Health and Water

A PUBLIC AWARENESS PROGRAM

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WE (WATER ERA)

| News & Articles | Date: March 2021 |

(National And International News With Reference And Evidence)

5. Drinking Water Quality Status and Contamination in Pakistan

Resources: **(BioMed Research International)**
https://www.hindawi.com/journals/bmri/2017/7908183/

Due to technological developments, drinking water may contain various impurities, which are of physical, biological, and chemical nature. **The most dangerous impurity is of biological nature, which causes human health problems or cause death.**

In most of the cities of Pakistan, the elementary source of provision is ground water supply, which contains various pathogens including **many viral, bacterial, and protozoan agents causing 2.5 million deaths from endemic diarrheal disease each year.**

Improper and poor water supply for drinking purpose has a great health risk to the public. The release of toxic chemicals from urban communities and industries without any treatment into water bodies deteriorates water quality and also causes adverse effects to human beings.

In Pakistan, water and sanitation agency has been focusing on water quantity due to increasing requirements rather than water quality. **All this is due to the lack of awareness, treatment technology, equipment, trained personnel, and quality monitoring.**

Human health is adversely affected by various agents like pathogens, bacteria, various minerals, and organic substances that are present in unsafe drinking water.

A significant proportion of population in developing countries is **suffering from health-related issues due to unsafe drinking water and microbial contamination.** In the developing countries, **about five million children deaths** occurred due to the contaminated drinking water supply. This situation is intensifying day by day due to the fast population growth which ultimately results in poor management of water quality.

It is estimated that, in Pakistan, 30% of all diseases and 40% of all deaths are due to poor water quality.

Diarrhea, a waterborne disease, is reported as the leading cause of death in infants and children in Pakistan while **every fifth citizen suffers from illness and disease caused by the polluted water.**

Water Quality:

The quality of drinking water is determined by the quality of water source, the level and treatment efficiency, and condition of water supply lines. In Pakistan, in most areas where the fresh water source is not available and ground water is saline, people have no choice but to use this type of water for drinking.

The contamination of water due to microbes is the most blistering issue. The drinking water distribution in urban areas does not meet the WHO standards. The main reason of microbial contamination is due to the intermixing of sewer lines with drinking water supply lines.

Water Quality Status in Twin Cities:- Islamabad & Rawalpindi:

To evaluate the drinking water quality of Islamabad, drinking water samples had been collected from schools and colleges.

Analysis showed that 20 samples out of 30 were contaminated with fecal microbes and not fit for drinking purposes.

Microbial contamination is the most common and widespread risk associated with drinking water.

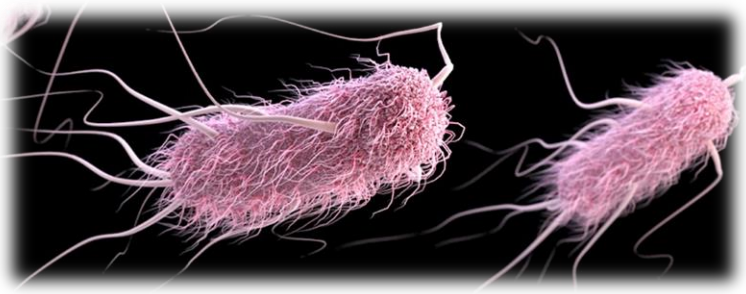
About 130 samples were collected from nine areas to analyze microbial contamination in drinking water of Rawalpindi and Islamabad.

56.1% of water samples were found to have microbial contamination.

Microbial contamination for **fecal coliforms, E. coli, and total coliforms** was 23.8%, 20%, and 12.3%, respectively.

The WASA supply lines were highly contaminated followed by capital development authority lines and boring water and less contamination was found in tanker water, while **thirty two samples were collected from different water filtration plants throughout Islamabad city and it was found that more than half of the samples were contaminated with total coliform, fecal coliform, and E. coli.**

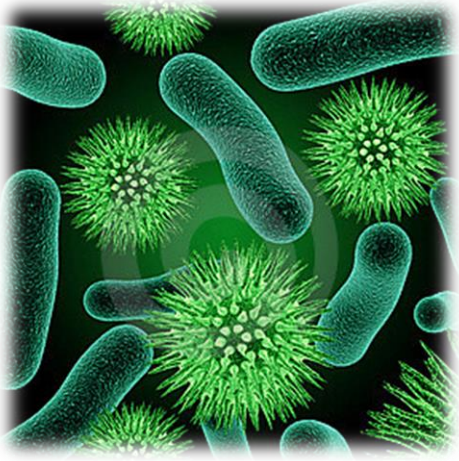
Geographic Information System and Water Quality Index study of



bore wells and open wells of Rawalpindi and Islamabad revealed that more than half of samples were poor in quality for drinking due to overexploitation of groundwater resource, agricultural impact, and direct release of contaminants.

Drinking water contamination with E. coli and fecal coliforms is clear indication of human and animal waste intervention.

Water quality of Islamabad was analyzed. Results obtained showed that about 77% of the total 271 samples collected were biologically contaminated and unfit for human use.



Water reservoirs were highly contaminated with total coliform and fecal coliforms bacteria, so proper water treatment for drinking and domestic use is required.