

## **Pollution by Iron of the Quaternary Drinking Water and its Effect on Human Health**

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**Abstract :** Background; Water may be regarded as polluted if it contains substances that render it unsafe for public use. The surface, subsoil waters and the shallow water-bearing geologic formation are more subjected to pollution due to its closeness to the human daily work. Aim of the work; determine the distribution of iron level in drinking water and its relation to iron level in blood patients suffering from liver diseases. Materials and Methods; For the present study, a total number of (71) drinking water samples (surface, wells and tap) have been collected and Blood samples were carried out on (71) selected inhabitants who attended in different hospitals, from different localities and suffering from liver diseases. Serum iron level in these patients was estimated by using IRON-B kit, Biocon company (Germany) and the 1, 10-phenanthroline method. Results; The water samples analyzed for iron are found suitable for drinking except two samples at Mit-Ghamr district showing values higher than the permissible limit of Egyptian Ministry of Health (EMH) and World Health Organization (WHO).The comparison between iron concentrations in drinking water and human blood samples shows a positive relationship. Conclusion; groundwater samples from the polluted areas should have special attention for treatment.

**Keywords :** water samples, blood samples, EMH, WHO

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