

Title: IDENTIFICATION AND SUSCEPTIBILITY PROFILE ANTIFUNGAL OF ISOLATED YEAST IN WELL WATER USED FOR HUMAN CONSUMPTION IN THE TOWNS OF CAARAPÓ AND ITAPORÃ, MS, BRAZIL.

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Abstract:

The use of wells for the extraction of groundwater has increased in recent decades due to new technology developed for capturing the water. Private water systems are not monitored frequently to determine the microbiological quality, so it is not known pathogens present in these systems, being necessary monitoring to ensure its integrity. For the analysis of water quality testing is performed for the presence of bacteria, but nowadays has occurred water contamination by fungus, which has impact on human health as well as in the production of unpleasant taste and odor, also oxidation pipes. The goal was to identify and analyze the antifungal susceptibility profile of yeasts isolated in water wells used for consumption. The study was conducted in 66 wells in the towns of Caarapó and Itaporã, Mato Grosso do Sul, in the period from July to October of 2014. For the analysis we used the membrane filtration method, 100 mL of water samples were filtered through membranes Ester sterile cellulose (0,45µm) and arranged on the surface of Sabouraud agar containing 50 mg/mL of chloramphenicol, incubated at 37 ± 0.5 °C and examined daily for 7 days. After isolation of yeasts, they were subjected to automated system VITEK® 2 COMPACT (BioMérieux®) for the identification and susceptibility profile of antifungal. The Minimum Inhibitory Concentration (MIC) was determined for the following Antifungal: fluconazole, flucytosine, amphotericin B, voriconazole, caspofungin and micafungin. In Caarapó they were isolated 17 yeasts being most prevalent species of *Candida guilliermondii*, *Candida parapsilosis* and *Candida famata*. In Itaporã were isolated 16 yeasts, being *Candida famata* and *Candida glabrata* more frequent. They were resistant to the antifungal in yeast *Rhodotorula mucilaginosa* to fluconazole (MIC = >64 µg/mL) and voriconazole (MIC = >8 µg/mL), and *Trichosporon mucoides* to flucytosine (MIC = 32 µg/mL). Yeasts found show that well water can be a reservoir of resistant microorganisms warning to the profile of isolated water wells is similar to clinical isolates. The conditions of the analyzed wells water entail risk to public health to be a possible source of resistant yeasts' transmission.

Keywords: Yeasts; Contamination; Wells; Antifungal Resistance;

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