Fecal-oral TRANSMITTED DISEASES

What the diseases in this group have in common is that the causative organisms are excreted in the stools of infected persons (or, rarely, animals).
• The portal of entry for these diseases is the mouth. Therefore, the causative organisms have to pass through the environment from the feces of an infected person to the gastro-intestinal tract of a susceptible person.
• This is known as the feco-oral transmission route.
• Oral-oral transmission occurs mostly through unapparent fecal contamination of food, water and hands.
• food takes a central position; it can be directly or indirectly contaminated via polluted water, dirty hands, contaminated soil, or flies.

• The five “Fs” which play an important role in fecal oral diseases transmission (finger, flies, food, fomites and fluid).
The diseases in this group are mainly transmitted through fecally contaminated water rather than food.

- **Typhoid fever**
- **Definition**
  - A systemic infectious disease characterized by high continuous fever, malaise and involvement of lymphoid tissues.
- **Infectious agent**
  - Salmonella typhi
  - Salmonella enteritidis (rare cause)
Epidemiology

• **Occurrence**- It occurs worldwide, particularly in poor socioeconomic areas. Annual incidence is estimated at about 17 million cases with approximately 600,000 deaths worldwide.

• In endemic areas the disease is most common in preschool and school aged children (5-19 years of age).

• **Reservoir**- Humans
• **Mode of transmission**- By water and food contaminated by feces and urine of patients and carriers.

• Flies may infect foods in which the organisms then multiply to achieve an infective dose.

• **Incubation period** – 1-3 weeks
• **Period of communicability**- As long as the bacilli appear in excreta, usually from the first week throughout convalescence.

• About 10% of untreated patients will

• discharge bacilli for 3 months after onset of symptoms, and 2%-5% become chronic carriers.
• **Susceptibility and resistance** - Susceptibility is general and increased in individuals with gastric achlorhydria or those who are HIV positive.

• Relative specific immunity follows recovery from clinical disease, unapparent infection and active immunization but inadequate to protect against subsequent ingestion of large numbers of organisms.
Clinical manifestation

• **First week**- Mild illness characterized by fever rising stepwise (ladder type), anorexia, lethargy, malaise and general aches.

• Dull and continuous frontal headache is prominent.

• Nose bleeding, vague abdominal pain and constipation in 10% of patients.
• **Second week**- Sustained temperature (fever). Severe illness with weakness, mental dullness or delirium, abdominal discomfort and distension.

• Diarrhea is more common than first week and feces may contain blood.

• **Third week**- Patient continues to be febrile and increasingly exhausted.

• If no complications occur, patient begins to improve and temperature decreases gradually
Clinical manifestations

- suggestive of typhoid fever
- **Fever**- Sustained fever (ladder fashion)
- **Rose spots**- Small pallor, blanching, slightly raised
- macules usually seen on chest and abdomen in the first week in 25% of white people.
- **Relative bradycardia**- Slower than would be expected from the level of temperature.
- **Leucopenia**- White cell count is less than 4000/mm3 of blood.
Diagnosis

• ❍ Based on clinical grounds but this is confused with wide variety of diseases.
• ❍ Widal reaction against somatic and flagellar antigens.
• ❍ Blood, feces or urine culture.

Treatment
• 1. Ampicillin or co-trimoxazole for carriers and mild cases.
• 2. Chloramphenicol or ciprofloxacin or ceftriaxone for seriously ill patients.
Prevention and control

1. Treatment of patients and carriers
2. Education on hand washing, particularly food handlers, patients and childcare givers
4. Provision of safe and adequate water
5. Safe handling of food.
6. Exclusion of typhoid carriers and patients from handling of food and patients
7. Immunization for people at special risk (e.g. Travelers to endemic areas)
8. Regular check-up of food handlers in food and drinking establishments