Assessment of Chemical quality of Drinking Water Supplies in Rural area of Neyshabour City in 2014

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Abstract

Background & aims: *All around the world, underground water resources are a major part of supplying drinking water due to high quality, easy access, low cost and no need for complicated treatment. On the other hand, lack of proper management can transfer chemical pollutants through industrial and agricultural effluents. In this study, the chemical quality of rural drinking water supplies in Neyshabour city was investigated.*

Methods: *In this study, 83 wells which were used to supply drinking water of rural area of Neyshabour city were selected through census. Samples were sent to laboratory and tested using standard methods. Data were analyzed using SPSS 19 and AquaChem 2012 software.*

Results: *The results of the SAR index showed that out of 83 studied wells, 58 wells are poor, 21 wells are moderate and only four wells are in good situation. According to the corrosion and scaling indices, water in most of the studied wells was classified as corrosive. Considering the standards of drinking water in Iran, the concentrations of nitrite, nitrate and TDS in studied supplies were acceptable. The Cl^- and Na^+ ions concentration of 14 wells increase concerns about the saline taste of drinking water. The main forms of alkalinity in studied wells were carbonate and bicarbonate and the water hardness is mainly temporary due to the probable presence of calcium and magnesium ions.*

Conclusion: *Due to the important role of underground resources in country, continuous evaluation should be considered to prevent them from chemical polluting. It seems that land use monitoring and applying chemical fertilizers in proper distance from water resources in order to maintain the quality is essential.*

Key Words: *rural drinking water supplies, chemical quality of water*

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