

Prevalence of Adenovirus among Children with Gastroenteritis/ Diarrhea in Warri, Delta State, Southern, Nigeria

*William-Johnson Quadri Bolatito¹, Favour Osazuwa²

¹Epidemiologist, Global Hepatitis Initiative Nigeria (GHIN), Nigeria.

²Immunology and Virology Lead, Laboratory Services, Lily Hospitals Limited, Warri, Nigeria.

Dear Editor-in-Chief,

Adenovirus are double stranded DNA viruses, known to be capable of causing various kind of illnesses from mild respiratory infections in young children (known as the common cold) to life-threatening multi-organ disease in people with a weakened immune system (1). In humans, there are 57 accepted human adenovirus types (HAdV-1 to 57) in seven species (Human adenovirus A to G) (1). Adenovirus is currently recognized as one of the viral causes of diarrhea/gastroenteritis among children (2), with types 40 and 41 predominating as common causes of gastroenteritis, especially in children under the age of two year-old (2). This letter reports the preliminary investigation on the prevalence of Adenovirus among children (under-5 years old) presenting with diarrhea/gastroenteritis at the pediatric outpatients of Central Hospital, Warri, a tertiary health care facility in Delta State, South-South, Nigeria. Ethical approval was provided by the Delta Hospitals Management board in the letter CHW/VOL 1/17/14. This study included a total of 100 subjects, 75 children with clinical diarrhea/gastroenteritis, and 25 age and sex matched healthy children as controls. Adenovirus was detected in fecal specimens of subjects using a rapid lateral flow immunochromatographic assay kit (Gastro Vir-Strip, Coris Bioconcept, Belgium).

Data on demographics and social characteristics were obtained with the aid of a self-administered questionnaire. The prevalence of Adenovirus was 14.7% (11/75 patients); Adenovirus was not detected among the control subjects. The prevalence of Adenovirus was more in Males than females, but this were not significantly different (odds ratio [OR]: 0.9592, 95% confidence interval [CI]: 0.2576, 3.5712). Adenovirus prevalence was also independent of age ($P=0.9045$). The prevalence of Adenovirus in this locality is quite close to the prevalence of 18%, and 19.3% in neighboring states of Ondo and Edo, Nigeria (3, 4), but less than 23% among children in Northwestern, Nigeria (5). In conclusion, the prevalence of Adenovirus was high; and was independent of age and gender. There is need for routine screening of Adenovirus among children with gastroenteritis/diarrhea in our locality irrespective of age or gender. Further studies are needed to provide information on prevalent Adenovirus subtypes and genotypes in this study location.

Key Words: Adenovirus, Children, Diarrhea, Nigeria, Prevalence.

*Please cite this article as: Quadri Bolatito WJ, Osazuwa F. Prevalence of Adenovirus among Children with Gastroenteritis/ Diarrhea in Warri, Delta State, Southern, Nigeria. Int J Pediatr 2018; 6(5):7651-52. DOI: 10.22038/ijp.2018.30542.2679

*Corresponding Author:

Dr. William-Johnson Quadri Bolatito, Global Hepatitis Initiative Nigeria (GHIN), Nigeria.

Email: williamjohnsonqb@gmail.com

Received date: Feb.17, 2018; Accepted date: Mar.22, 2018

FUNDING

Corresponding author personally provided test kits for this study.

AUTHOR'S CONTRIBUTION

W-J QB carried out study design, conceptualization and result verification. FO carried out subject recruitment, sample analysis and statistical analysis. Both authors approved the final paper

REFERENCES

1. Bernard N Fields, David M Knipe, Peter M Howley. *Fields' virology*. Philadelphia: Wolters Kluwer Health/Lippincott Williams and Wilkins, 2007. p. 2395.
2. Khanna R, Lakhanpaul M, Burman-Roy S. Diarrhoea and vomiting caused by gastroenteritis in children under 5 years: summary of NICE guidance. *British Medical Journal* 2009; 22: 338-50.
3. Babalola MO, Odaibo, GN, Olaleye, DO, Alonge AO. Enteric Adenovirus and Norovirus Gastroenteritis among Under-5 years Children in Owo, Ondo State, Nigeria. *British Journal of Medicine and Medical Research* 2015; 9(8): 1-9.
4. Imade PI, N.O. Eghafona. Viral Agents of Diarrhea in Young Children in Two Primary Health Centers in Edo State, Nigeria *International Journal of Microbiology* Volume 2015 (2015), Article ID 685821.
5. Aminu M, Ahmad AA, Umoh JU, de Beer MC, Esona MD, Stelle AD. Adenovirus infection in children with diarrhea disease in Northwestern, Nigeria. *Annals of African medicine* 2016; (6): 168-73.