

The Spectrum of Otorhinolaryngology, Head and Neck Emergencies: Our Experience

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Abstract

Background: Emergencies in otorhinolaryngology are common in health-care facilities. Early detection and treatment of a disease can result in the reduction of morbidity and mortality in patients. **Aim:** This study was carried out in the southwest region of Nigeria over 10 years to depict the epidemiology, gender, and age-wise distribution of otorhinolaryngology emergencies. **Materials and Methods:** Using a cross-sectional study design, a semi-structured questionnaire was administered and information was collected on the medical histories of the patients examined. The age and gender of patients, their clinical diagnosis at the time of admission, and the progress of the patient's health after emergency treatment were listed. **Results:** The total number of patients who visited the ear, nose, and throat (ENT) emergency department was 12,931 from January 2011 to December 2021. On average, three emergency patients/day and 1293 emergency patients per year visited ENT emergency department. The ages of patients ranged between 1 month and 70 years. The number of male patients was 8657 (66.94%), and the number of female patients was 4274 (33.05%). The ratio of males to females was 2:1. The most common emergency cases were of nose bleed (25.57%). Then, we had cases of earache and ear discharge on our list. **Conclusion:** The otorhinolaryngology emergency department plays a vital part in managing life-threatening situations such as acute nose bleed, bleeding after removal of tonsils, upper airway, neck boils, severe middle ear infection, and acute fungal sinus infection. These conditions require urgent and effective treatment from an ENT Specialist. The ENT emergency department plays a vital part in managing life-threatening situations which require urgent and effective treatment from otorhinolaryngology specialists. There is a dire need to create standards for prioritising and reducing the number of nonurgent/fake emergency cases appearing in ENT emergencies so that the proper treatment could be given to the deserving emergency cases.

Keywords: Emergency, Nigeria, otorhinolaryngology

INTRODUCTION

In clinical practice, emergency services play a major role. Hence, it is one of the indicators of the quality of health-care facilities. In most hospitals, emergencies related to ear, nose, and throat (ENT) or otorhinolaryngology are common.^[1] These emergencies can range from a simple ear or throat pain to a life-threatening respiratory condition that needs immediate tracheostomy. As the number of road accidents is increasing daily, the number of cases in the otorhinolaryngology emergency department is also on the rise. It leads to a burden and a significant challenge for the health-care workers and professionals in ENT Department.^[2]

There are countries where a referral from a general physician is required before accessing the ENT emergency. While in some countries, there is open access to ENT emergency, which means the patients do not need any referral or prior checkup. Hence,

the procedure of getting access to the otorhinolaryngology emergency varies from one country to another.^[3] The most reported emergency cases in ENT emergency are of a foreign body in the ear, nose, or esophagus. These are more common in younger children.^[4,5] While in older adults, foreign bodies are mostly reported in the glottis and esophagus.^[6]

There is some other type of cases that are also reported frequently in otorhinolaryngology emergency.^[7] Nowadays, there is an increase in the incidence of traumatic injuries. These incidences include cases like cutting on the throat, blunt or

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penetrating injuries on the neck.^[8] As the ear and the nose are very closely located in the human brain and the nose is located near to eye orbit, any delay in dealing with such injuries can lead to the spread of infection to the nervous system or eyes.^[1] Any medical condition in any of these three organs is usually linked with a head injury and might consequently lead to loss of sensory organ functioning. This loss of function could be life-threatening, particularly if the trachea is also involved.^[9] That is why an ENT surgeon should be always present to manage these traumatic and challenging situations.^[10] There are only a few studies from Nigeria that describe the epidemiology of otorhinolaryngology emergencies. Hence, we conducted this study in the southwest region of Nigeria to depict the epidemiology, gender, and age-wise distribution of otorhinolaryngology emergencies.

MATERIALS AND METHODS

The present study is a descriptive, contemplative, and cross-sectional study that summarises patient data from 2011 to 2021. This study was conducted in the southwest region of Nigeria. This study contains the medical histories of 12,931 patients who visited the ENT emergency in 10 years. Patients' medical histories, which included the age, gender, clinical diagnosis on admission, and progress in their health after the emergency treatment, were obtained from their hospital records and listed for the study. This data were saved in the system, and data analysis was carried out through IBM IBM Corp. Released 2020. IBM SPSS Statistics for Windows, Version 27.0. Armonk, NY: IBM Corp.

RESULTS

The total number of patients who visited the ENT department emergency in 10 years (2011–2021) was 12,931. On average, four patients/day and 1293 patients/year visited ENT emergency department. The ages of patients ranged between 1 month and 70 years.

Out of the total 12,931 patients, 12.88% were between 0 and 10-year-old, 17.07% were between 11 and 20 years, 10.83% were between 21 and 30 years, 13.03% were between the age group of 31 and 40 years, whereas 46.19% were above the age of 40 years [Table 1].

The number of male patients was 8657 (66.94%), while the female patients who visited the emergency of the ENT

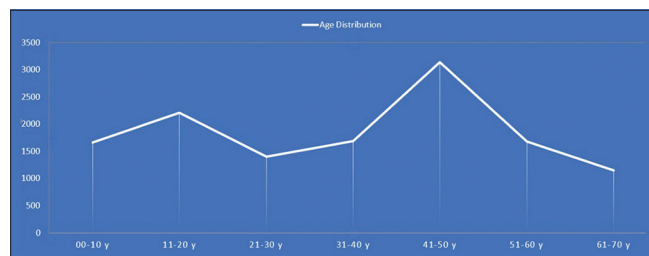


Figure 1: Age of the patients

department were 4274 (33.05%). The ratio of males to females was 2:1.

Figure 1 also shows that 40.78% of the patients were between the age of 1 and 30 years, whereas 37.31% of the patients were between the age of 31 and 50 years. About 21.91% of the patients were between the age of 51 and 70 years.

Table 2 shows the age distribution of the patients by the diseased part. As shown in the table, out of 12,931 patients, 33.15% of the patients had ear disorders and 33.70% had nose disorders. 12.12% had disorders of the pharynx and larynx, whereas 6.81% and 8.99% had disorders of head-and-neck injuries, and polytrauma, respectively.

The table also shows that 2005 patients between the age group of 1 and 30 suffered from ear diseases, whereas 1753 patients between the age of 31 and 50 suffered from nose disorders.

Figure 2 shows the diseased part's distribution of the patients and it reveals that the majority (33.70%) of the patients fell into the nose-diseased part and this is closely followed by the ear-diseased part (33.17). Moreover, Table 3 shows the distribution of patients by presenting symptoms. Out of the 12,931, a large number of the patients (25.57%) had nosebleeds of variable severities.

On the other side, tonsillitis disorders were reported by the least number of patients (1.51%). Moreover, 12.47% and 12.06% of the patients had earache (Otagia) and ear discharge (otorrhea),

Table 1: Age distribution

Age group(s)	Frequency (%)
0-10	1665 (12.88)
11-20	2207 (17.07)
21-30	1400 (10.83)
31-40	1685 (13.03)
41-50	3140 (24.28)
51-60	1681 (13.00)
61-70	1153 (8.91)
Total	12,931 (100)

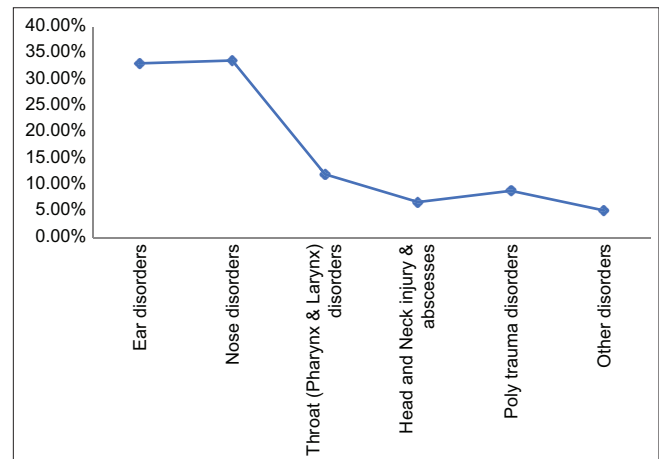


Figure 2: Diseased parts distribution

Table 2: Age distribution by diseased part

Number of cases (n)	0-10	11-20	21-30	31-40	41-50	51-60	61-70	Total	Percentage
Ear	650	918	437	375	980	667	260	4287	33.15
Nose	350	818	439	573	1180	467	531	4358	33.70
Throat (pharynx and larynx)	423	315	176	275	195	108	75	1567	12.12
Head-and-neck injury and abscesses	72	62	111	115	195	251	75	881	6.81
Polytrauma	80	62	108	245	495	90	83	1163	8.99
Others	90	32	129	102	95	98	129	675	5.23
Total	1665	2207	1400	1685	3140	1681	1153	12,931	100

respectively. Similarly, 1163 (8.99%) cases and 798 (6.17%) cases of polytrauma and foreign body in the nose were reported.

Table 4 shows the age distribution of respiratory distress patients who required tracheostomy. The most number (16.89%) of the respiratory distress patients were from the age group 61 to 70 years, whereas the least number (10.75%) of the respiratory distress patients were from the age group 0 to 10 years. The need for tracheostomy to relieve respiratory distress occurred almost equally among the different age groups listed.

Moreover, as shown in Figure 3, 49.82% of the patients in the age group 41–70 years had respiratory distress. Similarly, 36.17% and 30.2% of the patients of the age group 0–30 years and 31–50, respectively, suffered from respiratory distress.

Table 5 shows the distribution of patients by procedure applied. Tracheostomy is the major surgical procedure done in our ENT Emergency Services (29.00%), indications for which include upper airway obstruction; laryngeal trauma; unconscious patients in intensive care unit (ICU) with prolonged intubation; and as adjunct to head and neck surgeries. 23.70% of the patients had an “aural foreign body removal” emergency. Similarly, 12.47% and 10.39% of the patients had “Nasal Foreign body removal” and “Esophagoscopy” respectively.

Moreover, Table 6 displays the distribution of patients by complications. About 23.14% of the patients had a “tracheal stenosis” as complication, whereas 32.41% of the patients had “nasal synechia.” Figure 4 also shows the distribution of patients by complications.

DISCUSSION

In clinical practice, emergency services play a major role in the health care system. Otorhinolaryngology emergencies make up much of the care provided in most hospitals. For a couple of years, there has been an increase in demand, which is shown by a surge in the application for a consultancy from an ENT specialist. It is also depicted by an increase in the number of cases reported in the emergency departments.

This burden will not only affect the clinical practitioners and patients, but it might also lead to saturation in the emergency departments, consequently causing a loss to the standard of care given to the patients.^[11] Factors like an increase in the country’s population and increase in the average life expectancy described the necessity of an increase in medical

Table 3: Distribution of patients by type of complaints

Type of emergency	Number of cases (%)
Earache (otalgia)	1613 (12.47)
Ear discharge (otorrhea)	1560 (12.06)
Ear bleeding	472 (3.65)
Foreign body in the ear	642 (4.96)
Facial palsy	338 (2.61)
Epistaxis (nosebleed)	3307 (25.57)
Foreign body in the nose	798 (6.17)
Nasal bone fracture	253 (1.95)
Respiratory distress	586 (4.53)
Foreign body in the esophagus	403 (3.11)
Throat pain (odynophagia)	382 (2.95)
Tonsillitis	196 (1.51)
Head-and-neck trauma and abscesses	543 (4.19)
Polytrauma	1163 (8.99)
Other	675 (5.22)
Total	12,931 (100)

Table 4: Proportion of patients in different age groups requiring tracheostomy for respiratory distress

Age group(s)	Number of cases	Percentage
0-10	63/1665	3.8 (10.75)
11-20	67/2207	3.0 (11.43)
21-30	82/1400	5.9 (13.99)
31-40	82/1685	4.9 (13.99)
41-50	95/3140	3.0 (16.21)
51-60	98/1681	5.8 (16.72)
61-70	99/1153	8.6 (16.89)
Total	586/12931	4.5 (100)

$\chi^2=86.52$, degrees of freedom=6, $P<0.0000001$

resources. This increase should be in human resources and also in the medical equipment sense.^[12]

This study was carried out to depict the epidemiology, gender, and age-wise distribution of Otorhinolaryngology emergencies in the southwest region of Nigeria. The ratio of males and females was observed as 2:1. Approximately the same stats were reported from Pakistan^[13] with a ratio of 2.1:1, from Gujrat, city of India^[3] with a ratio of 2.5:1, and from Punjab Province of India^[14] with a ratio of 2.6:1. Male-to-female ratio of 1.1:1 was reported from the United Kingdom,^[15] and in Spain, a ratio of 1:1.3 was reported.^[16]

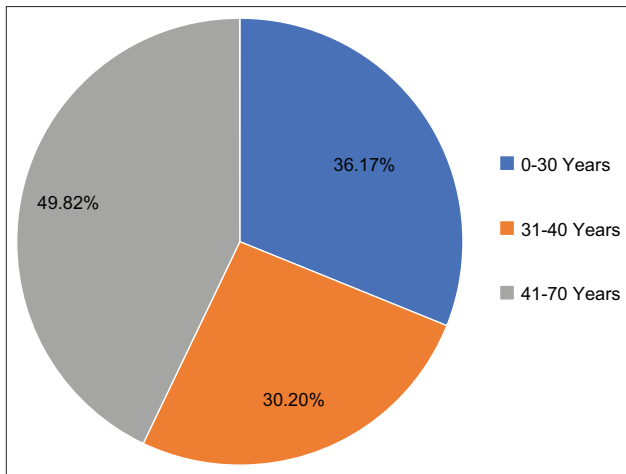


Figure 3: Age distribution of respiratory distress patients who required tracheostomy

Table 5: Distribution of patients by procedure applied

Emergency procedure	Number of cases (%)
Tracheostomy	586 (29.00)
DL	120 (5.94)
Esophagoscopy	210 (10.39)
Neck exploration and repair	12 (0.59)
Incision and drainage of abscesses	25 (1.24)
Nasal foreign-body removal	252 (12.47)
Aural foreign-body removal	479 (23.70)
Nasal septal cauterization	65 (3.22)
Nasal adhesiolysis	37 (1.83)
Nasal endoscopy	210 (10.39)
Rhinoplasty/septoplasty	25 (1.24)
Total	2021 (100)

DL: Direct laryngoscopy

Table 6: Distribution of patients by complications

Complication	Number of cases (%)
Tracheal stenosis	25 (23.14)
Alar collapse	18 (16.67)
Nasal synechia	35 (32.41)
Neck aneurysm	5 (4.63)
Esophageal structure	15 (13.89)
Mortality	10 (9.26)
Total	108 (100)

From our observation, the most common emergency cases were of nose bleed (epistaxis), then we had earache cases on our list, and at the third position were the cases of ear discharge. These stats were in line with the stats from Spain.^[16-20] The published data from France report a sudden loss of hearing, nose bleed, and tonsil infection as the most common cases registered in ENT emergencies.^[21] In India, researchers analysed that in a large health-care facility, most of the cases (57.7%) of ENT emergency departments were not severe and did not require admission.^[22]

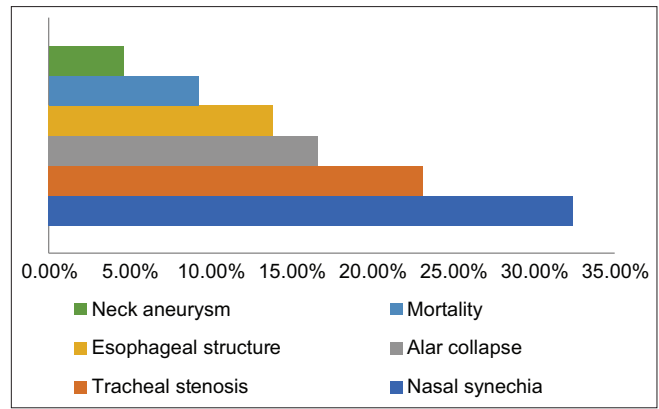


Figure 4: Distribution of patients by complications

These researches also state that a large percentage of cases appearing in the casualty/ENT department do not require urgent treatment, so their presence should be restricted in the emergency department to the deliverance of urgent treatment to real emergency cases. Granick and Obeiter^[23] reported the presence of trivial manifestations in 2/3 cases that appeared in ENT emergencies.

With respect to the procedure offered to the patients, tracheostomy was the highest. The tracheostomy done was mostly in ICU due to prolonged intubations and as adjunct for maxillofacial and head-and-neck surgeries.

Other research articles depict that about 60%–75% of cases registered in ENT Emergencies were not urgent. Researchers also reported that a large percentage of cases (>60%–75%) came directly/without referral to the ENT emergency. These cases suffered from mild conditions and could be treated by a general physician.^[16]

It is distressing that most cases registered in the otorhinolaryngology emergency department were not actual cases of emergencies. Hence, these cases could be handled by a general physician. The differentiation between genuine and fake emergencies is required to lessen the patient burden on the emergency department. This will increase the standard of the care and treatment provided in the emergency department and better usage of human and financial resources of the health-care facilities.

To overcome this problem, there could be many potential solutions. A protocol should ensure that health-care facilities have enough resources and that these resources are used most effectively. This will restrict the unnecessary use of emergency departments and the admissions of fake emergency cases. There should be awareness about the functioning of the health-care system in the public and health-care providers, so people do not use the emergency department as a door to avoid the waiting lists, or a shortcut procedure to get an appointment with a specialised ENT physician.^[16]

Although it is not easy to categorise which conditions need emergency treatment and which conditions do not require

emergency treatment, some set rules or a referral system should be implemented. Hence, the cases should be prioritised according to the case condition. This will also help to filter out genuine emergency cases from fake ones.^[21]

CONCLUSION

The otorhinolaryngology emergency department plays a vital part in managing life-threatening situations such as acute nose bleed, bleeding after removal of tonsils, upper airway obstruction, neck abscesses, severe middle ear infection, and acute fungal sinus infection. These conditions require urgent and effective treatment from an ENT specialist. There is a dire need to create a standard for prioritising and reducing the number of nonurgent/fake emergency cases appearing in otorhinolaryngology emergencies. Hence, proper treatment could be given to genuine emergency cases.

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Conflicts of interest

There are no conflicts of interest.

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