

Abstract

Waterborne diarrhoeal pathogens are considered a re-emerging threat and are responsible for considerable morbidity and mortality, especially in developing countries. The objective of this study was to determine bacteriological quality, biochemical oxygen demand and presence of diarrhoeagenic pathogens in water samples collected from River Njoro and Nakuru Municipal water. A total of 432 samples were tested, 216 from River Njoro and 216 from Nakuru Municipal water. Bacteria indicator numbers (arithmetic mean MPN/ml) varied from 24.4 (source) to >2700.0 (midstream) for total coliforms and 3.6 (source) to 1880.0 (midstream) for faecal coliforms in River Njoro. There was a consistent increase in bacteria loading as the river flowed from the source (Nessuit) to downstream sites. The biochemical oxygen demand (BOD) ranged from 2.0 mg/L at the source of the river to 44.0 mg/L at Njoro bridge. The frequency of enteropathogenic bacteria isolated in 216 samples collected from River Njoro were; *Aeromonas hydrophila* 52%, *Hafnia alvei* 29.2%, *Salmonella typhimurium* 18%, *Salmonella typhi* 17%, *Enteroaggregative Escherichia coli* 9.2%, *Necrotoxicogenic E. coli* 7.4% and *Enteropathogenic E. coli* 3.2%. Only *H. alvei* 4.6% and *A. hydrophila* 6.5% were isolated from Nakuru Municipality water and no enteropathogens were detected at Nakuru town centre, Kiti and Milimani estates. River Njoro has been found to be heavily contaminated with indicator bacteria, organic material and diarrhoeagenic pathogens. This suggests need to educate people regarding good health practices, proper waste disposal, boiling drinking water and seek alternative sources of drinking water in the study area.