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Letter to the Editor

Childhood respiratory viruses in public health care centers

Dear Editor,

Acute respiratory infections (ARI) remain the leading cause of morbidity and mortality worldwide and result in an estimated two million deaths every year.^{1,2} The main etiological agents responsible for these infections include: respiratory syncytial virus (VRS); rhinovirus (HRV); measles virus; parainfluenzavirus types 1, 2 and 3 (PIV-1, PIV-2 and PIV-3); the influenza virus; the varicella virus; *Streptococcus pneumoniae*; *Haemophilus influenzae*; *Staphylococcus aureus*; and other bacteria.³

The majority of studies on the prevalence of viruses that cause acute respiratory illnesses in children have been conducted in the hospital setting, biased towards more severe infections. Information about the circulation of certain respiratory viruses in primary health care services and secondary clinical surveillance may contribute to epidemiologically support a more accurate clinical diagnosis and reduce the number of incorrect prescriptions of antibiotics to treat viral diseases.

The purpose of the study was to investigate the presence of respiratory viruses using indirect immunofluorescence techniques and reverse transcription followed by polymerase chain reaction in nasopharyngeal aspirates of children with acute respiratory disease who received care at public primary and secondary care institutions in the city of Uberlândia. Between February 2008 and May 2010 convenience samples (nasopharyngeal aspirates from children under five years old with symptoms of acute respiratory disease, seen at Unidade Básica de Saúde da Família — Granada 1, Unidade de Atendimento Integrado – Pampulha, and at Clínica Infantil Don Bosco) were obtained.

Acute respiratory disease was defined by the presence of coryza, coughing, breathing difficulties and/or sibilance, with or without fever. Indirect immunofluorescence techniques and reverse transcription followed by polymerase chain reaction were used to test for the presence of respiratory viruses.

A total of 43 children (53.5% male and 46.5% female) between two and 60 months of age (average: 18,3 months; median 15 months; SD ± 16) were included in this study. The clinical diagnosis at admission was common cold in 23 children (53.4%), tracheobronchitis in four (9.3%), pneumonia in 12 (28%), and bronchiolitis in four (9.3%). At least one respiratory virus was detected in 22 (51.1%) of the samples. A total of 26 viruses were identified. 10 (38.4%) samples were positive for respiratory syncytial virus; 10 (38.4%) for rhinovirus, three (11.5%)

for parainfluenzavirus; two (7.7%) for adenovirus and one (3.8%) for influenzavirus. Co-infection occurred in three of the samples. Indirect immunofluorescence techniques identified nine (21.0%) of the respiratory viruses, and the reverse transcription followed by polymerase chain reaction identified 19 (44.1%).

Rhinovirus and respiratory syncytial viruses were the most prevalent respiratory viruses in children with acute respiratory disease in public institutions of primary and secondary care.

The use of molecular methods allowed for a two-fold increase in the detection of the viral agent collected from nasopharyngeal aspirates.

Conflict of interest

The author declares to have no conflict of interest.

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