

Comparative Study of Bacteriological Analysis of Different Water Sources

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Water is the most important resource for humans. It forms around 50% to 60% in weight of our body and plays active pipes and household appliances. Safe drinking water considered as a vital agent for human. Drinking water from water sources, wells and tankers, should be free of contaminants from any waterborne pathogens including bacteria, fungi, viruses and parasites.

The most common and widespread health risk associated with drinking water is contamination; wither directly or indirectly, by human or animal excreta, particularly faeces. Water pollution causes a number of diseases like diarrhea, jaundice, typhoid, etc. According to rough estimates, more than 15 million deaths worldwide result annually from waterborne infections.

The main objective of this paper is to assess the bacteriological water quality from three sources of water (wells and tankers). Twenty-five water samples from different wells and tankers were transferred directly after collection to the analytical laboratory for bacteriological analysis by using Membrane Filter Methods method (25 tube test) through incubation of samples into tubes of MacConkey broth (MB) at 44.5°C for 48 hours. Then tubes were examined for the appearance of gas bubbles within the Durham tubes at 44.5°C for 24 to 48 hours and tubes were selected for determination of fecal coliform which has produced gas.

Three sources were included in this study drinkable wells water, non-drinkable wells water and private desalinated water. The results of the bacteriological analysis carried out on tankers and wells water samples have shown variable degrees of water contamination /of all water sources with bacterial.

Recovered pathogens included *Pseudomonas aeruginosa*, *Escherichia coli* and *Enterococcus faecalis*. In conclusion, private desalinated water were the least contaminated source of water and therefore were recommended as being more suitable source of drinking water than other investigated sources.

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