## ORT_08 - Correlation between detection of viral gastroenteritis and climatic factors in the Northwest Am.azon region

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**Introduction:** Acute gastroenteritis (AGE) caused by viruses is one of the most common causes of morbidity and mortality worldwide in children (especially <5 years old), with major relevance in developing countries. The most common and important viral enteropathogenesis are noroviruses and rotavirus A, followed by sapoviruses, enteric adenoviruses, astroviruses and less commonly, bocaviruses. Most studies were carried out in temperate countries and demonstrated that low average temperature and low relative humidity are associated with annual AGE epidemics. However, in tropical countries there are few results.

**Objectives:** The objective of the study was to investigate the impact of external clinical, epidemiological and climatic factors on viral gastroenterics detection rates in samples of children <5 years old from Roraima, Amazon region of Brazil.

**Methodology:** A total of 941 stool samples were analyzed for reverse transcription-quantitative polymerase chain reaction (RT-qPCR) for detection of RNA viruses and qPCR for detection of DNA viruses. To statistically evaluate the correlation between climate and virus, we use a generalized linear mixed model (GLMM).

**Results:** Norovirus was the most prevalent 32% (302/941) followed by enteric adenovirus 29% (272/941), Rotavirus 19.3% (181/941), bocavirus 13.1% (123/941) and Sapovirus 7% (65/941). Analyzes comparing the weekly detection rate of each virus to meteorological factors showed that low absolute humidity correlated with the detection of all viruses, but low relative humidity and low precipitation were correlated with norovirus, adenovirus and rotavirus. Low temperature correlated with high norovirus detection rates. Furthermore, there was a positive correlation between norovirus and nebulosity.

**Conclusion:** Studies on climate variables and health become increasingly important, since climate risks are correlated with infectious diseases through issues such as: warming, precipitation, floods, droughts, storms, changes in land cover, climate change ocean waves, fires, heat waves and sea levels. that cause the high number of pathogenic diseases and different possibilities of transmission to increase or change is a known behavior. Extreme events introduce considerable fluctuations that can affect the dynamics of waterborne diseases such as viral gastroenteritis.

**Keywords:** Viral gastroenteritis; Amazon region; Climatic factors