

Respiratory infections

Rubella

Causative agent: It is the causative agent of the disease known as general measles.

Symptoms / Clinical Presentation:-

- Headache
- Stuffy or runny nose
- Inflamed, red eye

Epidemiology:-

Every 6 to 9 year and pandemic every 10 to 30 year.

The last worldwide pandemic occurred from 1962 to 1964.

Mumps:-

Causative agent:

It is a viral illness caused by a paramyxovirus.

Clinical presentation:

- Fever, Headache, Muscle aches, tiredness, loss of appetite.
- Symptoms typically appear 16 to 18 days after infection.

Epidemiology:

There are between 100 and 1000 cases per 100000 people each year.

Avian influenza/ Bird flu

Causative agent: It caused by a type of influenza virus.

Symptoms/ Clinical Presentation:

- Cough, fever, sore throat, muscle aches, shortness of breath.

Epidemiology:

The avian virus has spread from Asia to Europe and Africa and has become endemic in popularity populations in same countries.

H1N1 flu (Swine flu)

Causative agent: They caused by the flu influenza virus.

Symptoms:

- Fever, Chills, caught, sore throat, watery, red eyes, fatigue, diarrhoea, nausea and vomiting.
- Flu symptoms develop about one to three days after you're exposed to the virus.

Epidemiology:

In US the number of clinical illnesses was estimated at 59 million. 265000 hospitalizations and 12000 deaths.

SARS: (Severe Acute Respiratory Syndrome)

Causative agent: SARS are caused by COVID 19.

Symptoms:

Aches, chills, diarrhoea, dry cough, low oxygen levels

Epidemiology:

- SARS originated in southern china in November 2020 and was brought to Hong Kong in February 2003.

- The disease spread rapidly world wide but mostly to asian countries.
- The epidemic in june the global cumulative total was 8422 cases with 916 deaths case fatality rate of 11% all age of people affected.

MERS: (Middle East Respiratory Syndrome)

They caused coronavirus. First identified in Saudi Arabia in 2012.

These viruses are zoonotic. Zoonotic means the commonly infect animals are can transfer to humans.

Symptoms:

Symptoms are same as SARS & COVID 19.

Epidemiology:

A total of 2562 confirmed MERS cases with 150 case clusters were reported with a case fatality rate of 32.7%

Meningococcal Meningitis:

Causative agent:

It caused by a specific bacterium known as Neisseria meningitidis.

Symptoms:

- Fever and chills.
- Fatigue (feeling tired)
- Vomiting.
- Cold hands and feet.
- Severe aches or pain in the muscles, joints, chest, or abdomen (belly)
- Rapid breathing.
- Diarrhea.
- In the later stages, a dark purple rash.

Epidemiology:

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In 2019, there were about 375 total cases of meningococcal disease reported (incidence rate of 0.11 cases per 100,000 persons). Anyone can get meningococcal disease, but rates of disease are highest in children younger than 1 year old, with a second peak in adolescence.

Acute Respiratory Infections:

Causative agent: There are several different causes of acute respiratory infection.

1. Causes of upper respiratory infection:

- 1) acute pharyngitis
- 2) acute ear infection
- 3) common cold

2. Causes of lower respiratory infection:

- 1) bronchitis
- 2) pneumonia
- 3) bronchiolitis

Symptoms/ Clinical Presentation:

- Congestion, either in the nasal sinuses or lungs
- Runny nose
- Cough
- Sore throat
- Body aches
- Fatigue

Epidemiology:

Acute respiratory infections cause four and a half million deaths among children every year, the overwhelming majority occurring in developing countries.

Ebola

Causative agent:

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It is caused by an infection with a group of viruses within the genus Ebolavirus: Cuevavirus, Marburgvirus, and Ebolavirus.

Symptoms/ Clinical Presentation:

- Fever.
- Aches and pains, such as severe headache and muscle and joint pain.
- Weakness and fatigue.
- Sore throat.
- Loss of appetite.
- Gastrointestinal symptoms including abdominal pain, diarrhea, and vomiting

Epidemiology:

Ebola virus can spread to people when they have contact with an infected animal's blood, body fluids, or tissues. Ebola virus then spreads from person to person through direct contact with blood or body fluids of a person who is sick with or has died from Ebola virus disease.

Intestinal infections

Amebiasis

Causative agent

Amebiasis is a disease caused by the parasite **Entamoeba histolytica**.

Symptoms/ Clinical Presentation:

Loose feces (poop), stomach pain, and stomach cramping

Epidemiology:

Only about 10% to 20% of people who are infected become sick, and most infected people do not become seriously ill.

Worm Infestations

Causative agent

The causes of worm infections include:

- Coming in contact with an infected surface such as soil containing eggs or germs at a playground or touching pets infected with worms
- Consuming infected food or water
- Improper hygiene
- Inadequate hand washing

Symptoms/ Clinical Presentation:

- Abdominal pain.
- Diarrhea, nausea, or vomiting.
- Gas and bloating.
- Fatigue.
- Unexplained weight loss.
- Abdominal pain or tenderness.

Epidemiology:

Overall prevalence of intestinal worm infection was found to be 49.38%. Ascaris was the most common parasite (46.88%), followed by Taenia (2.1%) and Hymenolepis nana (0.21%). Cure rate was found to be 66% for Ascaris and 100% in other cases.

Food poisoning

Causative agent

It also called foodborne illness, is illness caused by eating contaminated food.

Infectious organisms —

including bacteria, viruses and parasites or their toxins are the most common causes of food poisoning.

Symptoms/ Clinical Presentation:

- Nausea
- Vomiting
- Watery or bloody diarrhea
- Abdominal pain and cramps
- Fever

Epidemiology:

The US Centers for Disease Control and Prevention (CDC) estimates 1 in 6 Americans (48 million people) are affected by foodborne illness annually. The estimates suggest 128,000 people are hospitalized and 3,000 die.

Arthropod-borne infections

Dengue

Causative agent

The virus responsible for causing dengue, is called **dengue virus (DENV)**. It is a viral infection transmitted to humans through the bite of infected mosquitoes.

Symptoms/ Clinical Presentation:

Clinical findings include nausea, vomiting, rash, aches and pains, a positive tourniquet test, leukopenia, and the following warning signs: abdominal pain or tenderness, persistent vomiting, clinical fluid accumulation, mucosal bleeding, lethargy, restlessness, and liver enlargement.

Epidemiology:

2010, the incidence of dengue has increased to about 15 per million people annually in different states. Every year more than 100 000 infections and 200–400 deaths occur throughout India.

Malaria

Causative agent

Malaria is caused by a single-celled parasite of the **genus plasmodium**.

Symptoms/ Clinical Presentation:

- Fever.
- Chills.
- General feeling of discomfort.
- Headache.
- Nausea and vomiting.
- Diarrhea.
- Abdominal pain.
- Muscle or joint pain.

Epidemiology:

- In 2020, there were an estimated 241 million cases of malaria worldwide.
- Malaria is a life-threatening disease caused by parasites that are transmitted to people through the bites of infected female Anopheles mosquitoes. It is preventable and curable.
- The estimated number of malaria deaths stood at 627 000 in 2020.

Filariasis

Causative agent

The causative agents of lymphatic filariasis (LF) include the mosquito-borne filarial nematodes *Wuchereria bancrofti*, *Brugia malayi*, *B. timori*.

Symptoms/ Clinical Presentation:

- A dry, paroxysmal nocturnal cough; wheezing; dyspnea; anorexia; malaise; and weight loss.

Epidemiology:

Human lymphatic filariasis is caused mainly by *Wuchereria bancrofti*, *Brugia malayi* and *Brugia timori*. Of the estimated 90.2 million people infected, more than 90% have bancroftian and less than 10% brugian filariasis.

Chikungunya

Causative agent

It is caused by the **chikungunya virus (CHIKV)**.

Symptoms/ Clinical Presentation:

- The most common symptoms are **fever and joint pain**. Other symptoms may include headache, muscle pain, joint swelling, or rash.
- Symptoms usually begin 3–7 days after an infected mosquito bites you.

Epidemiology:

- The disease that was silent for nearly 32 years re-emerged in the October 2005 outbreak in India that is still ongoing.
- The first Indian report from Kolkata.
- Chikungunya fever has re-emerged in India after nearly 32 years in October 2005[1,7,38] and the outbreak is ongoing.

Surface infections

Trachoma

Causative agent

It caused by the bacterium **Chlamydia trachomatis**.

Symptoms/ Clinical Presentation:

Pinkeye, heartburn, enanthem, grippe, blinding, struma, ablepsia, pink eye, Bloodstroke, influenza, polio, cataract, cholera, green sickness, trachea, hay fever etc.

Epidemiology:

Trachoma is hyperendemic in many of the poorest and most rural areas of Africa, Central and South America, Asia, Australia and the Middle East. It is responsible for the blindness or visual impairment of about 1.9 million people. It causes about 1.4% of all blindness worldwide.

Tetanus

Causative agent

Tetanus, also called lockjaw, is a serious infection caused by *Clostridium tetani*.

Symptoms/ Clinical Presentation:

- bloody stools
- diarrhea
- fever
- headache

- sensitivity to touch
- sore throat
- sweating
- rapid heartbeat

Epidemiology:

Tetanus occurs more often in persons who have never been vaccinated against tetanus or who have not had a booster dose in the past 10 years.

Leprosy

Causative agent

It is an infection caused by slow-growing bacteria called **Mycobacterium leprae**.

Symptoms/ Clinical Presentation:

- A stuffy nose
- Nosebleeds
- 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

Epidemiology:

Every year around 4,00,000 new cases of leprosy occur in India and India contributes about 80% of the global leprosy case load.