

## Zinc treatment for diarrhea

### BACKGROUND

Zinc is an important micronutrient for the overall health and development of infants and young children. But among children in the poorest countries, zinc deficiency is widespread and can result in higher rates of infectious diseases, including diarrhea.<sup>1</sup> During diarrheal episodes, zinc is further depleted. Replacing this critical nutrient is an important way to help children recover from diarrhea and stay healthy.

Studies suggest that providing children with a 10- to 14-day course of zinc treatment can reduce the duration and severity of diarrheal episodes and may also prevent future episodes for up to three months.<sup>2</sup> Zinc treatment also can reduce the duration of acute diarrhea by 25 percent<sup>3</sup> and could prevent one in four diarrhea deaths.<sup>4</sup> Preventive zinc supplementation has also been shown to reduce the incidence of diarrhea.<sup>5</sup>

### SUPPORT FOR ZINC TO TREAT DIARRHEA

In 2004, the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) issued a joint statement regarding the clinical management of acute diarrhea. This statement recommended the use of zinc treatment, as well as oral rehydration solution (ORS), as a two-pronged approach to treatment of acute diarrhea in children.<sup>6</sup>

WHO and UNICEF specifically recommend daily 20 mg zinc supplements for 10 days for children with acute diarrhea and 10 mg per day for infants under six months old to curtail the severity of the episode and prevent further occurrences in the ensuing two to three months. Zinc can be administered to young children either as syrup or dispersible tablets, which dissolve easily in a tablespoon of clean water or breast milk.

Although its positive impact on diarrhea is well known, zinc is still largely unavailable in most developing countries. Zinc manufacture requires only simple technology and inexpensive ingredients, and it can be produced in both syrup and tablet form, yet



*Vietnam is a pioneer in setting policy to make zinc broadly accessible. Dr. Le Quang Hung, deputy director of the Department of Health in Vietnam's Binh Dinh province, demonstrates the administration of a zinc tablet dissolved in water.*

supply remains limited. Additional manufacturers are being identified in the developing world to increase production and distribution while keeping costs low to ensure the children who need zinc treatment the most are able to receive it.

### SETTING SUSTAINABLE POLICIES

Importantly, policymakers must also set national guidelines to ensure zinc is easily accessible and to promote its use. Countries can increase awareness and availability of zinc by listing it among essential drugs, for example, to allow for free public sector availability and coverage by medical insurers. National distribution plans and long-term strategies further ensure broad access and sustainable supply. Updated clinical guidelines and public promotions that

incorporate zinc among diarrhea prevention and treatment messages help to educate health workers and families alike.

## INTEGRATING INTERVENTIONS

A comprehensive strategy that encompasses both established interventions like breastfeeding and hygiene, as well as newer tools including zinc treatment, low-osmolarity oral rehydration solution, and rotavirus vaccines, can be a highly effective way to reduce childhood diarrheal disease in developing countries. Increasing the use of zinc treatment and educating policymakers, health workers, parents, and other key stakeholders about this package of new and proven interventions can achieve a remarkable, sustainable impact on childhood mortality.

For additional information about zinc and other diarrheal disease control interventions, please visit PATH's diarrheal disease advocacy website at [www.defeatDD.org](http://www.defeatDD.org).

Photo: PATH/Deborah Kidd

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<sup>1</sup> UNICEF/WHO. *Diarrhoea: Why Children Are Dying and What Can Be Done*. New York:Unicef; 2009.

<sup>2</sup> Series on Maternal and Child Undernutrition. *The Lancet*. 2008.

<sup>3</sup> Bhutta et al. Therapeutic effects of oral zinc in acute and persistent diarrhea in children in developing countries: pooled analysis of randomized controlled trials. *American Journal of Clinical Nutrition*. 2000;72(6):1516-1522.

<sup>4</sup> Fischer Walker CL, Black RE. Zinc for the treatment of diarrhoea: effect on diarrhoea morbidity, mortality and incidence of future episodes. *International Journal of Epidemiology*. 2010;39(suppl1):i63-i69.

<sup>5</sup> UNICEF. *Pneumonia and diarrhoea: Tackling the Deadliest Diseases for the World's Poorest Children*. New York:UNICEF; 2012.

<sup>6</sup> WHO/UNICEF. *Clinical Management of Acute Diarrhoeal Disease*. New York: UNICEF and WHO; 2004.



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