

Evaluation of Respiratory Diseases among Patients Visited in Hospital: A Clinical Study

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ABSTRACT

Background: Acute respiratory infections (ARIs) are classified as upper respiratory tract infections (URIs) or lower respiratory tract infections (LRIs). The present study was conducted to evaluate respiratory diseases among patients visited in hospital.

Materials & Methods: The present study included 220 patients of both genders. Patients with least one of the following symptoms such cough, runny nose, ear discharge, and sore throat, which might be associated with fever, chest retractions, and fast breathing within the last 2 weeks, were considered.

Results: Out of 220 patients, males were 120 and females were 100. Patients had cold (110), cough (140), sore throat (90), ear discharge (80), fever (130) and associated fever and fast breathing (60). Patients were from urban (60%) while 40% were from rural area. The difference was significant ($P=0.05$). 55% were residing in overcrowding area while 45% were not. The difference was significant ($P=0.1$). 30% patients were illiterate while 70% were literate. The difference was significant ($P=0.001$).

Conclusion: Respiratory tract infections are common among both genders. Symptoms include fever, cough, sore throat and cold.

Key words: Cough, Sore Throat, Respiratory Tract Infection.

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INTRODUCTION

Acute respiratory infections (ARIs) are classified as upper respiratory tract infections (URIs) or lower respiratory tract infections (LRIs). The upper respiratory tract consists of the airways from the nostrils to the vocal cords in the larynx, including the paranasal sinuses and the middle ear. The lower respiratory tract covers the continuation of the airways from the trachea and bronchi to the bronchioles and the alveoli. ARIs are not confined to the respiratory tract and have systemic effects because of possible extension of infection or microbial toxins, inflammation, and reduced lung function.¹

The clinical syndrome of URTI comprises a variety of symptoms—most frequently cough and coryza associated with fever. The cause is usually viral, with fewer than 10% of cases caused by bacteria. URTI forms a continuum with lower respiratory tract infection which is more often associated with bacterial infection. *Haemophilus influenzae* and *Streptococcus pneumoniae* are cultured in approximately 20% of children with lower respiratory tract infection in the community.²

URIs are the most common infectious diseases. They include rhinitis (common cold), sinusitis, ear infections, acute pharyngitis

or tonsillopharyngitis, epiglottitis, and laryngitis—of which ear infections and pharyngitis cause the more severe complications (deafness and acute rheumatic fever, respectively). The vast majority of URIs have a viral etiology. Rhinoviruses account for 25 to 30 percent of URIs; respiratory syncytial viruses (RSVs), parainfluenza and influenza viruses, human metapneumovirus, and adenoviruses for 25 to 35 percent; corona viruses for 10 percent; and unidentified viruses for the remainder.³ The present study was conducted to evaluate respiratory diseases among patients visited in hospital.

MATERIALS & METHODS

The present study was conducted in the Department of General Medicine, Swatantra Sainani late Dr. Mangal Singh District Hospital, Dholpur, Rajasthan, India.

It included 220 patients of both genders. Parents were informed regarding the study and written consent was obtained. Ethical clearance was taken from institutional ethical committee.

General information such as name, age, gender etc was noted on performa. Patients with least one of the following symptoms such

cough, runny nose, ear discharge, and sore throat, which might be associated with fever, chest retractions, and fast breathing within the last 2 weeks, were considered. Results thus obtained were subjected to statistical analysis. P value less than 0.05 was considered significant.

RESULTS

Table I shows that out of 220 patients, males were 120 and females were 100.

Table II shows that patients had cold (110), cough (140), sore throat (90), ear discharge (80), fever (130) and associated fever and fast breathing (60).

Table III shows most of the patients were from urban (60%) while 40% were from rural area. The difference was significant (P-0.05). 55% were residing in overcrowding area while 45% were not. The difference was significant (P-0.1).

30% patients were illiterate while 70% were literate. The difference was significant (P-0.001).

Table I: Distribution of subjects

Total- 220			
Males	Percentage	Females	Percentage
120	54.5	100	45.4

Table II: Symptoms in Patients

Symptoms	Number	Percentage
Cold	110	50
Cough	140	63.6
Sore throat	90	40.9
Ear discharge	80	36.3
Associated fever	130	59
Associated fever & fast breathing	60	27.3

Table III: Factors associated with RTI

Variable		Percentage	P value
Place of residence	Urban	60%	0.05
	Rural	40%	
Overcrowding	Yes	55%	0.1
	No	45%	
Education	Illiterate	30%	0.001
	Literate	70%	

DISCUSSION

In India, RTI accounts for 30-50% of visits to health facilities and 20-40% of hospital admissions. In urban slum areas, RTI constitutes over two-thirds of all illnesses. Despite these statistics, majority of the reported evidences underestimate the actual burden of RTI in the community. Hence, continued understanding of RTI prevalence and associated risk factors is essential. However, estimating the morbidity burden has inherent challenges due to lack of uniformity in study definitions, spectral nature of illness and misclassification errors.⁴

Upper respiratory tract colonization with potentially pathogenic organisms and aspiration of the contaminated secretions have been implicated in the pathogenesis of bacterial pneumonia in young children. Infection of the upper respiratory tract with influenza virus or RSVs has been shown to increase the binding of both *H. influenzae* and *S. pneumoniae* to lining cells in the nasopharynx.⁵ This finding may explain why increased rates of pneumococcal pneumonia parallel influenza and RSV epidemics. A study in South Africa showed that vaccination with a nine-valent pneumococcal conjugate vaccine reduced the incidence of virus-associated pneumonia causing hospitalization by 31 percent,

suggesting that pneumococcus plays an important role in the pathogenesis of virus-associated pneumonia.⁶

We found that out of 220 patients, males were 120 and females were 100. Patients had cold (110), cough (140), sore throat (90), ear discharge (80), fever (130) and associated fever and fast breathing (60). This is similar to Dhimal et al.⁷

Vashishtha et al⁸ reported 47.3% prevalence rate of ARI among patients. A community-based study in a coastal village of Karnataka, India reported the incidence of pneumonia to be significantly higher among young adults. An epidemiological study conducted in an urban area of West Tripura, India also reported higher incidence of pneumonia among patients. However, only a limited number of studies from India have compared the prevalence of ARI in urban and rural areas. The higher prevalence of ARI in the urban areas compared with rural areas and in overcrowded settings stresses the fact that ARI control programs in India need to consider these risk factors while treating ARI in urban primary care settings.

Cough, fever occurs predominantly in patients of both genders. The clinical features of URTI are rapid breathing and lower chest wall indrawing, fever in one-third of cases, and wheezing

Inflammatory obstruction of the small airways, which leads to hyperinflation of the lungs, and collapse of segments of the lung occur. Because the signs and symptoms are also characteristic of pneumonia, health workers may find differentiating between bronchiolitis and pneumonia difficult. Two features that may help are a definition of the seasonality of RSVs in the locality and the skill to detect wheezing. RSVs are the main cause of bronchiolitis worldwide and can cause up to 70 or 80 percent of LRIs during high season. The recently discovered human metapneumovirus also causes bronchiolitis that is indistinguishable from RSV disease. Other viruses that cause bronchiolitis include parainfluenza virus type 3 and influenza viruses.⁹

CONCLUSION

Respiratory tract infections are common among both genders. Symptoms include fever, cough, sore throat and cold.

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