

How Safe Is Your Drinking Water?

***By ANITA SHARMA**

Summer season and water-borne diseases go hand in hand. Summer's here and with the temperatures soaring, it's not only the unbearable temperatures that can harm us but a large variety of water borne diseases like hepatitis, typhoid, cholera and gastroenteritis can also upset us. So besides maintaining proper hygiene practices during summers, monitoring and maintaining the quality of drinking water is also important to prevent these diseases.

The source of drinking water supply at home is either surface water or ground water. Unfortunately, most of these sources are not safe for drinking without proper treatment due to presence of microbial and chemical pollutants. Toxic chemicals and harmful bacteria pollute the water sources making us sick and also expose us to long-term health consequences such as liver and kidney damage. The city's water works department treats the water before supplying but while getting transported through distribution network it again comes in contact with pathogens and certain chemicals. This means that water needs to be tested and treated at the point of use as well. For testing the water, simple low-cost kits are available in the market <http://www.peoplesscienceinstitute.org/PDF's/EQMG/Kit%20flyer%20-13%20Parameters.pdf> and for treating the water various water filters are available.

A good water filter at home is the only way to ensure the quality and safety of drinking water but all filters have their own advantages and limitations. Boiling kills germs present in water but heavy metals and minerals do not get removed. The method is not fuel efficient and there are chances of microbial recontamination during prolonged storage.

Candle filters use thick porous material such as carbon or ceramic to trap particles. These filters are inexpensive and can remove bacteria, protozoa, microbial cysts and suspended impurities but the candle has to be cleaned by boiling at least once every 15 days and replaced after 6 months of continuous use. The water has to be poured manually into the top container. Also, the entire set up including the steel containers look so simple and unsophisticated that people do not wish to buy it.

UV filters use modern technology to purify the water by inactivating the bacteria but the dead organisms still remain in water.

The latest in the list are the RO (reverse osmosis) filters. These are said to be the most efficient of all. The RO water purification method involves forcing water through a semi-permeable membrane, which filters out a select number of water contaminants depending on the size of the contaminants.

RO can remove 90-99% of all the contaminants in water. This is why the popularity of RO has steadily grown over the years.

Many studies have been conducted to check the efficiency of these hi-tech filters. These studies have confirmed that the RO system does remove unhealthy contaminants present in water. It can remove majority of the contaminants but unfortunately during these studies it also got revealed that along with removing the unwanted chemicals, microbes and compounds, it also removes the minerals significantly, especially calcium and magnesium. These two elements are among the seven major dietary elements required by our body for stronger bones, teeth and normal muscular and nerve functions.

We all know water benefits health. Drinking the right amount of the right type of water improves every function in the body and even slows down the aging process. It is said that our body can absorb up to 30% of essential elements from water that we drink. So it is very important for our long term health that we drink that water which is not devoid of at least the essential elements like calcium and magnesium.

Reverse osmosis was actually developed as a water treatment method over 40 years ago. The process was used primarily to de-salinate water but later on it was used in home filters. There are many problem linked with drinking RO water:

1. The water is demineralized and drinking de-mineralized water (water devoid of essential minerals) is not healthy. The World Health Organization conducted a study few years ago ([WHO Study: Health risks from drinking demineralized water](#)) which revealed some of the health risks associated with drinking demineralized water. Just a few of the risks include gastrointestinal problems, bone density issues, joint conditions, and cardiovascular diseases.
2. Removing the naturally occurring minerals also leaves the water tasteless. One may add some liquid ionic minerals to the RO drinking water. However, doing so will not be as beneficial as drinking water that contains minerals naturally.
3. Prolonged use of RO water (for several months or years) reduces the body's immunity and can make you fall sick more often.
4. Removing the minerals makes the water acidic and drinking acidic water on a regular basis might cause acidosis in the body which is considered an underlying cause of most degenerative diseases. In fact, in 1931, Dr. Otto Warburg won the Nobel Prize for discovering the cause of cancer. According to his study this disease is primarily caused by lack of cellular oxygenation due to acidosis in the body. (The ROOT CAUSE of CANCER-Nobel Prize Winner Dr.Otto H Warburg: <https://sites.google.com/site/ganodermareview/the-root-cause-of-cancer>)
5. RO produces more quantity of waste water than purified water.

If your health is a top priority and you don't want to be drinking de-mineralized water, invest in a water filter that best suits your needs. The aim should be to minimize microbial and chemical load in water. Water changes its constituents season to season, month to month and year to year.

Testing the water on a fortnightly basis will tell you the level of different components including presence of bacteria in water. If these components are within the permissible limits set by the Bureau of Indian Standards, then for your own satisfaction you can make use of a simple water purifier like a candle filter or a silver nano technology based filter. RO water should be consumed only when you do not have an alternative for example when you are travelling or when you visit a new place and you are not sure about water quality.

Simpler and low cost technologies might work better for majority of the people in India. No wonder in many areas like agriculture, medicine and eating habits we are moving back to our traditional practices. How about tulsi purifying drinking water? It has been found that a handful of tulsi leaves can decontaminate about 20 litres of water <http://www.trueactivist.com/the-tulsi-plant-can-be-used-to-remove-fluoride-from-drinking-water/>. The solar water disinfection method (SODIS) is also a simple procedure to disinfect drinking water. Contaminated water is filled in a transparent PET-bottle or glass bottle and exposed to the sun for 6 hours. During this time, the UV-radiation of the sun kills the pathogens in water. These renewed water treatment options could provide India's poorest people an opportunity to remove contaminants from their drinking water without any side effects. Whether it is tulsi, tomato peels, bio-sand filter or copper water purifier, more research is needed to identify and validate their effectiveness and to popularize them.

Some water filter manufacturing companies are distributing their RO filters in rural areas under their CSR initiative to provide safe drinking water but are they really concerned about the health of the people in the long run or is it only their marketing strategy? How good it would be if these companies could come up with a water filter which can decide what to remove and what to retain in water depending upon the situation and components of water. These companies should invest in research, manufacturing and marketing of safe and cost-effective products.

However, till such products are available, there is no need to panic. Just conserve water, be informed and stay healthy.

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