Abstract

Introduction:

Bronchiolitis is a common cause of viral lower respiratory tract infection (LRTI) in infants. It is characterized by acute inflammation, oedema, and necrosis of epithelial cell lining airways, increased mucus production and bronchospasm. Bronchiolitis is diagnosed clinically when the children present with difficulty in breathing, cough, poor feeding, and irritability with wheeze or crepitation on auscultation. It is one of the major causes of morbidity in infants causing huge burden to health system. Commonly respiratory syncytial virus (RSV) (70%-75%) and other viruses such as parainfluenzaviruses (PIV), influenza viruses, human rhinovirus (HRV), corona virus, adenoviruses, human metapneumovirus (HMPV), human Boca virus (HBoV) contribute to the etiology of bronchiolitis. Widespread use of molecular-based methods has generated new insights about its etiology. The availability of a rapid and sensitive viral diagnostic test is helpful to establish appropriate, timely therapeutic intervention, enabling physicians to make more accurate treatment decisions, reducing the use of unnecessary antibiotic therapy, reducing the cost by reducing length of hospital stay, and also have epidemiological significance.

Objectives:

To determine the molecular epidemiology of the viruses and the socio demographic profile of 1 -24 months old children with acute bronchiolitis.

Methodology:

Prospective, cross-sectional study carried in 30 children with acute bronchiolitis who were 1-24 months of age, admitted to the pediatric professorial unit of North Colombo Teaching Hospital (NCTH), Ragama were included. NPAs collected from these children were investigated using molecular-based method- real time reverse transcriptase polymerase-chain-reaction (PCR) for 4 different respiratory viruses. Demographic and clinical data was also recorded to analyze.

Results: The 30 participating patients included 13 girls and 17 boys. The median age was 6 months, Cough and wheezing were the most commonly reported symptoms and signs, respectively.

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There were two RSV A viruses detected in 30 samples tested. But the other viruses HMPV, PIV, H1N1 were not detected in the same samples tested.

Conclusion: Considering the small sample size, it would be advisable to perform a multidisciplinary survey over the country to obtain sufficient data to generalize the results and to help the health care system make suitable decisions regarding viral infection prevention and control, especially for acute bronchiolitis.

Key Words: Bronchiolitis; respiratory viruses; children; epidemiology