

# HOSPITAL-ACQUIRED RESPIRATORY SYNCYTIAL VIRUS INFECTIONS IN CHILDREN'S HOSPITAL: EPIDEMIOLOGY AND CLINICAL PRESENTATION

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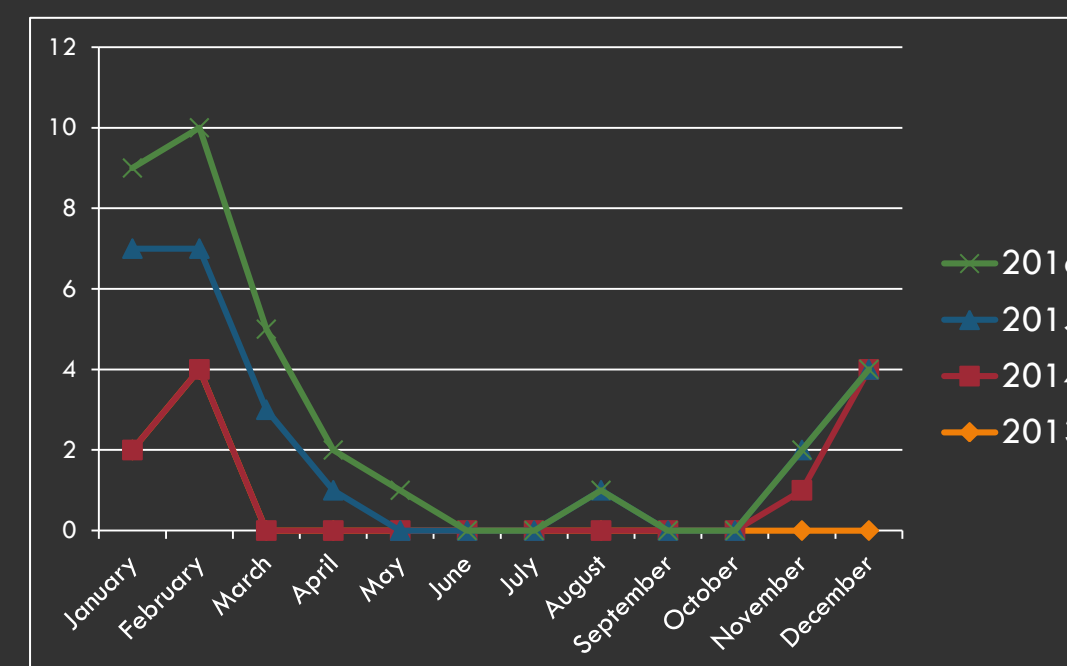
## BACKGROUND

Respiratory syncytial virus (RSV) is the major cause of respiratory infections in infants and, together with rotavirus, one of the most common cause of hospital-acquired infections in paediatric wards.

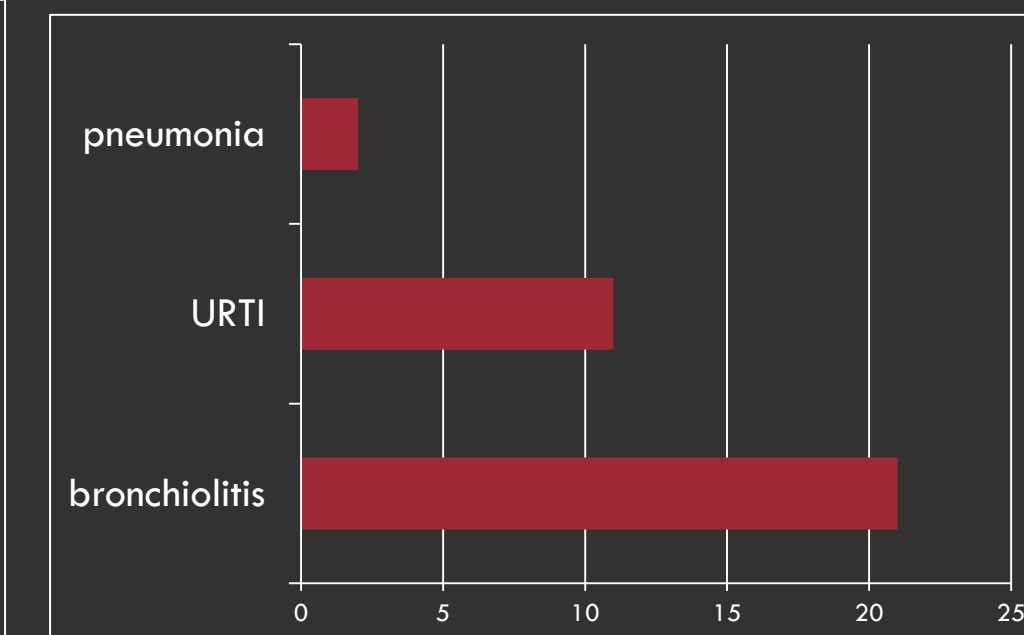
The aim of this descriptive retrospective study was to determine frequency of hospital-acquired RSV infections in children's hospital, distribution of those infections by sex and age, seasonal distribution, symptoms and clinical presentation of infection, length of hospital stay preceding the acquisition of infection and hospital ward distribution. It was carried out at Children's hospital Zagreb, Croatia during a 3,5-year period (January 1, 2013 to June 31, 2016).

## MATERIALS & METHODS:

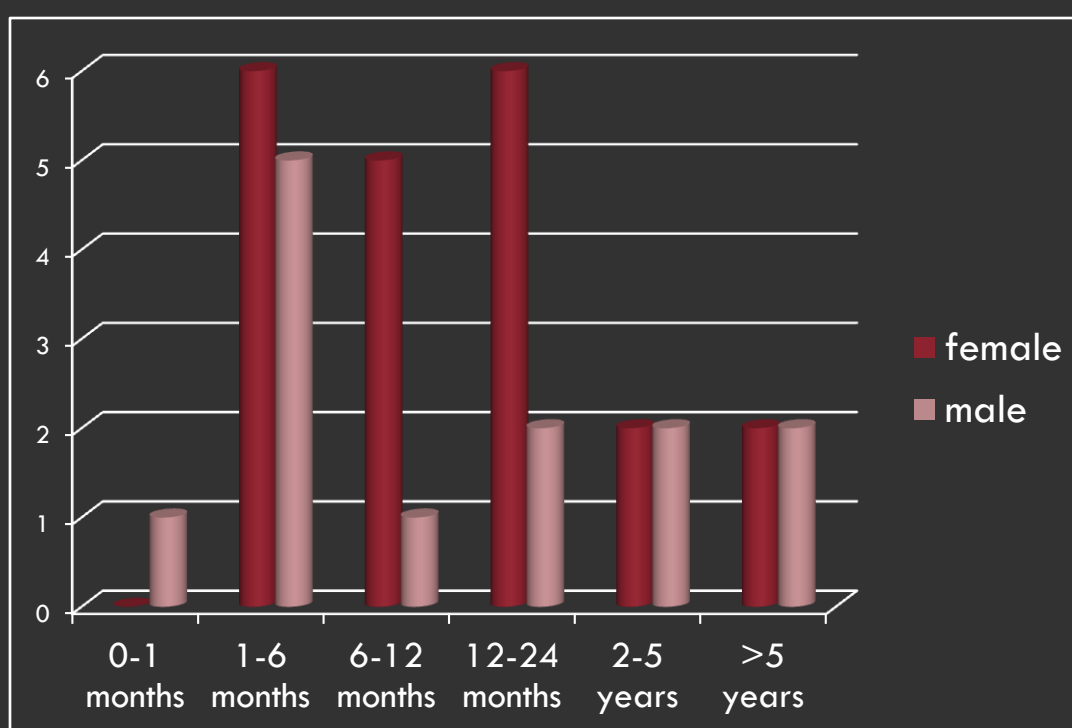
For RSV detection in nasopharyngeal aspirates/swabs two antigen detection tests were used: multianalyte point-of-care antigen detection test system (mariPOC®, ArcDia International, Turku, Finland) for eight respiratory viruses detection and/or chromatographic immunoassay for adenovirus and RSV detection (BioGnost, Zagreb).



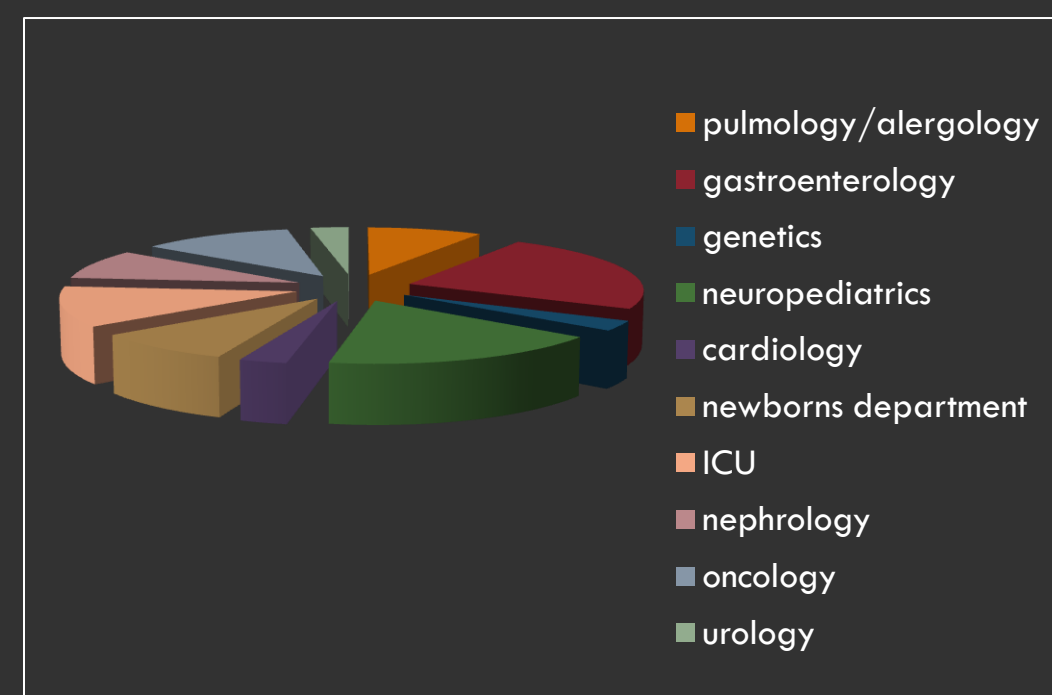
Graph 3: Nosocomial RSV infections by season



Graph 4: Clinical presentation of nosocomial RSV infection



Graph 1: Nosocomial RSV infections by age and sex



Graph 2: Nosocomial RSV infections by hospital department

## RESULTS:

During a study period 1682 patients were tested on respiratory viruses in nasopharyngeal aspirates/swabs, and 10.8% of RSV positive infections were acquired during a hospitalization (34/315). Infection was detected more often in children younger than 2 years (76%) and hospitalized at paediatric departments (76%) (graph 1 and 2). The median age was 6,3 months. The mean duration of hospitalization before the infection was 26 days (range of 5 to 199 days). Significantly more frequent infections were detected in the winter months (from December to March) (graph 3). Hospital-acquired RSV infection was manifested as upper respiratory tract infection in 32%, as acute bronchiolitis in 62% of children and as pneumonia in 6% (graph 4). One infant and one older child developed acute respiratory failure as a complication of RSV infection. Co-infections with influenza A and B virus were detected in 4 patients (12%).

## CONCLUSIONS:

RSV remains an important nosocomial pathogen and more intensive infection control measures should be taken in order to reduce hospital-acquired RSV infection, especially in infant wards during winter period.

