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Pattern of Throat Disease Among Patients Attending an ENT Outpatient Department in a District-Level Hospital in Bangladesh

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ABSTRACT

Background: Throat disorders are one of the most frequently reported reasons for attending ear, nose and throat (ENT) outpatient departments (OPDs) in South Asia, but most published data on the pattern of these disorders in Bangladesh are from tertiary referral centers, and there is little information available at the district-hospital level. This study aimed to observe the sociodemographic profile, presenting symptoms, and pattern of diagnosed throat diseases of patients attending the ENT OPD of a district-level hospital in Bangladesh. **Methods & Materials:** This descriptive cross-sectional study was carried out at the Department of ENT, District Sadar Hospital, Rajbari, Bangladesh, from January 2025 to December 2025. Patients with complaints of throat symptoms were consecutively sampled and enrolled after informed consent (N = 70). Data on sociodemographic characteristics, presenting symptoms, and final clinical diagnosis were collected and analyzed descriptively in SPSS version 26. **Results:** Most participants were of middle socioeconomic status (51.4%), male (54.3%), rural (62.9%), and aged 11-20 years. Sore throat (70.0%) was the most common presenting symptom, followed by odynophagia (44.3%) and fever (40.0%). The most common diagnosis was chronic tonsillitis (25.7%), followed by acute tonsillitis (17.1%) and chronic pharyngitis (14.3%), with tonsillitis being the most common diagnosis in participants aged ≤20 years, while laryngeal and neoplastic conditions were more common in those aged >40 years. **Conclusions:** Tonsillitis and pharyngitis are the most common patterns of throat disease in the district-level ENT OPD of Bangladesh, sore throat is the most common symptom, and there is a definite age-related trend from tonsillar to laryngeal and neoplastic disease. Early clinical recognition at this level of care may help to ensure prompt management and referral.

Keywords: *Throat Disease; Tonsillitis; Pharyngitis*

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INTRODUCTION

Throat disorders are one of the most common conditions seen in ear, nose and throat (ENT) outpatient departments (OPDs) in South Asia, and in some hospital-based series, are the most common conditions, or are the second most common condition after ear and nose disease [1]. Among children, throat-related disorders were the most common ENT complaints in a peripheral military hospital of Bangladesh [1]. In a tertiary-hospital series from Dhaka, the second most common category of ENT presentation was throat disease after ear disease, and a large retrospective audit of thousands of patients registered in the ENT-OPD of a women's medical college hospital in Dhaka found tonsillitis, pharyngitis and adenotonsillar hypertrophy as a recurring diagnosis [2, 3]. A similar range of throat problems has been reported in children attending the ENT OPD of a women's medical college in Sylhet, and in pediatric patients attending tertiary centers in Nepal, the most common diagnoses in children presenting with ENT complaints were tonsillitis, adenoid hypertrophy, and pharyngitis [4, 5]. Tonsillitis and pharyngitis are the most common throat diseases, and sore throat, odynophagia, fever, and cough are the most common presenting complaints in hospital-based ENT-OPD series [1, 5]. In addition to symptomatic morbidity, throat infection has significant public health implications as untreated GAS pharyngitis is a major risk factor for acute rheumatic fever and rheumatic heart disease, which continue to be a major burden in resource-limited areas, disproportionately affecting children and young adults [6]. In low- and middle-income countries, group A streptococcal pharyngitis was found in a significant proportion of children with sore throat in a pediatric sore throat series from Botswana, further supporting the infectious nature of many sore throats in these populations [6]. A systematic review and meta-analysis conducted in India estimated a significant pooled burden of streptococcal pharyngitis and its sequelae, rheumatic heart disease, among children, and South Asia is one of the regions where the global burden of rheumatic heart disease is concentrated, highlighting the importance of early recognition of throat infection at the primary and district-hospital level [7, 8]. The sociodemographic factors, including age, sex, place of residence, and socioeconomic status, have been found to affect the occurrence and severity of throat and related ENT diseases. A higher burden of chronic suppurative ear and tonsillar disease has been linked to lower socioeconomic status, overcrowding and poor hygiene among school-going children in a tribal district of India, and similar associations between disease pattern and patient demographics have been reported from district-level ENT-OPD audits in Pakistan [9, 10]. The role of host factors, including vitamin D deficiency, as a risk factor for recurrent tonsillitis in adults has also been suggested, bringing a nutritional aspect to the determinants of chronic tonsillar disease [11]. Despite this evidence, most of the published information on the pattern of throat disease in Bangladesh comes from tertiary referral hospitals, which are located mainly in the capital and larger cities, and little is known about the pattern of throat disease seen at the district-hospital level, where the majority of patients first seek ENT care. This study was therefore aimed at describing the sociodemographic profile, presenting symptoms, and pattern of diagnosed throat diseases of patients attending the ENT outpatient department of a district-level hospital in Bangladesh.

METHODS & MATERIALS

This descriptive cross-sectional study was carried out at the Department of ENT, District Sadar Hospital, Rajbari,

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Bangladesh from January 2025 to December 2025. Patients of either sex who attended the ENT outpatient department with throat complaints were considered for enrolment, and 70 patients were recruited using a consecutive sampling method after obtaining informed written consent; assent was also obtained from the parent/guardian for those under 18 years of age. Patients of any age with symptoms of throat disease (sore throat, odynophagia, hoarseness of voice, neck swelling, foreign-body sensation in the throat, or difficulty breathing) for whom a definitive clinical diagnosis of a throat disease could be made after history taking, otolaryngological examination, and appropriate investigations were included in the study. Patients who refused consent, patients with incomplete clinical records, and patients with a present complaint of ear or nose only (no throat) were excluded. Sociodemographic factors (age group, sex, residence, socioeconomic status), presenting symptoms, and the final diagnosed throat disease were studied, and the latter was analyzed by age group. Socioeconomic status was defined as lower, middle, or upper class, based on the monthly income of the family, occupation, and educational level of the head of the household. The attending otolaryngologist took a detailed history and conducted a comprehensive examination of the ear, nose and throat of each patient, with appropriate investigations performed if clinically indicated, before a diagnosis was made. The data were collected in a pre-tested structured case record form and then entered and analyzed in the Statistical Package for the Social Sciences (SPSS) version 26. Data were summarized using descriptive statistics; frequencies and percentages were used for categorical variables, and the results were presented in tabular form by sociodemographic characteristics, symptoms presented, pattern of diagnosed throat disease, and distribution of disease across age groups.

RESULTS

The sociodemographic data of the 70 participants in the study are described in *Table I*. Regarding age group, the largest proportion (21.4%) were aged 11-20 years, followed by 21-30 years (20.0%) and ≤10 years (17.1%); the smallest proportions were in the 41-50 and >50-year groups (12.9% each). Males accounted for 54.3%, and females accounted for 45.7% of the participants. Most participants lived in rural areas (62.9%) compared to urban areas (37.1%). As far as socioeconomic status, 51.4% were middle class, 37.1% were lower class, and 11.4% were upper class.

Table I
Sociodemographic characteristics of the study participants (*n*=70).

Variable	Category	n (%)
Age group (years)	≤10	12 (17.1)
	11-20	15 (21.4)
	21-30	14 (20.0)
	31-40	11 (15.7)
	41-50	9 (12.9)
	>50	9 (12.9)
Sex	Male	38 (54.3)
	Female	32 (45.7)
Residence	Rural	44 (62.9)
	Urban	26 (37.1)
Socioeconomic status	Lower	26 (37.1)
	Middle	36 (51.4)
	Upper	8 (11.4)

Table II shows the presenting symptoms related to the throat of the 70 participants. The most common symptom was sore throat (70%), followed by difficulty or pain in swallowing (44.3%), fever (40%), and cough (35.7%). Twenty-one percent of participants reported hoarseness of voice, 15.7% reported foreign-body sensation in the throat, and 11.4% reported neck swelling. The least common symptom was breathing difficulty or stridor (5.7%).

Table II
Presenting throat-related symptoms among the study participants (*n*=70).

Variable	n (%)
Sore throat	49 (70.0)
Difficulty/pain during swallowing	31 (44.3)
Fever	28 (40.0)
Cough	25 (35.7)
Hoarseness of voice	15 (21.4)
Foreign-body sensation in throat	11 (15.7)
Neck swelling	8 (11.4)
Breathing difficulty/stridor	4 (5.7)

Table III represents the pattern of diagnosed throat diseases among the 70 participants. Chronic tonsillitis was the most common diagnosis (25.7%), followed by acute tonsillitis (17.1%), chronic pharyngitis (14.3%), and acute pharyngitis (11.4%). The most common diagnoses were adenotonsillar hypertrophy (10.0%), laryngitis (7.1%), and vocal cord nodule or polyp (4.3%). Peritonsillar infection/abscess accounted for 2.9% of cases, and 4.3% of participants were diagnosed with other throat diseases, while 2.9% were diagnosed with suspected laryngeal/pharyngeal neoplasm.

Table III
Pattern of diagnosed throat diseases among the study participants (*n*=70).

Variable	n (%)
Chronic tonsillitis	18 (25.7)
Acute tonsillitis	12 (17.1)
Chronic pharyngitis	10 (14.3)
Acute pharyngitis	8 (11.4)
Adenotonsillar hypertrophy	7 (10.0)
Laryngitis	5 (7.1)
Vocal cord nodule/polyp	3 (4.3)
Peritonsillar infection/abscess	2 (2.9)
Suspected laryngeal/pharyngeal neoplasm	2 (2.9)
Other throat diseases	3 (4.3)

Table IV describes the age distribution of the 70 participants with throat diseases. The most prevalent disease overall was tonsillitis (42.9%), and the age group with the highest prevalence was ≤20 years (24.3%). Pharyngitis was the most common diagnosis (25.7%) and was most frequently seen in the 21-40 age group (11.4%). Adenotonsillar hypertrophy (10.0%) was limited primarily to the age group of ≤40 years, while laryngitis (7.1%), vocal cord nodule/polyp (4.3%), and suspected neoplasm (2.9%) were more common among participants >40 years.

Table IV
Distribution of throat diseases according to age group (*n*=70).

Disease category	≤20 years; n (%)	21-40 years; n (%)	>40 years; n (%)	Total; n (%)
Tonsillitis	17 (24.3)	9 (12.9)	4 (5.7)	30 (42.9)
Pharyngitis	5 (7.1)	8 (11.4)	5 (7.1)	18 (25.7)
Adenotonsillar hypertrophy	5 (7.1)	2 (2.9)	0 (0.0)	7 (10.0)
Laryngitis	0 (0.0)	2 (2.9)	3 (4.3)	5 (7.1)
Vocal cord nodule/polyp	0 (0.0)	1 (1.4)	2 (2.9)	3 (4.3)
Peritonsillar infection/abscess	0 (0.0)	1 (1.4)	1 (1.4)	2 (2.9)
Suspected neoplasm	0 (0.0)	0 (0.0)	2 (2.9)	2 (2.9)
Other throat diseases	0 (0.0)	2 (2.9)	1 (1.4)	3 (4.3)

DISCUSSION

Chronic tonsillitis was the most frequently diagnosed throat disease in this study (25.7%), and tonsillitis (acute and chronic) was the most common (42.9%) of all the throat diseases diagnosed in this study. A high-altitude rural hospital study in Karnali Province, Nepal, also reported acute tonsillitis as the most common ENT problem among patients attending the hospital, and a pediatric ENT-OPD audit in a tertiary hospital in Nepal identified tonsillitis and adenotonsillar hypertrophy as the most common diagnosis among children [12, 13]. A cross-sectional study of children attending a teaching hospital in Sargodha in Pakistan also found tonsillitis to be the most common diagnosis in the ENT department, affecting approximately 20% of children, and a previous study comparing government and private school children in Mardan found tonsillar disease to be one of the most common ENT conditions in children [14, 15]. These South Asian data confirm that tonsillar disease is the most common throat disease seen in ENT outpatient departments, regardless of whether the department is a district, provincial, or tertiary hospital. The second most frequent diagnostic category in our study was pharyngitis (chronic and acute pharyngitis combined, 25.7%), which has been reported as one of the most common diagnoses of the throat in other parts of South Asia. Pharyngitis was the second most common reason for attending the clinic after chronic suppurative otitis media, with 11% of the attendees being diagnosed with the condition; in a recent study on prescribing patterns in India for ENT-OPDs and a drug-utilization audit of an ENT department in eastern Nepal also identified upper respiratory tract infection and pharyngitis as two of the most common reasons for prescription [16, 17]. The relatively higher prevalence of pharyngitis in the current study could be attributed to the differences in case definition, the seasonality of data collection, and the predominantly rural, lower-to-middle socioeconomic status of the study population, which have been associated with increased burden of throat infection in South Asian settings. Sore throat, odynophagia, fever, and cough were the predominant presenting symptoms in this study, which is similar to that seen in other regional studies, and affirms that sore throat is the cardinal symptom of throat disease in South Asian ENT-OPD populations [13, 18]. This study's higher proportion of rural participants and lower-to-middle socioeconomic status is similar to that of a series of chronic tonsillitis patients in Sudan, where the authors noted that a significant number of patients were of lower socioeconomic status, which they attributed to poor nutrition, hygiene, and access to care [15]. A microbiological study of chronic suppurative ear and throat infection from a tertiary center in Peshawar, Pakistan, has also pointed out that the lack of timely care in resource-poor settings enables the ear and throat infections to become chronic before presentation [19]. These observations, combined with the regional observation, indicate that overcrowding, hygiene, and limited access to health care influence the burden of throat disease in low- and middle-income South Asian contexts. The age distribution of the diseases found in this study, in which tonsillar disease was more common in the younger age groups and laryngeal, vocal-cord, and neoplastic disease more common in the older age groups, is in keeping with the general clinical pattern that lymphoid hyperplasia of the tonsils is more common in childhood and adolescence, while degenerative and neoplastic disease of the throat is more common in the older age groups. This age-related change is also reflected in the above-mentioned pediatric and adult South Asian ENT-OPD literature and thus supports the clinical importance of age-stratified suspicion in the evaluation of throat complaints at the district-hospital level [12-14].

LIMITATIONS

The findings of this study may not be generalizable to other district-level hospitals in Bangladesh due to its limited sample size (N=70) and single-center design.

CONCLUSION

The study demonstrated that throat disease is a frequent presentation in the ENT outpatient department of a district-level hospital in Bangladesh, mostly in young people of middle socioeconomic status and rural population. The most common presenting symptoms were sore throat, odynophagia, and fever, while chronic tonsillitis, acute tonsillitis, and chronic pharyngitis were the most common diagnoses. Laryngeal and neoplastic throat diseases were more common in older patients, and tonsillar disease was more common in younger patients. The results highlight the need for early clinical diagnosis of throat disease at the district-hospital level.

RECOMMENDATIONS

Further larger, multicenter studies with longer follow-up are suggested to confirm these results and to identify the microbiological and risk factor determinants of throat disease in various district-level settings in Bangladesh.

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CONFLICT OF INTEREST

None declared.

ETHICAL APPROVAL

The study was approved by the Institutional Ethics Committee.

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