

Incidence of ear, nose and throat disorders in children - A observational study in District Hospital at Koppal

K Mallikarjuna Swamy¹, Arati Ganiger^{2*}

¹Associate Professor, Department of Ear, Nose Throat, KIMS, Koppal, INDIA.

²Assistant Professor, Department of Biochemistry, KIMS, Koppal, INDIA.

Email: drkmallikarjuna1980@gmail.com

Abstract

Background and Objectives: Ear, nose and throat (ENT) disorders constitutes one of the most common disorders in children. Mainly diseases such as acute suppurative otitis media, acute tonsillitis, adenoid hypertrophy, acute rhinitis, acute epiglottitis, laryngitis, tracheobronchitis etc are common ones. Proper hygiene, good nourishment and different socio-economic levels play a major role in the prevention of ENT disorders. **Materials and methods:** It is a observational study. The study was conducted on 285 children in the age group 5 to 15 years, attending outpatient department (OPD) of otolaryngology clinic with various otolaryngological diseases such as pharyngitis, Acute Suppurative Otitis Media (ASOM), laryngitis, adenoid hypertrophy and upper respiratory tract infections (URTI). Clinical history and examination was done to diagnose cases and appropriate investigations were done to confirm diagnosis. **Results:** Our study showed the incidence of ENT disorders more common in males than females. Incidence was found to be more in children with poor nourishment, low socioeconomic status, over crowding education of parents etc. This observation was statistically significant ($p < 0.05$). **Conclusion:** Early identification and proper management are essential to ensure adequate growth and development. Enhancement of educational and preventive programs targeting the relevant risk factors is suggested.

Key Word: Tonsillitis, Adenoid Hypertrophy, Otitis media, Pharyngitis, Rhinitis

*Address for Correspondence:

Dr. Arati Ganiger, Assistant Professor, Department of Biochemistry, KIMS, Koppal-583231, Karnataka, INDIA.

Email: drkmallikarjuna1980@gmail.com

Received Date: 11/06/2019 Revised Date: 23/06/2019 Accepted Date: 02/07/2019

DOI: <https://doi.org/10.26611/10161114>

Access this article online

Quick Response Code:	Website: www.medpulse.in
	Accessed Date: 06 July 2019

INTRODUCTION

Health is vital for overall development of a child and determines his/her ability to acquire knowledge and skill. ENT (Ear, Nose, and Throat) disorders may affect this ability adversely and are common cause of consultation to pediatricians^{1,2}. Paediatric population forms a considerable proportion of the total world's population.

Respiratory tract symptoms such as cough, cold, earache, and sore throat are very common in children especially when there is a climatic change or in the rainy and winter seasons. Many times, the treatment for these are done at home itself or by using alternative treatment and symptomatic treatment, probably because of monetary reasons. When these symptoms become more serious, the children are normally brought to the doctor. Ear, Nose, Throat problems are more common in children than in adults, especially diseases such as acute suppurative otitis media, acute tonsillitis, acute epiglottitis, laryngotracheobronchitis, and rhinitis etc. This could be due to various factors such as wider and horizontal eustachian tube, under developed immunity, malnourishment, poor hygiene and sanitary conditions, overcrowding, lower socioeconomic status³. Otitis media-inflammation of the middle ear cleft is one of the most common medical problems of childhood and a common cause of hearing loss⁴, making it one of the most frequent

morbidities encountered in day to day clinical practice⁵. However, the cause of hearing loss in children is more varied, including aetiologies such as meningitis, hyperbilirubinemia, anoxia at birth, and a wide range of genetic disorders⁶. The major cause for hearing retardation is otitis media, which is second only to common cold as a cause of infection in childhood⁷. Respiratory tract symptoms such as cough, sore throat, and earache are also frequent in children⁸. Upper respiratory tract infections predispose a child to complications such as otitis media, tonsillitis, and sinusitis that further contribute to morbidity⁹. Tonsillitis most often occurs in children, a condition rarely appreciated in those younger than 2 years. Viral tonsillitis is more common in younger children, while tonsillitis caused by Streptococcus species typically occurs in children aged 5-15 years. Beside these conditions, foreign body in ear, nose and throat are cases which are typically evident in paediatric age group. The data on paediatric otorhinolaryngology from various Indian populations is insufficient. A few studies have reported high prevalence of otological morbidities.^{10,11} A proper understanding of the magnitude of ENT diseases and the factors associated with their occurrence in the community is important to enable formulation of healthcare services aimed at early detection and treatment of such morbidities. The present study was undertaken to determine the hospital prevalence of ENT disorders in paediatric population and their relationship with sociodemographic factors in a rural tertiary care hospital in India.

MATERIALS AND METHODS

It was an observational study. The study was conducted on 285 children in the age group of 5 to 15 years attending the ENT outpatient department with various complaints of ear, nose and throat such as ear pain, ear wax, throat pain, foreign body in ear, nose / throat etc. The study was conducted for a period of 3 months from 20 March 2019 to 10th June 2019. General demographic details such as age, sex, socio-economic status were taken. Clinical history and examination for common ENT complaints and disorders was taken for all patients. Otoscopy for ear examination for diseases such as otitis media, ear perforation and ear discharge was done. In case of nasal examination, external, anterior rhinoscopy for nasal

discharge, airway obstruction and infection were performed. Presence of any adenoid hypertrophy was looked for. Throat examination was performed for any sign of tonsillitis or pharyngitis. Appropriate investigations such as X-rays, culture and sensitivity, etc were performed where necessary. The data was collected in a proforma and included demographic details, reports of clinical examination and laboratory investigations. Ethical approval was obtained from the Institutional Ethical Clearance Committee.

Inclusion Criteria:

- Children in the age group 5 to 15 years
- Both males and females
- Those presenting with complaints of ear, nose or throat

Exclusion criteria

- Cough with expectoration
- Pneumonia
- Tuberculosis
- hemoptysis and other systemic diseases
- children with immunocompromised state
- Children presenting with headache due to any ophthalmic reasons or neurological reasons

Statistical methodology: Data was expressed in terms of mean \pm SD. Unpaired 't'-test was used to study the changes in subjects. Pearson correlation was performed to establish the relationship between study variables. p value <0.05 was considered statistically significant.

RESULTS

It is an observational study conducted on 285 children with complaints of ear, nose and throat. The sociodemographic profile of the study population is shown in Table 1. ENT diseases in our study population were found to be more common among male children (58.95%); however this difference was not statistically significant. Majority of the paediatric patients were from lower socioeconomic status (36.2%) and had illiterate mother (43.85%) (Table 2). Diseases of auditory system (46.3%) were the most common group of ENT problems among the paediatric population, followed by pharyngoesophageal (19.2%) and nasal disorders (34.3%) (Table 3).

Table 1: Sociodemographic profile of subjects

Gender	Number(n)	Percentage(%)
Males(total)	168	58.95%(in overall subjects)
5-8 years	59	35.11%
9-12 years	53	31.54%
13-15 years	56	33.33%
Females (Total)	117	41.05%(in overall subjects)
5-8 years	35	29.91%

9-12 years	45	38.46%
13-15 years	37	31.62%
Age (in years), Mean (SD)	9.28±2.1	
	Male 9.26 ±1.8	
	Female 9.15 ±2.3	

Table 2: Socioeconomic Status

Socioeconomic Status	Numbers (n)	Percentage (%)
Upper	73	25.61%
Middle	109	38.24%
Lower	103	36.14%
Educational status of mother	Numbers	Percentage
Illiterate	125	43.85%
Primary and secondary	95	33.33%
Graduate and above	65	22.81%

Table 3: Incidence of various ENT diseases

Disorder	Number	Percentage
Ear disorders(n= 132)	Otitis media-32	24.2%
	Ear wax-26	19.6%
	Foreign body ear-20	15.15%
	Otomycois-17	12.87%
	Otitis media with effusion-37	28.03%
Nose disorders (n=98)	Rhinitis-24	24.4%
	Allergic rhinitis-20	20.4%
	Chronic sinusitis-12	12.24%
	Epistaxis -10	10.20%
	Foreign body-10	10.20%
	Nasal polyp-6	6.1%
	Deviation of nasal septum-4	4.08%
	Nasal injuries-12	12.24%
Throat disorders (n=55)	Tonsillitis -10	18.18%
	Pharyngytis-9	16.36%
	Cervical lymphadenitis-8	14.54%
	Adenoid hypertrophy-11	20.0%
	Others -17	30.90%

DISCUSSION

Ear diseases in children are a major public health problem in developing countries. The World Health Organization (WHO) suggests that, in developing countries, children should be screened at school entry using a simple audiometer and inspection of the ear for the presence of discharge, to study the extent of the problem in the community¹². Otitis media is the most common morbid condition of the ear and a leading cause of hearing loss. The high prevalence of otitis media in our study corresponds to the results obtained elsewhere in similar study populations. Prakash Adhikar¹³ in a study conducted among 2000 children aged between 5 and 13 years in Nepal found wax followed by chronic suppurative otitis media and otitis media with effusion as the most common ear diseases in rural schoolchildren. J Hatcher et al¹⁴ also found chronic suppurative otitis

media, wax and hearing loss among major form of ear diseases. A study among Malaysian school children revealed a prevalence of middle ear disorders at 7.26%.¹⁵ Socio economic status and provision of health care facilities act as risk factors. The same study reports 13 risk factors which include nutritional status, duration of breast feeding, rhinitis and others. More than the family type, it is the overcrowding which acts as a risk factor for ENT problems. Rhinitis may be viral or allergic in nature. Infective rhinitis often coexist with other constituents of upper respiratory tract infection. Allergic rhinitis may be seen associated with asthma and other allergic conditions¹⁶. The high prevalence of rhinitis in our study is the result of upper respiratory tract infection with poor patient compliance. Adenoiditis another common complaint is often seen co existent with tonsillitis. Upper respiratory obstruction and adenoid hypertrophy are the

most common aetiologies that cause mouth breathing and snoring¹⁷. Long period of airway obstruction during childhood causes some structural changes in faces and teeth, like adenoid face. Epistaxis in children is a common disorder that is usually due to local irritation in Kiesselbach's plexus. The most common disorders underlying epistaxis are local inflammatory diseases, infections, and trauma. Most often the bleed itself limiting in children, however they may be recur. The data showing the recent prevalence of nose bleed in children is scanty. Tonsillitis is one of the most common ENT disorders which bring a child for seeking relief to a pediatrician. Laryngotracheobronchitis the most common form of airway obstruction or stridor in children aged 6 months to 6 years. It is more common during winters; however literature on its exact prevalence is scarce. Our study shows the incidence and prevalence of various ENT disorders in our tertiary care hospital at Koppal. It has certain limitations. As we didn't include control group, and as it is not compared with similar patients from other set ups, it cannot be generalized on a large scale. We couldnot compare the socio economic status and nutrition status with other groups as control group was not taken. So, to get the true picture of the magnitude of the incidence, a survey on a large scale population is advised.

CONCLUSION

The study suggests that otitis media, tonsillitis, adenoid hypertrophy upper respiratory tract infections and foreign bodies are the most common ENT problems in paediatric population. Although many of these are not an emergency, but they significantly add to the morbidity in children. So proper facilities to treat and early diagnosis and treatment helps in reducing the long term morbidities.

REFERENCES

1. ISD Scotland. Scottish Health Statistics. Edinburgh: Information and statistics division, National Health Service in Scotland; 1998.
2. McCormick A, Fleming D, Charlton J. Morbidity statistics from general practice, 4th National Study 1992–1993. London: Office of National Statistics, HMSO; 1995.
3. Gul AA, Ali L, Rahim E, Ahmed S. Chronic suppurative otitis media; frequency of *Pseudomonas aeruginosa* in patients and its sensitivity to various antibiotics. *Professional Med J*. 2007; 14: 411-5.
4. Healy GB. Otitis media and middle ear effusions. In: John J Ballenger: *The Ear, Williams & Williams*, Baltimore, 1996; pp 1003-1009.
5. Bluestone CB, Klein JO: *Epidemiology, otitis media in Infants and Children*, W. B. Saunders, Philadelphia, 2001; pp 58-78
6. AL Pittman and PG Stelmachowicz. Hearing loss in children and adults: Audiometric configuration, asymmetry, and progression. *Ear Hear*. 2003 June; 24(3):198–205.
7. Maharjan M, Bhandari S, Singh I, Mishra SC. Prevalence of otitis media in school going children in Eastern Nepal. *Kathmandu University Medical Journal* 2006; 4(16):479-482.
8. Ashworth M, Charlton J, Ballard K, et al. Variations in antibiotic prescribing and consultation rates for acute respiratory infection in UK general practices 1995–2000. *Br J Gen Pract* 2005; 55(517): 603–608.
9. Kari J Kværner, Per Nafstad, Jouni JK Jaakkola. Upper Respiratory Morbidity in Preschool Children A Cross-sectional Study. *Arch Otolaryngol Head Neck Surg*. 2000; 126:1201-06.
10. R S Phaneendra Rao, Malavika A Subramanyam, N Sree kumaran Nair, B Rajashekhar. Hearing impairment and ear diseases among children of school entry age in rural South India. 2002; 64 (2):105-10.
11. K Srinivasan, GR Prabhu. A Study of the Morbidity Status of Children in Social Welfare Hostels in Tirupati Town. *Indian Journal of Community Medicine* 2006; 31(3):170-72.
12. Gell FM, White E, Mc Newell K, Mackenzie I, Smith A, Thompson S et al. Practical screening priorities for hearing impairment among children in developing countries. *Bull. World Health Organ* 1992; 70: 645-55.
13. Prakash Adhikari. Pattern of ear diseases in rural school children: Experiences of free health camps in Nepal. *Int J Pediatr Otorhinolaryngol* 2009; 73 (9):1278-80.
14. J Hatcher, A Smith, I Mackenzie et. al. A prevalence study of ear problems in school children in Kiambu district, Kenya, May 1992. *Int J Pediatr Otorhinolaryngol* 1995; 33(3):197-205.
15. S Elango, GN Purohit, M Hashim and R Hilmi. Hearing loss and ear disorders in Malaysian school children. *Int J Pediatr Otorhinolaryngol* 1991; 22(1):75-80.
16. Asha Pherwani, Gauri Mankekar and Kashmira Chavan. The study of co-morbid conditions in children with allergic rhinitis, from Mumbai, Maharashtra, India. *Indian Journal of Otolaryngology and Head & Neck Surgery* 2007; 59(3):240-244.
17. Sadatian A, Falah Tafty M, Vazir Nezamy M. "Cardinal sign and treatment otolaryngology 2nd edition". Nooredanesh, 1996, p:222-223.

Source of Support: None Declared
Conflict of Interest: None Declared