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Clinical and Epidemiological Profile of Otorhinolaryngology Diseases at a Tertiary Hospital in Morang District: A Descriptive Cross-Sectional Study

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ABSTRACT

Introduction: Otorhinolaryngology, dealing with disorders of the ears, nose, throat, and related structures, poses significant health challenges. However, there is a dearth of extensive clinical and epidemiological data on these ailments in the specific geographic area under study. Understanding the characteristics of otorhinolaryngology diseases is crucial for effective healthcare planning and resource allocation.

Objective: This study aimed to determine the clinical and epidemiological profile of otorhinolaryngology diseases at a tertiary hospital in Morang District, Nepal.

Methodology: An observational descriptive cross-sectional study was conducted at the Otorhinolaryngology department of a tertiary hospital in eastern Nepal from January 15 to February 15, 2024. Data from 600 patients presenting at the department over one month were meticulously analyzed.

Results: The median age of patients was 28 years, with the most prevalent age group being 21-30 years (23%). A majority (56%) were male, and belonged to the Brahmin/ Chhetri caste (44.3%). Most patients (85%) initially visited the hospital through OPD, with ear-related issues (35.2%) being the most common complaint. Epistaxis (10.3%) was the most frequent diagnosis, followed by allergic rhinitis (9%) and ear wax issues (8.2%). The prevalence of carcinoma was 12(2%). The majority (77.3%) underwent medical treatment. Outpatient admissions were observed in 68(13.3%) of cases, with emergency admissions accounting for 42(62.6%).

Conclusion: Epistaxis, allergic rhinitis, and ear wax problems were commonly encountered. Most patients underwent medical treatment, with only a minority requiring hospital admission, primarily through outpatient services.

INTRODUCTION

The Otorhinolaryngology department specializes in diagnosing and treating disorders related to the ears, nose, throat, and adjacent structures. ENT morbidities encompass a spectrum of conditions including otitis media, sinusitis, tonsillitis, laryngitis, rhinitis, and hearing loss.[1] With a multidisciplinary approach, it offers comprehensive care, including medical and surgical interventions, to address a wide range of otorhinolaryngology conditions.[2] Knowledge of the clinical and epidemiological profile of ENT (Ear, Nose, and Throat) morbidities is crucial for effective resource allocation, timely diagnosis, and targeted preventive measures, improving patient care and public health outcomes.[3] The importance of conducting research on the clinical and epidemiological profile of ENT (Ear, Nose, and Throat) morbidities lies in its potential to inform healthcare policies, improve patient care and guide preventive strategies. By understanding the prevalence, distribution, and risk factors associated with ENT diseases, healthcare providers can allocate resources effectively, enhance early detection and diagnosis, and implement targeted interventions to mitigate disease burden. Furthermore, such

research contributes to the advancement of medical knowledge, facilitating the development of evidence-based practices and guidelines for managing ENT conditions. Investing in this research serves to optimize healthcare delivery, enhance patient outcomes and promote public health in communities affected by ENT morbidities.[4] Hence, we have conducted this study with the objective to find the clinical and epidemiological profile of otorhinolaryngology diseases at a tertiary hospital in Morang District, Nepal.

METHODOLOGY

We conducted an observational descriptive cross sectional study in the department of Otorhinolaryngology of Birat Medical College Teaching Hospital (BMCTH) from 15 January 2024 to 15 February 2024. Ethical clearance was obtained from the Institutional Review Committee (Ref: IRC-PA-364/2023) of BMCTH before data collection. Total enumeration sampling technique was used for collecting data during one month period which included 600 patients. The inclusion criteria for patients recruitment was patients consulted for Otorhinolaryngology Problems at Outpatient (OPD) and Inpatient department (IPD) from the Department of Otorhinolaryngology, Emergency and Consultation from other wards after obtaining voluntary informed consent. Data were collected by using specifically designed proforma on patient's sociodemographic characteristics, comorbid illness (Other than Otorhinolaryngology related problems), and issues related to ear nose and throat problems. Collected data entry was entered electronically through google forms and transferred to Microsoft (MS) excel sheet 16. Data was checked for completeness, cleaning and coding was done in MS excel sheet and then transferred to IBM SPSS version 23 for analysis. Frequency, mean and percentage were calculated.

RESULTS

Six hundred patients were encountered at the Otorhinolaryngology department through OPD, IPD, Emergency and Consultation from other wards. The median age of patients was 28 years, with the most prevalent (138 (23%)age group being 21-30 years. More than half 336(56%) were male and majority 266 (44.3%) belonged to the Brahmin/Chhetri ethnicity. A majority 419(69.8%) of the patients had attained formal education. More than one fourth (26.8%) were students and 110(18.3%) were housemaker. More than half (57%) of patients seeking treatment were from outside Morang District. Other details are listed in Table 1.

Table 1: Demographic characteristics of patients (n=600)

Characteristics	n (%)
Age *Mean=31.7 Median=28 Std. Deviation=20.1*	
<1 Year	7(1.2%)
1-10	92(15.3%)
11-20	84(14%)
21-30	138 (23%)
31-40	104 (17.3%)
41-50	68 (11.3%)
51-60	46(7.7%)
61-70	32 (5.3%)
71-80	23(3.8%)
81-90	6 (1%)
Gender	
Male	336(56%)
Female	264(44%)
Ethnicity	
Brahmin/Chhetri	266 (44.3%)
Madhesi	156 (26%)
Janajati	125(20.8%)
Dalit	34 (5.7%)
Muslim	19 (3.2%)
Education	
Formal	419 (69.8%)
Illiterate	165(27.5%)
Informal	16(2.7%)
Occupation	
Student	161 (26.8%)
Housemaker	110 (18.3%)
Daily wage worker	52 (8.7%)
Farmer	43 (7.2%)
Teacher	27 (4.5%)
Professional	27(4.5%)
Healthcare Professional	19 (3.2%)
Businessman	19 (3.2%)
Government official	10 (1.7%)
Not applicable	132 (22.0%)
Place of residence	
Beyond Morang	342 (57.0%)
Morang	258 (43.0%)

The majority 510 (85%) of the patients initially visited the hospital through OPD. Ear-related morbidities 211(35.2%) were the most common complaints followed by nasal problems 205(34.2%). A significant portion 167(27.8%) had a past history of similar problems. Home remedies were utilized by 76(12.7%), while 88(14.7%) sought treatment at nearby clinics and 66(11%) of patients were engaged in self-medication before visiting hospital. Comorbidities were present in 117(19.5%) of patients (Table 2).

Table 2: Clinical attributes of study population (n=600)

Characteristics	n (%)
First contact of patient visit	
Outpatient Department (OPD)	510 (85%)
Emergency	64(10.7%)
Consultation from other wards	15 (2.5%)
In Patient Department (IPD)	11 (1.8%)
Site involvement in disease	
Ear	211 (35.2%)
Nose	205 (34.2%)
Throat	152 (25.3%)
Nose and Throat	15 (2.5%)
Ear and Nose	12 (2%)
Ear and Throat	4 (0.7%)
Ear, Nose and Throat	1(0.2%)
Past history of similar problem (Yes)	167 (27.8%)
Any remedy done at home for the current problem (Yes)	76 (12.7%)
Treatment done at a nearby clinic for the current problem? (Yes)	88 (14.7%)
Patient engage in self-medication (Yes)	66 (11.0%)
Comorbidities (Yes)	117 (19.5%)

Epistaxis 62(10.3%) was the most frequent diagnosis, followed by allergic rhinitis 55(9.2%) and ear wax 49(8.2%) amongst all ENT morbidities. The top five ear morbidities were ear wax 49(8.2%), acute otitis media 27(4.5%), hearing loss 24(4%), otitis externa 24(4%) and chronic Otitis Media 21(3.5%). The top five nose morbidities were epistaxis 62(10.3%), allergic rhinitis 55(9.2%), chronic rhinosinusitis 24(4%), deviated nasal septum(DNS) 21(3.5%) and foreign body in nose 13(2.2%). The top five throat morbidities were tonsillitis 22(3.7%), laryngitis 18(3.0%), acute pharyngitis 17(2.8%),laryngopharyngeal disease 14(2.3%) and foreign body in throat 11(1.8%). The prevalence of carcinoma(ca.) in the department of otorhinolaryngology was 12(2%). Ca. buccal mucosa, Ca. floor of mouth, Ca. larynx, Ca. nasopharynx, Ca. oral cavity, Ca. right lower alveolus, Ca. post pharyngeal wall, Ca. supraglottic and Ca.thyroid gland was seen among one (0.2%)patient each. Two patients had Ca. Pinna. One patient had Ca. Nose Dorsum. Other morbidities are listed in table 3.

Table 3: Pattern of ear, nose and throat morbidities (n=600)

Diagnosis	n (%)
Ear problems	
Ear Wax	49 (8.2%)
Acute Otitis Media	27 (4.5%)
Hearing Loss	24 (4%)
Otitis Externa	24 (4%)
Chronic Otitis Media	21 (3.5%)
Otomycosis	15 (2.5%)
Foreign Body Ear	14 (2.3%)
Tympanic Membrane Perforation	7 (1.2%)
Otitis Media Effusion	7 (1.2%)
Benign Paroxysmal Positional Vertigo	6 (1%)
Keloid Ear	3 (0.5%)
Tinnitus	2 (0.3%)
Otalgia	2 (0.3%)
Otosclerosis	1 (0.2%)
Mumps	1 (0.2%)
Nose Problems	
Epistaxis	62 (10.3%)
Allergic Rhinitis	55 (9.2%)
Chronic Rhinosinusitis	24 (4%)
Deviated Nasal Septum	21 (3.5%)
Foreign Body Nose	13 (2.2%)
Adenoid Hypertrophy	12 (2%)
Nasal Polyp	9 (1.5%)
Acute Rhinosinusitis	8 (1.3%)
Sinusitis	7 (1.2%)
Allergic Rhinosinusitis, Nasal Polyp, Nasal Vestibulitis with Preseptal Cellulitis,Rhinophyma	1(0.2) each
Throat problems	
Tonsillitis	22(3.7%)
Laryngitis	18(3.0%)
Acute Pharyngitis	17 (2.8%)
Laryngopharyngeal Reflux Disease	14 (2.3%)
Foreign Body Throat	11 (1.8%)
Allergic Pharyngitis	10 (1.7%)
Thyroid Nodule	10 (1.7%)
Upper Respiratory Tract Infection	8(1.3%)
Foreign Body Esophagus	7 (1.2%)
Vocal Cord Nodule	7 (1.2%)
Globus Pharyngeus	5 (0.8%)

Aphthous Ulcer	2 (0.3%)
Vocal Polyp	2 (0.3%)
Epiglottitis, Glossitis, Oral Candidiasis, Oral Candidiasis, Ranula, Tongue Tie, Vallecular Cyst	1 (0.2%) each
Cancer prevalence in ENT department	12(2%)
Ca. throat (Buccal Mucosa, floor of mouth, larynx, nasopharyngeal, right lower alveolus, oral cavity, oropharynx, post pharyngeal wall, supraglottic, thyroid)	1 (0.2%) each
Ca. Pinna	2 (0.3%)
Ca. Nose Dorsum	1 (0.2%)
Others	
Trauma	16 (2.7%)
Cervical Lymphadenitis	5 (0.8%)
Neck Abscess	4 (0.7%)
Suicide Attempt presenting with throat problem	3 (0.5%)
Speech Disorder, Branchial Sinuses, Allergic Rhinopharyngitis, Ludwig's Angina	1 (0.2%) each

The majority of patients 466(77.3%) underwent medical treatment (Figure 1). Among the patients visiting OPD, 68(13.3%) were admitted, while from emergency among 64 patients visiting 62.6% were admitted.

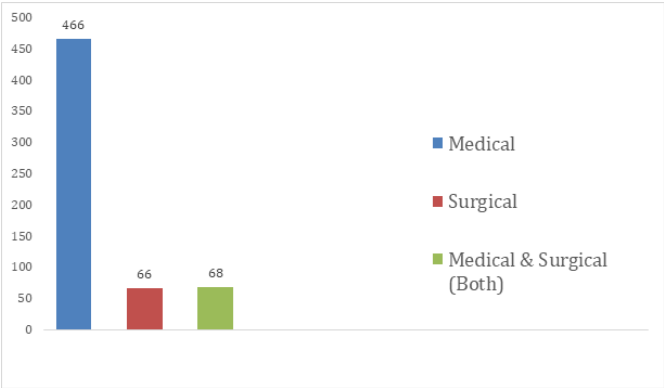

Fig 1: Intervention done for current diagnosis

DISCUSSION

The findings from this study on the clinical and epidemiological profile of otorhinolaryngology diseases at a tertiary hospital in Morang District, Nepal, offer valuable insights into the demographic characteristics, healthcare utilization patterns and common diagnoses within this population. Demographically, the mean age of patients in this study (31.7 years) aligns with previous research where the mean age of presentation was 27.6 years indicating a relatively young patient population seeking care for ENT conditions.[5] We found the most prevalent age group was 21-30 years, in contrast to this study another study reported under 15 years is the commonest age group (41%).[6] The predominance of males in this study›s patient population (56%) is consistent with global trends observed in other studies, which have also reported a higher prevalence of ENT disorders among males (51.6%).[5,7] Another study also reported similar male predominance (52.8%).[6] However, it is worth noting that the proportion of male patients in this study is higher than reported in some other studies, indicating potential variations in gender distribution across different populations. Ethnically, a significant proportion of patients in this study belonged to the Brahmin/Chhetri (44.3%). While there is limited literature specifically addressing ethnic disparities in ENT diseases in Nepal. Ethnic variation was observed in other research where 63% of the patients were Christians, 37% were Muslims and less than 1% had other religions.[6] The high percentage of patients with formal education (69.8%) observed in this study may reflect better health literacy and awareness among educated individuals, potentially influencing healthcare-seeking behaviors and treatment adherence.

Regarding ENT morbidities, ear problems211(35.2%) ranked highest, followed by nasal 205(34.2%) and throat issues152(25.3%). A study from Karnali Academy of Health Sciences(KAHS) Jumla, eastern Nepal Biratnagar and Punjab also stated that ear diseases were the most frequently occurring among ENT conditions.[8,9 10] The predominance of ear-related complaints (35.2%) corroborates findings from previous studies indicating that ear disorders are among the most common reasons for seeking ENT services 47%,[11] and 62.7%.[6] The high prevalence of a history of similar problems underscores the chronic nature of many ENT conditions and the need for effective management strategies to prevent recurrent episodes.

Among all the ENT morbidities, epistaxis (10.3%), was the most frequent diagnosis in our study which is consistent with the finding from another study.[5] However, epistaxis ranked fourth most common 39(24.1%) in a study from KAHS.[8] Epistaxis is considered one of the most common emergencies in otorhinolaryngology, usually managed with simple conservative measures. Sometimes it may be life threatening and require a specific management strategy.[12,13] Further the given data also suggest we increase public awareness to prevent about its causes and risk factors. Among ear disorders, ear wax was the commonest problem encountered similar to our study.[7,14 8, 15,16]. The risk factors of the impacted ear wax can be a huge burden contributing to anatomical deformity, hairs in the external canal, physical barriers to wax excretion and dermatological conditions affecting the ear hence should not be ignored and treated promptly.[17] DNS was seen in 21(3.5%) in our study , consistent to our finding a study conducted in rehabilitation center of Kathmandu found DNS 17(77.2%) out of 22 patients as the most common problems of all ENT disorders.[18] The prevalence of foreign bodies of all ENT accounts for 38(6.3%) in our study. Foreign bodies(FBs) in ear 14(2.3%) were most common, followed by nose 13(2.2%) and throat 11(1.8%). This is supported

by studies from central Nepal and India.[19,20,21] However FBs in nose followed by ear and throat was most common in studies from western Part of Nepal.[22,23] Foreign body in esophagus was also present in our study among seven patients. Foreign bodies are a common medical emergency occurring worldwide and in any age group. Public awareness on emergency management of foreign bodies is crucial to prevent mortality and complications associated with it.[24]

Carcinomas of the ear, nose, and throat were also identified, indicating the importance of focusing on preventive and curative services for patients with these conditions.Total prevalence of ca in our department was 12 (2%).

The utilization of home remedies (12.7%) and treatment at nearby clinics (14.7%) was observed in this study highlighting the role of traditional remedies and primary healthcare providers in managing ENT conditions, particularly in resource-limited settings like Nepal.

The majority of patients (77.3%) underwent medical treatment, demonstrating the effectiveness of conservative management approaches. The diversity in admissions through outpatient departments(13.3%) and emergency admissions (62.6%) highlights the range of disease severity encountered in otorhinolaryngology practice.

The strength of this study is that it was carried out in a tertiary hospital in Morang District, Nepal, which likely serves as a major healthcare hub for the region. This increases the likelihood that the patient population reflects a diverse range of otorhinolaryngology cases presenting in the area. By including information on demographics, presenting complaints, previous treatments sought, comorbidities, diagnoses, and treatment modalities, the study captures a wide array of relevant variables. It also provides valuable insights into the prevalence, distribution, and patterns of Ear nose and throat diseases in the population. The findings of this study help inform targeted interventions and resource allocation to address the specific needs of the population in that area.

CONCLUSIONS

This study offers a detailed insight into the clinical and epidemiological characteristics of patients seen in our Otorhinolaryngology department. The prevalence of ear-related issues, predominantly among young males, underscores the need for targeted interventions in this demographic. The high reliance on outpatient services highlights the importance of accessible healthcare delivery.

RECOMMENDATIONS

Otorhinolaryngology outpatient department has major bulk of patients with significant number of admissions. The outpatient evaluation needs to be strengthened.

CONCLUSIONS

This study offers a detailed insight into the clinical and epidemiological characteristics of patients seen in our Otorhinolaryngology department. The prevalence of ear-related issues, predominantly among young males, underscores the need for targeted interventions in this demographic.

RECOMMENDATIONS

Recommendations stemming from our findings include enhancing patient education to discourage self-medication and home remedies, and promoting awareness of ENT conditions. Additionally, a holistic approach to patient care, considering comorbidities, is crucial. Understanding these patterns is essential for tailoring effective management strategies and improving healthcare delivery in our setting.

LIMITATIONS OF STUDY Generalization of study finding is limitation of this study.

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CONFLICT OF INTEREST None

FINANCIAL DISCLOSURE None

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