

Introduction to public health :

Definition of public health:-

The sciences and art of preventing disease, prolonging life, and promoting physical health, and efficiency through organized community efforts, for the sanitation of the environment, the control of the community infections, the education of the individual in the principles of person hygiene, the organization of medical and nursing service for the early detection and preventive treatment of disease, and the development of the social machinery which will ensure to every individual in the community a standard of living adequate for the maintenance of health.

• **Essential Public Health Services**

- (1) Monitor health status to identify and solve community health problems;
- (2) Diagnose and investigate health problems and health hazards in the community;
- (3) Inform, educate, and empower people about health issues;
- (4) Mobilize community partnerships and action to identify and solve health problems;
- (5) Develop policies and plans that support individual and community health efforts;
- (6) Enforce laws and regulations that protect health and assure safety;
- (7) Link people to needed personal health services and assure provision of health care when otherwise unavailable;
- (8) Assure a competent workforce-public health and personal care
- (9) Evaluate effectiveness, accessibility, and quality of personal and population-based health services;
- (10) Research for new insights and innovative solutions to health problems.

•Function of public health :

Which can be classified as a four elements :

1. Assessing and monitoring of the health of the population .
2. Planning, implementation and evaluating public health programs.
3. Identifying and dealing with environmental hazards.
4. Communicating with people and organizations to promote public health.

Gastrointestinal tract Infection

Typhoid fever

Definition :

Typhoid fever is an acute illness associated with fever that is most often caused by the *Salmonella typhi* bacteria. It can also be caused by *Salmonella paratyphi*, the bacteria are deposited in water or food by a human carrier and are then spread to other people in the area. Typhoid fever is rare in industrial countries but continues to be a significant public-health issue in developing countries.

The incidence of typhoid fever in the United States has markedly decreased since the early 1900s. Today, approximately 400 cases are reported annually in the United States, mostly in people who recently have traveled to endemic areas. This is in comparison to the 1920s, when over 35,000 cases were reported in the U.S.

India, Pakistan, and Egypt are also known high-risk areas for developing this disease. Worldwide, typhoid fever affects more than

13 million people annually, with over 500,000 patients dying of the disease.

Signs and symptoms

The initial symptoms of typhoid fever include:

- a fever that gradually rises before settling at around 39–40 °C.
- abdominal pain
- headache

Classically, the course of untreated typhoid fever is divided into four individual stages, each lasting approximately one week. In the first week, the temperature rises slowly. In the second week of the infection, the patient lies prostrate with high fever around 40 °C.

The symptoms continue to get worse. As the condition progresses, the risk of developing possibly fatal complications increases.

In the third week of typhoid fever, a number of complications can occur:

- Intestinal hemorrhage
- Intestinal perforation: this is a very serious complication and is frequently fatal. It may occur without alarming symptoms until septicemia
- Encephalitis
- Neuropsychiatric symptoms
- Metastatic abscesses, cholecystitis, endocarditis .

The fever is still very high and oscillates very little over 24 hours. By the end of third week the fever starts subsiding .This carries into the fourth and final week.

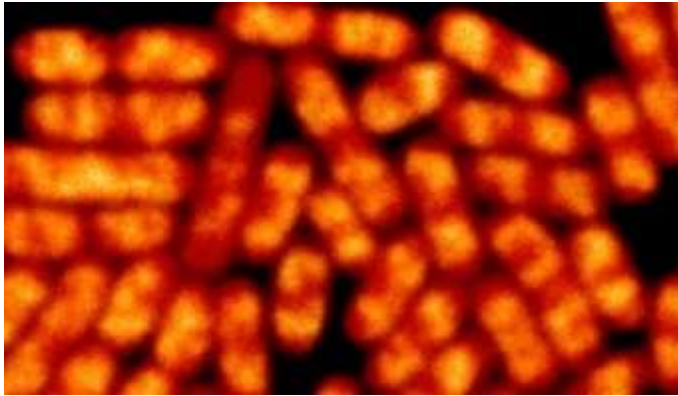
Transmission

The bacterium which causes typhoid fever may be spread through poor hygiene habits and public sanitation conditions, and sometimes also by flying insects feeding on feces. Public education campaigns encouraging people to wash their hands after defecating and before handling food are an important component in controlling spread of the disease.

A person may become an asymptomatic carrier of typhoid fever, suffering no symptoms, but capable of infecting others.

Diagnosis

Diagnosis is made by any blood, bone marrow or stoolcultures and with the Widal test (demonstration of salmonella antibodies against antigensO-somatic and H-flagellar).



Prevention

Most developed countries saw declining rates of typhoid fever throughout the first half of the 20th century due to vaccinations and advances in public sanitation and hygiene.

Sanitation and hygiene are the critical measures that can be taken to prevent typhoid. Typhoid does not affect animals and therefore transmission is only from human to human. Typhoid can only spread in environments where human feces or urine are able to come into contact with food or drinking water. Careful food preparation and washing of hands are crucial to prevent typhoid.

There are two vaccines licensed for use for the prevention of typhoid, the live, oral vaccine and the injectable Typhoid polysaccharide vaccine. Both are between 50% to 80% protective and are recommended for travellers to areas where typhoid is endemic. Boosters are recommended every five years for the oral vaccine and every two years for the injectable form.

Medical treatment

Where resistance is uncommon, the treatment of choice is a fluoroquinolone such as ciprofloxacin. Otherwise, a third-generation cephalosporin such as ceftriaxone or cefotaxime is the first choice.

Typhoid fever in most cases is not fatal.

When untreated, typhoid fever persists for three weeks to a month.

Death occurs in between 10% and 30% of untreated cases

High-risk countries

The countries with the highest rates of typhoid fever are:

- Bangladesh
- China
- India
- Indonesia
- Nepal
- Pakistan
- Vietnam