Contribution ID: **23**   Type: **Abstract for Abstract Presentation**

CHARACTERIZATION OF DIARRHEAGENIC Escherichia coli PATHOTYPE ISOLATED FROM STOOL SAMPLES OF CHILDREN UNDER FIVE YEARS IN NAKURU COUNTY

Diarrheal diseases are among the major causes of escalated morbidity and mortality rates among children under 5 years of age in developing countries with approximately 2.5 million annual fatalities globally (Shetty et al., 2012). Diarrheagenic E. coli (DEC) has been implicated in rising epidemic patterns of infant diarrhea worldwide. DEC strains exist in 6 distinct pathotypes (pathogenic types). In Kenya, cases of DEC have been recently implicated with high prevalence in children under 5 years of age in a cosmopolitan setting (Iijima et al., 2017). Despite several studies having been done to characterize the different DEC pathotypes in Kenya, there has not been information on the occurrence of the most frequently isolated DEC pathotypes from stool samples of children under 5 years of age attending Nakuru Provincial General Hospital (NPGH) in Nakuru County. This study, therefore, sought to characterize the DEC pathotypes isolates from the selected rural and urban settings in Nakuru County.

A total of 2400 children (0-60 months) who reported to NPGH pediatric unit experiencing diarrhea. The selection of the cohort was based on antibiotic usage. The subjects with prior antibiotic usage (within 7 days) were excluded from the study. Diarrhea was defined by the occurrence of more than three loose stools, liquid of watery or bowel movements in any 24-hour period. All consenting parents/guardians were considered and a questionnaire was administered to provide pertinent information regarding the study. The determination of pathogen was performed using PCR assays. The data obtained were expressed as frequencies and percentages. A comparison was done using a two-tailed Chi-square test. A P-value of less than or equal to 0.05 (p ≤ 0.05) was considered statistically significant. The researcher sought ethical approval from Kenyatta National Hospital and the University of Nairobi Ethics Review Committee.

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Track Classification: Antimicrobial Resistance (AMR) as a Threat to Global Health