(e) ISSN Online: 2321-9599
(p) ISSN Print: 2348-6805

Index Copernicus value = 76.77

ORIGINAL ARTICLE

Upper respiratory tract infection and their management in children- A clinical study

Dhananjay Kumar

Associate professor, Department of Pediatrics, TSM medical College and hospital Lucknow, Uttar Pradesh, India

ABSTRACT:
Background: Upper respiratory tract infection (URTI) or "the common cold" is a symptom complex usually caused by several families of virus. The present study was conducted to determine case of upper respiratory tract infection and their management in children. **Materials & Methods:** 92 children age ranged 2- 8 years underwent careful examination. Symptoms such as nasal stuffiness, throat irritation, low grade fever, anorexia and myalgia were recorded. **Results:** Age group 2-4 years had 32, 4-6 years had 40, 6-8 years had 20 patients. Common clinical findings were throat pain in 70, nasal congestion in 62, fever in 40, myalgia in 28 and anorexia in 17. Common medication includes first generation antihistamines in 72% antipyretics (paracetamol) in 68%, anti-inflammatory agents (ibuprofen) in 52% and cough suppressants such as dextromethorphan, expectorants (guaifenesin) in 61%. The difference was non- significant (P> 0.05). **Conclusion:** Common symptoms were throat pain and nasal congestion. Commonly used medications were antihistamines, antipyretics, anti-inflammatory agents and cough suppressants.
Key words: Antipyretics, Throat pain, Nasal congestion.

Corresponding author: Dr. Dhananjay Kumar, Associate professor, Department of Pediatrics, TSM medical College and hospital Lucknow, Uttar Pradesh, India

This article may be cited as: Kumar D. Upper respiratory tract infection and their management in children- A clinical study. J Adv Med Dent Scie Res 2017;5(6):79-82.

INTRODUCTION

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.[1] Occasionally the enterovirus is implicated in summer. Recently, the newly discovered bocavirus (related to the parvovirus) has also been linked to URTI. The term "URTI" is probably a misnomer as it incorrectly implies an absence of lower respiratory tract symptoms.[2] URTI occurs commonly in both children and adults and is a major cause of mild morbidity. URTIs have a high cost to society, being responsible for missed work and unnecessary medical care. Occasionally they have serious sequelae. Often regarded as trivial, URTIs do not receive serious attention in medical school curricula.[3]

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.[4] 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. Diphtheria, pertussis (whooping cough), and measles are vaccine-preventable diseases that may have a respiratory tract component but also affect other systems.[5] The present study was conducted to determine case of upper respiratory tract infection and their management in children.

MATERIALS & METHODS

The present study was conducted among 92 children age ranged 2- 8 years of both genders. Parents' consent was obtained before starting the study.

Data such as name, age, gender etc. was recorded. All cases underwent careful examination. Symptoms such as nasal stuffiness, throat irritation, low grade fever, anorexia and myalgia were recorded. Data thus collected were subjected to statistical analysis. P value < 0.05 was considered significant.

RESULTS

Table I Distribution of patients

Age group (Years)	Number	P value
2-4	32	0.17
4-6	40	
6-8	20	

Table I, graph I shows that age group 2-4 years had 32, 4-6 years had 40, 6-8 years had 20 patients. The difference was non- significant (P> 0.05).

Graph I Distribution of patients

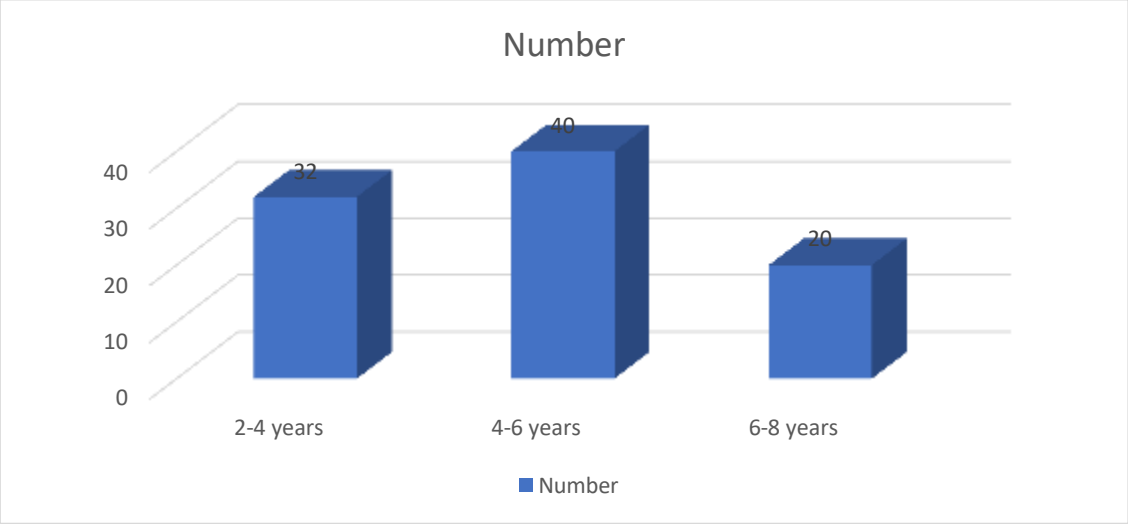


Table II Clinical features in all patients

Clinical features	Number	P value
Throat pain	70	0.001
Nasal congestion	62	
Fever	40	
Myalgia	28	
Anorexia	17	

Table II, graph II shows that common clinical findings were throat pain in 70, nasal congestion in 62, fever in 40, myalgia in 28 and anorexia in 17. The difference was significant (P< 0.05).

Graph II Clinical features in all patients

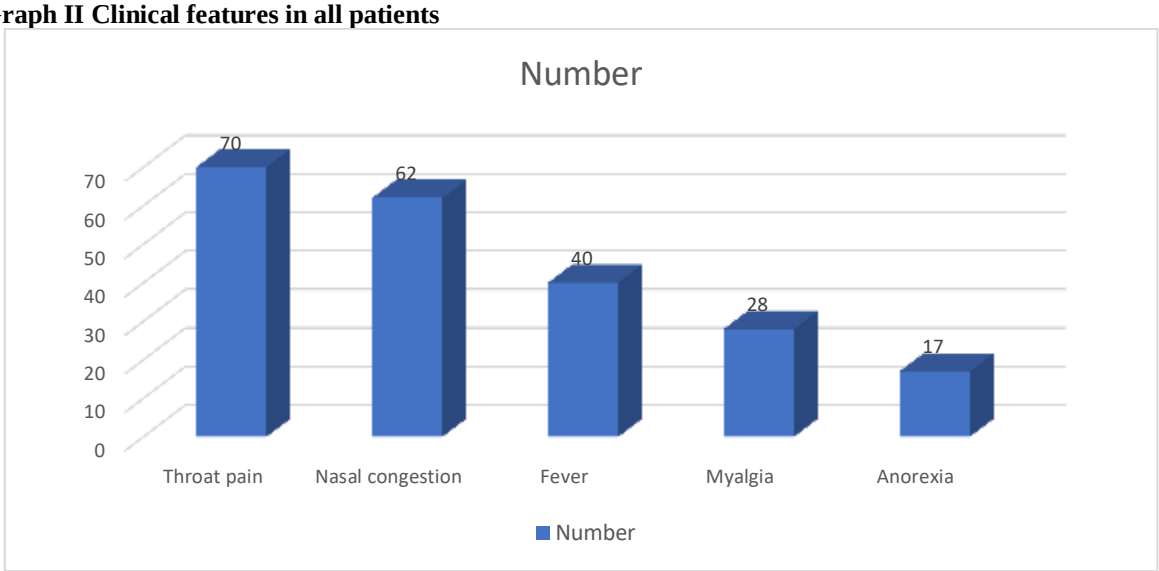
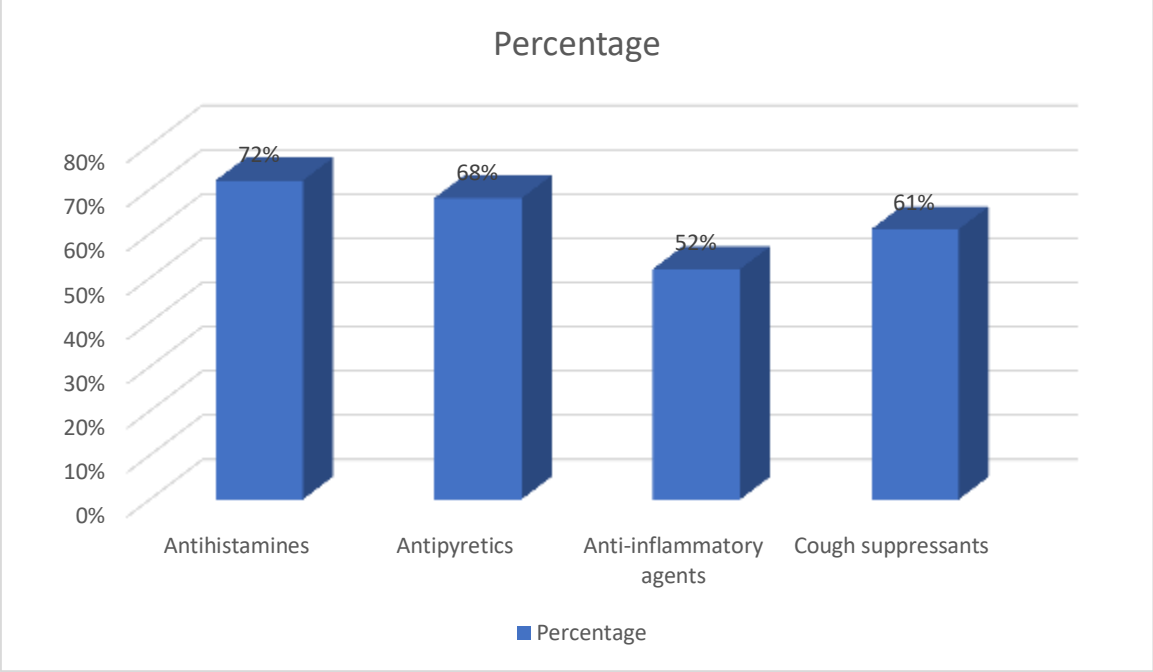


Table III Medications used in patients

Medications	Percentage	P value
Antihistamines	72%	0.5
Antipyretics	68%	
Anti-inflammatory agents	52%	
Cough suppressants	61%	

Table III, graph III shows that common medication include first generation antihistamines in 72% antipyretics (paracetamol) in 68%, anti-inflammatory agents (ibuprofen) in 52% and cough suppressants such as dextromethorphan, expectorants (guaifenesin) in 61%. The difference was non- significant (P> 0.05).

Graph III Medications used in patients



DISCUSSION

Acute respiratory infections (ARIs) contribute to major disease associated mortality and morbidity among children under 5 years.[6] 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. The existing evidences on ARI are focused on the burden of illness around urban slums and hence lack representative.[7] Bacterial complications such as otitis media and acute sinusitis and inflammatory sequelae such as asthma, however, are well described. By understanding the natural history, spectrum of complications and awareness of "warning signs", the family practitioner may be better equipped to manage the most common human viral infection.[8] Management issues include the correct use of antibiotics, new information warning against over the counter medication for URTI in children under two years of age, emerging data on complementary and alternate medications (CAM) and other low-cost evidence-based interventions.[9] The present study was conducted to determine case of upper respiratory tract infection and their management in children.

In present study, age group 2-4 years had 32, 4-6 years had 40, 6-8 years had 20 patients. We found that common clinical findings were throat pain in 70, nasal congestion in 62, fever in 40, myalgia in 28 and anorexia in 17. Shi [10] evaluated clinical outcome of cases of Acute respiratory infections in children below 5 years age. The present study was conducted on 168 patients of both genders. Acute respiratory infections affected most commonly age group of 2-4 years comprising 52 boys and 44 girls followed by 4-6 years who had 20 boys and 32 girls and age group 6-8 years had 12 boys and 8 girls. Nasal stuffiness was seen in 144 patients, throat irritation in 136, low-grade fever in 160, anorexia in 68 and myalgia in 54.

We observed common medication include first generation antihistamines in 72% antipyretics (paracetamol) in 68%, anti-inflammatory agents (ibuprofen) in 52% and cough suppressants such as dextromethorphan, expectorants (guaifenesin) in 61%. Jain et al[11] 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.

The symptoms and signs of the common cold have been well delineated in adult natural history studies since the 1960s. Onset is heralded by nasal stuffiness and throat irritation, usually accompanied by low-grade fever, anorexia and myalgia. Sneezing is accompanied by a watery nasal discharge, which after one to three days becomes mucopurulent and can persist for up to ten days in over a third of patients. Coughing occurs commonly probably due to inflammation of the lower respiratory tract.[12]

CONCLUSION

Authors found that common symptoms were throat pain and nasal congestion. Commonly used medications were antihistamines, antipyretics, anti-inflammatory agents and cough suppressants

REFERENCES

1. Moscona A. Neuraminidase inhibitors for influenza. N Engl J Med. 2005; 353(13):1363–1373.
2. Monto AS, Gravenstein S, Elliott M, Colopy M, Schweinle J. Clinical signs and symptoms predicting influenza infection. Arch Intern Med. 2000; 160(21):3243–3247.
3. Carapetis JR. Rheumatic heart disease in developing countries. N Engl J Med. 2007; 357(5):439– 441.
4. Carceller A, Tapiero B, Rubin E, Miro J. Acute rheumatic fever: 27 year experience from the Montreal's pediatric tertiary care centers. An Pediatr (Barc). 2007; 67(1):5–10.
5. Erdem G, Mizumoto C, Esaki D, et al. Group A streptococcal isolates temporally associated with acute rheumatic fever in Hawaii: differences from the continental United States. Clin Infect Dis. 2007; 45(3):e20–e24.
6. Matthys J, De Meyere M, Van Driel ML, De Sutter A. Differences among international pharyngitis guidelines: not just academic. Ann Fam Med. 2007; 5:436–443.
7. Arguedas A, Mohs E. Prevention of rheumatic fever in Costa Rica. J Pediatr. 1992; 121(4):569– 572.
8. Taneja J, Malik A, Malik A, Rizvi M, Agarwal M. Acute lower respiratory tract infections in children. Indian Pediatr. 2009;46:509–11.
9. Selvaraj K, Chinnakali P, Majumdar A, Krishnan IS. Acute respiratory infections among under-5 children in India: A situational analysis. J Nat Sci Biol Med. 2014 Jan;5(1):15-20.
10. Shi T, McLean K, Campbell H, et al. Aetiological role of common respiratory viruses in acute lower respiratory infections in children under five years: A systematic review and meta-analysis. J Glob Health 2015; 5: 408.
11. Jain S, Finelli L, CDC EPIC Study Team. Community acquired pneumonia among U.S. Children. N Engl J Med 2015; 372: 2167–2168.
12. Clark JE, Hammal D, Hampton F, Spencer D, Parker L. Epidemiology of community-acquired pneumonia in children seen in hospital. Epidemiol Infect. 2007;135:262–269.