

The Relationship Between Turbidity, Residual Chlorine Concentration and Microbial Quality of Drinking Water in Rural Areas of Babol During 2011

Asieh Khalilpour; Abdolaiman Amouei; Hossein Faraji*

Department of Environmental Health, Babol University of Medical Sciences, Babol, Iran

khalilpour_62@yahoo.com

Background & Objectives: Common belief is that water quality evaluation must be based on its appearance, while not only the apparent characteristics but also the microbial and chemical characteristics should be considered. This study was conducted to examine the relationship between turbidity, residual chlorine concentration and microbial quality of water used for drinking in rural areas of Babol.

Methods: This cross-sectional descriptive study was carried out on drinking water samples taken from villages of Babol during 2011. In general, 1600 samples were collected and transferred to laboratory for testing chlorine levels remaining, turbidity and HPC. Data analyzed by using SPSS 18.

Results: The minimum and maximum amount of HPC had been respectively zero and 1100 cfu/ml, the maximum and minimum chlorine were measured 0 and 5 ppm. Turbidity measured in the distribution network was at least 0 and the maximum 5 NTU and always has been less than the normal limit. Turbidity is directly compared with HPC that based on the Pearson Correlation test with level 0.01 has been significant.

Conclusion: The results of the study show that correlation between residual chlorine concentration and HPC and there is significant correlation between residual chlorine concentration and turbidity; HPC and turbidity level of drinking water in Babol rural areas was significant. Hence, the results showed that HPC increase in higher turbidity and HPC decrease while free residual chlorine increase.

Keywords: Drinking Water; Quality Control; Residual Chlorine Concentration; Rural Water Supply; Turbidity