

Relationship between Turbidity and Residual Chlorine and Microbial Quality of Drinking Water

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Abstract

Background and Objective: Safe drinking water is essential for health and health promotion is dependent on providing safe water. We aimed to determine the relationship between turbidity & residual chlorine and microbial quality of drinking water in Agh ghala.

Material and Methods: In this descriptive-analytical study, 2079 water samples were collected from water networks of 78 villages and urban network using census sampling during two years. Both sampling and tests were performed on the basis of standard methods.

Results: In more than 96 percent of the villages (N =75), above 90% of the samples hadn't any fecal coliform bacteria except three villages that had the index in the range of 85 to 88 percent. Residual chlorine had significant relationship with coliform and fecal coliform ($P \leq 0.05$) while the relationship between turbidity and coliform contaminants, fecal coliform and residual chlorine was not significant.

Conclusion: Total coliform and fecal coliforms were reducing by increasing residual chlorine in the water supply networks. It has been suggested that the officials reduce the water turbidity and annual washing of the water network to increase the effect of residual chlorine and decrease bacterial contamination.

Keywords: Agh Ghalla, Fecal Coliform, Coliform, Residual Chlorine