

Original Research Article

Pattern of paediatric ear, nose and throat disorders in a district hospital

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Received: 11 January 2019

Accepted: 28 January 2019

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ABSTRACT

Background: ENT disorders such as otitis media, serous otitis media, sinusitis, and tonsillitis are among the commonest childhood disorders and important reasons for parents and children to visit the physicians/otolaryngologists. The pattern of ENT disorders also varies from community to community or hospital to hospital based on the availability of specialist personnel or facilities for the management. Present study was carried out with the objective of to study the pattern of paediatric ENT disorders in our Government district hospital.

Methods: The patients of both gender and age between 0 to 16 years and presenting with ENT problems were screened. The patients having ENT disorders diagnosed by ENT surgeon were enrolled into the study. All information to accomplish objectives was collected by studying the patients' treatment record and by personal interview of each of the study participants/parents for 5 to 10 minutes using case record form.

Results: Children from rural community were more affected than children from urban community. The maximum children were suffered from ear disorders (49.32%) followed by throat disorders (34.55%); and nose disorders (16.14%). CSOM found the commonest ENT disorder, OME, AOM, tonsillitis, adenoid hypertrophy, and acute pharyngitis. In 0-5 years-age-group, AOM and OME were the commonest; CSOM and OME in 5-10 years age group while acute pharyngitis and CSOM were the commonest in age-group of 10-16 years.

Conclusions: These results of the present study clearly show the wide prevalence of ENT disorders, particularly in the rural communities. There is urgent need to establish better healthcare especially ENT services for the rural population of our country. The general physicians and paediatricians should be trained and taught enough recognize common ENT disorders promptly; therefore they are able to refer early and prevent complication.

Keywords: Pattern, Paediatric, ENT disorders

INTRODUCTION

Ear, nose, and throat (ENT) disorders such as otitis media, serous otitis media, sinusitis, and tonsillitis are among the commonest childhood disorders and important reasons for parents and children to visit the physicians/otolaryngologists.¹ India is the second most populated country in the world with 35% of the total population comprising paediatric age group.² In comparison with ENT disorders in adults, ENT disorders are more common among children. There are many factors which are responsible for higher involvement of children like, anatomical structure (wider and horizontal

eustachian tube), immunological status (under developed immunity), malnutrition, over-crowding, poorly ventilated homes with poor sanitation, and lower socioeconomic status.^{3,4}

The symptoms presentation and initial management of ENT disorders in children is a significant factor in the outcome of these disorders. Children are often dependent on their parents, which may lead to delayed presentation.⁵ It is well established fact that these children consult first at the onset of their illness to the general physicians followed by paediatricians.⁶ Also there are similarities of the symptoms of some of the ENT disorders with other

common childhood diseases, like, otitis media and malaria.⁷ There are chances of misdiagnosis by the paediatricians and general physicians, resulting in late presentation to the ENT specialist often when disease has progressed to a chronic condition or has become complicated.⁸ Ear, nose and throat regions have close proximity to the brain, delayed diagnosis and management may result in spread of infection to the intracranial structures and orbit resulting in complications with high morbidity and mortality.⁹ ENT disorders in children often have serious consequences including hearing impairment, and emotional strain lead to that lower the quality of life of patients.¹⁰

According to World Health Organization, around 42 million children with age >3 years have hearing loss. The major cause for this hearing loss is otitis media, which is second only to common cold as a cause of infection in childhood.¹¹ Infections of upper respiratory tract infections predispose a child to complications such as otitis media, tonsillitis, and sinusitis. Tonsillitis most often occurs in children; a condition is rare in children younger than 2 years. Viral tonsillitis is more common in younger children, while tonsillitis caused by bacteria, especially *Streptococcus* species typically occurs in children aged 5-15 years. Apart from these conditions, foreign body in ear, nose and throat are cases which are typically present in children.¹²

The pattern of ENT disorders also varies from community to community or hospital to hospital based on the availability of specialist personnel or facilities for the management.¹³ With this background, the present study was carried out with the objective of to study the pattern of paediatric ENT disorders in our Government district hospital.

METHODS

This was descriptive, prospective, observational, cross-sectional study, conducted in the department of otorhinolaryngology, head and neck surgery, Government district hospital, Rajouri, Jammu And Kashmir. The study was carried out between August 2015 to July 2016. The study was approved from Human Research Ethics Committee. The written informed consent was obtained from parents of children before enrolling them into the study.

The patients of both gender and age between 0 to 16 years and presenting with ENT problems were screened. The patients having ENT disorders diagnosed by ENT surgeon were enrolled into the study. Patients were recruited in the study on prorata basis and all the patients participating in the study were explained clearly about the purpose and nature of the study in the language they can understand and written informed consent were taken from parents.

All information to accomplish objectives was collected by studying the patients' treatment record and by personal interview of each of the study participants/parents for 5 to 10 minutes using case record form (CRF). The CRF is comprising for details regarding socio-demographic profile; present history including symptoms; past history; investigations and other relevant information.

The collected data were subjected to statistical analysis using SPSS software package. Data was expressed as absolute numbers with or without percentages, as means with standard deviation or as medians with ranges. Frequency comparisons were performed by chi-square test. A probability value less than 0.05 was considered to denote statistical significance.

RESULTS

As per the study duration of one year, total 880 children (age between 0 to 16 years) have been found affected from ENT disorders. As per the division according to age, all three age groups were affected similarly with ENT disorders, 0-5 years: 298 (33.86%) children; 5-10 years: 315 (35.80%) children; and 10-16 years: 267 (30.34%) children. Boys (476, 54.09%) were more suffered from ENT disorders as compared to girls (404, 45.91%). As per the locality of resident, children from rural community (498, 56.59%) were more affected than children from urban community (382, 43.41%). As per the Socioeconomic status of the family, maximum children belong to class III (195, 22.16%) followed by class V (185, 21.02%); class IV (180, 20.45%); class II (172, 19.55%); and class I 148 (16.82%) (Table 1).

Table 1: Demographic characteristics of study population (N=880).

Variables	No. of patients	Percentage
Age (years)		
0 - 5	298	33.86
5 - 10	315	35.80
10 - 16	267	30.34
Gender		
Boys	476	54.09
Girls	404	45.91
Residence		
Rural	498	56.59
Urban	382	43.41
Socioeconomic status		
Class I	148	16.82
Class II	172	19.55
Class III	195	22.16
Class IV	180	20.45
Class V	185	21.02

The maximum children were suffered from ear disorders (434, 49.32%) followed by throat disorders (304, 34.55%); and nose disorders (142, 16.14%). As per the distribution of the patients according to age and different

ENT disorders (Table 2), children under 5 years were more affected by ear disorders (178, 20.23%) while children of age group of 10-16 years were more affected by throat disorders (123, 13.98%).

Table 2: Distribution of the patients according to age and ENT disorders (N=880).

Age (years)	Ear disorders		Nose disorders		Throat disorders		Total	
	N	%	N	%	N	%	N	%
0-5	178	20.23	42	4.77	78	8.86	298	33.86
5-10	164	18.64	48	5.45	103	11.70	315	35.80
10-16	92	10.45	52	5.91	123	13.98	267	30.34
Total	434	49.32	142	16.14	304	34.55	880	100.00

Table 3: Distribution of the patients according to gender and ENT disorders (N=880).

Gender	Ear disorders		Nose disorders		Throat disorders		Total	
	N	%	N	%	N	%	N	%
Boys	248	28.18	72	8.18	156	17.73	476	54.09
Girls	186	21.14	70	7.95	148	16.82	404	45.91
Total	434	49.32	142	16.14	304	34.55	880	100.00

Table 4: Pattern of ENT disorders in children.

Type of disorders	0-5 years		5-10 years		10-16 years		Total	
	N	%	N	%	N	%	N	%
Ear disorders (N=434)								
Chronic suppurative otitis media	16	3.69	63	14.52	38	8.76	117	26.96
Otitis media with effusion	48	11.06	29	6.68	19	4.38	96	22.12
Acute otitis media	63	14.52	18	4.15	15	3.46	96	22.12
Otitis externa	15	3.46	23	5.30	8	1.84	46	10.60
Wax	15	3.46	20	4.61	7	1.61	42	9.68
Foreign body in ear	4	0.92	4	0.92	4	0.92	12	2.76
Acute mastoiditis	12	2.76	3	0.69	1	0.23	16	3.69
Nose disorders (N=142)								
Others	5	1.15	4	0.92	0	0.00	9	2.07
Acute rhinitis	5	3.52	18	12.68	14	9.86	37	8.53
Chronic sinusitis	1	0.70	4	2.82	22	15.49	27	6.22
Deviated nasal septum	11	7.75	12	8.45	5	3.52	28	6.45
Foreign body in nose	13	9.15	2	1.41	2	1.41	17	3.92
Vestibulitis with epistaxis	2	1.41	7	4.93	2	1.41	11	2.53
Throat disorders (N=304)								
Injury	4	2.82	1	0.70	1	0.70	6	1.38
Others	6	4.23	4	2.82	6	4.23	16	3.69
Tonsillitis	29	9.54	26	8.55	26	8.55	81	18.66
Adenoid hypertrophy	34	11.18	21	6.91	5	1.64	60	13.82
Acute pharyngitis	4	1.32	15	4.93	35	11.51	54	12.44
Chronic pharyngitis	2	0.66	9	2.96	27	8.88	38	8.76
Cervical lymphadenitis	1	0.33	24	7.89	4	1.32	29	6.68
Foreign body in esophagus	2	0.66	3	0.99	2	0.66	7	1.61
Laryngitis	2	0.66	2	0.66	14	4.61	18	4.15
Others	4	1.32	3	0.99	10	3.29	17	3.92
Total (N=880)	298	33.86	315	35.80	267	30.34	880	100

According to Table 3, boys were more suffered from ear disorders (248, 28.18%) followed by throat disorders

(156, 17.73%) and nose disorders (72, 8.18%). Girls followed the same pattern of the ENT disorders—ear

disorders in 186 (21.14%) girls; throat disorders in 148 (16.82%) girls; and nose disorders in 70 (7.95%) girls. Overall, boys were more suffered from different type of ENT disorders than girls.

On analysis of pattern of ENT disorders in children (Table 4), chronic suppurative otitis media (CSOM; 117, 26.96%) found the commonest ENT disorder, followed by otitis media with effusion (OME; 96, 22.12%); acute otitis media (AOM; 96, 22.12%); tonsillitis (81, 18.66%); adenoid hypertrophy (60, 13.82%) and acute pharyngitis (54, 12.44%). In 0-5 years age group, AOM and OME were the commonest; CSOM and OME in 5-10 years age group while acute pharyngitis and CSOM were the commonest in age group of 10-16 years.

DISCUSSION

In the present study, total 880 children (age between 0 to 16 years) have been found affected from ENT disorders. All three age groups were affected similarly with ENT disorders 0-5 years: 33.86% of children; 5-10 years: 35.80% of children; and 10-16 years: 30.34% of children. Boys (54.09%) were more suffered from ENT disorders as compared to girls (45.91%). Similar type of gender involvement in a study done by Ibekwe et al, there were 537 males (56.58%) and 412 females (43.41 %) with a male female ratio of 1.3:1.¹⁴ Majority of the children were male 60% (n=979), while female were 40% (n=653) in a study done by Nepali et al.¹⁵ The male predominant society lead to extra care of the male child in India, which has led to higher prevalence of male children as compared to female children in our study.

Children from rural community (56.59%) were more affected than children from urban community (43.41%). As such, ENT disorders are common in rural community and early diagnosis and management may result in reduction of morbidity.¹⁶ But in the rural area ENT specialists are not easily available and other doctors don't have enough training and knowledge. Most of the ENT problems and disorders are managed by home remedies and most individuals manage their problems in the community without any help. Ignorance, poverty and traditional beliefs prevent the rural population from attending hospitals in cities.¹⁷

As per the socioeconomic status (SES) of the family, maximum children belong to class III (22.16%) followed by class V (21.02%); class IV (20.45%); class II (19.55%); and class I (16.82%). There is general observation that children belong to higher SES have lower prevalence of disease, particularly infectious diseases, in comparison of children belong to low SES. People in higher SES are more literate, have healthier lifestyles and behaviour than people in lower classes.¹⁸ This may explain the this particular observation in the present study. However, lack of time to visit hospitals by busy scheduled personnel of higher SES cannot be ruled

out as an important factor contributing to this pattern of presentation.¹⁹

The maximum children were suffered from ear disorders (49.32%) followed by throat disorders (34.55%); and nose disorders (16.14%). Similar type of results were observed in the study done by Chaudhari et al in which ear disorders were the most commonly reported (49.8%), followed by throat and neck disorders; and nose disorders.²⁰ In a study done by Nepali et al, ear diseases in children is contributing a considerable disease burden.¹⁵ Ear disorders are commonly found in paediatric and otorhinolaryngology clinics.^{21,22} Diseases of the ear in children is of great concern as these diseases have huge financial implications and also responsible for loss of school and work days for both children and parents. The psychological stress because of ear diseases is not quantifiable as the complications of ear-related illnesses could be devastating.²³

Children under 5 years were more affected by ear disorders (20.23%) while children of age group of 10-16 years were more affected by throat disorders (13.98%). Ear disorders as a whole was more prevalent among the age-group 0-4 years, after that among 5-9 years in the study done by Chaudhari et al.²⁰ Throat disorders as a whole was more prevalent among the age group 10-16 years, then 5-9 years in the same study.²⁰

In the present study, chronic suppurative otitis media (CSOM) found the commonest ENT disorder, followed by otitis media with effusion (OME); acute otitis media (AOM); tonsillitis; adenoid hypertrophy and acute pharyngitis. Chaudhari et al also reported CSOM as the most common ear disorder; acute rhinitis among nose disorders and tonsillitis among throat disorder were commonest.²⁰ As per the other study, the most common ear disorder was wax impaction.^{15,25,26} As our study was carried out at district hospital—a referral hospital, patients usually visit for more of complicated cases, which may lead to very low occurrence of wax and high occurrence of CSOM in our study.

In 0-5 years age group, AOM and OME were the commonest; CSOM and OME in 5-10 years age group while acute pharyngitis and CSOM were the commonest in age group of 10-16 years in the present study. In study done by Chaudhari et al, among 0-4 years the most commonest ENT disorders were AOM, OME and adenoid hypertrophy; while for the age-group of 5-9 years, CSOM and OME were the commonest; and in the older age group of 10-16 years the commonest ENT disorders were CSOM, tonsillitis and pharyngitis.²⁰

CONCLUSION

These results of the present study clearly show the wide prevalence of ENT disorders, particularly in the rural communities. There is urgent need to establish better healthcare especially ENT services for the rural

population of our country. The general physicians and paediatricians should be trained and taught enough recognize common ENT disorders promptly, therefore they are able to refer early and prevent complication.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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Cite this article as: Gupta V, Gupta A. Pattern of paediatric ear, nose and throat disorders in a district hospital. *Int J Otorhinolaryngol Head Neck Surg* 2019;5:403-7.