International Journal of Research in Medical Sciences
*Yasmin SI et al. Int J Res Med Sci. 2025 Mar;13(3):1213-1219*
www.msjonline.org
pISSN 2320-6071 | eISSN 2320-6012
DOI: https://dx.doi.org/10.18203/2320-6012.ijrms20250690

**Original Research Article**

# A study on the paediatric cases admitted in the otorhinolaryngology department in a tertiary care centre

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**Received:** 20 January 2025
**Revised:** 15 February 2025
**Accepted:** 20 February 2025

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## ABSTRACT

**Background:** In paediatric otorhinolaryngology, abnormalities of the nose, throat, and ears are studied about the development of the head and neck structures. Otorhinolaryngological problems are one of the most common causes of medical consultation among paediatrics. The purpose of this retrospective study is to identify the disease patterns among hospitalized paediatric patients at the Assam Medical College and Hospital (AMCH) in the department of otorhinolaryngology. Aims and objective were to determine the pattern of otorhinolaryngology diseases among paediatric patients.
**Methods:** This retrospective study is conducted in the otorhinolaryngology department of Assam Medical College and Hospital (AMCH), Dibrugarh, Assam, from January 2023 to December 2023. The study was done on pediatric patients aged 0-12 years, presenting and admitted to the department of otorhinolaryngology, Assam Medical College and Hospital.
**Results:** A total of 144 cases are studied, which includes 73 males and 71 females with a male-to-female ratio of 1.03: 1. The most common otorhinolaryngological problem noted in our study was foreign bodies (29.86%) and diseases were chronic otitis media (4.16%), cervical lymphadenopathy (4.16%) and epistaxis (4.16%). Maximum cases were admitted in November (12.5%) and minimum cases were admitted in October (4.17%).
**Conclusions:** In the paediatric age range, otolaryngology emergencies are not unusual. Although the risk of death is low, there is a chance of increasing complications. The most common otorhinolaryngological problem noted in our study was foreign bodies and diseases were chronic otitis media, cervical lymphadenopathy and epistaxis. Parent and caretaker education about the diseases and prevention shall help limit the mortality and complications.

**Keywords:** Children, ENT, Foreign body, Otorhinolaryngology, Pediatric, Tonsillitis

## INTRODUCTION

The population of our state, Assam, is largely composed of people in their paediatric years. Assam has a total population of 3,12,05,576 as per the 2011 census report, of which 46,38,130 are in the 0-6 age group.[1] Pediatric otorhinolaryngology is the study of disorders of the ear, nose and throat as they relate to the growth and development of head and neck structures.[2] Otorhinolaryngological problems are one of the most common causes of medical consultation among paediatrics. Ear, nose and throat problems are more common in children than in adults, especially diseases such as acute suppurative otitis media, acute tonsillitis, acute pharyngitis, acute epiglottis, laryngo-tracheobronchitis, rhinitis etc. This may be due to various factors such as wider and horizontal eustachian tubes, underdeveloped immunity, malnourishment, poor hygiene, overcrowding, lower socioeconomic status etc.[3] Due to financial constraints, the majority of the time, therapy for colds, coughs, sore throats, and earaches is administered at home or through alternative and

symptomatic methods. Usually, children are taken to the doctor when these symptoms worsen.[4] Pediatric otorhinolaryngology cases have very low mortality rates, except in emergencies, but morbidity does occur despite better medical care.[5,6]

Children's otorhinolaryngological problems may be congenital, infectious, traumatic, or neoplastic. Pre-auricular sinus, choanal atresia, and abnormalities of the pinna and external auditory canals are examples of congenital diseases. Infective conditions include adenotonsillitis, otitis (externa and media), rhinosinusitis, pharyngitis and laryngitis.[7] Foreign body impaction in the otorhinolaryngological region is discovered to be a prevalent emergency in India, where it might have catastrophic consequences.[8]

There are not many studies on pediatric otorhinolaryngological problems, which means that additional research is needed to fully understand the pathophysiological mechanism behind illnesses and patterns in a variety of contexts and to improve patient care.

### *Aims and objectives*

To determine the pattern of otorhinolaryngology diseases among paediatric patients.

## METHODS

This retrospective study was conducted in the otorhinolaryngology department of Assam Medical College and Hospital (AMCH), Dibrugarh, Assam, from 1st January 2023 to 31st December 2023.

The study was done on pediatric patients aged 0-12 years, presenting and admitted to the department of otorhinolaryngology, Assam Medical College and Hospital. A total number of 144 cases are studied, of which 73 were male and 71 females.

The diagnosis was made based on clinical presentation, blood investigations, electrocardiogram (ECG) and radiological investigations. Blood investigations include complete blood count, prothrombin time, activated partial thromboplastin time, international normalized ratio, bleeding time, clotting time, creatinine, urea, serum electrolytes and various other investigations as required and advised by other departments on consultation. An otoscopy was performed to examine the ears for conditions such as otitis media, ear perforations, and discharge. Nasal examinations including external examination and anterior rhinoscopy and posterior rhinoscopy in cooperative cases were done for nasal discharge, airway obstruction and infection. Throat examination including indirect laryngoscopy was done in cases as indicated and most importantly in cooperative cases was performed for any sign of tonsillitis, pharyngitis or laryngitis.

### *Inclusion criteria*

Patients who presented and were admitted and guardians gave consent to be included in the study.

### *Exclusion criteria*

Incomplete patient records.

## RESULTS

A total of 144 cases were studied, which includes 73 males and 71 females with a male-to-female ratio of 1.03:1. Maximum cases are noted in the age group 3-4 years, a total of 19 cases were admitted. The most common cause in the 3-4 years age group is a foreign body nose. Minimum cases were noted in the 0-1-year age group, a total of 3 cases were admitted. The most common cause of otorhinolaryngology problems among the pediatric population was foreign body oesophagus (14.58%), followed by foreign body nose (8.33%) and tongue laceration (5.55%).

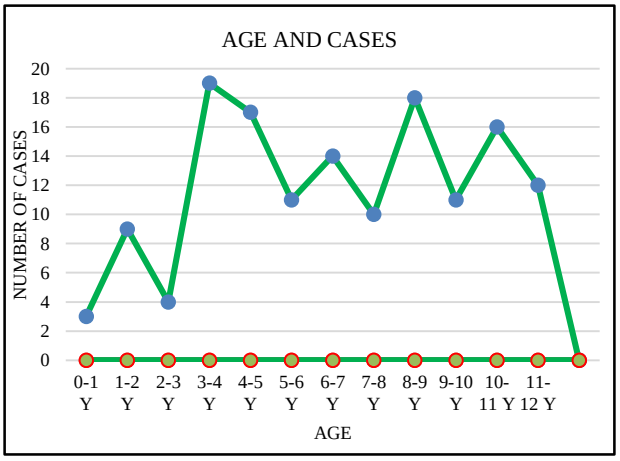


**Figure 1: Correlation between age and number of cases among study participants.**

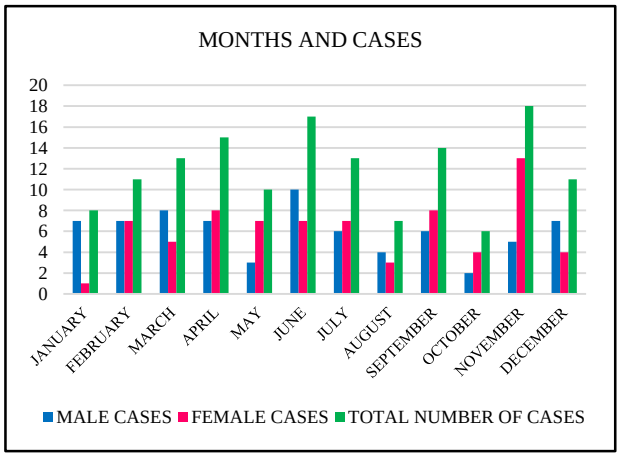


**Figure 2: Monthly presentation trends.**

**Table 1: Causes among study participants up to 4 years age.**

| Diagnosis | Management | Number of cases |
|---|---|---|
| **Tongue tie** | Release under general anesthesia | 1 |
| **Foreign body nose** | Removal under general anesthesia | 7 |
| **Foreign body ear** | Removal under general anesthesia | 3 |
| **Tongue laceration** | Repair under general anesthesia | 5 |
| **Right acute mastoiditis** | Conservative | 1 |
| **Retropharyngeal abscess** | Incision and drainage | 1 |
| **Anterior neck abscess** | Incision and drainage | 1 |
| **Left side neck abscess** | Conservative | 1 |
| **Acute tonsillitis** | Conservative | 2 |
| **Foreign body coin oesophagus** | Therapeutic esophagoscopy under general anesthesia | 7 |
| **Venolymphatic malformation intramuscular plane left side of neck** | Conservative and referred to pediatric surgery | 2 |
| **Arteriovenous malformation right ear lobule** | Conservative and pediatric surgery opinion taken | 1 |
| **Right side otitis externa with right preauricular sinus** | Conservative | 1 |
| **Thyroglossal cyst** | Excision under general anesthesia | 1 |
| **Left ear accessory appendage** | Excision under general anesthesia | 1 |

**Table 2: Causes among study participants from 4 years to 8 years age.**

| Diagnosis | Management | Number of cases |
|---|---|---|
| **Acute tonsillitis** | Conservative | 1 |
| **Mucous retention cyst** | Excision under GA | 1 |
| **Foreign body coin oesophagus** | Therapeutic esophagoscopy under GA | 8 |
| **Foreign body coin cricopharynx** | Therapeutic esophagoscopy under GA | 1 |
| **Foreign body fish bone right tonsillar fossa** | Removal under sedation | 1 |
| **Tongue laceration** | Repair under GA/sedation | 3 |
| **Soft palate laceration** | Repair under GA | 2 |
| **Foreign body ear** | Removal under GA | 3 |
| **Foreign body nose** | Removal under GA | 5 |
| **Left post auricular abscess** | Incision and drainage | 1 |
| **Left preauricular abscess** | Conservative | 1 |
| **Bilateral preauricular sinus** | Excision under GA | 2 |
| **Necrotising otitis externa right** | Conservative | 1 |
| **Cervical lymphadenopathy** | Excision biopsy under GA | 1 |
| | Conservative | 1 |
| **Cervical lymph node abscess** | Conservative | 1 |
| **Left submandibular abscess** | Conservative | 1 |
| **Right neck abscess** | Incision and drainage | 1 |
| **Left side neck bleeding naevus** | Excision under GA | 1 |
| **Mastoid region abscess** | Incision and drainage | 1 |
| **Adenoid hypertrophy with OME** | Adenoidectomy with bilateral myringotomy under GA | 1 |
| | Adenoidectomy with left myringotomy under GA | 1 |
| **Adenoid hypertrophy with left com** | Adenoidectomy under GA | 1 |
| **Adenoid hypertrophy** | Adenoidectomy under GA | 1 |
| **Chronic tonsillitis with adenoid hypertrophy** | Conservative | 2 |
| **Post adenoidectomy haemorrhage with hemophillia B** | Posterior nasal packing under GA | 1 |
| **Acute tonsillitis with respiratory distress** | Conservative | 1 |
| **Right submandibular abscess** | Incision and drainage | 1 |
| **Left preauricular lymphadenitis** | Conservative | 1 |
| **Left mucosal COM** | Intact canal wall mastoidectomy under GA | 1 |
| **Sinus tract with scar tissue on anterior aspect of neck** | Excision under GA | 1 |
| **Epistaxis with Hb E disease** | Conservative | 1 |

GA- general anesthesia, COM- chronic otitis media, OME- otitis media with effusion

**Table 3: Causes among study participants from 8 years to 12 years age.**

| Diagnosis | Management | Number of cases |
|---|---|---|
| **Epistaxis** | Conservative | 4 |
| **Left parotid abscess** | Conservative | 1 |
| **Adenoid hypertrophy** | Conservative | 2 |
| | Adenoidectomy under GA | 1 |
| **Left ear keloid** | Excision under LA | 1 |
| **Right otitis externa** | Conservative | 1 |
| **Right peritonsillitis** | Conservative | 1 |
| **Acute tonsillitis** | Conservative | 1 |
| **Chronic tonsillitis** | Tonsillectomy under GA | 1 |
| | Conservative | 2 |
| **Chronic tonsillitis with adenoid hypertrophy** | Adenoidectomy under GA | 1 |
| | Conservative | 1 |
| **Pyogenic granuloma tongue** | Excision under GA | 1 |
| **Foreign body coin oesophagus** | Therapeutic esophagoscopy under GA | 4 |
| **Foreign body chicken bone oesophagus** | Therapeutic esophagoscopy under GA | 1 |
| **Foreign body fish bone oesophagus** | Diagnostic esophagoscopy under GA | 1 |
| **Foreign body ear** | Removal under GA | 1 |
| **Retropharyngeal abscess** | Conservative | 1 |
| | Incision and drainage | 1 |
| **Anterior neck abscess** | Conservative | 1 |
| **Foreign body granuloma formation in left side of faciomaxillary region** | Excision of granuloma under GA | 1 |
| **Right side preauricular sinus with abscess** | Conservative | 1 |
| **Preauricular abscess** | Incision and drainage | 1 |
| **Left otitis externa** | Conservative | 1 |
| **Bilateral sinonasal polyposis** | Fess under ga | 1 |
| **Right antrochoanal polyp** | Fess with polypectomy under GA | 1 |
| **Cervical lymphadenopathy** | Conservative | 2 |
| **Left squamosal COM** | Left radical mastoidectomy with meatoplasty under GA | 1 |
| **Right ear perichondritis with avascular necrosis** | Debridement | 1 |
| **Left peritonsillitis** | Conservative | 1 |
| **Juvenile nasopharyngeal angiofibroma** | Removal through transpalatine approach under GA | 1 |
| **Left squamosal CSOM with facial nerve palsy** | Radical mastoidectomy with facial nerve decompression under GA | 1 |
| **Right acute on chronic mastoiditis with squamosal com** | Right modified radical mastoidectomy with type 4 tympanoplasty under GA | 1 |
| **Left squamosal COM** | Left modified radical mastoidectomy with type 2 tympanoplasty under GA | 1 |
| **Apthous ulcer with oral candidiasis** | Conservative | 1 |
| **Right submandibular abscess** | Incision and drainage | 2 |
| **Multifocal Pott's spine with abscess formation with torticollis** | Conservative | 1 |
| **Cut neck injury** | Repair under sedation | 1 |

GA- general anesthesia, LA- local anesthesia, COM- chronic otitis media

The most common ear, nose and throat disorders were cervical lymphadenopathy (4.16%), epistaxis (4.16%) and chronic otitis media (4.16%). The least common cases noted were oral ulcer (0.69%), cervical lymph node abscess (0.69%), necrotising otitis externa (0.69%), parotid abscess (0.69%), multifocal Pott's spine abscess formation with torticollis (0.69%), juvenile nasopharyngeal angiofibroma (0.69%), pyogenic granuloma of tongue and lip (1.38%).

**Table 4: Causes among study participants.**

| Diagnosis | Number of cases |
|---|---|
| Tongue tie | 1 |
| Tongue laceration | 8 |
| Acute tonsillitis | 5 |
| Chronic tonsillitis | 3 |
| Chronic tonsillitis with adenoid hypertrophy | 4 |
| Peritonsillitis | 2 |
| Adenoid hypertrophy | 4 |
| Adenoid hypertrophy with OME/COM | 3 |
| Oral ulcer | 1 |
| Foreign body tonsillar fossa | 1 |
| Foreig body cricopharynx | 1 |
| Foreign body oesophagus | 21 |
| Pyogenic granuloma (lip and tongue) | 2 |
| Submandibular abscess | 4 |
| Retropharyngeal abscess | 3 |
| Cervical lymphadenopathy | 6 |
| Cervical lymph node abscess | 1 |
| Neck abscess | 4 |
| Cut neck injury | 1 |
| Thyroglossal cyst | 1 |
| Multifocal Pott's spine with abscess formation with torticollis | 1 |
| Foreign body nose | 12 |
| Epistaxis | 6 |
| Juvenile nasopharyngeal angiofibroma | 1 |
| Sinonasal polyp | 3 |
| Otitis externa | 4 |
| Otitis externa with preauricular sinus | 1 |
| Necrotising otitis externa | 1 |
| Foreign body ear | 7 |
| Chronic otitis media | 6 |
| Preauricular abscess | 3 |
| Preauricular sinus | 2 |
| Foreign body granuloma face | 1 |
| Parotid abscess | 1 |
| Others | 19 |

The various congenital anomalies noted in our study were tongue tie (0.69%), preauricular appendages (0.69%), thyroglossal cyst (0.69%) and preauricular sinus (1.38%). Among the ear cases, most common otorhinolaryngological problem was the foreign body ear (4.86%), but the most common disease was chronic otitis media (4.17%). Among the nose cases, the most common otorhinolaryngological problem was foreign body nose, while the most common disease was epistaxis. And the most common throat cases were acute tonsillitis (3.47%). Among females admitted, the most common otorhinolaryngological problem was foreign body oesophagus (7.63%) and the most common otorhinolaryngological disease was tonsillitis (5.55%). Among males, the most common problem was also the foreign body oesophagus (6.94%) and the disease was adenoid hypertrophy (3.47%) either with otitis media with effusion or chronic tonsillitis or chronic otitis media. Seven of the eight occurrences of tongue lacerations that have been reported were male trauma patients. One male patient with a soft palate laceration was admitted as well. Maximum cases were admitted in November (12.5%) and minimum cases were admitted in October (4.17%). Out of 144 cases, 49 cases were managed conservatively, 42 cases were foreign body cases and removal was done under sedation or general anaesthesia and 53 cases were surgically managed under general anaesthesia.

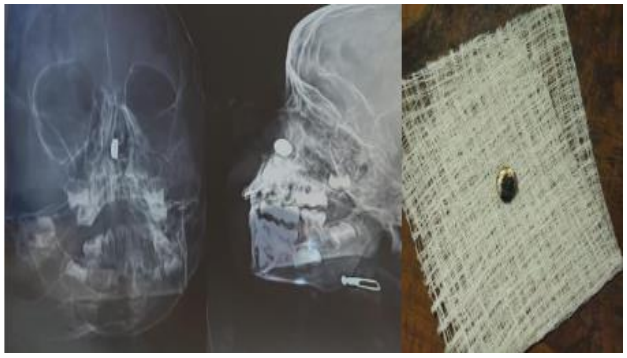

**Figure 3 (a): Radiograph showing radio opaque foreign body in nose and image foreign body button battery nose.**

**Figure 3 (b): Cervical lymphadenopathy.**

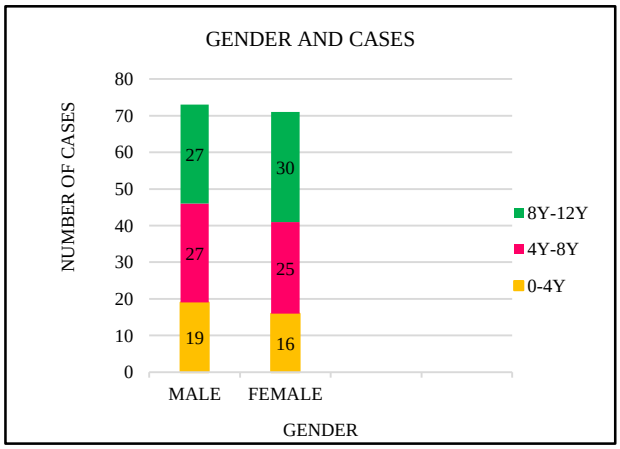


**Figure 4: Age distribution and number of cases among study participants.**

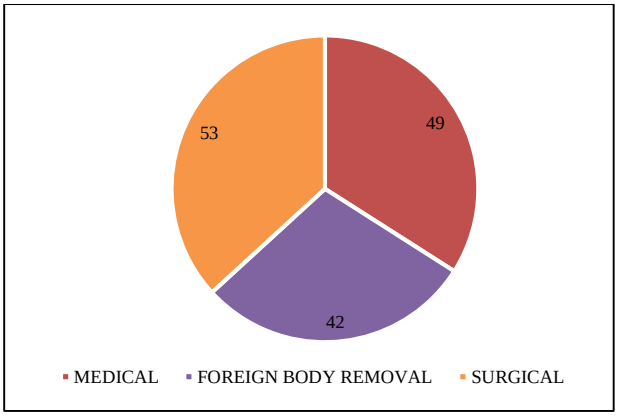


**Figure 5: Management of various cases among study participants.**

## DISCUSSION

The main health problems encountered by the child population in India are low birth weight, malnutrition, infection and parasitosis, accidents and poisoning and behavioural problems.[9] Otorhinolaryngological disorders may be either a consequence of the above or may complicate them. Various health plans are needed to focus on the needs of the paediatric population for ear, nose and throat disorders. In our study a male-to-female ratio of 1.03:1 was found, and the gender distribution was almost similar. Yeli et al in a study found the male-to-female ratio 1:1.4.[10] The most common ear, nose and throat disorders were chronic otitis media (4.16%), epistaxis (4.16%) and cervical lymphadenopathy (4.16%), Hatcher et al also discovered that the three main types of ear illnesses are hearing loss, wax, and chronic suppurative otitis media.[11] Surapaneni et al found that of all the nasal illnesses, rhinitis was the most common, making up about 55% of the nasal cases.[4] Also in their study tonsillitis was the most common throat problem.[4]

The most common otorhinolaryngology problem noted in our study is a foreign body, of which the most common is a foreign body oesophagus, followed by a foreign body nose and foreign body ear. Most of the foreign body nose cases noted in our study are in the age group 0-4 years (58.33% of foreign body nose cases). In our study, 7 cases of foreign body coin oesophagus were reported in the 0-4 age group and 8 cases in the 4-8 of age group. Thus, maximum cases of foreign body coin oesophagus are noted in 4-8 years age. The occurrence of foreign bodies, either living or inanimate, within the nasal cavity and auditory canal, is a prevalent occurrence in preschoolers and very uncommon in older age groups. Likely that these kids frequently introduce objects out of curiosity or boredom.[6] Surapaneni et al found in their study that one of the reasons for hospital emergencies was foreign bodies in the throat or nose. This was more common in younger kids, under 5 years old. Only 2 school-age children had foreign particles lodged in their throats, and even that was an accident.[4] The most frequent foreign body in the oesophagus, especially in children, is coin.[8] In our study 9 cases of injury noted, 8 tongue lacerations and 1 soft palate laceration, 7 cases of tongue lacerations are in the 0-4 years group. Ages 6 and older account for the majority of injury cases involving school-age children.[5] According to our study, when cases are roughly divided into ear, nose, and throat cases, three-fifths of the cases (57.6%) are classified as throat cases, making up the majority, followed by ear cases (24.3%). Briggs et al. in their study found that the majority of children who presented to the ENT department had abnormalities connected to their ears, which accounted for over two-thirds (65.1%) of all cases.[12] On categorising the cases into three age groups 0-4 years, 4-8 years and 8-12 years, 35 cases are noted in the 0-4 years group, 52 cases in the 4-8 years group and 57 cases in the 8-12 years group, however, if the cases are divided into one-year group majority cases are noted in 3-4 years group. Briggs et al in their study found that the 0-4-years group of paediatric patients were the most affected across all categories of ENT disorders with 585 (23.3%).[12]

This study has certain limitations, as it was conducted at a single centre for only one year, and included only hospitalised cases, excluding paediatric patients from outpatient services. Therefore, further research is needed to apply the findings to the broader paediatric population.

## CONCLUSION

In the pediatric age range, otolaryngology emergencies are not unusual. Although the risk of death is low, there is a chance of increasing complications such as aspiration, nasal and facial deformities, airway blockage, and eardrum perforation. The most common otorhinolaryngological problem noted in our study is foreign bodies and diseases are chronic otitis media, cervical lymphadenopathy and epistaxis. Basic data from this study can be helpful for future local research projects and health plans. Educating parents and caretakers about the symptoms and the need for timely intervention for prevention of the disease progression and complications can reduce mortality to a greater extent.

*Funding: No funding sources*
*Conflict of interest: None declared*
*Ethical approval: The study was approved by the Institutional Ethics Committee*

## REFERENCES

1. Government of Assam. Statistical Handbook, Assam-2020. Available from: https://des.assam.gov.in/sites/default/files/swf_utility_folder/departments/ecostat_medhassu_in_oid_3/this_comm/statistical_hand_book_assam_2020.pdf. Accessed on 11 June 2022.
2. Cunningham M. Pediatric otolaryngology. In: Head and Neck Surgery- Otolaryngology. Lippincott. Williams and Wilkins; 2006:1048.
3. Gul AA, Ali L, Rahim E, Ahmed S. Chronic suppurative otitis media: frequency of pseudomonas

aeruginosa in patients and its sensitivity to various antibiotics. Prof Med J. 2007;14(03):411-5.
4. Surapaneni H, Sisodia SS. Incidence of ear, nose and throat disorders in children: a study in a teaching hospital in Telangana. Int J Otorhinolaryngol Head Neck Surg. 2016;2(1):26.
5. Sharma K, Bhattacharya D, Barman H. Common ear, nose, and throat problems in pediatric age group presenting to the emergency clinic prevalence and management: a hospital-based study. Indian J Clin Pract. 2014;24(8):756-60.
6. Maran AGD. Logan Turner's Diseases of Nose, Throat and Ear. 10th edn. New York: Elsevier; 1988:464.
7. Fasunla AJ, Samdi M, Nwaorgu OG. An audit of ear, nose and throat diseases in a tertiary health institution in south-western Nigeria. Pan Afr Med J. 2013;14:1.
8. Saha S, Chandra S, Mondal PK, Das S, Mishra S, Rashid MA, et al. Emergency otorhinolaryngolocal cases in medical college, Kolkata- a statistical analysis. Indian J Otolaryngol Head Neck Surg. 2005;57(3):219-25.
9. Park K. Park's textbook of preventive and social medicine. 18th edn. Bhanot Publishers; 2005:406.
10. Yeli S. Prevalence of ENT disorders among children in UAE: a tertiary medical care study. Int J Curr Microbiol App Sci. 2015;4(7):682-7.
11. Hatcher J, Smith A, Mackenzie I, Thompson S, Bal I, Macharia I, et al. A prevalence study of ear problems in school children in Kiambu district, Kenya, May 1992. Int J Pediatr Otorhinolaryngol. 1995;33(3):197-205.
12. Briggs DC, Ikenga VO, Oparaodu UA, Mbak E. The pattern of paediatric otorhinolaryngological disorders seen at the Rivers State University Teaching Hospital, South-south Nigeria: a 3-year review. Pan Afr Med J. 2022;42.

**Cite this article as:** Yasmin SI, Sangma R, Moran N. A study on the paediatric cases admitted in the otorhinolaryngology department in a tertiary care centre. Int J Res Med Sci 2025;13:1213-9.