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A study on clinico-epidemiological profile of ear, nose and throat diseases among patients aged 6 to 14 years attending the E.N.T. OPD at M.G.M. Medical College, Kishanganj, Bihar, India

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ABSTRACT

Background: Ear, Nose and Throat diseases are common in school going children who often miss school due to these illnesses. The present study was hence conducted with the objectives to study the morbidity pattern of Ear, Nose and Throat diseases among the patients in the age group of 6-14 yrs attending the ENT OPD, to assess the socio demographic profile of the study population, and to find out the association between different ENT morbidities and relevant socio-demographic factors. **Methods:** This hospital-based, cross-sectional study was carried out on patients aged 6-14 years attending the E.N.T OPD of MGM Medical College & L.S.K Hospital, Kishanganj during September 2009 to February 2010. From previous five year records, the expected average number of patients in the six month study period came out to be 1432, of which fifty percent (i.e. 716) was considered as the sample size and were selected by systematic random sampling. Seventy seven were further excluded by exclusion criteria and finally 639 patients were included in the study. A structured, pre-tested questionnaire was used to interview the patients and thorough clinical examination was done. **Results:** Most of the study subjects (43.98 %) were between 6-10 years, were Muslims (57.69 %) and 51.64 % of them were female. Majority (63.69 %) belonged to BPL families. Ear diseases had the highest preponderance (52.60%), where CSOM accounted for 46.04%, ASOM 14.60%, & Otitis Media with effusion accounted for 19.55%. Amongst the nose diseases, epistaxis (28.69%) and allergic rhinitis (24.18%) and amongst the throat diseases, tonsillitis (57.50%) and pharyngitis (35.83%) were the commonest findings. CSOM was significantly higher in children living in kutchha houses ($p < 0.001$) and fall in BPL class ($p < 0.001$).

Key words: CSOM, ASOM, Epistaxis, BPL.

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Introduction

Ear, Nose & Throat diseases are common in school going children and children often miss school due to ENT diseases. The burden of morbidity due to ENT diseases is more during childhood. The most important amongst all ENT diseases in school going children is hearing impairment associated with different types of Otitis media which is largely preventable with early detection and intervention.¹⁻⁴ Even though ear, nose or throat (ENT) symptoms are common reasons for consulting general practitioners, most individuals manage their problem in the community without seeking help.⁵ The proportion of

symptoms presented, however, varies for different symptoms.⁶

Preventable ear diseases have been found to be important health problems among children.⁷ Nearly one third of the E.N.T outdoor attendance in the hospital comprised of paediatric age group. The problem is compounded by the fact that the children are economically dependent on their parents who are largely poor. This tends to delay early presentation to the hospital.^{1,5}

There are only few documented studies on the pattern

of E.N.T diseases, particularly in school going children, in the Kishanganj district of Bihar. Hence, the present study was conducted with the objectives to study the morbidity pattern of Ear, Nose and Throat diseases among the patients in the age group of 6-14 yrs attending the ENT OPD, to assess the socio demographic profile of the study population, and to find out the association between different ENT morbidities and relevant socio-demographic factors.

Materials & Methods:

This is a hospital based, cross sectional study, carried out on 639 patients in the age group of 6-14 years attending the E.N.T OPD of MGM Medical College & L.S.K Hospital, Kishanganj from the month of September'09 to February'2010. Ethical clearance to conduct the study was obtained from the ethical committee of M.G.M. Medical College & L.S.K. Hospital, Kishanganj, Bihar.

From the previous 5 years records the expected average number of patients in the 6 months study period came to be near about 1432. It was decided that 50 % of the expected total number of patients would be included in the study which came to be 716. Thus every alternate patient was selected by systematic random sampling method. Among them, 77 patients were excluded using the exclusion criteria viz. patients presenting with complaints like headache-due to ophthalmic or neurological reasons (47), dacryocystitis (7) and cough with haemoptysis (23). These patients were referred to Medicine, Ophthalmology, and Paediatric department after ruling out definite ENT diseases. Therefore, the other 639 patients in the age group of 6-14 years attending the ENT OPD in the said period were included in the study. Structured, pre-designed, pre-tested questionnaire was used to interview the patients and thorough clinical examination was also done after obtaining informed consent from their parents or guardians. All the 639 patients were having one or the other E.N.T diseases. The patients were classified with having different types of E.N.T diseases. Some patients also presented with mixed diseases. Hence, all the diseases were counted separately also. Statistical analysis was done by SPSS 16.0 software and relevant statistical tests like chi square were applied.

Results:

Among the 639 patients who were examined, 281 (43.98%) of children were of the age group of 6-10yrs and 358 (56.02%) of children were if 11-14 yrs. 48.36% of children were male and 51.64% were females. Majority of them were Muslims (57.69%). Around 232 (36.31%) children belong to APL

families while 407 (63.69%) of them came from BPL families. About 51.17% (327) children were illiterate, 29.89% (191) were studying in primary standards and 18.94% (121) children were studying in secondary standard. (Table 1)

Table 1: Socio-demographic profile of the study population (n=639)

Socio-demographic profile	No.	%
Age in years		
6-10	281	43.8
11-14	358	56.2
Sex		
Male	310	48.36
Female	329	51.64
Religion		
Hindu	368	57.69
Muslim	271	42.31
Literacy status		
Illiterate	327	51.17
Primary	191	29.89
Secondary	121	18.94
Socioeconomic status		
APL	232	36.31
BPL	407	63.69

Majority of the children were found to be suffering from various Ear, Nose and Throat infections. Out of 639 patients, 298 (46.64%) were suffering from only ear diseases, 117 (18.30%) were suffering from only nose diseases, 77 (12.05%) of them had only throat problems, whereas 95 (14.87%) had ear and nose problems, 32 (5.01%) had both throat and nose problem and 11 (1.72) of them had ear & throat diseases. Rest 9 (1.41%) patients had other problems like foreign body (F.B.) in the airway or oesophagus and TB lymph nodes. (Table 2)

Table: 2. Distribution of patients according to E.N.T diseases (n=639)

Diseases	No. of pts	%
Ear	298	46.64
Nose	117	18.30
Throat	77	12.05
Ear & Nose	95	14.87
Throat & Nose	32	5.01
Ear & Throat	11	1.72
Others	9	1.41
Total	639	100.00

Therefore, a total of 404 (52.60%) ear diseases, 244 (31.77%) nose diseases and 120 (15.63%) throat diseases were found in the study. It has also been documented that amongst all the ear diseases, safe and unsafe types of CSOM comprised of 37.62% and 8.42% respectively. ASOM comprises of 14.60% and that of O.M with effusion is 19.55%. Wax was found to be 9.91%, while that of F.B and sensory neural hearing loss was 2.97% and 0.74% respectively. Among the nose diseases, epistaxis (28.69%) and allergic rhinitis (24.18%) were the common findings. Tonsillitis (57.50%) and pharyngitis (35.83%) were found to be the major throat related diseases. (Table: 3)

Table: 3. Distribution of the study population according to the types of Ear, Nose and Throat Diseases (n=639)

E.N.T Diseases	No. of pts	%
Ear diseases		
CSOM (safe)	152	37.62
CSOM (unsafe)	34	8.42
ASOM	59	14.60
O.M with effusion	79	19.55
Ex. Ear Furuncle	25	6.19
SNHL	3	0.74
WAX	40	9.91
F.B	12	2.97
Total	404	100.00
Nose diseases		
Epistaxis	70	28.69
Allergic Rhinitis	59	24.18
DNS	38	15.57
F.B Nose	33	13.52
Nasal injury	25	10.25
Nasal Polyp	3	1.23
Others	16	6.56
Total	244	100.00
Throat diseases		
Tonsillitis	69	57.50
Pharyngitis	43	35.83
Others	8	6.67
Total	120	100.00

The study revealed that CSOM is significantly more common in patients living in kutcha houses (33.93%) than those living in pucca houses (23.76%) ($p < 0.01$). Again it is significantly more common in patients belonging to Below Poverty Line (BPL) families (37.32%) than those who were from Above Poverty Line (APL) families (22.54%) ($p < 0.001$). (Table 4)

Table: 4. Distribution of CSOM patients according to socio-demographic status (n=639)

Housing condition	CSOM present (safe & unsafe)		Total
	Present	Absent	
Kutcha	114 (33.93%)	222 (66.07%)	336 (100%)
Pucca	72 (23.76%)	231 (76.24%)	303 (100%)
Total	186 (29.11%)	453 (70.89%)	639 (100%)
$\chi^2=7.88, df=1, p<0.01$			
Socio-economic status	CSOM present (safe & unsafe)		Total
	Present	Absent	
APL	80 (22.54%)	275 (77.46%)	355 (100%)
BPL	106 (37.32%)	178 (62.68%)	284 (100%)
Total	186 (29.11%)	453 (70.89%)	639 (100%)
$\chi^2=16.7, df=1, p<0.001$			

Discussion:

Ear disease in children is a major public health concern in developing countries. It usually leads to significant hearing impairment if not treated early. The World Health Organization suggests that, in developing countries, children should be screened at school entry using a simple audiometer and that the external ear be inspected for the presence of discharge, to study the extent of the problem in the community.⁸

This study indicated that ear, nose and throat diseases, especially ear diseases were a considerable burden in the Kishanganj district among the school going age group. The study revealed that CSOM-safe (37.62%) and CSOM-unsafe (8.42%) were relatively common. Maharajan et al⁴, Biswas et al¹ and Morris et al⁵ reported the prevalence of CSOM to be 13.2%, 12.4% and 15.0% respectively.

The World Health Organization (WHO) considers CSOM to be a massive public health problem requiring urgent attention if it occurs in more than 4%

of the population.⁹ Chronic suppurative otitis media (CSOM) is a major health problem throughout the world in developing countries. It is the most common cause of persistent mild to moderate hearing impairment in children and young adults.¹ Poverty is a major risk factor in developing countries and certain neglected populations.⁶

A significant association was found between the occurrence of CSOM and the housing condition along with poor socio-economic status. Wakode et al also mentioned that CSOM are common in students belonging to low socioeconomic strata.¹⁰ Other possible factors for otitis media might be poor hygiene and passive smoking.⁹

In the present study, otitis media with effusion was found in 79 (19.55%) cases. Maharajan et al⁴ in their study found that otitis media with effusion was noticed in 34 (24.5%) cases.

Jacob et al³ and Sharma et al¹¹ study reported wax as the most common cause of hearing impairment, which accounted for 29.8% and 50% of cases respectively. However, in our study wax was found in 40 (9.91%) cases. In the present study, epistaxis and allergic rhinitis accounted for 28.69% and 24.18% respectively. It has been observed that the most common disorders underlying epistaxis are local inflammatory diseases, infections, and trauma.¹²

Conclusion:

In Kishanganj district, preventable ear diseases are important health problems amongst children in the school going age group of 6-14 years. Chronic suppurative otitis media (CSOM), ASOM and otitis media (O.M) with effusion were the most common ear diseases in children. These can lead to hearing impairment and deafness which are serious disabilities that can impose a heavy social and economic burden on individuals, families, communities and countries. Children with hearing impairment often experience delayed development of speech, language and cognitive skills, which may result in slow learning and difficulty in progressing in school. In fact many cases of conductive hearing impairment can be prevented from becoming chronic through timely detection, followed by appropriate medical or surgical interventions.⁸

Recommendation: Thus from the findings of the above study it may be recommended that school health services should be strengthened. Behaviour Change Communication (BCC) is recommended in the schools. This needs a combined effort from both government and non-government organizations.

More detailed studies should be done in this field of public health. Proper implementation of School Health Services, health education and improvement of socioeconomic status will be helpful in reducing the prevalence of these diseases.

Ethical considerations:

Ethical issues (including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc) have been completely observed by the authors. Ethical clearance to conduct the study was obtained from the ethical committee of M.G.M. Medical College & L.S.K. Hospital, Kishanganj, Bihar.

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