

ABSTRACT

Water pans constitute the main source of rural water supply in Baringo County. This study sought to assess the spatial-temporal variation of total coliforms, *Escherichia coli*, *Fecal streptococcus* and *Salmonella species* in the water pans. A sanitary survey was conducted to observe the potential sources of microbial contamination on the water pans. Water was sampled from one protected and five unprotected water pans ($n = 6$) in the study area for a period of 4 months (June–October 2015). A total of 72 water samples were sampled in triplicate from the water pans for microbial analyses, membrane filtration technique was used in assaying for microbial counts of total coliforms, *E. coli*, *F. streptococcus* and *Salmonella species* in water samples. The results show that there was a significant spatial variation in *F. streptococcus* amongst the protected and the unprotected water pan sampled sites ($p = 0.008$), and there was a statistically temporal significant difference ($p = 0.001$) for total coliforms and *Salmonella species* during the dry seasons, respectively. Given the prevalence of the selected diseases causing pathogens in water above the WHO drinking water quality guidelines, households are advised to treat the water before use.

Keywords: Baringo, fecal contamination, microbiological water quality, water pans