

Abstract

Aim: Water of adequate quantity and quality is essential for healthy life. Its provision has been ensured in semi-arid areas by construction of water reservoirs including dams and boreholes. These water sources face a high risk of contamination from anthropogenic activities, run offs and wildlife migration. Contamination may result in many diseases including various parasitic, fungal diseases, skin diseases, eye infections and diarrhoeagenic diseases. There is therefore need to assess efficacy of various locally available plant extracts in purifying water since use of chemical treatments may not be possible at all times.

Methods: Water samples were taken from Katangi dam in Machakos County, Kenya. Bacteriological water analysis was done using the multiple tube fermentation method which provided various MPN indices for different water samples. The bacterial determination confirmed the presence of coliforms which was an indicator bacterium for other pathogenic bacteria such as *salmonella* and *shigella* species.

Results: The water samples from the dam had a mean Most Probable Number (MPN) index that exceeded that recommended by WHO. Water treatments with 1.2% sodium hypochlorite and extracts of *Moringa oleifera* seeds and *Maerua decumbens* roots recorded significant differences from the untreated water.

Conclusion and Recommendations: *Maerua decumbens* roots and *Moringa oleifera* seeds significantly reduced bacterial load from contaminated water. All substances including sodium hypochlorite did not however, reduce the bacterial load to levels acceptable for human consumption. If safety of *Maerua decumbens* and effective doses of both plants are established, the two plant preparations can be used to treat water when commercial alternatives are unavailable or disliked. The cost effectiveness of using of both plants in water treatment requires further investigation.