



## wH2O: The Journal of Gender and Water

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Volume 3 | Issue 1

Article 2

10-10-2017

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**Keywords**

newborn, maternal, water, sanitation

# Mum's the Word? Speaking out for Water, Sanitation, and Hygiene in Maternal, Newborn, and Child Health Strategies

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Over the past several decades, efforts to reduce water-related diseases through the provision of safe drinking water, adequate sanitation, and hygiene promotion (WASH) have decreased global morbidity and mortality. Yet each year 2.4 million people — mainly women and children — die from diseases easily prevented by access to safe WASH<sup>1</sup>. Inadequate access to WASH causes at least 20% — 1.5 million — of all child deaths each year<sup>2</sup>. Under-five child mortality is nearly seven times higher in countries with low sanitation coverage than in countries with the best access to sanitation<sup>3</sup>.

The constant failure to satisfy basic WASH needs leads to continual outbreaks of infectious diseases — particularly diarrhea. Diarrhea causes under-nutrition, which can reduce resistance to subsequent infections<sup>4</sup>. Emerging research suggests that the combination of diarrhea, under-nutrition, and enteropathies form a toxic combination of illness. The interacting effects of infection and enteropathy can propagate severe acute malnutrition<sup>5</sup>. Early childhood diarrhea may have life-long ramifications due to negative impacts on cognitive development, hindering school readiness and performance<sup>6</sup>. Incidence of diseases such as pneumonia, the second largest killer of children under the age of five<sup>7</sup>, and neglected tropical diseases (NTDs) such as helminthes, schistosomiasis, and trachoma can also be reduced or eliminated through effective WASH interventions.

Safe drinking water, clean sanitation facilities, and appropriate hygiene have an overwhelmingly beneficial impact on child and maternal health. Research shows that the presence of water and sanitation infrastructure lowers the odds of childhood diarrhea by 7-17%, and reduces the mortality risk for children under the age of five by 5-20%<sup>8</sup>. Experts estimate that up to one-third of the world's diarrheal disease burden can be prevented through WASH<sup>9</sup>. Hygiene alone plays an essential role in disease and mortality reduction. A recent study found that hand-washing practices by mothers and birth attendants helped reduce neonatal mortality by 41%<sup>10</sup>. A randomized controlled trial of hand-washing in Pakistan reduced pneumonia-related infections and diarrheal incidence in children by 50% and 53%, respectively<sup>11</sup>. The linkages between WASH and maternal, newborn and child health (MNCH) are clear. The following recommendations provide tangible ways to strengthen WASH and MNCH programmatic integration.

1. Integrate WASH policies into regional and national MNCH strategies. At the national level, health ministries can advocate across agencies to implement policies to require and monitor for functional water and sanitation access in

health facilities. The World Health Organization's model Partnership for Newborn & Maternal Health recognizes the essential role of WASH in all related programs.

2. Combine primary health care initiatives such as vaccine delivery programs with WASH promotion. MNCH health workers can integrate hygiene education into patient outreach efforts, including patient visits for WASH-related diseases, and place education materials in strategic locations such as the outpatient department (OPD) of hospitals and clinics. Health administrators can facilitate innovative public-private partnerships whereby health workers write prescriptions for water filters to prevent reoccurrence of WASH-related diseases. The successes in disease reductions can be boosted if new mothers are actively involved in receiving hygiene messages.
3. Include WASH-related indicators in monitoring and evaluation. Tracking changes in indicators increases the opportunity to target appropriate, effective, and integrated programs in the design phase. Implementation of policy initiatives, program linkages, and monitoring and evaluation across all levels of MNCH programs requires leadership and commitment from the top, and engagement from both MNCH and WASH parties.

In conclusion, WASH interventions must be leveraged to reduce MNCH-related mortality and morbidity. As shown here, straightforward policy and education options are available to integrate WASH into MNCH programs and initiatives. The WASH and MNCH communities can no longer stay mum and must take advantage of the 2.4 million opportunities to improve global health.

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<sup>3</sup> Cheng, J.J. et al., 2012. An ecological quantification of the relationships between water, sanitation and infant, child, and maternal mortality. *Environmental Health*, 11 (4).

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