

ABSTRACT

Background: Diarrheagenic *Escherichia coli* (DEC) is a leading cause of childhood diarrhea, and this study determined the diarrheagenic *E.coli* pathotypes in children with diarrhea in Mbarara city.

Objective: To evaluate the prevalence and antibiotic susceptibility profiles of diarrheagenic *E. coli* pathotypes with diarrhea in Mbarara City.

Methods: Across-sectional hospital-based study was done where 391 stool samples were collected from children aged six months and 12 years presenting with diarrhea and not taking any antibiotic treatment for diarrhea at the time of the investigation. Stool samples were cultured on MacConkey, biochemicals done to identify *E.coli*. DNA was extracted and multiplex PCR performed to determine the different pathotypes. Drug susceptibility patterns was set from samples with identified pathotypes.

Results: Out of 391 stool samples collected, 78 were positive for *E.coli* giving an overall prevalence of **19.95 %**. Of the 78 (19.95 %) positives, males were 18 (54.55%) and females were 25 (55.56%). Of the 78 *E.coli* isolates, **43** were pathogenic giving a percentage of 55.13% and the 43 pathogenic *E.coli* belonged to the three common pathotypes i.e. Enteropathogenic *E. coli* (EPEC) which was the most prevalent pathotype (**86.05 %**), followed by Enterohaemorrhagic *E.coli* (EHEP) (**9.30 %**) and enter-invasive was the least with (**4.65%**). The *E.coli* isolates were most sensitive to chloramphenicol, followed by imipenem (70%), tetracycline (30%), ceftriaxone and amoxicillin with (28%) were highly resistant (26%).

Conclusion: DEC is an important diarrheagenic agent and should be considered in routine studies and surveillance for childhood acute diarrheal disease. EPEC was predominantly recovered; it therefore underscores the need for routine evaluation of diarrheic children for virulence properties of infectious DEC.

Recommendations; DEC is prevalent in children with diarrhea in Mbarara City, Uganda with high resistance to ceftriaxone and amoxicillin.

Key words: *Escherichia coli*, diarrheagenic; pathotype. Resistance.

