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ORIGINAL RESEARCH

Evaluation of cases of Acute respiratory infections in Pediatrics patients- A clinical study

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ABSTRACT:

Background: Acute respiratory infections (ARIs) contribute to major disease associated mortality and morbidity among children under 5 years. The present study was conducted to assess cases of ARI in children. **Materials & Methods:** The present study was conducted on 84 patients of both genders. All were informed regarding the study and written consent was obtained. Symptoms such as nasal stuffiness, throat irritation, low-grade fever, anorexia and myalgia were recorded. **Results:** Age group 4-6 years comprised of 26 boys and 22 girls, 4-6 years had 10 boys and 16 girls and age group 6-8 years had 6 boys and 4 girls. Nasal stuffiness was seen in 72 patients, throat irritation in 68, low-grade fever in 80, anorexia in 34 and myalgia in 27. The difference was significant ($P < 0.05$). **Conclusion:** Authors found that most common symptoms in patients were nasal stuffiness and throat irritation. Commonly involved age group was 2-4 years.

Key words: Acute respiratory infections, Children, Nasal stuffiness

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INTRODUCTION

The respiratory tract is a widely branched system of ducts, which start from the nostrils (from the mouth in the case of mouth breathing) and include: the nasal cavities, the pharynx and larynx up to the lower edge of the cricoid cartilage (upper airways), the trachea and the various orders of bronchi to the terminal bronchioles (lower airways).¹ Going through these ducts, the inhaled air is changed and conveyed to the alveolar structures, home of the respiratory exchange with the blood.²

Acute respiratory infections (ARIs) contribute to major disease associated mortality and morbidity among children under 5 years. About 6.6 million children less than 5 years of age die every year in the world; 95% of them in low-income countries and one third of the total deaths is due to ARI.³

The existing evidences on ARI are focused on the burden of illness around urban slums and hence lack representative and reliable data resulting in under estimation of ARI prevalence.⁴ Shift in the infectious disease etiology from gram positive to gram negative organisms is not well-recognized by health care providers who often under utilize novel rapid diagnostic methods and/or irrationally use antibiotics leading to increased burden of

ARI. There are many socio-cultural, demographic and environmental risk factors that predispose children less than 5 years to acquire Respiratory Tract Infections (RTIs).⁵ The present study was conducted to assess cases of ARI in children.

MATERIALS & METHODS

The present study was conducted in the department of Pediatrics. It comprised of 84 patients of both genders. All were informed regarding the study and written consent was obtained. Ethical clearance was obtained prior to the study.

General data such as name, age, gender etc. was recorded. 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.

RESULTS

Table I shows that age group 4-6 years comprised of 26 boys and 22 girls, 4-6 years had 10 boys and 16 girls and age group 6-8 years had 6 boys and 4 girls. Table II shows that nasal stuffiness was seen in 72 patients, throat irritation in 68, low-grade fever in

80, anorexia in 34 and myalgia in 27. The difference was significant (P < 0.05).

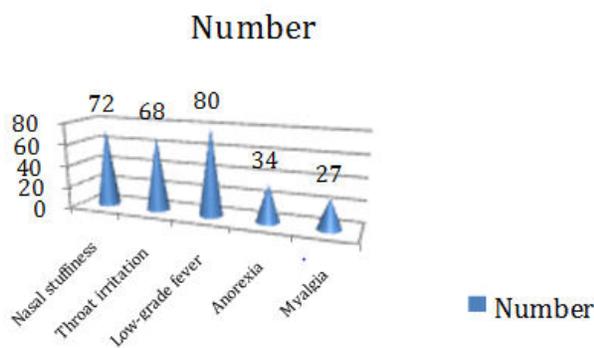
Table I Distribution of patients

Age group (Years)	Boys	Girls
2-4	26	22
4-6	10	16
6-8	6	4

Table II Clinical findings in children

Findings	Number	P value
Nasal stuffiness	72	0.01
Throat irritation	68	
Low-grade fever	80	
Anorexia	34	
Myalgia	27	

Graph I Clinical findings in patients



DISCUSSION]

Acute respiratory infections (ARIs) contribute to major disease associated mortality and morbidity among children under 5 years. The existing evidences on ARI are focused on the burden of illness around urban slums and hence lack representative and reliable data resulting in under estimation of ARI prevalence. Shift in the infectious disease etiology from gram positive to gram negative organisms is not well-recognized by health care providers who often under utilize novel rapid diagnostic methods and/or irrationally use antibiotics leading to increased burden of ARI.⁶ Although a few studies have claimed efficacy and impact of vaccines (*Hemophilus influenza (Hib)*, pneumococcal vaccines) in reducing the respiratory infections, ignorance and other competing priorities are major hurdles against implementing the newer

vaccines in control of ARI. Within these circumstances, this review is focused toward the sensitization on disease burden, etiology, and state of newer vaccines against ARI in India.⁷

One of the most common questions that parents ask when consulting healthcare services is “how long will my child’s symptoms last?”⁸ Accurate information about the expected course of respiratory tract infections in children is essential for both clinicians and parents, as it sets expectations and lets them know when the illness is deviating from the expected. This directly informs parents’ decisions to seek medical attention, whether to re-consult, and when to use delayed prescriptions of antibiotics, as well as clinicians’ decisions on when to prescribe antibiotics or consider other treatments.⁹ The present study was conducted to assess cases of ARI in children.

In this study, age group 4-6 years comprised of 26 boys and 22 girls, 4-6 years had 10 boys and 16 girls and age group 6-8 years had 6 boys and 4 girls. Jain et al¹⁰ found that 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 *Haemophilus influenzae* species are commonly identified in the nose and nasopharynx of apparently asymptomatic subjects.

We found that common symptoms in patients were nasal stuffiness was seen in 72 patients, throat irritation in 68, low-grade fever in 80, anorexia in 34 and myalgia in 27. The difference was significant (P < 0.05).

It is important to note that ARI include spectrum of severity within it as a result majority of the milder infections may go undetected. Thus incidence of respiratory infections can be relied only from community-based longitudinal cohorts rather than hospital-based studies. Majority of studies regarding etiology of ARI were conducted 2 decades back and studies on etiology at present are lacking.¹¹ Without representative community-based studies on etiology of ARI, it is difficult to recognize the intensity of this problem. Although some hospital-based studies have shown the emergence of different set of pathogen contributing to significant burden of ARI. Also, the reemergence of already controlled diseases such as pertussis has necessitated revision in National Immunization Schedule. Even some of the developed countries have suggest booster dose of acellular pertussis at the age of 10-12 years.¹²

CONCLUSION

Authors found that most common symptoms in patients were nasal stuffiness and throat irritation. Commonly involved age group was 2-4 years.

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