

## **Arsenic exposure during pregnancy may be linked to drowning in young children, finds new icddr,b study.**

**Dhaka, November 12, 2015** – A new icddr,b study has found a significant association between prenatal arsenic exposure and drowning in children aged between one and five years of age, although the mechanism of the association remains unclear. Scientists from icddr,b along with collaborators from BRAC and McMaster University, Canada undertook the prospective study at icddr,b's rural field site Matlab, in an attempt to identify a possible link between arsenic exposure during pregnancy and an increased risk of mortality among young children.

The scientists analysed mortality data from children born to 11,414 pregnant women during 2002 to 2004, and screened more than 13,000 functional tubewells in the neighbourhood for arsenic contamination. They followed the cohort until they were five years old. The study did not consider some other potential risk factors for drowning, however, including inadequate supervision of children and access to unprotected bodies of water.

Previous studies have shown that arsenic can cross the placenta, and that unborn babies may therefore be exposed to arsenic in the womb. Evidence also shows that arsenic can affect cognitive development and motor function. The researchers say that children who have been exposed to arsenic in the womb could be at an increased risk of drowning due to the effect that it can have on their physical behaviour.

It is estimated that more than 35 million people in Bangladesh are at risk of being exposed to arsenic concentrations that are greater than the national standard and the World Health Organization guidelines. According to a recent Bangladesh Health and Injury Survey, around 50 children die every day and 18,000 children every year due to drowning. Most children who drown are between one and four years old (86.3 per 100,000), which is when they start to walk and are less supervised.

Dr Mahfuzar Rahman, lead author on the study, head of research and evaluation at BRAC and former icddr,b researcher said, "These findings are very important for designing and implementing future drowning prevention projects. The projected outcome may not be achieved if arsenic exposure in drinking water is not mitigated during pregnancy."

Dr Mohammad Yunus, co-author and consultant on the study and former head of icddr,b's Matlab health research centre says, "We already know that arsenic can cause cancer, as well as many other serious health problems. But these findings show another

dimension. We need further epidemiological studies to determine the scale and magnitude of the association between arsenic exposure and drowning.”

The scientists say that, in order to prevent this serious public health threat, there is a pressing need for the mitigation of arsenic exposure in all countries with high concentrations of arsenic in groundwater. The study was recently published in [Global Health Action](#) - an international peer-reviewed Open Access journal.

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**Notes to editors**

***About icddr,b***

*icddr,b is an international public health research institution based in Bangladesh. Established in 1960, icddr,b has been at the forefront of discovering low cost solutions to key health challenges facing people living in poverty and provides robust evidence of their effectiveness at a large scale. Dedicated to saving lives through research and treatment, icddr,b addresses some of the most critical health concerns facing the world today.*