

## **Infectious Disease in children**

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### **Introduction**

Infections can easily acquire by children when they are more number in groups. Schools, montossories, day care centers and preschools are the common places where the infections can spread among the children. When children work and play together in groups, there is an opportunity for the spread of a number of common childhood diseases that can be passed on from one child to the next. Early recognition of the illness or infestation and prompt treatment can significantly reduce the spread within the group setting.

### **How infections are spread**

Most infections are transmitted from person to person by direct and indirect contact, through ingestion of contaminated food or water, by biting of vectors and congenital infections.

### **Air borne infections**

Bronchiolitis, influenza, atypical pneumonia, pneumonia and meningitis are some of the common infection which gets spread by air.

### **Bronchiolitis**

This is common in young children and infants. This is caused by bacteria or virus. The incubation period is 2 to 8 days. This is spread by breathing air contaminated with the bacteria or virus when an infected person has coughed or sneezed. Touching the secretions from an infected child's eyes, nose, or mouth and touching contaminated surfaces also transmit the infection.

### **Signs and symptoms**

- Stuffy or running nose (Nasal discharge is usually clear)
- Low grade fever or chills
- Cough
- Earache
- Rapid breathing or wheezing
- Listlessness, inactivity, decreased interest in surroundings
- Poor feeding

### **Hospitalization**

Hospitalization is required for the infants younger than 1 year of age (especially those between 6weeks and 6 months of age), premature infants, children and infants with breathing or heart problems and children or infants with weakened immune systems.

## **Pneumonia and Atypical pneumonia**

This is caused by bacteria. The sign and symptoms are fever, chills, shortness of breath, increase breathing rate and difficulty in feeding.

## **Meningitis**

Inflammation of the membranes that surround the brain and spinal cord is called meningitis. It is caused by viruses and bacteria.

## **Signs and symptoms**

- High fever, headache, and stiff neck are common in anyone over the age of 2 years.
- Infants < 2 years of age may appear slow or inactive, be irritable, vomit, poor eating.
- May have nausea, vomiting, discomfort looking into bright lights, confusion, and sleepiness.
- Seizures may occur as illness progresses.

## **Diarrheal diseases**

*Rotavirus* is the most common cause of severe diarrhea among young children. Children between the ages of 6 months and 2 years are mostly susceptible for this disease. Incubation period is 1-3 days.

## **Signs and symptoms**

- Fever , Vomiting
- About 12 – 24 hours later, child starts to pass large amounts of watery diarrhea
- Abdominal pain
- The illness usually lasts 3 – 7 days.
- Most children recover completely without treatment.
- Some children need to be hospitalized for re-hydration (replacement of fluids lost) due to diarrhea

## **Ways of Transmission**

Rota virus infection is transmitted through direct contact: Assisting a child with toileting and indirect contact: Touching an object (e.g., toy, doorknob) that was contaminated with rotavirus. The virus is able to survive for long periods on hard surfaces, in contaminated water, and on hands.

## **Shigellosis**

Shigellosis is an infection with a group of bacteria called *Shigella*. Incubation period is 1- 3 days. Patient is contagious during acute illness and up to 4 weeks after diarrhea stops.

## **Signs and symptoms**

- Diarrhea (often blood and mucus)
- Fever
- Abdominal cramps

- Nausea and vomiting
- A severe illness with fever and seizures may occur in children who are less than 2 years old.
- Illness usually lasts 4 to 7 days.
- Antibiotic treatment shorten the length of time of illness

### **Ways of transmission**

Shigellosis is transmitted through direct contact of infected stool and indirect contact through contaminated food and or water.

### **Hepatitis A**

It is the infection of liver caused by hepatitis A virus

Signs and symptoms of hepatitis A may include:

- Fever
- Fatigue
- Loss of appetite, nausea, and vomiting
- Abdominal pain
- Jaundice (yellowing of the skin and eyes)
- Incubation period 25- 30 days
- Person is infectious from about 14 days before onset of symptoms until about 7 days after onset of jaundice.
- Infants and children may continue to shed virus in their stool for up to 6 months.

### **Ways of Transmission**

Hepatitis A virus is found in the stool of infected people. It can be transmitted by direct contact with the stool of an infected person, direct contact with the hands of an infected person, direct contact with an object contaminated with the virus, eating food prepared by an infected person and drinking contaminated water.

### **Typhoid fever**

It is an acute illness caused by bacteria. It is a systemic infection. The causative bacteria is *Salmonella enterica* subspecies *enterica* serotype Typhi. Paratyphoid fever is caused by *Salmonella enterica* subspecies *enterica* serotypes Paratyphi A, B and C.

### **Signs and symptoms**

- Fever
  - Fever is present in more than 90% of the cases. Classically, fever begins with a remittent fever during the first week, rising in a stepwise fashion, after which the fever becomes sustained.
- Headache
- Abdominal pain
- Relative bradycardia
- Splenomegaly
- Leukopenia

## Ways of transmission

It is transmitted by contaminated food and water and by eating food prepared by an infected person who has not washed their hands,

## Infections Transmitted by close contact

- Scabies
- Ringworm

## Ringworm

It is caused by a fungus. It can be found on the scalp, body, groin, or feet. Ring shaped rash that is reddish and may be itchy. Rash may be dry and scaly or wet and crusty. Spread through direct contact with the infected person, through articles, from infected animals

## Scabies

It is caused by tiny (microscopic) insects called mites. The mites burrow under the upper layer of skin to live and lay eggs. Cause Itching and rash. It is mainly transmitted by sharing cloths, direct contact.

## Vector borne diseases

### Dengue

It is a Viral disease caused by Arbovirus. There are four antigenic types of dengue viruses involved in the infection. Dengue is transmitted by mosquitoes named as *Aedes aegypti* and *A. albopictus*. Dengue virus cause dengue fever and Dengue hemorrhagic fever – DHF. Main sign and symptoms are Malaise, chills, fever, headache, nausea, vomiting, myalgia and deep bone pain, arthralgia, maculopapular rash

## Prevention of Feco oral infections

- Hand washing
- Use clean drinking water
- Prepare food safely:
- Cook meat and poultry well.
- Avoid drinking or serving unpasteurized milk and juice.
- Thoroughly wash all fruits and vegetables before eating or serving.
- Keep uncooked meat away from fruit and vegetables.
- Cover food and store at recommended temperatures for recommended times.

## Prevention of air borne diseases

- An infected person cover their nose and mouth when coughs or sneeze.
- Tiny droplets containing the virus or bacteria travel through the air and can infect a person who is close (less than a meter away).
- Hand washing
- Disposal of tissues
- Space and ventilation

### **Prevention of diseases by direct contact**

- Prevent the direct contact with infected person
- Not to share combs, hair brushes, hats, helmets, or headphones

### **Prevention of vector borne diseases**

- Vector control
- Prevent bite from vectors

### **Hand Washing**

80% of the infections spread by hands. Wash at least 5 times a day. Before preparing food, before feeding a child or eating, after using the washroom or helping a child use the washroom, Before and after changing diapers, after blowing nose or wiping a child's nose, After handling pets or other animals, After cleaning or handling garbage and after playing sand / play with other children.

### **Conclusion**

Infections among the children can be prevented by taking proper preventive measures, taking nutritious food, providing immunization as in the Immunization schedule and following instructions regarding breast feeding.