Effect of Drinking Water Contaminants on Human Health

N. K. Dhurve[1*], T. S. Shriramе[2], A. S. Nipate[1], S. J. Chavan[1], M. B. Muluk[1]

[1]Shri Pundalik Maharj Mahavidyalaya Nandura Rly, Buldana 443404 Maharashtra

[2]Shri Shivaji Science and Arts College Chikhli, Buldana 443201 Maharashtra

Abstract:
Water is essential for life to exist on this planet. Water is required for the synthesis and structuring of cell constituents, also to transport nutrient into cell and body metabolism. Owing to increasing industrialization, urbanization and population the quality of drinking water is affecting greatly. Lots of waste generated from domestic activities, industries and agricultural field gets dumped directly or indirectly into drinking water resources. Almost all fresh water supplies have been affected as a result of this practice. Contaminations in water interrupt the mechanism's spontaneity, resulting in long- and short-term disorders. Peoples who are exposed to this contaminates through their drinking water are at risk for cancer and other diseases. This review article highlighted the presence of different chemical contaminants in water and their impact on health.

Keywords: Water contaminants, drinking water, chemical contaminants, human health

1 Introduction:

Water is amongst the most essential components for all forms of life and is required for the survival of all species on Earth (1). Humans, for example, utilize water to degrade large compounds into little substances and transfer them to other regions of the body as part of the metabolic process.The availability of fresh water, a natural gift, governs a significant portion of the global economy. A sufficient supply of water is required for domestic use, agricultural field and industries (2). Pure water is in short supply and hard to obtain. Due to competing demands of growing people around the world, there is a limited chance of an increase in freshwater supplies. Water pollution is caused by a number of sources, including landfill leachate leakage; various industrial and agricultural effluents as well as anthropogenic activities can contaminate water (3). Natural contaminants, especially inorganic contaminants that come from the geological layers from which the water flows, as well as anthropogenic contamination by microbes and chemicals, are present in all water to variable degrees (4).

Groundwater is less susceptible to pollution than surface waterways in general. Industrial discharges and sewage treatment plants are point sources, which are easier to identify and control; runoff from agricultural land and hard surfaces, such as roadways, is less evident and difficult to control (5). Man-made pollutants can come from a variety of places, some of which are more important than others.As a result of these sources, the pollutant burden can change dramatically over time (6). Scientists have conducted several investigations across the country and they observed presence of chemical contaminants in surface water, ground water and drinking water. Several of these chemicals come from household products including pharmaceutical drugs, pesticides, and personal care product and flame retardants. Even though there are few chemicals present in environment which does not undergoes break down like perfluorinated compounds, most of the chemical compounds found in water bodies can undergoes disintegration which are harmful. Considering the massive number of chemicals discharged into the environment through outflows or industrial/ domestic/ commercial use, it's not astonishing that water tests have revealed numerous combinations of chemical compounds. Any of these contaminants may not be harmful to human health, especially at the low levels (1 ug/L or less) that are commonly encountered (7). Nevertheless, there is still a degree of ambiguity about the toxic potential of mixes of these contaminants, which necessitates more investigation, especially in terms of animal effects. Even trace quantities of some of these, for example, may have negative reproductive impacts on aquatic organisms (8). The majority of