



Nutrition in Emergency Series

Emergency Nutrition Response

Guidance note: Diarrhea in emergencies

WHAT?

Diarrhoea is defined by the World Health Organization (WHO) 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.

Diarrhea 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. It can last several days, and can leave the body without the water and salts that are necessary for survival. In the past, for most people, severe dehydration and fluid loss were the main causes of diarrhoea deaths.

It has several 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.
- **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.
- **Source:** Water contaminated with human faeces, for example, from sewage, septic tanks and latrines, is of particular concern. Animal faeces also contain microorganisms that can cause diarrhoea.
- **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. Unsafe domestic water storage and handling is also an important risk factor. Fish and seafood from polluted water may also contribute to the disease.

The most severe threat posed 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.

WHY?

Diarrhoea is a leading cause of death during complex emergencies and natural disasters. Displacement of populations into temporary, overcrowded shelters is often associated with polluted water sources, inadequate sanitation, poor hygiene practices, contaminated food and malnutrition – all of which affect the spread and severity of diarrhoea. At the same time, the lack of adequate health services and transport reduces the likelihood of prompt and appropriate treatment of diarrhoea cases. Malnutrition is also common in emergencies and tends to be heightened when feeding practices are disrupted and sanitation deteriorates.

Each diarrhoeal episode deprives children 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. Children who are malnourished or have impaired immunity as well as people living with HIV are most at risk of life-threatening diarrhoea.

HOW?

Diarrhoea control is a main concern when responding to complex emergencies.

Priority community-based **prevention interventions** include:

- providing safe water in adequate quantities
- setting up appropriate sanitation facilities
- point-of-use water treatment
- handwashing with soap
- promoting good personal and food hygiene
- establishing health services to rapidly detect and treat cases, and
- health education about how infections spread; and
- promoting exclusive breastfeeding the first six months of life

Priority community-based **treatment interventions** include:

- **Rehydration:** with oral rehydration salts (ORS) solution. ORS is a mixture of clean water, salt and sugar that 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.
- **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.

SPECIFIC RECOMMENDATIONS

Recommendations emphasize family and community understanding of managing diarrhoea. When they become routine practice, caretakers will act quickly at the first sign of diarrhoea, rather than waiting before treating the child. The aim is that the recommendations become routine practice both in the home and health-care facility.

MOTHERS AND OTHER CAREGIVERS SHOULD

- Prevent dehydration through the early administration of increased amounts of appropriate fluids available in the home, and ORS solution, if on hand
- Continue feeding (or increase breastfeeding) during, and increase all feeding after the episode
- Recognize the signs of dehydration and take the child to a health-care provider for ORS or intravenous electrolyte solution, as well as familiarize themselves with other symptoms requiring medical treatment (e.g., bloody diarrhoea)
- Provide children with 20 mg per day of zinc supplementation for 10–14 days (10 mg per day for infants under six months old)

HEALTH-CARE WORKERS SHOULD

- Counsel mothers to begin administering suitable available home fluids immediately upon onset of diarrhoea in a child
- Treat dehydration with ORS solution (or with an intravenous electrolyte solution in cases of severe dehydration)
- Emphasize continued feeding or increased breastfeeding during, and increased feeding after the diarrhoeal episode
- Use antibiotics only when appropriate, i.e. in the presence of bloody diarrhoea or shigellosis, and abstain from administering anti-diarrhoeal drugs
- Provide children with 20 mg per day of zinc supplementation for 10–14 days (10 mg per day for infants under six months old)
- Advise mothers of the need to increase fluids and continue feeding during future episodes. Health-care workers treating children for diarrhoea are encouraged to provide caretakers with two 1-litre packets of the new ORS, for home-use until the diarrhoea stops. Caretakers should also be provided with enough zinc supplements to continue home treatment for 10–14 days. Printed material (including text and illustrations) with advice on preventing and treating diarrhoea at home should accompany the ORS and zinc supplements.

COUNTRIES SHOULD

- Control diarrhoeal diseases by monitoring usage rates of ORS and zinc supplementation
- Use the media and face-to-face communication, promote and refine messages on diarrhoea prevention, home management of diarrhoea and appropriate care-seeking
- Prioritize improving the availability of the new ORS solution and zinc supplements
- Craft suitable strategies to educate health-care workers at all levels about using the new ORS and zinc supplements in treating diarrhoea
- Promote the availability of a zinc formulation to both infants and children
- Identify obstacles to the use of ORS, zinc supplements and home-based treatments in managing acute diarrhoea.

REFERENCES

The following references can be conducted for additional information on prevention and treatment of diarrhea:

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