



Assessment of physico-chemical, microbiological and pesticide content in potable water in metropolitan city of Delhi, India

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ABSTRACT

Water is a precious resource to the earth and is an established source of life. Contaminated water endangers health and impairs the quality of life of people. Water supply sources can be surface water or ground water. Water in its natural form is rarely pure. Due to human negligence, untreated domestic sewage, industrial effluents, agricultural run off's etc. are constantly being poured into our environment which in turn pollute our resources. Consumption of polluted water can prove to be a major threat to the human health. The objective of this study was to determine physico-chemical characteristics, bacterial contamination and pesticides in potable water samples collected from various selected sites of Delhi. Potable water samples were assessed for physico-chemical parameters like: pH, Dissolved Oxygen (DO), Biochemical Oxygen Demand (BOD), Total Dissolved Solids (TDS), Total Hardness, Alkalinity, Fluoride (F⁻), Nitrate (NO₃⁻³) and Sulfate (SO₄⁻²). Water samples were also analyzed for the presence of fecal bacteria namely: Escherichia coli (E.coli), Salmonella, Pseudomonas aeruginosa, Staphylococcus aureus and total coliform bacteria. Pesticides namely: Chlorobenzilate, Hexachloro-benzene, Benzenether, pp-DDT, op-DDT, pp-DDE, pp-DDD, alpha-HCH, Beta-HCH, Lindane, Vinclozolin, Conumaphos, Malathion, Phosalone, Cyfluthrin, Cypermethrin, Deltamethrin, Permethrin, Fenvalerate, Fluvalinate, Cyhalothrin, Carbofuran, Propoxeur, Carbaryl, Cymiazol, Amitraz, Bromprophylate, Chinomethionate were also detected.

Keywords: Physico-chemical parameters, fecal bacteria, total coliform bacteria, pesticides, Delhi etc.
