

Original Article

Pattern of ENT- Head and Neck Diseases in Outpatient Department in a District Level Hospital in Bangladesh

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Abstract:

Aims: To determine the pattern of Otorhinolaryngology- Head and Neck diseases in Gopalganj and neighbouring districts.

Methods: This was a prospective cross sectional study which was carried out patients of ENT- Head & Neck diseases attendant in 250 Bedded General Hospital, Gopalganj. A total 8700 patients were attendant in OPD during period of July 2015 to June 2016.

Result: In this study 45.55% were male & 54.45% female. Male female ratio 1:1.2. Age ranges from 0 to 90 years, mean age of patients 44.522 years(SD 26.16), majority of patients were age group 0 to 15 (39.10%). Top most ten diseases were chronic tonsillitis (9.50%), adenoid hypertrophy (9%), acute otitis media(7.70%), chronic otitis media(7.59%), rhinitis(7.16%), acute tonsillitis(6.50%), wax(6.40%), hearing loss & tinnitus(5.70%), rhinosinusitis (3.24%), deviated nasal septum (2.80%).

Conclusion: The findings help defining the content and extent of medical curriculum in otorhinolaryngology, there by enriching the local medical graduates in their pursuit of relevant knowledge and skill in managing the relatively common and prevailing ENT diseases in Bangladesh. Therefore, there is a need for increased awareness of the people in developing countries especially in Bangladesh through social campaigns and health education aimed at providing quality ear, nose, and throat health care services.

Key Words: Disease Pattern, Head-neck disease

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Introduction:

Pattern of otorhinolaryngology head and neck diseases in outpatient department (ENT OPD) varies depending on the countries to large extent. Knowing the pattern of such diseases in Bangladesh would help define the content and extend of medical curriculum involving otorhinolaryngology head and neck diseases. This is relevant, as the local medical graduates would then have relatively enriched knowledge and skill in managing the relatively common and prevailing diseases. In this regard, a study

of the otorhinolaryngology head and neck diseases in outpatient department (OPD) of 250 Bedded General Hospital, Gopalganj was carried out to determine the pattern of otorhinolaryngology head and neck diseases in Gopalganj, Bangladesh.¹

Otitis media is the most common disease in young patients as the Eustachian tube is more horizontal in children as compared to adult. The complications of acute otitis media are acute mastoiditis, which complicates the facial nerve paralysis. The response to oral medication in ear disease is excellent, while surgical interventions are less frequently required. In paediatric population, tonsillectomy for chronic tonsillitis is the commonest surgical procedure performed. Chronic tonsillitis usually presents with recurrent sore throat with frequent absenteeism from school. Allergic Rhinitis adversely affects quality of life. It may enhance the comorbidity of asthma and sinusitis with growing concept of airway disease. There is a lot of regional differences in the incidence of ENT diseases.²

Wide varieties of Ear, Nose, and Throat diseases present to the Otorhinolaryngologist, head and neck surgeons. The pattern of these diseases may vary from community to community or hospital-to-hospital based on the availability of specialist personnel or facilities for the management of such diseases, which are either congenital or acquired origin. The acquired diseases include infections, inflammatory diseases, neurologic diseases, vascular diseases, trauma, benign and malignant etc. Ear, Nose and throat diseases are serious public health problems with universal distribution affecting all age groups. The knowledge of ear, nose, throat, head and neck diseases very important because of the type of morbidities which they cause due to impairment of the inherent physiologic functions that usually take place in the head and neck region. These include problems of hearing, breathing, swallowing, and phonation, speech, olfaction, and taste, protection of the lower respiratory tract and

clearance of secretions. Aesthetic problems of the face and psychological problems may occur in neoplasm and neurological diseases of the head and neck region. In some situations, these morbidities may lead to social embarrassment, occupational, school and economic losses in the community, knowledge of these ear, nose, and throat diseases can help the administrator and policy makers in the community to make adequate strategic health planning, especially in developing countries, where poverty, ignorance, insufficient personnel, and lack of basic health facilities abound. It will also assist the educational sector to define a better medical curriculum for training in otorhinolaryngology, head and neck surgery in developing countries. Despite its importance in formulating health care planning and services, there is a dearth in literature on the pattern of ear, nose, and throat diseases in developing countries and especially in Bangladesh. Therefore, this study was designed to pattern of ear, nose and throat diseases in a district level hospital and to create awareness of its importance in public health.³

Aim of The Study: To determine the pattern of Otorhinolaryngology Head and Neck diseases in Gopalganj and neighbouring districts.

Material and Method: The study was conducted using the following method and materials.

Type of The Study: Prospective cross sectional study.

Place of Study: ENT Outpatient Department, 250 Bedded General Hospital, Gopalganj.

Study Population: Patients of Otorhinolaryngology Head and Neck diseases attended in Outpatient Department, 250 Bedded General Hospital, Gopalganj.

Selection of Patients: All patients of otolaryngology head and neck were selected from OPD irrespective of sex and religion.

Period of Study: July 2015 to June 2016.

Study Method: For the collection data, we used a pretested data sheet, prior to interview verbal consent was taken and the purpose of the study was elaborate clearly.

Statistical Analysis:

All the data were checked and verified throughly. The data obtain from the study were compiled and standard scientific calculator

as well as computer software were used and the results of this study analysed statistically using SPSS 20 where relevant.

Result:

A total 8700 patients attended in OPD during period of July 2015 to June 2016. In this study male 3963 (45.55%) & female 4737 (54.45%). Male female ratio 1: 1.2. Age range 0 to 90. Mean age 44.522(SD 26.16).

Table-I
Age Distribution of study population (n=8700):

Age Group (years)	Frequency	Percentage	P Value	Mean	SD
0-15	3402	39.10%	0.3910	7.5	4.7609
16- 30	2377	27.32%	0.2732	23	4.4721
31- 45	1442	16.58%	0.1658	38	4.4721
46- 60	922	10.60%	0.1060	53	4.4721
61- 75	470	5.40%	0.0540	68	4.4721
76- 90	87	1%	0.0100	83	4.4721
Total	8700	100%	1.0000	44.522	26.1629

Table shows age distribution of study population (by inclusive method) majority of population were the group 0- 15 years (39.10%) and the age group 76- 90 years (1%) were minimum. Mean age 44.522 years (SD- 26.1629).

Table-II
Distribution of ENT disorders in relation to age group (n=8700)

Distribution of disorders	Total		Age group (Years)											
	Num-ber	Prevalence Percentage	0- 15		16-30		31- 45		46- 60		61- 75		76- 90	
			N	%	N	%	N	%	N	%	N	%	N	%
Ear Diseases	2900	33.33%	1261	14.49%	744	8.55%	468	5.38%	286	3.29%	136	1.56%	5	0.06%
Nose Diseases	2175	25%	779	8.95%	683	7.85%	373	4.29%	194	2.23%	124	1.43%	22	0.25%
Throat Diseases	3149	36.20%	1247	14.33%	896	10.30%	521	5.99%	355	4.08%	105	1.21%	25	0.29%
Head- Neck Diseases	476	5.47%	115	1.32%	54	0.62%	80	0.92%	87	1%	105	1.21%	35	0.40%
Total	8700	100%	3402	39.10%	2377	27.3%	1442	16.5%	922	10.6%	470	5.40%	87	1%

Table shows ENT disorders in relation to age group. Majority of ENT & Head- Neck diseases were age group 0- 15 years (39.10%), where Ear diseases comprise (14.49%), Nose diseases (8.95%), Throat diseases (14.33%) and Head- Neck diseases (1.32%) and the age group 76- 90 years were minimum (1%) where Ear diseases (0.06%), Nose diseases (0.25%), Throat diseases (0.29%) and Head- Neck diseases (0.40%).

Table-III*Distribution of various Ear, Nose, Throat and Head- Neck Patients all age group(n=8700).*

Disorder	Diseases	Frequency	Percentage	P Value	
Ear	a) Acute Otitis Media	670	7.70%	0.0770	
	b) Chronic Otitis Media	660	7.59%	0.0759	
	c) Otitis Externa	70	0.80%	0.0080	
	d) Otomycosis	61	0.70%	0.0070	
	e) Secretory Otitis Media	52	0.60%	0.0060	
	f) Hearing loss & tinnitus	496	5.70%	0.0570	
	g) Ear Injury	35	0.40%	0.0040	
	h) Facial nerve paralysis	30	0.35%	0.0035	
	i) Wax	557	6.40%	0.0640	
	j) Foreign body in Ear	78	0.90%	0.009	
	k) Vertigo (BPPV, Meniere's Disease, Labyrinthitis)	74	0.85%	0.0085	
	l) Others	117	1.34%	0.0134	
		TOTAL	2900	33.33%	0.1884
Nose	a) Rhinitis	623	7.16%	0.0716	
	b) Rhinosinusitis	282	3.24%	0.0324	
	c) Nasal polyposis	213	2.45%	0.0245	
	d) Allergic Rhinitis	200	2.30%	0.0230	
	e) Plurent Rhinitis	188	2.16%	0.0216	
	f) Deviated Nasal Septum	244	2.80%	0.0280	
	g) Foreign Body Nose	122	1.40%	0.0140	
	h) Epistaxis	113	1.30%	0.0130	
	i) Sino Nasal Tumour	62	0.71%	0.0071	
	j) Facial & Nasal Trauma	06	0.07%	0.0007	
	k) Other	122	1.40%	0.0140	
		TOTAL	2175	25%	0.2500
	Throat	a) Acute Tonsillitis	566	6.50%	0.0650
b) Chronic Tonsillitis		827	9.50%	0.0950	
c) Pharyngitis		174	2%	0.0200	
d) Stomatitis		174	2%	0.0200	
e) Adenoid Hypertrophy		783	9%	0.0900	
f) Laryngitis		87	1%	0.0100	
g) Foreign Body		131	1.50%	0.0150	
h) Pharyngeal Tumour		43	0.50%	0.0050	
i) Oral Tumour		95	1.10%	0.0110	
j) Carcinoma Larynx		43	0.50%	0.0050	
k) Dysphagia		226	2.60%	0.0260	
		TOTAL	3149	36.20%	0.3620
Neck		a) Cervical Lymph Adenopathy	80	0.92%	0.0092
	b) Parotitis	36	0.41%	0.0041	
	c) Goitre	91	1.05%	0.0105	
	d) Lugwig Angina	47	0.54%	0.0054	
	e) Neck Infection	37	0.43%	0.0043	
	f) Thyroglossal Cyst	20	0.23%	0.0023	
	g) Various Face & Neck Injuries	64	0.73%	0.0073	
	h) Neuralgia/TMJ Syndrome	65	0.75%	0.0075	
	i) Parotid Tumour	35	0.40%	0.0040	
	j) Branchial Sinus	01	0.01%	0.0001	
		Total	476	5.47%	0.0547

Table shows distribution of various Ear, Nose, Throat and Head- Neck Patients all age group. Top 10 diseases were Chronic tonsillitis (9.50%), Adenoid hypertrophy (9%), Acute otitis media (7.70%), Chronic otitis media (7.59%), Rhinitis (7.16%), Acute tonsillitis (6.50%), Wax (6.40%), Hearing loss & tinnitus (5.70%), Rhinosinusitis (3.24%), Deviated nasal septum (2.80%).

Table-IV*Distribution of ENT & Head-Neck disorders in relation sex (n=8700):*

Category of Diseases	Total Prevalence		Gender					
	Total Number	Percentage	Male(n=3963)			Female (n=4737)		
			Total Number	Percentage	P value	Total Number	Percentage	P Value
Ear Diseases	2900	33.33%	1323	15.2%	0.1520	1577	18.13%	0.1813
Nose Diseases	2175	25%	992	11.4%	0.1140	1183	13.6%	0.1360
Throat Diseases	3149	36.20%	1435	16.5%	0.1650	1714	19.7%	0.1970
Head & Neck Diseases	476	5.47%	213	2.45%	0.0245	263	3.02%	0.0302
Total	8700	100%	3963	45.55%	0.4555	4737	54.45%	0.5445

Table shows distribution of ENT & Head- Neck disorders in relation of sex, Ear diseases male (15.2%) & female (18.13%), Nose diseases male (11.4%) & female (13.6%), Throat diseases male (16.5%) & female (19.7%),Head & Neck diseases male (2.45%) & female (3.02%).

Table-V*Sex distribution of various ENT morbid conditions among study population:*

Disorders	Diseases	Frequency	Gender			
			Male		Female	
			N	%	N	%
Ear	a) Acute Otitis Media	670	298	3.43%	372	4.27%
	b) Chronic Otitis Media	660	302	3.47%	358	4.11%
	c) Otitis Externa	70	32	0.37%	38	0.44%
	d) Otomycosis	61	28	0.32%	33	0.38%
	e) Secretory Otitis Media	52	23	0.26%	29	0.33%
	f) Hearing loss & tinnitus	496	227	2.61%	269	3.09%
	g) Ear Injury	35	16	0.18%	19	0.22%
	h) Facial nerve paralysis	30	14	0.16%	16	0.18%
	i) Wax	557	267	3.07%	290	3.33%
	j) Foreign body in Ear	78	36	0.41%	42	0.48%
	k) Vertigo (BPPV, Meniere's Disease, Labyrinthitis)	74	34	0.39%	40	0.46%
	l) Others	117	46	0.53%	71	0.82%
	Total	2900	1323	15.21%	1577	18.13%

Table-V (Contd)
Sex distribution of various ENT morbid conditions among study population:

Disorders	Diseases	Frequency	Gender				
			Male		Female		
			N	%	N	%	
Nose	a) Rhinitis	623	284	3.26%	339	3.90%	
	b) Rhinosinusitis	282	127	1.46%	155	1.78%	
	c) Nasal polyposis	213	94	1.08%	119	1.37%	
	d) Allergic Rhinitis	200	91	1.05%	109	1.25%	
	e) Plurent Rhinitis	188	85	0.98%	103	1.18%	
	f) Deviated Nasal Septum	244	112	1.29%	132	1.52%	
	g) Foreign Body Nose	122	55	0.63%	67	0.77%	
	h) Epistaxis	113	52	0.60%	61	0.70%	
	i) Sino Nasal Tumour	62	30	0.34%	32	0.37%	
	j) Facial & Nasal Trauma	06	3	0.03%	3	0.03%	
	k) Other	122	59	0.68%	63	0.72%	
		Total	2175	992	11.40%	1183	13.60%
Throat	a) Acute Tonsillitis	566	258	2.97%	308	3.54%	
	b) Chronic Tonsillitis	827	377	4.33%	450	5.17%	
	c) Pharyngitis	174	78	0.90%	96	1.10%	
	d) Stomatitis	174	81	0.93%	93	1.07%	
	e) Adenoid Hypertrophy	783	357	4.10%	426	4.90%	
	f) Laryngitis	87	38	0.44%	49	0.56%	
	g) Foreign Body	131	55	0.63%	76	0.87%	
	h) Pharyngeal Tumour	43	20	0.23%	23	0.26%	
	i) Oral Tumour	95	44	0.51%	51	0.59%	
	j) Carcinoma Larynx	43	18	0.21%	25	0.29%	
	k) Dysphagia	226	109	1.25%	117	1.34%	
		Total	3149	1435	16.49%	1714	19.70%
Neck	a) Cervical Lymph Adenopathy	80	36	0.41%	44	0.51%	
	b) Parotitis	36	16	0.18%	20	0.23%	
	c) Goitre	91	41	0.47%	50	0.57%	
	d) Lugwig Angina	47	21	0.24%	26	0.30%	
	e) Neck Infection	37	17	0.20%	20	0.23%	
	f) Thyroglossal Cyst	20	9	0.10%	11	0.13%	
	g) Various Face & Neck Injuries	64	29	0.33%	35	0.40%	
	h) Neuralgia/TMJ Syndrome	65	30	0.34%	35	0.40%	
	i) Parotid Tumour	35	13	0.15%	22	0.25%	
	j) Branchial Sinus	01	01	0.01%	00	00	
		Total	476	213	2.44%	263	3.02%

Table shows sex distribution of various ENT morbid conditions among study populations. Top ten morbid conditions are Chronic tonsillitis; male (4.33) & female (5.17%), Adenoid hypertrophy; male (4.10%) & female (4.90%), Acute otitis media; male (3.43%) & female (4.27%), Chronic otitis media; male (3.47%) &

female (4.11%), Rhinitis; male (3.26%) & female (3.90%), Acute tonsillitis; male (2.97%) & female (3.54%), Wax; male (3.07%) & female (3.33%), Hearing loss & tinnitus; male (2.61%) & female (3.09%), Rhinosinusitis; male (1.46%) & female (1.78%), Deviated nasal septum; male (1.29%) & female (1.52%).

Table: VI
Relationship of age group with sex (n=8700):

Age Group (Years)	Total		Male			Female		
	Number	Percentage	Number	Percentage	P value	Number	Percentage	P value
0-15	3402	39.10%	1585	18.22%	0.1822	1817	20.88%	0.2088
16- 30	2377	27.32%	1114	12.80%	0.1280	1263	14.52%	0.1452
31- 45	1442	16.58%	640	7.36%	0.0736	802	9.22%	0.0922
46- 60	922	10.60%	366	4.21%	0.0421	556	6.39%	0.0639
61- 75	470	5.40%	213	2.45%	0.0450	257	2.95%	0.0295
76- 90	87	1%	45	0.52%	0.0052	42	0.48%	0.0048
Total	8700	100%	3963	45.55%	0.4555	4737	54.45%	0.5445

Table shows relationship of study population age group with sex majority of study population 0- 15years of age (39.10%), male comprise (18.22%) & female (20.88%).

Table-VII
Distribution of ENT and Head- Neck diseases in relation to occupation:

Occupation	Number	Percentage	P Value
Dependent	2610	30%	0.3000
Day Labour/ Farmer/ Rickshaw/ Auto Puller.	1957	22.5%	0.2250
Service Holder	1523	17.5%	0.1750
Business	435	5%	0.0500
Other (Including house wife)	2175	25%	0.2500

Maximum(30%) respondents were dependent and minimum (5%) were business.

Table-VIII
Distribution of ENT & Head- Neck patients by the relation of habitat (n=8700):

Habitat	Number of Patients	Percentage	P Value
Urban	2175	25%	0.25
Rural	6525	75%	0.75
Total	8700	100	1.00

Maximum (75%) patients lived in rural area.

Discussion:

In the 12 months of the study period July 2015 to June 2016 there were 8700 patients seen in the ENT OPD and it averaged 725 per month. Of the 8700 patients were 3402

(39.10%) up to 15 years and 5298 (60.90%) above 15 years cases. The male to female ratio is 1: 1.2. The age ranges was 0- 90 years old, mean age 44.522 (SD 26.16). In the ENT OPD majority of the patients seen by ENT

specialist and medical officers. Pattern of ENT diseases has been studied and reported was tertiary hospitals in other countries. There are large regional differences in the ENT diseases. Prevalence reported in Greece,⁴ Scotland⁵, Austria⁶, Spain⁷ and France⁸ is significantly different from that found in this study.

In our setup, Chronic tonsillitis(9.50%), Adenoid hypertrophy(9%), Acute otitis media(7.70%), Chronic otitis media(7.59%), Rhinitis(7.16%), Acute tonsillitis(6.50%), Wax(6.4%), Hearing loss & tinnitus(5.70%), Rhinosinusitis(3.24%), Deviated nasal septum(2.80%) were the most common group of ENT diseases. Where as in Greece the SOM incidence was 29% followed by chronic tonsillitis and nasal symptoms. In the studies by Pin RB et al⁷ and O'Driscoll o et al⁶. the incidence of chronic tonsillitis was on the top as this study. A study by Timsit CA et al⁸ showed that allergic rhinitis is the most common paediatric ENT disease in almost 20% of all patients and chronic otitis media was the second most common in 12% of cases. The incidence of chronic otitis media is in our study was 7.59%. In our setup in ear diseases 15.2% were male & 18.13% were female, in nose diseases 11.4% were male & 13.6% were female, in throat diseases 16.5% were male & 19.7% were female, and in head- neck diseases 2.45% were male & 3.02% were female. In relation of age group with sex majority of study population were age group 0 to 15 years, male comprise 18.22% & female 20.88%, maximum of families monthly income TK10,000 to 15,000(52%), maximum 30% respondent were dependent & maximum 75% lived in rural area.

Multiple social & environment factors are considered to be etiological factors of these diseases in developing countries. This review suggests a steady increase in ENT disorders

over the last decade. This may on one end be due to a better excess to improved health care facilities but on the other hand, it may reflect development of some unidentified underline factors¹⁰. It is therefore conceivable that a local study with the findings found and discussed above would prove to be relevant and beneficial to the development of medical ENT curriculum in the local university and subsequent medical Practice¹.

Conclusion:

This study on ENT OPD Patients in the local hospital has shown patterns of ENT diseases common locally and some diseases not of same prevalence as other countries. Many locally common ENT disease have been identified. The findings help defining the content and extent of medical curriculum in otorhinolaryngology, there by enriching the local medical graduates in their pursuit of relevant knowledge and skill in managing the relatively common and prevailing ENT diseases in Bangladesh.

This study showed that chronic tonsillitis (9.50%), adenoid hypertrophy (9%), acute otitis media (7.70%), chronic otitis media(7.59%), rhinitis(7.16%), acute tonsillitis (6.50%), wax(6.40%), hearing loss & tinnitus (5.70%), rhinosinusitis (3.24%), deviated nasal septum (2.80%) are the common Otorhinolaryngology Head and Neck diseases in OPD of district level of Bangladesh, although these disorders are not yet considered to be public health importance, they contribute significantly to the existing burden of health problems in our environment. The possibility of low level of public enlightenment on ear, nose and throat disorders, financial constraint, and lack of time or negligence of health cannot be ruled out as important factors contributing to pattern of presentation.

Therefore, there is a need for increased awareness of the people in developing countries especially in Bangladesh through social campaigns and health education aimed at providing quality ear, nose, and throat health care services. Due to increase in ENT disease, awareness must be made in medical graduates to diagnosis and treat these diseases in order to minimize complications.

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