



GLOBAL TASK FORCE ON CHOLERA CONTROL

Technical Note

Organization of Case Management during a Cholera Outbreak

June 2017

Cholera epidemics continue to be a major public health problem in many countries around the world. When epidemics strike, they can spread rapidly. The disease can also evolve quickly; patients with severe disease can die of dehydration hours after showing the first symptoms of cholera.

To decrease mortality, one of the main challenges is to ensure that individuals with cholera have access to treatment as soon as possible after symptoms appear¹. This entails engagement of a network of cholera treatment structures and strategies ranging from home based or community care through to overnight stay structures with highly trained medical staff. Depending on the context, the network may be pre-existing, or may need to be established specifically during an outbreak or incorporate both established and new elements. As with childhood diarrhoea, new technological advances are not required to reduce cholera mortality².

Initial access to treatment, especially in remote, rural areas is likely to be via a community health worker or a fixed oral rehydration point. Community treatment programmes for children are being developed in many countries and should be used during epidemics as much as possible. Oral therapy available in the community may not be sufficient treatment for some patients who will need to be identified quickly and referred to structures with the capacity to provide intravenous therapy. Wherever possible, transport to reduce time to access treatment should be provided to transfer patients between treatment facilities, either via a system of ambulances (car, bicycle or donkey) or by providing transport subsidies. Any vehicle providing patient transport should be cleaned and disinfected at the treatment structure and cholera prevention education provided to drivers.

When setting up a treatment network, risk factors for cholera including epidemiological data from the current and previous outbreaks and access to clean water and sanitation should be taken into account, with priority given to high risk areas. In addition, cholera outbreaks frequently occur in populations with poor access to health care for geographic, economic or social reasons. Any treatment network should also take these barriers into account and be organized to maximize rapid access to treatment.

Setting up a network of treatment facilities

There are three levels of care, each designed to treat patients with acute watery diarrhoea and dehydration. The basic characteristics of each level are described below, but local variations will be necessary based on existing infrastructure and the skill level of those providing treatment.

1. Community level oral rehydration

This type of unit is frequently called an Oral Rehydration Point (ORP). This level of care provides oral treatment for patients with acute watery diarrhoea and dehydration and refers patients with severe dehydration to other parts of the treatment network (after starting ORS if possible). Health workers also provide the community with information on the prevention of cholera, including the importance of early treatment.

Organisation

Patients should not travel more than one hour on foot to access this type of care. In most contexts, staff providing care will not have the skills to safely insert and manage intravenous rehydration so only oral treatment with rehydration solution and zinc will be provided. Staff may already be part of a community care network (iCCM, IMCI, village health workers) or may be community members who have no previous health training, but are trained specifically to provide oral rehydration therapy during a cholera outbreak.

Care may be provided in a variety of modalities, either fixed or mobile, but there is no structure for overnight care for patients. As far as possible, care should be provided during all daylight hours, 7 days per week. Fixed points may include pre-existing oral rehydration points (sometimes found in refugee camps), a tent or shelter set up in communities, or in a clearly demarcated section of a health post or health centre. In the latter case, diarrhoea patients must be separated from patients with other pathologies to prevent the transmission of cholera to other patients. Mobile examples include ambulatory village health workers or Red Cross/Red Crescent volunteers.

Each patient may have one caregiver (usually a family member) with them at a time. The caregiver can learn how to help care for the patient and can also learn about cholera prevention while aiding the patient. This knowledge may help reduce cholera transmission at the home of the patient^{3,4}.

In most cases, the person providing treatment will also be responsible for other community activities such as the promotion of cholera prevention (including hand washing) and distribution of materials for cholera prevention such as soap. In the event that these activities are carried out door-to-door, patients with diarrhoea can also be identified (active case finding) and ORS therapy initiated.

Minimum standards

Whatever their previous experience, individuals providing treatment for cholera patients must be trained on the case definitions, assessment of dehydration, appropriate treatment protocols for ORS and zinc, including monitoring of patients during treatment. Staff should also be trained to identify patients who should be transferred to receive IV rehydration. In some cases the person may have the skills to safely insert an intravenous line. In this event severely dehydrated patients may have an initial IV inserted at this level, but the patient should be transferred to a structure designed for overnight care for ongoing monitoring and to complete treatment. Whenever possible, ORS should also be started for patients given IV fluids.

All staff should be trained on prevention of cholera, to protect themselves, to prevent transmission at the treatment site and to provide information on prevention of cholera for the community.

Staff must have access to clean water or be provided with the means and knowledge to make safe water (disinfection tablets, filters or other sources of clean water). Staff should also be able to wash their hands.

If IV treatment is to be started, appropriate waste and sharps disposal materials must also be provided.

Although individual patient records may not be used at this level, basic records for epidemiological surveillance (numbers of patients, number of patients transferred, reported deaths in the community and if possible village or site of origin) and supply management should be kept. If possible referral cards should accompany patients who are transferred for higher level care.

The Cholera Community, ORP Kit is designed for this type of scenario.

2. Standard oral and intravenous rehydration

This type of centre has traditionally been called a Cholera Treatment Unit (CTU). This level of care provides oral and intravenous treatment. After appropriate treatment for dehydration, when possible, patients with medical complications or co-morbidities are referred to another structure in the network with more advanced facilities. Staff provides information on prevention of cholera for other staff members, patients and caregivers. The personnel also support any community level oral rehydration teams and receive transfers from these teams.

Organisation

Staff providing treatment have the skills to safely insert and manage intravenous rehydration, but may not have the skills to manage complications or co-morbidities.

Care is provided at fixed sites which are usually open 7 days per week with infrastructure for patients to receive care 24 hours a day in either pre-existing or purpose built structures. The size usually varies from 5 to 40 beds. Both public and private structures should be considered. Patients with suspected cholera must be separated from patients with other morbidities in order to prevent transmission of cholera.

In most cases, the structure will be part of a referral system receiving patients requiring intravenous therapy from sites only providing oral rehydration. Patients with complications or co-morbidities will be referred to structures with more resources.

Each patient may have one caregiver (usually a family member) with them at a time. The caregiver can learn how to help care for the patient and can also learn about cholera prevention while aiding the patient. This knowledge may help reduce cholera transmission at the home of the patient³⁴. For infection control and due to space limitations, only one caregiver at a time should be present with each patient.

Minimum standards

Whatever the previous experience, staff providing care for cholera patients must be trained on the case definitions, assessment of dehydration and appropriate treatment protocols for

intravenous rehydration and oral treatment with ORS and zinc, including monitoring of patients during treatment. Staff should also be trained to identify patients with complications or co-morbidities who should be transferred once they no longer have cholera (e.g. malnutrition).

All staff should be trained on prevention of cholera, to protect themselves, to prevent transmission at the treatment site and to provide information on prevention of cholera to patients and their care givers.

Staff at this type of structure should be able to take stool samples and safely package and adequately label samples for transport to a laboratory. Significant amounts of clean water must be provided at this type of structure to prepare ORS, for infection control, laundry and general cleaning.

Staff must be trained to make ORS safely and have access to clean water or provided with the means to make safe water (disinfection tablets, filters or other sources of clean water).

Adequate means for infection control including hand washing, safe excreta disposal, cleaning and laundry must be available.

Cholera cots should be available to enhance both patient care and infection control.

As patients will be provided 24 hour care, light must be available in the structure. Food is an essential part of patient care and must be safely available for patients.

Individual patient records should be kept at this level, staff should be trained to keep a register of patients, on appropriate recording of individual data and on reporting for epidemiological purposes and stock management.

At this level, additional support staff such as cleaners is appropriate.

The Cholera Periphery Kit is designed for this type of scenario. One Periphery Kit is enough to start a small centre, with multiple Periphery Kits necessary for larger centres. Additional kits such as the Hardware Kit may also be necessary.

3. Oral and intravenous rehydration, treatment of complications and co-morbidities

This type of centre has traditionally been called a Cholera Treatment Centre (CTC). This level of care provides oral and intravenous treatment for rehydration, treatment for complications and co-morbidities and education on cholera prevention for staff, patients and caregivers. The personnel also support any community level oral rehydration teams and teams from other treatment structures and receive transfers from these teams.

Organisation

Staff may have a range of skills, but include members with training and competency to treat complications and co-morbidities such as hypokalemia and severe dehydration in malnourished children.

Care is provided at fixed sites which are open 7 days per week with infrastructure for patients to receive care 24 hours a day in either pre-existing or purpose built structures. This type of centre will usually have anywhere from 40 to 200 beds at the peak of an outbreak. Both public and

private structures should be considered. Patients with suspected cholera must be separated from patients with other morbidities in order to prevent transmission of cholera.

Each patient may have one caregiver (usually a family member) with them at a time. The caregiver can learn how to help care for the patient and can also learn about cholera prevention while aiding the patient. This knowledge may help reduce cholera transmission at the home of the patient³⁴. For infection control and due to space limitations, only one caregiver at a time should be present with each patient.

In most cases, the structure will be part of a network of care receiving patients requiring intravenous therapy from sites only providing oral rehydration and/or structures that cannot adequately manage patients with complications or co-morbidities.

Minimum standards

Whatever the previous experience, staff providing treatment for cholera patients must be trained on the case definitions, assessment of dehydration and appropriate treatment protocols for intravenous rehydration and oral treatment with ORS and zinc, including monitoring of patients during treatment.

All staff should be trained on prevention of cholera, to protect themselves, to prevent transmission at the treatment site and to provide information on prevention of cholera for the patients and their care givers.

Staff at this type of structure should be able to take stool samples and safely package and adequately label samples for transport to a laboratory. Significant amounts of clean water must be provided at this type of structure to prepare ORS, for infection control, laundry and general cleaning.

Cholera cots should be available to enhance both patient care and infection control.

As patients will be provided 24 hour care, light must be available in the structure. Food is an essential part of patient care and must be safely available for patients.

Individual patient records should be kept at this level, staff should be trained to keep a register of patients, on appropriate recording of individual data and on reporting for epidemiological purposes and stock management.

At this level, additional support staff such as registrars, cleaners, laundry staff etc. will be necessary.

The Central Reference Kits are designed for this type of scenario. One kit will be sufficient to start a small centre, multiple kits will be needed for larger centres. Additional kits such as the Hardware Kit may also be necessary.

Note: this document recommends a general organization of a network of care for patients with suspected cholera, but is not intended to provide details of all materials required at each level of care (e.g list of materials, waste management etc).

References

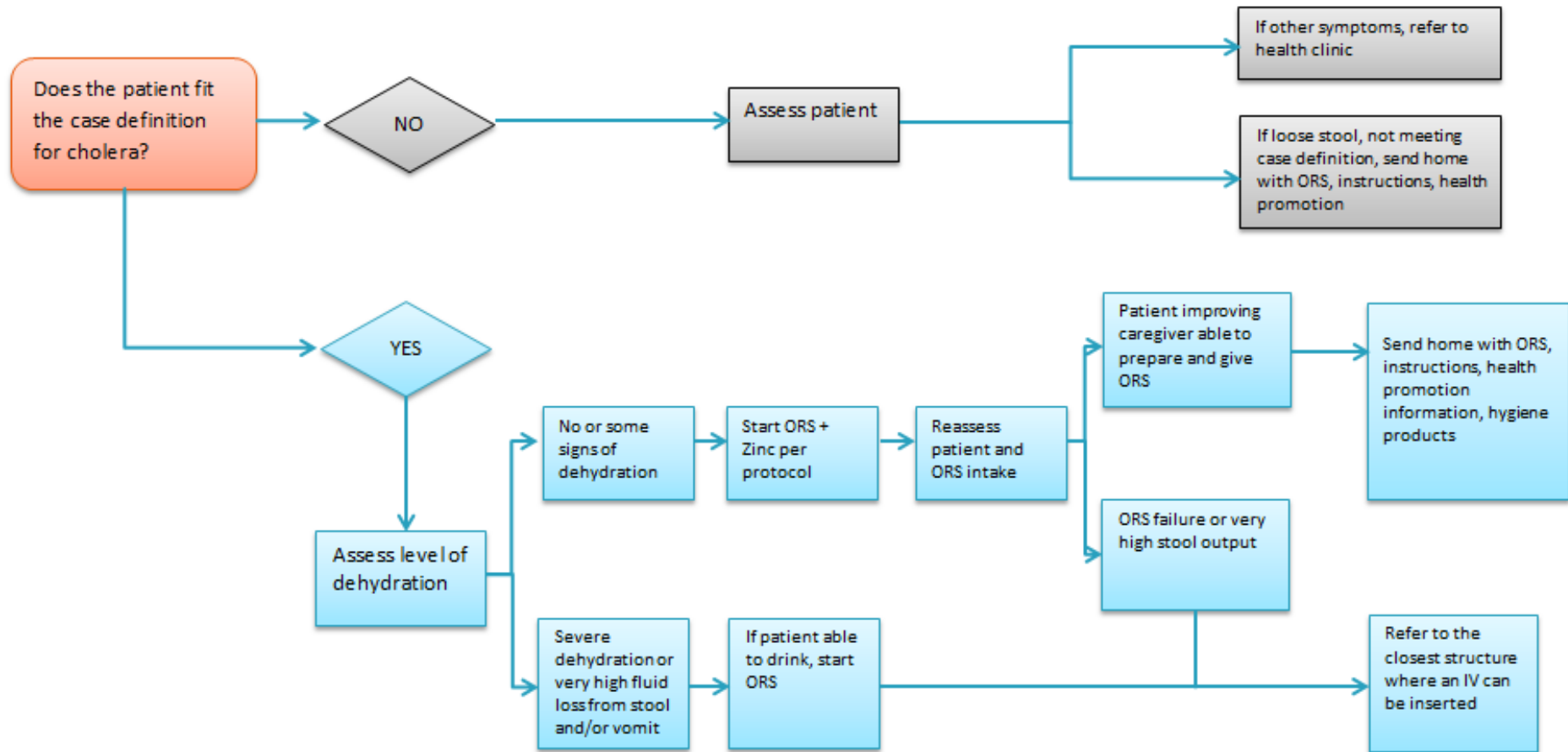
Page A-L, Ciglenecki I, Jasmin ER, Desvignes L, Grandesso F, Polonsky J, et al : (2015) Geographic distribution and ,ortqlity risk fctors during the cholera outbreak in a rural region of Haiti, 2010-2011. PLoS Negl Trop Dis 9(3): e0003605: doi:10.1371/journal.pntd:0003605

World Health Organization/The United Nations Children's Fund (UNICEF) (2013) Ending preventative child deaths from pneumonia and diarrhoea by 2025: the integrated Global Action Plan for Pneumonia and Diarrhoea (GAPPD), Geneva, Switzerland.

Gartley M, Valeh P, de Lange R, DiCarlo S, Viscusi A, Lenglet A and Fesselet J. (2013) Uptake of household disinfection kits as an additional measure in response to a cholera outbreak in urban areas of Haiti. Journal of Water and Health 11(4): 623-628.

George CM, Monira S, Sack DA, Rashid M, Saif-Ur-Rahman KM, Mahmud T, Rahman Z et al: (2016) Randomized controlled trial of hospital-based hygiene and water treatment intervention (CHoB17) to reduce cholera, EID, 22 (2): 233-241.

Patient algorithm at community level



Patient algorithm at a centre with the capacity to manage IV rehydration

