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NAAC ACCREDITED "A"**



Topic : ACUTE DIARRHOEAL DISEASES
Course title: Epidemiology and Environmental Health
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Key facts :

- Diarrhoeal disease is the second leading cause of death in children under five years old. It is both preventable and treatable.
- Each year diarrhoea kills around 760 000 children under five. A significant proportion of diarrhoeal disease can be prevented through safe drinking-water and adequate sanitation and hygiene.
- Globally, there are nearly 1.7 billion cases of diarrhoeal disease every year. Diarrhoea is a leading cause of malnutrition in children under five years old.

- Diarrhoea is defined as the passage of three or more loose or liquid stools per day (or more frequent passage than is normal for the individual). Frequent passing of formed stools is not diarrhoea, nor is the passing of loose, "pasty" stools by breastfed babies.
- Diarrhoea is usually a symptom of an infection in the intestinal tract, which can be caused by a variety of bacterial, viral and parasitic organisms. Infection is spread through contaminated food or drinking-water, or from person-to-person as a result of poor hygiene.
- Interventions to prevent diarrhoea, including safe drinking-water, properly cooked food, use of improved sanitation and hand washing with soap can reduce disease risk. Diarrhoea can be treated with a solution ORS and with zinc tablets or with antibiotics.

Clinical types of diarrhoea:

- **Acute watery diarrhoea** –lasts several hours or days, and includes cholera;
- **Acute bloody diarrhoea** –also called dysentery;
- **Persistent diarrhoea** –lasts for 14 days or longer.

Threats of Diarrhoeal diseases :

Diarrhoeal disease is a leading cause of child mortality and morbidity in the world, and mostly results from contaminated food and water sources. Worldwide, 780 million individuals lack access to improved drinking-water and 2.5 billion lack improved sanitation. Diarrhoea due to infection is widespread throughout developing countries.

In developing countries, children under three years old experience on average three episodes of diarrhoea every year. Each episode deprives the child of the nutrition necessary for growth. As a result, diarrhoea is a major cause of malnutrition, and malnourished children are more likely to fall ill from diarrhoea.

Causes :

- **Infection:** Diarrhoea is a symptom of infections caused by a host of bacterial, viral and parasitic organisms, most of which are spread by faeces-contaminated water. Infection is more common when there is a shortage of adequate sanitation and hygiene and safe water for drinking, cooking and cleaning. Rotavirus and Escherichia coli are the two most common etiological agents of diarrhoea in developing countries.
- **Malnutrition:** Children who die from diarrhoea often suffer from underlying malnutrition, which makes them more vulnerable to diarrhoea. Each diarrhoeal episode, in turn, makes their malnutrition even worse. Diarrhoea is a leading cause of malnutrition in children under five years old.

Other causes: Diarrhoeal disease can also spread from person-to-person, aggravated by poor personal hygiene. Food is another major cause of diarrhoea when it is prepared or stored in unhygienic conditions. Water can contaminate crop during irrigation. Fish and seafood from polluted water may also contribute to the disease.

Medications : Many medications, such as antibiotics, can cause diarrhea but not acute diarrhoeal diseases, as antibiotics destroy both good and bad bacteria, which can disturb the natural balance of bacteria in the intestine.

- **Lactose intolerance** : Lactose is a sugar found in milk and other dairy products. People who have difficulty digesting lactose have diarrhea after eating dairy products. Body makes an enzyme that helps digest lactose, but for most people, the levels of this enzyme drop off rapidly after childhood. This causes an increased risk of lactose intolerance as you age.
- **Fructose** : Fructose, a sugar found naturally in fruits and honey and added as a sweetener to some beverages, can cause diarrhea in people who have trouble digesting it. Artificial sweeteners. Sorbitol and mannitol, artificial sweeteners found in chewing gum and other sugar-free products, can cause diarrhea in some otherwise healthy people.
- **Other digestive disorders**. Chronic diarrhea has a number of other causes, such as Crohn's disease, ulcerative colitis, celiac disease, microscopic colitis and irritable bowel syndrome (IBS) –which is caused

Dehydration and Diarrhoea :

- The most severe threat caused by diarrhoea is dehydration. During a diarrhoeal episode, water and electrolytes (sodium, chloride, potassium and bicarbonate) are lost through liquid stools, vomit, sweat, urine and breathing.
- Dehydration occurs when these losses are not replaced. The degree of dehydration is rated on a scale of three.
- Early dehydration –no signs or symptoms. Moderate dehydration: thirsty, restless or irritable behaviour, decreased skin elasticity, sunken eyes.
- Severe dehydration: symptoms become more severe, unconsciousness, lack of urine output, cold and moist extremities, a rapid and feeble pulse, low or undetectable intravenous drip. blood pressure, and pale skin. Death can follow severe dehydration if body fluids and electrolytes are not replenished.

Prevention and Treatment:

- Access to safe drinking-water;
- Use of improved sanitation;
- Hand washing with soap;
- Exclusive breastfeeding for the first six months of life;
- Good personal and food hygiene;
- Health education about how infections spread; and
- Rotavirus vaccination.

Measures to treat dehydration:

- **Rehydration:** with oral rehydration salts (ORS) solution. ORS is a mixture of clean water, salt and sugar. It costs a few cents per treatment. ORS is absorbed in the small intestine and replaces the water and electrolytes lost in the faeces.
- **Zinc supplements:** zinc supplements reduce the duration of a diarrhoea episode by 25% and are associated with a 30% reduction in stool volume. Rehydration: with intravenous fluids in case of severe dehydration or shock.
- **Nutrient-rich foods:** the vicious circle of malnutrition and diarrhoea can be broken by continuing to give nutrient-rich foods –including breast milk –during an episode, and by giving a nutritious diet including exclusive breastfeeding for the first six months of life –to children when they are well.
- Consulting doctors

Happy Reading...