

Death and debt



Water-related diseases cost Adana Haruna, a 30 year old mother of six from Birnin Gaye in Nigeria, dearly. As well as losing a son, her family was plunged into debt by medical bills, as she explained:

“Before the well was installed I had to go to the river for water. Life here was difficult. We got sick often, especially my children. I lost a boy from fever. Cholera was common. Virtually every month one of my children would get sick. I would have to spend a day taking them to the clinic 14 kilometres away. I was spending 1000 naira [c.£4] a month on medicine. It was very expensive and difficult to find the money, so I would have to take a loan or buy on credit and it would be a month before I could pay it back. By then another child was sick. We were always in debt from illnesses.”

Blinded by trachoma



Nyaama, 56, from the village of Aurigo in the Upper East Region of Ghana was blinded by trachoma more than 30 years ago. She recounted:

“Where I grew up had clean water and I was fine, but when I came here and used the dirty water my problems started. My sight went slowly – for a while I could see in the afternoon but not at night, but now I see nothing. If I hadn’t become blind I could have worked like the others who aren’t blind and earned money. Now when I go to fetch water a child has to lead me there. Other people get hernias in their stomachs or diarrhoea because of the water. The most important thing we need in this village is water.”

Stay healthy, build a latrine!



Mohammed Monsur Rahman from Mochmoil in Bangladesh described how WaterAid’s local partner VERC used the Community-led total sanitation approach to teach everyone in his village about how diarrhoeal diseases are spread, and convinced them all to build latrines:

“[VERC] asked me where we defecated. I said in the bamboo, in the bushes and in the paddy fields. They asked me if I knew that we ate those faeces; if it rains it washes faeces into the pond, where you bathe and wash your dishes. You then use the dishes to serve food from, so you are eating your own faeces. I felt disgust inside. VERC were so convincing with their logic we started believing it was true: faeces caused diarrhoea. I started digging my latrine that very day.”

# Diseases related to water and sanitation



In the developing world nearly 900 million people do not have access to safe water and 2.5 billion people live without adequate sanitation. The lack of these basic services, along with poor hygiene, causes the spread of several different groups of diseases, which claim the lives of thousands of young children every day, keep many more children out of school and prevent adults from working.

This information sheet outlines the most prevalent of these diseases. It explains what they are, how they are spread and how WaterAid’s water, hygiene and sanitation programmes can help to reduce and prevent them.



WaterAid transforms lives by improving access to safe water, hygiene and sanitation in the world’s poorest communities.



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WaterAid/Jon Spaul

Unsafe water sources can harbour deadly pathogens.

## Diarrhoeal diseases

There are approximately four billion cases of diarrhoea each year. This results in 1.6 million child deaths, of which 88% (1.4 million) are linked to unsafe water, sanitation and hygiene. Diarrhoea is a common symptom of gastrointestinal infections, which are spread via faecal-oral transmission. This happens when pathogenic micro-organisms found in human waste, such as viruses, bacteria and protozoa, are spread through contaminated water or food, or by flies or directly through human contact. Diarrhoea causes the rapid depletion of water and sodium in the body, which can cause death, especially in vulnerable people such as malnourished children.

The most prevalent viral cause of severe diarrhoea and vomiting amongst children is **rotavirus**, a highly infectious disease, which kills over 500,000 children a year.

Diarrhoeal diseases caused by bacteria include **bacillary dysentery**, which is the major cause of bloody diarrhoea, infecting 140 million people a year; **typhoid fever**, caused by Salmonella, which affects 17 million people worldwide every year, with approximately 600,000 deaths; and cholera, which can cause large epidemics killing the young, the weak and the old.

**Giardia** is a protozoan diarrhoeal infection that normally produces a bowel infection. Amongst vulnerable people in developing countries, it can become chronic, suppressing adequate calorie intake and leading to weight loss, and in some cases death.

WaterAid's programmes promote good hygiene, such as regular hand-washing, alongside improving access to safe water and sanitation. Together these three interventions are effective

in reducing diarrhoeal disease. The incidence of diarrhoea can be reduced by 45% with hand-washing with soap, by 36% with the safe disposal of excreta and by 17% with use of a safe water supply.

## Pneumonia

Pneumonia is an acute respiratory infection that causes 1.8 million child deaths every year. One of the major transmission routes is via droplets which can be transmitted by dirty hands or surfaces. Hand-washing with soap is an effective intervention to prevent the transmission of pneumonia. A systematic review of the available evidence found that hand-washing with soap reduced the incidence of pneumonia by an average of 23%. The only study conducted in a developing country found the reduction to be 50%.

## Malnutrition

Malnutrition causes about a third of all deaths of children under the age of five worldwide. This is because underweight children are weakened and therefore more vulnerable to almost all



WaterAid/Marco Betti

A mural at a school in Nepal reminds children to wash their hands.



WaterAid/Jon Spaul

Ndasiona, three, from Malawi gets treated with ointment for scabies.

infectious diseases. An estimated 50% of malnutrition is associated with repeated diarrhoea or intestinal nematode infections (worms) caused by poor hygiene and unsafe water and sanitation.

## Neglected Tropical Diseases

This group of diseases affects over one billion people. They do not generally kill, but cause significant pain or disability and prevent people from working or going to school. Many are strongly linked to unsafe water and sanitation and poor hygiene. The most serious ones are described below.

**Trachoma** is the world's leading cause of preventable blindness, and is caused by flies, fingers and clothing coming into contact with infected eyes. Eight million people currently live with advanced trachoma. Trachoma can be prevented through regular hand and face-washing

with clean water; improving sanitation, which prevents flies from breeding; and keeping clothes and bedding clean.

### Intestinal nematode infections

including ascariasis, trichuriasis and hookworm affect one third of the world's population. They are transmitted through soil contaminated with faeces, typically when people walk barefoot in latrines. They result in stunted growth; impaired learning and cognitive development in children, loss of blood and anaemia. They can be prevented by the use of sanitary latrines and wearing shoes.

**Bilharzia**, also known as schistosomiasis, is a disease caused by a small flat parasitic worm hosted by aquatic snails. It is transmitted through contact with water contaminated by the excreta of infected people. Over 200 million people worldwide are infected and the disease causes

20,000 deaths a year. It can cause fever, diarrhoea, liver failure, and even death. It can be prevented through the use of latrines, which stop the eggs getting into water sources; drinking and bathing in safe water; and snail eradication programmes.

**Scabies** is caused by the scabies mite, which infests the surface layer of the skin. The mite can spread from one person to another through personal contact. Scabies causes itchy sores and lesions, which can lead to other infections when scratched. Scabies can be prevented by washing regularly with soap and keeping clothes, bedclothes and houses clean.

## Factfile:

- **1.4 million children die** every year from diarrhoea caused by unclean water and poor sanitation – this equates to **4,000 child deaths a day or one child every 20 seconds** (WHO)
- Children in poor environments often carry **1,000 parasitic worms in their bodies** at a time (UNICEF)
- Worm infections transmitted through water and poor sanitation hinder the learning potential of **150 million children** (UNDP)
- In developing countries in Sub-Saharan Africa health spending and productivity losses linked to water and sanitation amount to **US \$28 billion annually**, dwarfing what the region receives in aid (UNDP)