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Knowledge, behaviour and practices (KBP) for arsenic contaminated drinking water in Bhojpur District, Bihar, India

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Water is a fundamental human right, most valuable asset for human survival, economy and public health. The population of India is at a risk of arsenic (As) exposure associated with long-term exposure to the arsenic in groundwater. Almost 176 million people are at risk due to exposure to contaminated water. This study captures and assessed the knowledge, behaviour, and practices of people exposed to As unknowingly in the selected villages in Bihar which are exposed to arsenic contamination. The technique included information accumulation using a stratified questionnaire, an interaction with local block centers, health facilities and discussion with the school staff. The data was analyzed using the Statistical Package for Social Science 20. The study revealed that the level of knowledge about arsenic presence was relatively high (75±.04%), but knowledge on its source and routes was inadequate. The majority of the respondents had no knowledge when it comes severity of the diseases occurring due to arsenic contamination and their prevention (15±.57%). The awareness level about the exposure and duration was found to be low (19±.03%). The attitude and practice on protecting their source of drinking water was also found to be low (25±.45%). Some educated people from the economically higher backgrounds had proper drinking and cleaning facilities, but there was no awareness regarding lowering arsenic exposure. The borehole water quality dug by government for rural schools appeared to be cleaner with respect to arsenic contamination, but the microbial quality is unknown. Moreover, the water supply and community facilities were inadequate in rural areas, with no rainwater harvesting and low sanitation. Some households had toilets whose drainage were going open outside houses, which may contaminate the groundwater source. Moreover, they had broken doors which did not offer privacy. There was no government water supply scheme available in these villages, due to smaller household sizes.

Recent Publications

1. Singh C K, Kumar A and Bindal S (2018) Arsenic contamination in Rapti River Basin, Terai region of India. *Journal of Geochemical Exploration* DOI: 10.1016/j.gexplo.2018.06.010.
2. Bindal S, Tiwari A and H B Bohidar (2009) Kinetics of protein-protein complex coacervation and biphasic release of salbutamol sulfate from coacervate matrix. *Biomacromol* 10(1):184-189.
3. Shubhangi Kumar A, Balha A, Bindal S and Singh C K (2018) A comparative analysis of fluoride contamination in a part of Western India and Indus River Basin. In: Mukherjee A (eds.), *Groundwater of South Asia*. Springer ISBN 978-981-10-3889-1.

Biography

Sonal Bindal is pursuing her PhD from Teri School of Advanced Studies and is interested in building a career in academics. Her thesis focused on studying arsenic contamination at grassroot level and applying geospatial modelling tools to predict for the same for Indo-Gangetic plains. She is also focused to understand the dynamics of socio-economic impacts on the rural population. She worked on other projects in the University based on community participation to implement adaptive strategies for arsenic free drinking water, watershed modelling, water resource management and land use/land change studies using remote sensing and GIS. It is on the basis of this extensive experience that I write a letter of my unequivocal support. She had completed her pre-PhD course work successfully. This program is designed to create a cadre of trained professionals who are equipped to deal with scientific, legal, socio-economic and policy aspects related to environment and resource management.

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