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Seasonal variation in fluoride content of groundwater of Ujjain, India

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In India water quality is deteriorating at a fast rate especially in arid and semiarid regions. The problem becomes more severe during summer season when availability of potable water is reduced tremendously. Rural populations (urban also in some areas) are compelled to use all available resources without taking notice of water quality. At present nearly seventeen Indian states including Rajasthan, A.P., Tamilnadu, Jammu & Kashmir, Himachal Pradesh, Karnataka, Haryana, and Delhi have been reported to have excess of fluoride in drinking water. The study was conducted to workout seasonal variations in fluoride content of groundwater of different areas of Ujjain (MP). Water samples from open well, tube well and hand pump were collected in the pre and post- monsoon seasons of 2010. Physico- chemical analysis was done for pH, Conductivity, TDS, TA, and TH, Calcium hardness, magnesium hardness and fluoride content by employing standard water analysis methods of APHA. Most of the samples showed fluoride values higher than the permissible limit of BIS and WHO in pre-monsoon season. Nearly 50% reduction in fluoride content was noted in samples collected in post monsoon season. Other parameters also showed variations in the pre and post monsoon seasons.

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