,000 population. In March 2017, 88, 166 cases were present on record.
- Hansen's disease is an infection caused by slow growing bacteria called **Mycobacterium leprae**. It mainly affects the peripheral nerves, skin, eyes and lining of the nose (Nasal mucosa). It is the oldest Disease known to mankind.

Mode of transmission

1. Respiratory droplets (most common)

- Leprosy spreads primarily via **nasal droplets** released when an infected person **coughs, sneezes, or talks**.

2. Direct contact with untreated lesions (less common)

- Touching **broken skin** or **untreated nodules/ulcers** may transmit the bacteria.
- Intact skin usually does not transmit infection.

3. Environmental exposure: *M. leprae* can survive briefly in soil or stagnant water, but human infection from the environment is not proven.

4. Tattooing needles

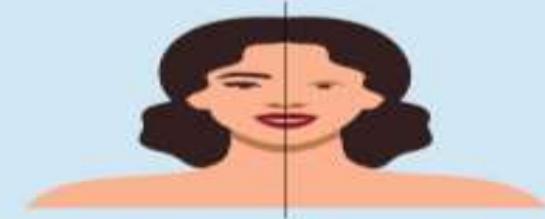
Clinical Symptoms

- Hypopigmented patches, partial or total loss of cutaneous sensation in the affected area, thickened nerves (around elbow and knee) growths (nodules) on the skin, thick, stiff or dry skin, Painless ulcers on the soles of feet, painless swelling or lumps on the face or earlobes, loss of eyebrows or eyelashes, numbness of affected areas of the skin etc.

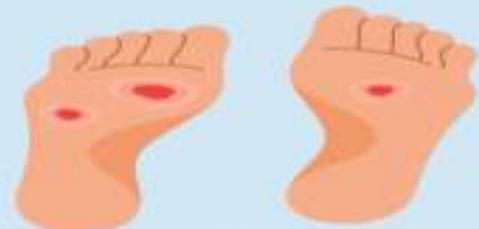
Symptoms of leprosy



Patches of discolored, pale, red, thick, stiff, swollen or numb skin



Loss of eyebrows or eyelashes



Sores on the bottom of your feet



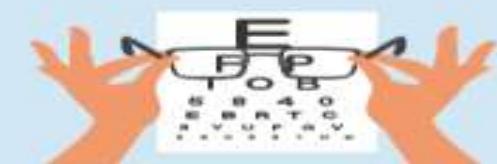
Red or purple nodules or lumps



Weakness or paralysis



Enlarged nerves



Vision loss or other eye issues

Screening and Diagnosing

- Through Clinical Examination
- Through Bacteriological Examination “Skin Smears, nasal smear, nasal scrapings.
- Footpad culture
- Biopsy
- Test for detecting Cell-mediated Immunity (CMI)

Medical Measures/Treatment

Chemotherapy Multibacillary Leprosy

- Recommended for patients with positive smear cases, Skin lesion more than 5, more than 1 trunk thickening and all cases of relapse/reactivation and cases who have treated with Dapsone monotherapy earlier.
- **Drugs used are as follow:**
 - **Rifampicin:** 600 mg once/month (Supervised)
 - **Dapsone:** 100 mg daily (Self Administer)
 - **Clofazimine:** 300 mg once monthly (Supervised)

Prevention and Control Measures

- The best way to prevent the spread of leprosy is early diagnosis and treatment of people who are infected. For household contacts, immediate and annual examinations are recommended for at least 5 years after last contact with a person who is infections.

Health Education

- It is given to patient, family and to the community at large scale. Early recognition of symptoms, prompt diagnosis, health seeking behavior, personal care, treatment adherence and rehabilitation are important aspects of health education. Mass health education also helps to eradicate social stigma and social prejudice associated with leprosy which is the biggest hindrance for the eradication of disease

TUBERCULOSIS

TUBERCULOSIS

- **Tuberculosis (TB)** is a serious infectious disease caused by the bacterium **Mycobacterium tuberculosis**. It primarily affects the **lungs** (pulmonary TB) but can also affect other organs (extrapulmonary TB), such as the lymph nodes, bones, kidneys, and brain.

INTRODUCTION

- With 28% cases, India was among the eight countries accounting for more than 2/3rd (68.3%) of the total TB patient's count. 2 out of 5 Indians are infected with TB. Indians developing TB everyday are approx 5000/day. There are approximate 0.37 million death due to TB. One case of Infections pulmonary TB can infect 10-15 persons/year.
- India is the Country with highest number of TB cases

Mode of Transmission

- TB spreads **through airborne droplets** when a person with active pulmonary TB **coughs, sneezes, talks, or sings**.
- **Prolonged, close contact** increases the risk of infection.
- **Not spread by** casual contact like shaking hands or sharing utensils.
- Only **active TB** is contagious; latent TB is **not infectious**.
- **Incubation period:** 3-6 Weeks

Symptoms:

❖ **Pulmonary TB:**

- Persistent cough (>2–3 weeks)
- Coughing up blood or sputum
- Chest pain
- Weakness and fatigue
- Weight loss and loss of appetite
- Fever and night sweats

❖ **Extrapulmonary TB** depends on the organ affected:

- Lymph nodes: swelling
- Spine: back pain, deformities
- Kidneys: urinary problems
- Brain (TB meningitis): headache, confusion

Diagnosis/Treatment

- **Tuberculin skin test (Mantoux test)**
- **Interferon-gamma release assays (IGRA)**
- **Sputum smear microscopy** for acid-fast bacilli
- **Chest X-ray** to detect lung lesions
- **Molecular tests** (e.g., **GeneXpert**) for rapid detection and drug resistance

Treatment Initiation

- TB treatment involves a combination of antibiotics, usually isoniazid, rifampicin, pyrazinamide, and ethambutol for an intensive phase, followed by a continuation phase.
- Treatment regimens vary based on the type of TB (drug-susceptible or drug- resistant) and the patient's condition.
- **Directly Observed Therapy (DOT)**
 - DOT is a strategy in which healthcare workers or community health workers observe patients taking their medication to ensure treatment adherence.
 - DOT helps prevent treatment failure and the development of drug-resistant TB.

Prevention

- **BCG vaccine** (gives partial protection, especially in children)
- Early detection and treatment of active cases
- Adequate ventilation in crowded places
- Wearing masks and proper respiratory hygiene

THANK YOU