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Assessment of respiratory tract infection in children: A clinical study

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Abstract

Background: Childhood infectious respiratory disease is common. The present study was conducted to assess respiratory tract infection in children.

Materials & Methods: The present study was conducted on 216 children age ranged 3-8 years of age. In all patients, symptoms such as nasal stuffiness, throat irritation, low-grade fever, anorexia and myalgia were recorded.

Results: Age group 3-4 years comprised of 44 boys and 60 girls, 5-6 years had 22 boys and 35 girls and age group 7-8 years had 30 boys and 25 girls. Nasal stuffiness was seen in 160 children, throat irritation in 145, low-grade fever in 204, anorexia in 214 and myalgia in 184. The difference was significant ($P < 0.05$).

Conclusion: Respiratory tract infection is common in children. Common symptoms comprised of nasal stuffiness, throat irritation, low-grade fever, anorexia and myalgia.

Keywords: Children, myalgia, respiratory tract infection

Introduction

Childhood infectious respiratory disease was common to one in which mortality is now very low, at least in developed countries, attention is turning increasingly to the impact of more chronic infectious diseases and mechanisms underlying acute but non-life-threatening infectious diseases^[1, 2].

Upper respiratory tract infection (URTI) or “the common cold” is a symptom complex usually caused by several families of virus; these are the rhinovirus, coronavirus, parainfluenza, respiratory syncytial virus (RSV), adenovirus, human metapneumovirus and influenza. Occasionally the enterovirus is implicated in summer^[3].

RTIs are usually manifested by a combination of rhinitis, cough, sore throat, wheeze, and fever. The vast majority of these infections in children are managed in the primary care setting, with only a small number needing hospital admission. Acute RTI is one of the leading causes of childhood mortality. RTIs accounted for around 4% of all deaths in children aged 0–14 years^[4]. This paper discusses the risk factors that health professionals assessing children should be aware of, as they can play an important role in identifying sick” children earlier, thereby escalating further assessment by a pediatric specialist sooner, and in identifying the child who can be managed safely with reassurance and advice in their own home^[5]. The present study was conducted to assess respiratory tract infection in children.

Materials & Methods

The present study was conducted in the department of Pediatrics. It comprised of 216 children age ranged 3-8 years of age of both genders reported to the department with symptoms of RTI. All parents were informed regarding the study and written consent was obtained.

Patients data such as name, age, gender etc. was recorded. In all patients, symptoms such as nasal stuffiness, throat irritation, low-grade fever, anorexia and myalgia were recorded. Results were tabulated and subjected to statistical analysis. P value less than 0.05 was considered significant.

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Results

Table I: Distribution of patients

Age group (Years)	Boys	Girls
3-4	44	60
5-6	22	35
7-8	30	25

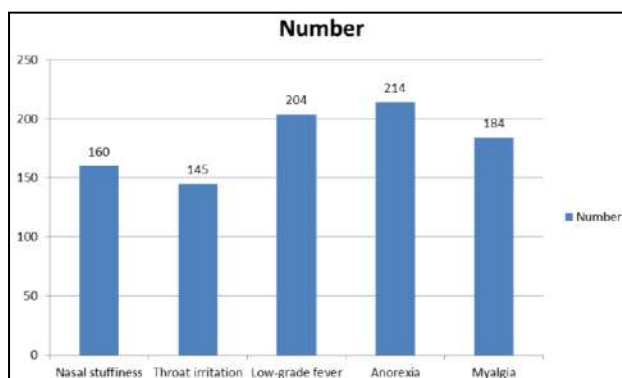
Table I shows that age group 3-4 years comprised of 44 boys and 60 girls, 5-6 years had 22 boys and 35 girls and age group 7-8 years had 30 boys and 25 girls.

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Table 2: Clinical findings in children

Findings	Number	P value
Nasal stuffiness	160	0.01
Throat irritation	145	
Low-grade fever	204	
Anorexia	214	
Myalgia	184	

Table II shows that nasal stuffiness was seen in 160 children, throat irritation in 145, low-grade fever in 204, anorexia in 214 and myalgia in 184. The difference was significant ($P < 0.05$).



Graph I: Clinical findings

Discussion

In industrial United States of America (USA), adults have two to four, and children have between six and eight URTIs a year. There is little data from developing countries. In a cross-sectional study from rural Uganda where data was collected from 300 women with children under two years of age, 37% of children had a current URTI [5].

The respiratory tract starts at the nasal cavity and ends in the alveoli (in the lungs). However, for easier description and understanding of pathologies, it can be divided into two parts. The upper respiratory tract refers to the structures of the respiratory system that lie outside the thorax or above the sternal angle, and consists of the nasal cavity and pharynx (including tonsils) through to the larynx. The lower respiratory tract begins with the trachea and also includes the bronchi and lungs. Cough and wheeze are predominantly described with a lower RTI while stridor is typically noted in an upper RTI [6]. The present study was conducted to assess respiratory tract infection in children.

We found that age group 3-4 years comprised of 44 boys and 60 girls, 5-6 years had 22 boys and 35 girls and age

group 7-8 years had 30 boys and 25 girls. We observed that nasal stuffiness was seen in 160 children, throat irritation in 145, low-grade fever in 204, anorexia in 214 and myalgia in 184.

Shi *et al.* [8] found that the most common signs were coughing and sneezing and the most common symptoms were congestion and a runny nose. These signs and symptoms persisted for the first week. Coughing was present in 46% at onset, peaking at 69% on day one and still present in $\geq 50\%$ at day seven. Rhinorrhoea occurred in 71% on day one and was still present in $\geq 50\%$ by day five. Sneezing occurred in 36% at onset, peaking at 55% on day one and still noted in 35% by day five. Fever was uncommon, reported in only 15% on day one and declining even further. Headache was reported in 15% on day one and declined thereafter. Vomiting and diarrhoea were extremely uncommon.

Jain *et al.* [9], bacterial pathogens were identified in a minority of cases, with viruses, particularly respiratory syncytial virus (RSV) in the younger subjects and rhinovirus in older children, being identified in the majority. More than one virus or a virus and bacteria were identified in 15–30%, depending on age. Inevitably it is tempting to ascribe a causal relationship when a “respiratory pathogen” is identified in the airways of subjects with an acute illness. It has long been known that potential bacterial pathogens such as *Streptococcus pneumoniae*, *Moraxella catarrhalis* and hemophilic influenza species are commonly identified in the nose and nasopharynx of apparently asymptomatic subjects.

Conclusion

Respiratory tract infection is common in children. Common symptoms comprised of nasal stuffiness, throat irritation, low-grade fever, anorexia and myalgia.

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