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Study of the Fluoride assessment in correlation with different physicochemical parameters in drinking water of some areas of Quetta, Pakistan

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Water (H₂O) is a universal solvent found worldwide where the life exists. The fluoride level in drinking water has been controlled in order to get rid of dental and skeletal fluorosis. Therefore, the current study was mainly focused to check the quality of drinking water and to assess the fluoride content with the correlation of other physicochemical parameters. By applying an even sampling plan with the samples distribution taken from tube wells of different sites of Quetta, where the drinking water quality is known to have been deteriorated. The study shows that the Concentration of fluoride varies from 0.32ppm to 3.0 ppm (Hazara town to western by-pass area of Quetta) as compare with WHO (world health organization) guidelines of drinking water for fluoride (i.e., 1.5 ppm). The excessive fluoride concentration is expected from poor calcium aquifers and fluoride bearing minerals or cation exchange of sodium for calcium. Furthermore, it is observed that the pervasiveness of fluoride related health problems in study areas with high fluoride in water sources. On the account of the results, defluoridation of the identified sampling sites and regular monitoring of drinking water is recommended at government level to avert further fluorosis risk.

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