



# THE IMPORTANCE AND LIFE CYCLE IMPACT OF WASH\* FOR MATERNAL, NEWBORN, AND CHILD HEALTH



**1.8 billion** people drink fecally contaminated water [1], which causes diarrheal disease.

**Diarrhea kills 842,000** people yearly, including **1,000 children under 5 each day.** [2]

**50% of malnutrition** in the world is caused by WASH-related diseases such as diarrhoea and intestinal worms. **25% of stunting** can be attributed to 5 or more episodes of diarrhoea before age 2. [3]

Globally, WASH has a significant impact on the health of pregnant women, newborns and children



## PREGNANCY

DEATH  
MISCARRIAGE  
MALABSORPTION  
ANEMIA

Approximately 10% of maternal deaths in developing countries during non-epidemic conditions may be due to Hepatitis E. [5]

In one study, toxoplasmosis infection increased the rate of miscarriage by more than six times. [6]

Persistent Giardia infection can lead to malabsorption in pregnant women. [7]

Hookworm infections increase the prevalence of anemia in pregnant women. [8] In a recent study Ethiopian study, women infected with hookworm were more than 5 times more likely to be anemic, once other risk factors had been taken into account. [9]

**Basic training in WASH helps health workers** make sound decisions, promote solutions **appropriate to the local context** and **improve the health of mothers and children** in their care. Similarly, if WASH practitioners and decision makers know what the primary threats are to maternal and child health in a particular area, they can **better tailor interventions to protect health.**

Health and WASH practitioners play an important role:

- increasing awareness
- educating on solutions
- motivating action, and
- supporting sustained use and practices



In four studies from four different countries, an average of 30% of fetuses died when their mother was infected with cholera. [10]

In one study, the risk of premature birth was more than three times greater for pregnant women with toxoplasmosis. [11]

Pregnant women with toxoplasmosis have a higher risk of fetal abnormality. In one study, the risk of fetal abnormality was six times higher for pregnant women infected with Toxoplasma than women who were not infected. [11] Fetal abnormalities include severe eye infections, mental disability, and seizures.

## FETUSES

STILLBIRTH OR MISCARRIAGE  
PREMATURE BIRTH  
FETAL ABNORMALITY



### Examples of simple, affordable steps:

- **Water** Use the safest source of water available, treat it (e.g. boiling, using locally available filters, chlorine), and store it safely to prevent recontamination
- **Hygiene** Wash hands at critical times (after coming into contact with feces and before preparing or eating food)
- **Environmental sanitation** Wear shoes to prevent the transmission of some parasites
- **Sanitation** Use and maintain a latrine

WASH-related diseases are preventable, and there are **low-cost solutions** that people can undertake themselves



## NEWBORNS

LOW BIRTH WEIGHT  
DEATH  
SEPSIS

Pregnant women with schistosomiasis have a 45% increased chance of having a low birth weight baby. [12]

In one study, nearly one third of newborns born to women with Hepatitis E died. [13]

Newborns born to women who had been exposed to arsenic during their pregnancies had an 80% greater risk of dying in their first 30 days. [14]

In one study in Bangladesh, 11% of children less than one year old infected with typhoid fever died. [15]

15% of newborn deaths are due to sepsis. [16] Sepsis is linked to unhygienic conditions at birth. [17]

A study in Nepal found that when the person delivering a baby had washed their hands, **the baby was 25% less likely to die.** When both the person delivering the baby and the mother **washed their hands**, the baby was **56% less likely to die** [4]

Access to improved water sources within the community can decrease maternal mortality by decreasing the risk of intestinal worms and thus anemia and diarrheal diseases, which lead to nutritional deficiencies and hepatitis.

Simple actions (in the home and by health practitioners) make a difference



Diarrheal disease is the 2<sup>nd</sup> leading cause of death for children ages 1 month to 5 years. That is more than AIDS, malaria, and measles combined. [18]

In children, Rotavirus causes an estimated 40% of hospital admissions for diarrhea. [19]

Repeated and persistent intestinal infections (with or without diarrhea) cause intestinal damage. This results in reduced nutrient absorption and malnutrition. Once infected and undernourished, the body is more vulnerable to further infections, continuing the cycle. Severe infection causes greater health impacts, in both the short and long-term. Overall, the long-term impact on children is poor growth (stunting) and cognitive development. [20]

Malnourished children with Giardia commonly experience persistent diarrhea leading to stunting. [21]

Children with schistosomiasis have a 40% higher rate of anemia than children who do not have the disease. [22]

Some studies have found that persistent diarrhea can significantly increase the risk and severity of pneumonia infections in young children, especially if linked with malnutrition. [23]; [24] Pneumonia is the leading cause of death for children between the ages of 1 month and 5 years.

## CHILDREN UNDER 5

DEATH  
ANEMIA  
DIARRHEA  
MALNUTRITION  
STUNTING  
DEVELOPMENTAL IMPACTS



**MNCH TRAINER COLLECTION**  
Reproductive, Maternal,  
Newborn and Child Health Resources  
[cawst.org/MNCHCollection](http://cawst.org/MNCHCollection)

**HWTS KNOWLEDGE BASE**  
Household Water Treatment and Safe Storage  
[hwts.info](http://hwts.info)

[1] to [24] References at [cawst.org/WASHandMNCH](http://cawst.org/WASHandMNCH)



\* WASH



"Creating equitable and sustainable access to safe water and improved sanitation and hygiene can dramatically benefit reproductive, maternal, neonatal and child health."

The Partnership for Maternal, Newborn and Child Health. [3]

