

**Water contamination: A grave health hazard**

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Madam, Karachi is the most populated city in Pakistan and is currently facing serious water issues. A major problem in the city is water shortage. However, the quality of drinking water is not up to the mark either. The metropolitan city has seven water filter plants and all of them failed to produce water as per World Health Organization (WHO) standards.<sup>1</sup>

The quality of drinking water is assessed through physiochemical and microbiological parameters and when all the parameters lie within the permissible limits, the water is then deemed fit for drinking purposes. According to WHO drinking water should have zero colony forming units (cfu) per 100 mL.<sup>2</sup> The consequences of drinking bedeviled water are serious health problems. The presence of *E. coli* or coliform bacteria in drinking water can lead to diarrhoea, dysentery, cholera, hepatitis and typhoid. On the other hand, the presence of physiochemical contaminants such as arsenic can predispose a person to various central nervous, respiratory, gastrointestinal, and musculoskeletal diseases while fluoride can cause dental disorders and crippling fluorosis. Excess of nitrates in drinking water can lead to goiter, diabetes, blue baby syndrome and possibly bladder cancer.<sup>3</sup>

Unfortunately, people in rural localities of southern Sindh are drinking ground water as they cannot afford to have bottled water from private water systems.<sup>4,5</sup> Numerous surveys in Karachi and southern Sindh have showed that drinking water was physiochemically and microbiologically contaminated and was not fit for drinking.<sup>3-6</sup> The predominant factor leading to the contamination of drinking water is cross-connection between sewage (faecal) and drinking water supplies. Other factors contributing to the contamination of

drinking water include, rapid industrialization and growing population, dysfunctional water filter plants, and mixing of raw untreated water with treated water.<sup>1,3-6</sup>

In conclusion, Southern Sindh including Karachi is undergoing an epidemic of infectious diseases such as the ongoing Typhoid epidemic, which may be due to consumption of contaminated food and water. Hence, there is a dire need of taking adequate steps to ensure the safety of drinking water, which can be achieved by restoring flawed water filter plants, ameliorating sewage infrastructure, and conducting monthly qualitative assessment of drinking water. Public awareness campaigns should be held, educating people about general hygiene, water contamination, water-borne diseases, household chlorination and use of boiled water.

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