

# Household Water Security and Children's Health Risks

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The provision of safe and reliable water supply is a prerequisite for creation of hygienic and sanitary conditions within the household environment. The reliable access to safe water usually contributes to health enabling through hand washing, food hygiene, laundry and general household cleanliness. On the other hand, contaminated water may transmit diseases, and lack of water may prevent minimum hygiene to protect health.

Nowadays, a large fraction of the World's population around 1.1 billion people - does not have access to improved sources of water. For many others, contamination of water during distribution (whether piped or carried into the household) and during storage within the household presents a significant health risk. Therefore, a secure water supply to each household should be maintained all the time.

Household water security is a relatively new concept that has been introduced to the water sector research. It can be defined as the availability to a household of sufficient water of adequate quality year-round to assure its members survival, health and productivity without compromising the integrity of the environmental resources. Household water security goes beyond the walls of the household, all community members, including the poor, must have the opportunity to achieve water security. Therefore, there is a need for new ways of managing water at the community level in a holistic manner.

Children are the segment of household residents who are most at risk from water contamination. The most important disease transmitted by water is diarrhea, the second biggest child killer in the world, causing 1.3 million child deaths per year. (*WHO, World Health Day, 2003, Healthy Environment for Children*).

The objective of this paper is to address and analyze issues specifically related to children's exposures and health risks as a result of insecure water supply at their living place. The paper identifying the contaminants to which children are particularly sensitive, the likely sources of these contaminants in drinking water, ways that children are exposed to and the potential health impacts

from ingesting those contaminants in water. It emphasizes the need for scientific basis for the unique vulnerability of children to contaminants in general, and water contaminants in particular. It describes the differences between adults and children in physical, biological and social environments, and why children should not be treated as little adults.

The conclusions reached that within the household environment, the way the water stored and conveyed in many developing countries is contributing to increased health risks to children. It was also concluded that most health standards that determine how much and what levels of different contaminants are allowed in drinking water are based on the potential effects on adults. Furthermore, the contaminant levels imposed by the standards are also based on the assumption that the exposure is based on one chemical at a time, while in reality we are exposed to multiple chemicals. Therefore it is recommended that better management of water at the household level should be applied to protect children's health. When setting water standards, children should be at the center of concern. Standards should be set in such a way to minimize the health risks which they might be exposed to as a result of ingesting the chemicals available in drinking water. This implies the need for new risk assessment methodologies to characterize the risk associated with the exposure of children to different contaminants in drinking water and how these exposures disrupt children's normal development into healthy adults.