

**PREVALENCE AND OUTCOME OF COMMUNITY ACQUIRED *CLOSTRIDIUM*
DIFFICILE INFECTION AMONG CHILDREN ADMITTED WITH DIARRHOEA AT
MULAGO HOSPITAL**

BY

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ABSTRACT

Background: *Clostridium difficile* infection (CDI) is a potentially serious emerging infectious disease. CDI is usually considered to be hospital acquired, causing diarrhoea in as high as 15% of children in health care settings during non- outbreak and 64% during outbreak periods in the US. However, recent studies show that the infection is increasingly being acquired from the community even without prior antibiotic use. Globally, few studies have been done to show the contribution of *C. difficile* in community onset diarrhoea, and in sub Saharan Africa, we have not come across any published data on *C. difficile* in community onset childhood diarrhoea.

Study objective: This study was to determine the prevalence of *clostridium difficile* infection and to describe the outcome and factors associated with this infection among children aged 2-36 months with diarrhoea at Mulago National Referral Hospital Kampala, Uganda.

Methods: This was a descriptive cross sectional/prospective cohort study among children aged 2-36 months admitted with diarrhoea at Mulago hospital. Stool was examined for *clostridium difficile* toxin A and B using enzyme linked immune fluorescent assay. The participants HIV status was determined using the antibody test and /DNA PCR for those who were less than 18 months of age. Frequency of diarrhoea was recorded on a daily basis until discharge from hospital.

Findings: Out of the 322 children admitted with diarrhoea during the study period, 168 were enrolled. Of the 168 children, there were 107(63.7%) males and 61(36.3%) females. The male to female ratio was 1.8:1. Their median age was 9.0 months with an Interquartile range (IQR) of 7-14. The prevalence of *clostridium difficile* infection in this study was 4/168(2.4%). Three of the children with CDI were male. All the four children with CDI were below 12 months of age. On admission, the mean frequency of diarrhoea was 8.8 (SD 5.6) in children with CDI compared to 6.4 (SD 3.8) in children without. The P –value was 0.234. Children with CDI were hospitalised

for a longer duration; 7.5 (SD6.5) vs. 4.5 (SD4.5) days in children without CDI. The difference was not significant (p-value 0.194).

The known risk factors such as HIV, antibiotic use, malnutrition, and age were also not significantly associated with CDI.

Conclusion: The prevalence of CDI in children admitted with community acquired diarrhoea in Mulago National referral Kampala is low. This therefore, precludes routine testing for CDI in these children. However, the outcome of children with CDI was not different from those without. The study however did not have enough power to make conclusion on recommendations on factors associated with CDI.

Recommendation: Further studies to describe the prevalence of CDI in children who have been hospitalised for at least 72 hours or who have been in hospital in the past 10 weeks and in other high risk groups such as malnutrition, persistent diarrhoea and prior antibiotic use.