

TITLE: MICROBIOLOGICAL AND PARASITOLOGICAL ANALYSIS OF ARTESIAN WELLS IN THE MUNICIPALITY OF SOBRAL, CEARÁ

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ABSTRACT

The quality of water for human consumption is closely related to health. Water is an important means of transport for many types of pathogenic microorganisms and chemical compounds that can negatively influence its quality and, consequently, human health. Groundwater, while being more protected, may also contain eutrophying agents that cross a portion of the soil through the cracks. Thus, this study aims to evaluate the microbiological and parasitological quality of groundwater from artesian wells located in the municipalities of Sobral and Alcântaras, following current legislation (Ordinance N° 2.914/2011-MS). Three analyses were made from March 2016 to April 2017, totaling 7 samples. The methodology for the microbiological evaluation was made using the technique of fermentation in multiple tubes, a method that quantifies the most probable number of coliforms present in the sample. For a parasitological analysis, the Hoffman's Method was used, which consists in observing the sediments of the sample. The results of the microbiological evaluation show the presence of thermotolerant coliforms, represented in values that ranged between 4 and <1600 MPN / 100 ml. The total coliforms were represented in values ranging from 14 to > 1600 MPN / 100 ml. According to the results of the parasitological evaluation, no parasites, protozoan, or helminth eggs were present, only plant traces found in one of the wells in the municipality of Sobral. Of the analyzed samples, only the one from the municipality of Alcântaras presented negative results for thermotolerant coliforms, while the other 6, all presented positive, making these results unsatisfactory according to the water potability for human consumption described in Ordinance N° 2914/2011. The number of analyzed sample is quite expressive, since the presence of pathogenic microorganisms can pose serious health risks, which leads us to think about the importance of verifying the water quality of these sources, which are one of the most used alternatives in the state of Ceará.

Keywords: Analysis, health, water, thermotolerant coliforms.

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