

## 1- Malaria:

### Definition:

According To WHO,

"malaria is a life-threatening disease caused by Parasites that are transmitted To people through the bites of infected female Anopheles mosquitoes."

### Symptoms:

- 1- Intense fever, is accompanied by nausea, headaches, and muscular pain among other symptoms.
- 2- Furthermore, liver failure, renal failure and cerebral disease are associated with untreated malaria.

### Causal Agents:

→ Four species of Plasmodium infect humans: P. falciparum, P. vivax, P. ovale and P. malariae with P. falciparum accounting for the majority of infections. The disease is transmitted by an infected female Anopheles mosquito.

### General Causes:

→ Malaria is caused by the Plasmodium parasite.

→ Because the parasites that cause malaria affect red blood cells, people can also catch malaria from exposures to infected blood, including:

a- From mother to child

b- Through blood transfusion

c- By sharing needles used to inject drugs

### Treatment:

1- Recommended treatment against malaria is the intravenous use of malarial drugs.

2- Supportive measures should be adopted in critical case unit.

### Preventive measures:

1- Drain the water reservoir regularly

2- Using mosquito repellent lotion

3- Close the water reservoir

4- Use bed nets

5- Anti-malarial drugs

## 2- Hepatitis:

### Definition:

"The condition in which inflammation of the liver caused by viruses, bacterial infections or continuous exposure to alcohol, drugs

or Toxic chemicals such as those in aerosol sprays and paint, is called hepatitis."

### Symptoms:

- General weakness → fever and loss of appetite
- Jaundice → yellowing of skin and eyes

### Causal Agent:

- Hepatitis A, B and C caused by respective viruses.

### General causes:

1- Hepatitis A spreads when infected individuals do not wash their hands after using the toilet and then handle food.

2- HBV is transmitted from person to person through unprotected sexual intercourse with an infected person.

3- HCV can also be spread by sharing of toothbrushes, contaminated needles with infected person.

### Treatment:

1- The only promising treatment for hepatitis B and C is interferon but it is only effective in 30 → 35% of cases.

2- Liver transplant may be beneficial to infected patients.

## Preventive measures:

1- safe and effective vaccines are available to prevent hepatitis A and B infection.

2- The best protection against these viruses is to avoid high-risk activities, including preventing exposure to body fluids of infected individuals and always washing hands after using the toilet.

## 3- Dengue:

### Definition:

"Dengue (break-bone fever) is a viral infection that spreads from mosquitoes to people. It is more common in tropical and subtropical climates."

### Symptoms:

1- Sudden, high fever

2- Severe headache

3- Pain behind the eyes

4- Joint and muscle pain

5- Skin rash, appears 2 to 5 days after the onset of fever

## Causal Agent:

- 1- The real culprit is "DEN virus". A virus belonging to the Flaviviridae family.
- 2- It is an enveloped virus with single stranded RNA.
- 3- Four serotypes of virus are present
  - i- DEN-1
  - ii- DEN-2
  - iii- DEN-3
  - iv- DEN-4

## General causes:

- 1- Urbanization and population growth have led to an increase in breeding sites for Aedes mosquitoes.
- 2- Climate factors, such as temperature and rainfall can affect mosquito population and dengue transmission rates.

## Treatment:

- 1- There is no specific treatment of dengue fever.
- 2- we should use pain relievers with acetaminophen and avoid medicines with aspirin, which could worsen bleeding.
- 3- we should take rest, drink plenty of fluids etc

### Preventive measures:

- 1- stay away from heavily populated residential areas
- 2- use mosquito repellents, even indoors.
- 3- wear long-sleeved shirts
- 4- windows and door screens should be free of holes.

### 4- Typhoid:

#### Definition:

"Typhoid fever is a life-threatening infection caused by the bacterium *Salmonella Typhi*. It is usually spread through contaminated food or water. Once *Salmonella Typhi* bacteria are ingested, they multiply and spread into bloodstream."

#### Symptoms:

- 1- Prolonged high fever
- 2- fatigue and headache
- 3- Abdominal pain
- 4- Constipation
- 5- diarrhoea

## Causative agent:

→ Typhoid fever is caused by a type of bacteria called *Salmonella typhi*. This isn't the same bacteria that cause salmonella food poisoning but they are related.

## General causes:

1- *S typhi* is spread through contaminated food, drink, or water.

2- Some people become carriers of *S typhi* and continue to release the bacteria in their stools, spreading the disease.

## Treatment:

1- Fluids and electrolytes may be given by IV.

2- Antibiotics are given to kill the bacteria.

## Prevention:

1- A safe and effective vaccine is recommended against typhoid.

2- Drink only boiled water and eat well-cooked food.

3- Water treatment and waste disposal are important public health measures.

## 5-Polio:

### Definition:

- "Polio (Poliovirus) is a highly infectious viral disease that largely affects children under 5 years of age. The virus is transmitted by person-to-person spread mainly through the fecal-oral route or less frequently, by a common vehicle (contaminated water or food) and multiplies in intestine from where it can invade nervous system and cause paralysis."

### Symptoms:

- 1- Fever and headache
- 2- Sore throat
- 3- Neck stiffness
- 4- Sensitivity to light
- 5- Muscle pain, weakness or paralysis

### Causative agent:

- It is caused by poliovirus. There are three variations of poliovirus called wild poliovirus type 1, 2 and 3 (WPV<sub>1</sub>, WPV<sub>2</sub> and WPV<sub>3</sub>). Wild polio types 2 and 3 have been eradicated (no longer exist), and wild polio type one only exists in few parts of world.



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## General causes:

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1- once the virus is in contact with your body it enters through the mouth and nose.

The virus multiplies in your throat and intestinal tract once entered the mouth and nose.

Upon entering the bloodstream, it can attack the nervous system that disrupts the communication system of whole body.

## Treatment:

1- As yet there is no cure for Polio - However certain medicines can lessen the severity of the disease.

2- Simple treatments, including moist heat applied to affected muscles can ease pain.

3- Physical therapy can also be used to treat Polio.

## Prevention:

1- Immunisation is one of the effective means to achieve prevention of Poliomyelitis.

2- The vaccine used for immunisation is of two types:

a- Inactivated Polio vaccine (IPV)

b- oral polio vaccine (OPV)