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An Evaluative Microbiological Risk Assessment of Drinking Water Supply in the Carpathian Region: Identification of Occurrent Hazardous Bacteria with Quantitative Microbial Risk Assessment Method

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Abstract : The article's author aims to introduce and analyze those microbiological safety hazards which indicate the presence of secondary contamination in the water supply system. Since drinking water belongs to primary foods and is the basic condition of life, special attention should be paid on its quality. There are such indicators among the microbiological features can be found in water, which are clear evidence of the presence of water contamination, and based on this there is no need to perform other diagnostics, because they prove properly the contamination of the given water supply section. Laboratory analysis can help - both technologically and temporally – to identify contamination, but it does matter how long takes the removal and if the disinfection process takes place in time. The identification of the factors that often occur in the same places or the chance of their occurrence is greater than the average, facilitates our work. The pathogen microbiological risk assessment by the help of several features determines the most likely occurring microbiological features in the Carpathian basin. From among all the microbiological indicators, that are recommended targets for routine inspection by the World Health Organization, there is a paramount importance of the appearance of Escherichia coli in the water network, as its presence indicates the potential ubietiy of enteric pathogens or other contaminants in the water network. In addition, the author presents the steps of microbiological risk assessment analyzing those pathogenic micro-organisms registered to be the most critical.

Keywords : drinking water, E. coli, microbiological indicators, risk assessment, water safety plan
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