Epidemiology

PO - (8444) - CHARACTERISATION OF PATHOGENS CAUSING DIARRHOEA IN CHILDREN UNDER FIVE IN LAMBARÉNÉ, GABON

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Background: Diarrhoeal disease remains the second leading cause of death in children under five years, being associated with about 525,000 deaths every year. The most common pathogens worldwide are Shigella spp/EIEC, rotavirus, adenovirus 40/41, ST-ETEC and Cryptosporidium spp. Public health interventions rely on estimates of pathogen-specific burden for prioritisation. Sadly, comprehensive data on the aetiology of diarrhoea in children is lacking for Gabon. This study aimed to identify the spectrum of pathogens found in Lambaréné, Gabon and provide baseline data on the prevalence thereof needed for implementation of effective control measures.

Methods: A cross-sectional study was conducted at Albert Schweitzer and Georges Rawiri Regional hospitals in Lambaréné from February 2017 to February 2018. A consecutive sample of children under 5 with diarrhoea or a history of diarrhoea within the past three days were prospectively studied. A single stool sample was collected from each study participant and processed using commercial rapid immunoassays to detect antigens of rotavirus, adenovirus, and Cryptosporidium spp. Multiplex PCR was used for Cryptosporidium spp., Giardia lamblia & Cyclospora cayetanensis detection, and characterization of E. coli strains.

Results: Out of 188 participants who provided stool samples. In 34.6% of cases one or more pathogens could be detected. The most prevalent parasites were Giardia lamblia (14.9%), Cryptosporidium spp. (11.7%), and Cyclospora cayetanensis (2.7%). For enteric viruses, 10.6% and 1.6% of rotavirus and adenovirus, respectively were identified in these children. Multiple pathogens were detected in 5.3% of samples.

Conclusion: This analysis of the causes of diarrhoea in children under five in our setting showed three main pathogens: Giardia lamblia, Cryptosporidium spp. and rotavirus. Our study confirms major agents of acute diarrhoeal diseases in children, highlights research needs (Cryptosporidium) and support the introduction of new tools such as the implementation of the rotavirus vaccine in the national immunization programme.