

# Epidemiology and characterization of rotavirus strain in Abia State, South East Nigeria

B. N. Tagbo<sup>1</sup>, C. Azubuiké<sup>2\*</sup>, M.E. Ohanu<sup>2</sup>, C. Chukwubike<sup>2</sup>, C. Benjamin-Puja<sup>2</sup>, E.C. Agbo<sup>3</sup>, U.N. Uzoije<sup>4</sup>

<sup>1</sup>Institute of Child Health, University of Nigeria Teaching Hospital, Ituku-Ozalla, Enugu, Nigeria

<sup>2</sup>Department of Microbiology, University of Nigeria Teaching Hospital, Ituku-Ozalla, Enugu, Nigeria

<sup>3</sup>Medical Laboratory Services, Federal Medical Centre, Umuahia, Abia State, Nigeria<sup>4</sup>

## Background

Rotavirus is the leading cause of acute gastroenteritis (AGE) with its striking morbidity and mortality in infants and young children worldwide. The aim of this cross sectional study was to study the epidemiology and strain characterization of group A rotavirus in Abia state, South East Nigeria now that the vaccine is not yet introduced.

## Method

Faecal samples were collected from children less than 5 years with acute diarrhea within 48 hours of hospitalization from January 2015 to December 2017 following World Health Organizations generic protocol. Rotavirus antigen was detected in the stool specimens using antigen enzyme immunoassay kit, while strain characterizations for G- and P-types was by semi nested reverse transcription polymerase chain reaction technique.

## Results

Out of 192 faecal specimens analyzed, 65 (33.9%) were positive for rotavirus antigen. More males were positive than females (41/192) 21.4% and (24/192)12.5%, respectively. Highest prevalence of rotavirus infection occurred in children aged 7 to 12 months. Peak rotavirus season occurred during the dry months of November –March during which 93% of all cases occurred. The circulating genotypes detected were G1 (13.8%), G2 (18.5%), G3 (23.1%), G4 (4.6%), G9 (1.5%), G10 (15.4%), G12 (21.5%), GNT (1.5%) and P[6] (46.2%), P[8] (21.5%), P[4] (18.5%), P[10] (4.6%), P Mix (7.7%) and PNT (1.5%). The most common G-P combinations were G3P[6](21.5%), G12P[8](18.5%), G2P[4](16.9%) and G10P[6](13.8%).

## Conclusions

The prevalence of rotavirus was 33.9% in Abia State Nigeria. Continued rotavirus surveillance is important to monitor changes in epidemiology of rotavirus and impact of vaccination, post vaccine introduction.