

# Prevalence of rotavirus infection among children with acute diarrhea after rotavirus vaccine introduction in Kenya, a hospital cross-sectional study

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## Background

Rotavirus infection is the commonest cause of acute gastroenteritis globally in children under five years of age. Rotavirus vaccination is considered an effective public health strategy to prevent infection and reduce the severity of disease. Rotavirus vaccination was introduced in Kenya in 2014. The objective of our study was to determine the prevalence of rotavirus infection, severity of acute diarrhea and to determine the rotavirus vaccination status among children aged 3-24 months presenting with acute diarrhea at Kenyatta National Hospital after introduction of rotavirus vaccine.

## Methods

365 children aged 3-24 months presenting with acute diarrhea at KNH were recruited from August 2016 to April 2017. Data on rotavirus vaccination status, nutritional status and sociodemographic characteristics were obtained and a full clinical evaluation of the patients was done. Severity of the gastroenteritis was assessed using the 20 point Vesikari Clinical Severity Scoring System. Comorbid conditions were established from patient's clinical records and physical examination. Stool specimens from study participants were tested for rotavirus using a commercially available ELISA kit.

## Results

Majority of the children (96.7%) had received rotavirus vaccinations. The overall rotavirus prevalence was 14.5% and was higher among 17-24 months at 19.5%. The prevalence somewhat differed by gender, nutritional status, exclusive breastfeeding status, age and education level of mother/caregiver. Overall, a half of the children had severe acute diarrhea and there were some differences in severity by child/mother characteristics.

## Conclusion

There is still burden of rotavirus diarrhea after introduction of rotavirus vaccine and the prevalence varies by child characteristics.

**Key words:** Rotavirus associated diarrhea, children, rotavirus vaccine, Kenya