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EFFECTS OF WATER POLLUTION ON HUMAN HEALTH

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ABSTRACT

The risks of your health being negatively impacted by polluted drinking water in a developed country is small in comparison with developing countries. However, it is possible to become ill from contaminated water. When you are out hiking, you can acquire giardiasis that can lead to the presentation of acute symptoms like vomiting and intense nausea. This infection is caused by drinking water that has been fouled by animal wastes in untreated waterways. In anthropogenic environments like cities and towns, the potential toxins are far more numerous.

Keywords : Disease, human health, water pollution .

I. INTRODUCTION

It is a well-known fact that clean water is absolutely essential for healthy living. Adequate supply of fresh and clean drinking water is a basic need for all human beings on the earth, yet it has been observed that millions of people worldwide are deprived of this. Freshwater resources all over the world are threatened not only by over exploitation and poor management but also by ecological degradation. The main source of freshwater pollution can be attributed to discharge of untreated waste, dumping of industrial effluent, and run-off from agricultural fields. Industrial growth, urbanization and the increasing use of synthetic organic substances have serious and adverse impacts on freshwater bodies. It is a generally accepted fact that the developed countries suffer from problems of chemical discharge into the water sources mainly ground water, while developing countries face problems of agricultural run-off in water sources. Polluted water like chemicals in drinking_water causes problem to health and leads to water-borne diseases which can be prevented by taking measures can be taken even at the household level. Many areas of groundwater and surface water are now contaminated with heavy metals, POPs (persistent organic pollutants), and nutrients that have an adverse affect on health. Water-borne diseases and water-caused health problems are mostly due to inadequate and incompetent management of water resources. Safe water for all can only be assured when access, sustainability, and equity can be guaranteed. Access can be defined as the number of people who are guaranteed safe drinking water and sufficient quantities of it. There has to be an effort to sustain it, and there has to be a fair and equal distribution of water to all segments of the society. Urban areas generally have a higher coverage of safe water than the rural areas. Even within an area there is variation: areas that can pay for the services have access to safe water whereas areas that cannot pay for the services have to make do with water from hand pumps and other sources.

In the urban areas water gets contaminated in many different ways, some of the most common reasons being leaky water pipe joints in areas where the water pipe and sewage line pass close together. Sometimes the water gets polluted at source due to various reasons and mainly due to inflow of sewage into the source.

II.RESULT AND DISCUSSION

1. Domestic and hospital sewage contain many undesirable pathogenic microorganisms, and its disposal into a water without proper treatment may cause outbreak of serious diseases, such as, amoebiasis dysentery, typhoid, jaundice, cholera, etc.

2. Metals like **lead, zinc, arsenic, copper, mercury** and **cadmium** in industrial waste waters adversely affect humans and other animals.

3. Arsenic pollution of ground water has been reported from West Bengal, Orissa, Bihar, Western U.P. Consumption of such arsenic polluted water leads to accumulation of arsenic in the body parts like blood, nails and hairs causing skin lesions, rough skin, dry and thickening of skin and ultimately **skin cancer**.

4. Mercury compounds in waste water are converted by bacterial action into extremely toxic **methyl mercury**, which can cause numbness of limbs, lips and tongue, deafness, blurring of vision and mental derangement.

5. Pollution of water bodies by mercury causes **Minamata** (neurological syndrome) disease in humans and **dropsy** in fishes.

6. Lead causes **lead poisoning** (Lead interferes with a variety of body processes and is toxic to many organs and tissues). The compounds of lead cause anaemia, headache, loss of muscle power and bluish line around the gum.

7. Cadmium poisoning causes cancer of lungs and liverand **Itai – Itai** disease (a painful disease of bones and joints, causes softening of the bones and kidney failure) etc.

8. Water contaminated with cadmium can cause itai itai disease also called ouch-ouch disease (a painful disease of bones and joints) and cancer of lungs and liver.

Water Borne Diseases:

Disease	Causative organism	Mode of spread	Symptoms
Bacterial diseases	Salmonella typhi	Contaminated food, water, milk, unwash-ed raw vegetables and flies.	Continuous fever which increases day by day Temperature higher in evening than morning, body ache, headache and constipation. Haemorrhage from an ulceration in small intestine.
Typhoid			
Cholera	Vibrio cholera	Water or food con-taminated by bacteria from stools of cholera patient.	Painless diarrhoea , vomiting, 30-40 stools per day which soon becomes typically watery and colourless with flakes of mucous floating in them.

Bacterial Diaorhoea	Shigella spp.	Contaminated food, water and by direct personal contact.	Diarrhoea, with blood and dysentry mucous in the stools along with severe gripping pain in the abdomen. Stools not too frequent (4-10 per day), faecal matter scanty. Patient looks ill.
Leptospirosis	Leptospira	Rodents primary hosts-carry organisms in kidneys. Infection by wading or swimming in water contaminated with rodent urine.	Fever, pain in legs, nausea, vomiting are common, congestion of the conjunctival blood vessels around corneas of the eyes.
Viral diseases	Hepatitis virus	Food and water contaminated with virus in stools.	Loss of appetite, nausea, vomiting and diarrhoea, accompanied with fever. Urine dark coloured. Eye and skin appear yellow.
Infective Hepatitis			
Protozoan diseases	Entamoeba histolytica	Ingestion of cysts in food and water.	Abdominal discomfort and diarrhoea, with or without blood or mucous in stools, fever, chills and gripping pain in abdomen.
Amoebic dysentery			
Diarrhoea	Giardia (Lamblia intestinalis)	Food or water con-taminated with faeces having cysts.	Intestinal disorders leading to epigastric pain, abdominal discomfort, loss of appetite, headache and loose bowels.
Bilharzia	Schistosoma spp	Cercaria larvae of flukes in water penetrate skin of persons wading in water.	Allergy-like itch, rash, aches, fever, eosinophilia etc. When infection becomes heavy, eggs may block arterioles of lungs cardio-pulmonary water causing schistosomiasis and may lead to congestive heart failure.

Guinea worm	Dracunculus medi nensis	Unfiltered water	Blister near the ankle, causing allergy and aches.

III.PREVENTIVE MEASURES

Water-borne epidemics and health hazards in the aquatic environment are mainly due to improper management of water resources. Proper management of water resources has become the need of the hour as this would ultimately lead to a cleaner and healthier environment.

In order to prevent the spread of water-borne infectious diseases, people should take adequate precautions. The city water supply should be properly checked and necessary steps taken to disinfect it. Water pipes should be regularly checked for leaks and cracks. At home, the water should be boiled, filtered, or other methods and necessary steps taken to ensure that it is free from infection.

IV.CONCLUSION AND RECOMMENDATIONS

Water pollution is a global issue and world community is facing worst results of polluted water. Major sources of water pollution are discharge of domestic and agriculture wastes, population growth, excessive use of pesticides and fertilizers and urbanization. Bacterial, viral and parasitic diseases are spreading through polluted water and affecting human health. It is recommended that there should be proper waste disposal system and waste should be treated before entering in to river. Educational and awareness programs should be organized to control the pollution.

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