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Quality analysis of household drinking water in Mathura city

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Access to an improved drinking water supply is not only a basic need and precondition for a healthy life; it is also a human right. The provision of water, sanitation and good hygiene services is vital for the protection and development of human resources. A study was conducted to assess the physicochemical (colour, taste, odour, Total dissolved solids (TDS) and pH) and microbiological parameter by Standard Plate Count (SPC) and MPN of the household drinking water (tap water and RO water) available in Mathura City. All the samples had unobjectionable odour and agreeable taste and pH values within recommended range of 6.5-8.5. The TDS values of the water samples ranged from 40-980 ppm, of which 40% samples had TDS values more than the recommended BIS limit of 500 ppm. Drinking water with TDS levels greater than 500 ppm is unpalatable to most consumers and less thirst quenching. On microbiological analysis, 40% samples had SPC higher than the BIS recommendations. This indicated that the water was contaminated and might be a potential health hazard. Similar trends were observed on performing the MPN of these samples which revealed that 40% samples had coliforms higher than the limit prescribed by BIS for water used for drinking purpose. None of the RO samples were found to be contaminated. The study revealed that the drinking water available in most households is not fit for drinking directly and require some kind of further treatment or use of RO water purifiers.

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