



Issue 117 September 20, 2013 | Focus on WASH and Nutrition

This issue contains some of the most recent studies and resources that discuss the integration of WASH (water, sanitation, and hygiene) with nutrition. Included are a recent webinar on environmental enteropathy, an online tutorial about nutrition programming that has a WASH component, and studies on child height and open defecation. Another resource is the WASHplus online library of WASH and nutrition, which is still under development but contains the resources listed below as well as other recent studies and reports.

EVENTS

- **USAID Webinar on Environmental Enteropathy (EE) and WASH**, Sept 11, 2013.

[\(Link\)](#)

This webinar discussed the latest EE findings, including how WASH can be integrated into USAID nutrition and other programs. The webinar was sponsored by the USAID Community of Practice: The Nexus between WASH, Nutrition and Food Security with support from the USAID-funded TOPS program and the WASHplus project. The presenters were Laura Smith, Cornell University and Helen Petach from USAID; Tom Davis of the TOPS Program/Food for the Hungry moderated the program.

TUTORIALS

- **Programming for Nutrition Outcomes**. London School of Hygiene & Tropical Medicine/DFID. [\(Link\)](#)

Programming for Nutrition Outcomes is a free open-access educational resource, supported by the UK's Department for International Development. This Master's-level module has been designed to explore the complicated problem of undernutrition, highlight its multisectoral causes, and identify potential programmatic solutions.

REPORTS (Alphabetical by Title)

- **Clean, Fed & Nurtured: Joining Forces to Promote Child Growth and Development: A Report on a Consultative Meeting**, 2013. [\(Link, pdf\)](#)

This report presents the results of a consultative meeting held on May 2–3, 2013, at FHI 360 in Washington, DC, on the topic Clean, Fed & Nurtured: Joining Forces to Promote Child Growth and Development. Forty-eight practitioners, researchers, and academicians attended the meeting to begin creating linkages across their disciplines of WASH, including hand washing; nutrition, infant and young child feeding in particular; and early childhood development.

- **Growing Taller Among Toilets: Evidence from Changes in Sanitation and Child Height in Cambodia, 2005–2010.** 2013. P Kov, et al. Rice Institute. ([Link, pdf](#))

Child height is an important indicator of human capital and human development, in large part because early life health and net nutrition shape both height and adult economic productivity and health. Recent medical evidence suggests that exposure to poor sanitation and specifically to widespread open defecation can pose a critical threat to child growth. Cambodia saw a significant decline in open defecation and increase in child height between its 2005 and 2010 Demographic and Health Surveys. Results suggest that reduction in children's exposure to open defecation statistically accounted for much or all of the increase in average child height during this period.
- **How Much International Variation in Child Height Can Sanitation Explain?** 2013. D Spears, World Bank. ([Full text, pdf](#) | [Summary, pdf](#))

Open defecation can statistically account for the India-Africa child height gap. If the low sanitation coverage in Indian data is statistically adjusted to match the greater sanitation coverage in Africa, the average height of Indian children “increases” by at least as much as the India-Africa gap. Sanitation is an especially urgent threat in India because high population density increases exposure to open defecation.
- **Integrating Water, Sanitation, and Hygiene into Nutrition Programming,** 2013. WASHplus. ([Link, pdf](#))

Diarrhea, pneumonia, and birth complications are the top three killers of children under age 5 worldwide. Diarrhea is also a leading cause of undernutrition in this age group, and one-third to one-half of all child mortality cases are linked to undernutrition. If mothers and other caregivers used basic hygiene practices and had better access to safe water and adequate sanitation this could greatly reduce under-5 deaths and improve child nutrition.
- **Village Sanitation and Children’s Human Capital: Evidence from a Randomized Experiment by the Maharashtra Government,** 2013. J Hammer, World Bank. ([Link, pdf](#))

Open defecation is exceptionally widespread in India, a country with puzzlingly high rates of child stunting. This paper reports a randomized controlled trial of a village-level sanitation program implemented in one district by the government of Maharashtra. The program caused a large but plausible average increase in child height, which is an important marker of human capital. The results demonstrate sanitation externalities: an effect even on children in households that did not adopt latrines.

JOURNAL ARTICLES (Alphabetical by Title)

- **Cluster-Randomised Controlled Trials of Individual and Combined Water, Sanitation, Hygiene and Nutritional Interventions in Rural Bangladesh and Kenya: The WASH Benefits Study Design and Rationale.** *BMJ Open* 2013. B Arnold. ([Full text](#))

Enteric infections are common during the first years of life in low-income countries and contribute to growth faltering and long-term impairment of health and development. Water quality, sanitation, hand washing, and nutritional interventions can independently reduce enteric infections and growth faltering. Little evidence directly compares the effects of these individual and combined interventions on diarrhea and growth when delivered to infants and young children. The objective of the WASH

benefits study is to help fill this knowledge gap.

- **Household Environmental Conditions Are Associated with Enteropathy and Impaired Growth in Rural Bangladesh.** *Am Jnl Trp Med Hyg, Apr 2013.* A Lin. ([Abstract](#))

This study assesses the relationship of fecal environmental contamination and environmental enteropathy. It compared markers of environmental enteropathy, parasite burden, and growth in 119 Bangladeshi children across rural Bangladesh living in different levels of household environmental cleanliness defined by objective indicators of water quality and sanitary and hand washing infrastructure. Study results are consistent with the hypothesis that environmental contamination causes growth faltering mediated through environmental enteropathy.

- **Hygiene Intervention Reduces Contamination of Weaning Food in Bangladesh.** *Trop Med Int Health, March 2013.* M Islam. ([Full text, pdf](#))

A hygiene intervention following the Hazard Analysis Critical Control Point approach reduced weaning food contamination significantly. Awareness-building among mothers about weaning food hygiene could be an important intervention for preventing weaning food-related diarrhea in Bangladesh.

- **Interventions to Improve Water Quality and Supply, Sanitation and Hygiene Practices, and Their Effects on the Nutritional Status of Children.** *Cochrane Database Syst Rev, Aug 2013.* A Dangour. ([Abstract](#))

The available evidence from meta-analysis of data from cluster-randomized controlled trials with an intervention period of 9–12 months suggests a small benefit of WASH interventions (specifically solar disinfection of water, provision of soap, and improvement of water quality) on length growth in children under 5 years of age. The duration of the intervention studies was relatively short and none of the included studies is of high methodological quality. Very few studies provided information on intervention adherence, attrition, and costs. Several ongoing trials in low-income country settings may provide robust evidence to inform these findings.

- **Open Defecation and Childhood Stunting in India: An Ecological Analysis of New Data from 112 Districts.** *PLoS ONE, 8(9) 2013.* D Spears. ([Full text](#))

In India over half of the population defecates in the open; the prevalence of stunting remains very high. Recently published data on levels of stunting in 112 districts of India provide an opportunity to explore the relationship between levels of open defecation and stunting within this population. Findings from this study use the most recently collected large-scale data from India to add to a growing body of suggestive evidence for an effect of poor sanitation on human growth. New intervention studies, currently underway, may shed more light on this important issue.

LINKS

- Alive & Thrive – ([Link](#))
- Clean, Fed and Nurtured – ([Link](#))
- FANTA Project – ([Link](#))
- Food for the Hungry - ([Link](#))
- Food Security and Nutrition Network - ([Link](#))
- PATH – Maternal and Child Health and Nutrition Program – ([Link](#))
- SHARE Project – ([Link](#))

- Sustainable Sanitation in Africa (SuSanA) Working Group on WASH and Nutrition – [\(Link\)](#)
- USAID Community of Practice – The Nexus between WASH, Nutrition, and Food Security– [\(Link\)](#)
- USAID Strengthening Partnerships, Results, and Innovations in Nutrition Globally Project (SPRING) – [\(Link\)](#)
- UNICEF Nutrition – [\(Link\)](#)
- WASHplus – [\(Link\)](#)
- WASHplus WASH/Nutrition Online Library – [\(Link\)](#)

WASHplus Weeklies will highlight topics such as Urban WASH, Indoor Air Pollution, Innovation, Household Water Treatment and Storage, Hand Washing, Integration, and more. If you would like to feature your organization's materials in upcoming issues, please send them to Dan Campbell, WASHplus Knowledge Resources Specialist, at dacampbell@fhi360.org.



About WASHplus - WASHplus, a five-year project funded through USAID's Bureau for Global Health, supports healthy households and communities by creating and delivering interventions that lead to improvements in access, practice and health outcomes related to water, sanitation, hygiene (WASH) and indoor air pollution (IAP). WASHplus uses at-scale, targeted as well as integrated approaches to reduce diarrheal diseases and acute respiratory infections, the two top killers of children under five years of age globally. For information, visit www.washplus.org or email: contact@washplus.org.