

Title: MICROBIOLOGICAL EVALUATION OF WATER FOR HUMAN CONSUMPTION IN A TEACHING INSTITUTION OF DOURADOS- MS

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Abstract:

Water is essential for living beings, but it can be a public health issue by acting as a vehicle for transmission of pathogenic microorganisms. Among the pathogens spread in water sources are bacteria, among these, total and fecal coliforms, protozoa, viruses and fungi, which cause many diseases to humans like diarrhea, dysentery, hepatitis, cholera, and other serious illnesses. Thus, it becomes important to perform microbiological control of water for human consumption. This research aimed to evaluate the microbiological quality of drinking water in an educational institution of Dourados-MS. For this research water samples were analyzed on 26 points, 13 being water fountains (4 with chlorinated water and 9 with untreated water) and 13 water reservoirs (7 treated water and 6 with untreated water). The samples were subjected to the following tests: determination of the Most Probable Number (MPN) of total and fecal coliforms, *Escherichia coli*, mesophilic aerobic, *Pseudomonas spp.* and *Salmonella spp* analysis. Given the results of water samples, it was found that of the nine points of drinking water with untreated water two showed contamination of total coliforms (5.1 MPN / 100 ml) and thermophilic bacteria (> 16.0 MPN / 100 mL), and one of the points was contaminated with *E. Coli*. These same points had also higher mesophilic aerobic count 4,3x10² CFU / 100 ml and 6.86 x10² CFU / 100 ml. In other three points it was verified the presence of *Pseudomonas sp.* Regarding the samples of the reservoirs with untreated water, of 6 samples evaluated 4 had total coliforms. The remaining points were not contaminated. According to the microbiological standards for drinking water in the state of MS, Ordinance number 2914/2011, the samples contaminated are unfit for consumption. The results indicate the need for constant monitoring and treatment of drinking water, since these contamination can transmit various diseases.

Keywords: coliforms, *Pseudomonas spp*, aerobic mesophilics.