

## **Disease Fact Sheet: Typhoid and paratyphoid enteric fevers**

Typhoid and paratyphoid fevers are infections caused by bacteria which are transmitted from faeces to ingestion. Clean water, hygiene and good sanitation prevent the spread of typhoid and paratyphoid. Contaminated water is one of the pathways of transmission of the disease.

### **The disease and how it affects people**

Typhoid fever is a bacterial infection of the intestinal tract and bloodstream. Symptoms can be mild or severe and include sustained fever as high as 39°-40° C, malaise, anorexia, headache, constipation or diarrhoea, rose-coloured spots on the chest area and enlarged spleen and liver. Most people show symptoms 1-3 weeks after exposure. Paratyphoid fever has similar symptoms to typhoid fever but is generally a milder disease.

### **The cause**

Typhoid and paratyphoid fevers are caused by the bacteria *Salmonella typhi* and *Salmonella paratyphi* respectively. Typhoid and paratyphoid germs are passed in the faeces and urine of infected people. People become infected after eating food or drinking beverages that have been handled by a person who is infected or by drinking water that has been contaminated by sewage containing the bacteria. Once the bacteria enter the person's body they multiply and spread from the intestines, into the bloodstream.

Even after recovery from typhoid or paratyphoid, a small number of individuals (called carriers) continue to carry the bacteria. These people can be a source of infection for others. The transmission of typhoid and paratyphoid in less-industrialized countries may be due to contaminated food or water. In some countries, shellfish taken from sewage-contaminated beds is an important route of infection. Where water quality is high, and chlorinated water piped into the house is widely available, transmission is more likely to occur via food contaminated by carriers handling food.

### **Distribution**

Typhoid and paratyphoid fevers are common in less-industrialized countries, principally owing to the problem of unsafe drinking-water, inadequate sewage disposal and flooding.

### **Scope of the Problem**

The annual incidence of typhoid is estimated to be about 17 million cases worldwide.

### **Interventions**

Public health interventions to prevent typhoid and paratyphoid include:

- health education about personal hygiene, especially regarding hand-washing after toilet use and before food preparation; provision of a safe water supply;
- proper sanitation systems;
- excluding disease carriers from food handling.

Control measures to combat typhoid include health education and antibiotic treatment. A vaccine is available, although it is not routinely recommended except for those who will have prolonged exposure to potentially contaminated food and water in high-risk areas. The vaccine does not provide full protection from infection.

Prepared for World Water Day 2001. Reviewed by staff and experts from the cluster on Communicable Diseases (CDS) and the Water, Sanitation and Health unit (WSH), World Health Organization (WHO).