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Evaluation of Fluoride Contents of Kirkuk City's Drinking Water and Its Source: Lesser Zab River and Its Effect on Human Health

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Abstract : In this study, forty samples had been collected from water of Lesser Zab River and drinking water to determine fluoride concentration and show the impact of fluoride on general health of society of Kirkuk city. Estimation of fluoride concentration and determination of its proportion in water samples were performed attentively using a fluoride ion selective electrode. The fluoride concentrations in the Lesser Zab River samples were between 0.0265 ppm and 0.0863 ppm with an average of 0.0451 ppm, whereas the average fluoride concentration in drinking water samples was 0.102 ppm and ranged from 0.010 to 0.289 ppm. A comparison between results obtained with World Health Organization (WHO) show a low concentration of fluoride in the samples of the study. Thus, for health concerns we should increase the concentration of this ion in water of Kirkuk city at least to about (1.0 ppm) and this will take place after fluorination process.

Keywords : fluoride concentration, lesser zab river, drinking water, health society, Kirkuk city
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