

Abstract

Introduction: Diarrhoea remains a major public health problem in East African nations such as Kenya. Surveillance for a broad range of enteric pathogens is necessary to accurately predict the frequency of pathogens and potential changes in antibiotic resistance patterns.

Methods: A cross sectional study was conducted in Igembe District Hospital in Meru County to determine the burden and factors associated enteric bacterial infection among children aged five years and below. Stool samples were collected between March and July 2012. Bacterial pathogens were identified and antibiotic susceptibility of bacterial isolates was ascertained. Questionnaire was administered to the 308 study participants to identify the modifiable risk factors. Data was entered and analyzed using *Epi Info* version 3.5.3.

Results: The study recruited 308 children. The mean age was 27.25 months, median of 26.0 months and age range between 2-60 months. The bacterial isolation rates were ETEC 9.1%, EPEC 6.8% and EAEC 12.3%, *Salmonella* paratyphoid (10.4%), *Shigella flexneri* (1.9%) and *Shigella dysenteriae* (0.9%). Over 95 %, of the isolates were resistance to amoxicillin, sulphinazazole, cotrimoxazole. Six factors were independently associated with diarrhoeal diseases, occupation of the parent/ guardian (miraa business) (OR=1.8, CI:1.44-4.99), care taker not washing hands after changing napkins (OR= 1.6, CI:1.2-19.7), child drank untreated water from the river (OR= 2.7, CI:2.4-9.9) child not exclusively breastfed (OR= 2.4, CI:2.1-10.5), child did not Wash hands before eating (OR=2.2, CI:1.91-16.3) and after visiting toilet (OR=3.7, CI:2.8-39.4). Eating of mangoes was found to be protective against diarrhoea (OR=0.5, CI:0.03-0.89).

Conclusion: The bacterial pathogens were found to be a significant cause of diarrhoea in the study participants. We established higher resistance to several commonly prescribed antibiotics. Several factors were significantly association with diarrhoea illness. We recommend multifaceted approach that acknowledges the public health aspects that would reduce the burden of diarrhoea infectious as identified in this study.