

MOLECULAR EPIDEMIOLOGY OF NOROVIRUS IN KENYA

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ABSTRACT

Norovirus (NoV) is a major cause acute gastroenteritis (AGE) across the world. However, limited information on epidemiology of NoV exists in many African countries despite the plausible burden this enteric virus exerts on her population, especially <5 years old, the elderly and immunocompromised individuals. A systematic review of studies that adopted detection of NoV by conventional or RT-PCR from January 2013 to December 2022 was conducted to determine prevalence and seasonality of NOV in Kenya. For determination of NoV seasonality, only prospective studies conducted over of ≥ 12 months were included. "Norovirus and Kenya" was used to search for publications in the PubMed database. A total of eleven studies identified. Of these, 7 (63%) met the inclusion criteria. The remaining studies (4) were excluded because they did not involve detection of NoV. The samples types in studies included were stool for five studies and the remaining two studies analyzed environmental samples. Stools were obtained from participants of all ages living rural and urban settings of Nairobi, western and coastal Kenya. Participants included outpatients, inpatients and food handlers with or without diarrhea. This study established that NoV prevalence ranged from 15.2% to 25%. Interestingly, two studies conducted in Kilifi County reported an increase in NoV prevalence post-rotavirus vaccine introduction in Kenya in 2014. Although determination of seasonality of disease is important for adoption of disease control efforts, only one study attempted to determine NoV seasonality and reported that peak NoV infections occur in rainy seasons. On the other hand, two studies demonstrated high detection rate (63% to 100%) of NoV in water for domestic use sourced from rivers and boreholes and ineffectually-contaminated waste water. From this study, it is apparent that NoV of public health importance in Kenya. Hence, increased NoV surveillance is required to guide adoption of diarrheal disease control programmes.

Keywords: *Norovirus, Acute Gastroenteritis, Diarrhea, Kenya, Africa*