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## A Study on the Microbial Quality of Drinking Water in Rural Areas of Mazandaran Province in North of Iran (2011)

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### ABSTRACT

Backgrounds: One of the fundamental needs of a community is to have an access to healthy and safe drinking water. The lack of a concentrated accessibility to health facilities and services is among the serious problems facing villagers in the rural areas. The aims of this research was to investigate the drinking water quality of the villages in Babol township suburbs in north of Iran. Materials and Methods: In this cross-sectional descriptive study, a total of 140 water samples were taken from the water distribution network in 16 villages for the low and high-rain seasons in sterile glass bottle. The microbial quality of gathered samples were determined based on standard methods in laboratory. Statistical analysis of the results was performed using a SPSS16 statistical software. Findings: Based on obtained results 13.6% of the samples were contaminated to coliform and 20% to fecal coliform bacteria. The residual chlorine in 12.5% of the samples were between 0.2 to 0.8 mg·L<sup>-1</sup> and the PH in total samples were between 6.8 to 7.8. There were no signs of any contamination for 32.86% of the analysed samples which water resources is located to a distance of more than 30 m to the contamination sources. In addition, 43.1% of the samples taken from the water resources with no plumbing system, have had a fecal contamination. Conclusions: Considering the results achieved, the microbial quality of the drinking water of the studied villages classified as "moderate" status. For more water supply there is not sufficient residual chlorine in most cases. Poor sanitation of water supply is most causes of water contamination. It is therefore strongly recommended that sanitation measures are made to protect water resources from the contamination.

### KEYWORDS

Microbial Quality; Drinking Water; Rural Water Supply; Disinfection

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### References

- [1] A. H. Mahvi, "Health and Aesthetic Aspects of Water Quality," Bal Gostar Publication, Tehran, 1996 (in Persian).
- [2] M. Norisepehr, "Guidelines for Drinking Water," Hayyan Publication, Tehran, 1994 (in Persian).
- [3] J. Salvato, N. L. Nemerow and F. J. Agardy, "Environmental Engineering Sanitation," 5th Edition, John Wiley and Sons, Washington DC, 2003.
- [4] P. Payment, M. Wait and A. Dufour, "Introducing Parameters for the Assessment of Drinking Water Quality: In Assessing Microbial Safety of Drinking Water, Improving Approaches and Methods," IWA Publishing, London, 2004.
- [5] World Health Organization, "Guidelines for Drinking Water Quality, Third Edition, Incorporating the First and Second Addenda," 2008.
- [6] J. Bartram, J. Cotruvo, M. Exner, C. Fricker and A. Glasmacher, "Heterotrophic Plate Counts and

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- [7] IRSIR, " Standards of Drinking Water Quality: President Deputy Strategic Planning and Control," 1992 (in Persian). [www.isiri.org](http://www.isiri.org)
- [8] World Health Organization, " Guidelines for Drinking-Water Quality: Recommendations," 2004.
- [9] M. Gannadi, " Criteria and Guidelines for Analysis of Microbial Quality of Drinking Water," Water and Wastewater Company of Mashhad City, Mashhad, 2002 (in Persian).
- [10] M. Ghaderpoori, M. H. Dehghani, M. Fazlzadeh and A. Zarei, " Study of Microbial Quality of Drinking Water in Rural Areas of Saqqez, Iran," American-Eurasian Journal of Agricultural & Environmental Sciences, Vol. 5, No. 5, 2009, pp. 627-632.
- [11] L. S. Clesceri, A. E. Greenberg and A. D. Eaton, " Standard Method for Examination of Water and Wastewater," American Public Health Association, Washington DC, 2005.
- [12] Institute of Standards and Industrial Research of Iran, " Microbial Properties of Drinking Water," 4th Edition, 1997 (in Persian). [www.isiri.org](http://www.isiri.org)
- [13] World Health Organization, " Guidelines for Drinking-Water Quality," 2006.
- [14] M. B. Miranzadeh, M. Heidari, A. R. Mesdaghinia and M. Younesian, " Survey of Microbial Quality of Drinking Water in Rural Areas of Kashan Iran in Second Half of 2008," Pakistan Journal of Biological Sciences, Vol. 14, No. 1, 2011, pp. 59-63. doi:10.3923/pjbs.2011.59.63
- [15] P. W. Ramteke, J. W. Bhattacharj and S. P. Pathak, " Evaluation of Coliforms as Indicators of Water Quality in India," Journal of Applied Bacteriology, Vol. 72, No. 4, 1992, pp. 352-356. doi:10.1111/j.1365-2672.1992.tb01846.x
- [16] A. H. Shar, Y. F. Kazi, M. Zardari and I. H. Soomro, " Bacteriological Quality of Drinking Water of Sukkur City," Pakistan Journal of Medical Research, Vol. 48, 2009, pp. 88-90.
- [17] A. H. Shar, Y. F. Kazi, M. Zardari and I. H. Soomro, " Enumeration of Total and Fecal Coliform Bacteria in Drinking Water of Khairpur Sindh," Pakistan Journal of Medical Research, Vol. 47, 2008, pp. 18-21.