

MICROBIOLOGICAL QUALITY OF WATER WITHDRAWN FROM SHALLOW WELLS USED FOR HUMAN CONSUMPTION IN SETE LAGOAS - MG

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Drinking water is a cause of constant concern in our society, especially in rural areas and on the outskirts of urban areas that suffering with little sanitation. In these regions, the water from shallow wells constitute important water supply for human and animal consumption. The conditions of these wells are very likely to be contaminated by human waste, which may contain large variety of bacteria, viruses, protozoa and helminthes. In addition, other microorganisms such as fungi produce mycotoxins which cause pathological effects such as risk of cancer and decreasing in immunity. This study aimed to evaluate the microbiological quality of shallow wells in different regions of the city of Sete Lagoas, Minas Gerais. Water samples of nine wells were collected in triplicate. In seven of them it was used the withdrawal method "closed with pump system" and in two of them was used the method "open and winch system" also known as "rope and bucket". It were used the MPN (Most Probable Number) method to quantify the total coliforms and the thermotolerant coliforms. The quantification of fungi was carried out using the culture medium Sabouraud Dextrose Agar with a pH close to 3.5 and an incubation period of 7 days at the temperature of 28°C. Results show that the quality of water of the wells differed in accordance with the withdrawn methods. Considering the Ordinances No. 36 and No. 1469 of the Ministry of Health, only three samples are suited. The water of the wells with pump system have presented less contamination compared to those with bucket system. Only one water sample of the wells using pump system presented fungi growth. On the other hand, all wells using bucket system presented fungi growth. This result is probably due the entrance of organic matter facilitated by the lack of a cover and the use of ropes and buckets, facilitating the proliferation of fungi. The results also showed that the use of ropes and buckets facilitate fecal contamination, as well as poor hand hygiene and improper transport. The wells coated with concrete and having pumping system are less susceptible to contamination, since they are usually closed and prevent the direct contact with the user's hands.

Keyword: *water, wells, microorganisms*

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