TITLE: ANALYSIS OF THE QUALITY OF WATER POTABILITY IN THE RURAL REGION OF THE CITY OF ALVORADA DO SUL - PR

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ABSTRACT:

Water designated for human consumption is considered one of the vehicles for transmitting disease-causing microorganisms to its consumers. Therefore, constant periodic analysis of its sources is necessary, with bacteriological contamination mainly by total and fecal coliforms being one of the current concerns, since some *Escherichia coli* pathotypes can cause infections ranging from mild to severe, causing damage to human health. In certain rural areas of the city of Alvorada do Sul – PR, one of the alternative ways to the distribution water supply is the capture of groundwater from wells for daily consumption and also for use in agricultural activities. Based on this bias, the analysis of water quality is necessary, as the contamination of groundwater that supplies the wells is very variable due to the proximity of the soil to the water. The aim of this study is to analyze the presence of total coliforms and *E. coli* in water samples collected in the city of Alvorada do Sul– PR from well samples for groundwater collection. In order to carry out the analyses, 95 water samples from shallow and tubular wells in the city of Alvorada do Sul – PR were tested. For the evaluation of total coliforms and *E. coli*, the chromogen substrate Colilert® was used. Among the 95 samples tested, 85 (89.47%) were positive for total coliforms, and 56 (53.2%) for *E. coli*. Since there were high rates of bacteriological contamination, the main presence of *E. coli* in drinking water indicates serious risks of microbial contamination, as these do not comply with the sanitary standard required by current Brazilian Legislation Ordinance GM/MS Nº. 888, of 4 of May 2021 that's recommends in 100 ml of water there should not be the presence of total coliforms and *E. coli*. Then, it is necessary to raise awareness among the population that uses the demand for water from alternative solutions to the distribution supply that carry out the correct and preventive cleaning of wells so that there is no microbiological contamination and minimize possible damage to the health of the population in question.

Keywords: analysis of water; water quality; *Escherichia coli*; subterranean water; Colilert®.

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