

TITLE: DETECTION OF TOTAL COLIFORMS AND ESCHERICHIA COLI IN ARTESIAN WELLS IN THE RURAL AREA OF BELA VISTA DO PARAÍSO-PR, BRAZIL.

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ABSTRACT: In Brazil there are regions where the supply of potable water is not available, which requires the use of alternative methods of obtaining water, such as mines and artesian wells. These methods present risks to human health, as they do not go through the standard water treatment process, and may contain the presence of pathogenic microorganisms, which can cause diseases such as diarrhea. Among these bacteria, there is *Escherichia coli*, characterized by belonging to the group of coliforms, it is a Gram-negative microorganism, facultative anaerobe and indicator of fecal contamination in water and food. The study in question aims to analyze the quality of water in artesian wells in farms and country houses of the region of Bela Vista, PR. For this purpose, 44 samples were collected from artesian wells from farms and country houses, between March 2017 and October 2020. To carry out this process, we used the method of identification using the Colilert® chromogenic substrate. Of these 44 samples, 32 (72.72%) contained the presence of total coliforms, among these 18 (40.90%) had *E. coli* and in the remaining 12 (27.27%) there was no presence of coliforms. According to the Brazilian of the Ministry of Health regarding the microbiological quality of water, in 100 mL of water for human consumption, no amounts of total coliforms and *E. coli* bacteria should be present. These results demonstrate that, in most of these wells, the water has disease-carrying microorganisms, indicating the risks that residents of rural areas face due to the lack of adequate water treatment in these regions. Therefore, it is essential to carry out water care procedures, such as boiling or applying chlorine, with the intention of reducing the quantity and contact of the population with these microorganisms.

KEY WORDS: Water potability; Escherichia coli; Rural area; Coliforms

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