

ABSTRACT

Drinking water should be free of microbial pathogens so as to be regarded as potable water and safe for drinking. However, water is prone to fecal contaminants which are the sources of gastrointestinal illnesses. In Njoro Sub-county, river Njoro and rain water are the primary sources of water which also reduces during dry seasons. Other water sources include boreholes, dams, springs and wells while in other cases, the residents store water in household storage containers for future uses. In this study, various water sources and water stored in different containers in Njoro Sub-County was analyzed for its microbial quality. Various microbial parameters such as total viable colony counts (TVCC), total coliforms (TC) and fecal coliforms (FC) were evaluated by use of the culture methods. Most of the water sources were contaminated. TVCC ranged from 0.47 to 1.76 CFU/1mL in water sources and 0.48 to 2.04 CFU/1mL in domestic storage containers. TC was in the range of between 0.30 to 1.89 CFU/100mL in water sources and 0.59 to 2.47 CFU/100mL in domestic storage containers. The mean FC in water sources ranged from 0.10 to 1.68 CFU/100mL and from 0.81 CFU/100mL domestic storage containers. Therefore frequent water testing should be performed by water authorities as recommended by WHO. At households, the people should employ various water treatment methods and practice safe water handling so as to avoid gastrointestinal infections.

Keywords

University of Rostock