

# **Reduction of Group A Rotavirus Gastroenteritis in young children admitted at Kenyatta National Hospital, Nairobi, Kenya after vaccine introduction and the Rotavirus strains that have been detected in Kenya for over the last two decades**

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## **Background**

Rotavirus is the most common cause of severe diarrhea worldwide. Children <1 year of age account for majority of all rotavirus hospitalizations. Approximately 453,000 global deaths occur due to rotavirus diarrhea in children <5 years of age, and more than half of these (230,000) deaths occur in African children. Rotavirus vaccine was introduced in the routine Immunization program of Kenya in July 2014.

## **Methodology**

The WHO supported Rotavirus Surveillance was started in August 2006 in Kenya. Stool samples were collected from young children under five years of age admitted due to acute gastroenteritis at Kenyatta National Hospital, Nairobi, Kenya. The stool samples were processed and tested for Group A Rotavirus using Prospect™ ELISA kits. Rotavirus positive samples collected over the last two decades were also tested by reverse transcription PCR for G and P typing.

## **Results**

Before vaccine introduction, there was very high burden of rotavirus infection. In 2013, hospitalization due to rotavirus was 43%. After vaccine introduction in the immunization program, hospitalizations due to rotavirus started going down. 34% in 2015, 15% in 2016, 17% in 2017 and 12% in 2018. Looking at rotavirus genotypes that have been detected in Kenya over the last two decades, we have detected strains G1P[8], G1P[6], G2P[4], G3P[8], G3P[6], G4P[8], G8P[4], G9P[8], G12P[8] and G12P[6]. A few animal strains have also been detected, G8P[1], G8P[14] and G3P[2]. Rotavirus genotypes G1P[8] have predominated over the years.

## **Conclusion**

The study highlights the high reduction in hospitalizations due to rotavirus gastroenteritis after vaccine introduction in Kenya. Rotavirus G1P[8] genotype was found to be the most predominant strain circulating over the years. There is need to continue monitoring impact of new rotavirus vaccines and monitor disease burden post rotavirus vaccine introduction.