ORIGINAL ARTICLE

PATTERN OF OTORHINOLARYNGEAL, HEAD AND NECK DISEASES IN THE IN-PATIENT UNIT OF A TERTIARY HEALTH INSTITUTION IN SOKOTO, NORTH WESTERN NIGERIA.

AMUTTA SB, ABDULLAHI M, ALIYU D, MANYA C, YIKAWE SS, SOLOMON JH

ABSTRACT

Background:
The pattern of ear, nose, throat, head and neck diseases varies from one geographical location to another and hospital admission usually required for optimum management. **Objective:** The aim of this study is to assess the pattern of Ear, Nose and Throat in-patient diseases and make recommendations to improve health care services. **Methods:** This was a six year retrospective study of ear, nose, throat, head and neck in-patients. Data analysed include demographic data, religion and diagnosis. **Results:** A total of Eighteen thousand and ninety three (18,093) patients were managed in the Ear, Nose and Throat department from January 2006 to December 2012. One thousand two hundred and twenty six (1,226) patients were managed in the in-patient unit comprising male708 (57.8%) and female 518 (42.3%) with male: female ratio 1.4:1. Hospitalisation rate was 6.8%. The six most frequent reasons for the hospital admission were tonsillitis 224 (18.3%) patients, followed by epistaxis 105 (8.6%), nasal masses 100 (8.2%), neck and laryngeal trauma 91 (7.4%), chronic suppurative otitis media 74 (6.0%), nasal and facial trauma accounted for 74 (6.0%). **Conclusion:** The pattern of otorhinolaryngeal, head and neck diseases among the in-patients in this study varied with age and site of the lesion. Tonsillitis and Epistaxis being the most common reasons for admission, they can be handled by the general practitioners, hence, the need to create awareness on the management of these lesions to provide the Otorhinolaryngologist ample time to attend to complicated diseases.

KEYWORDS: ENT diseases, in-patient, Sokoto, awareness.

INTRODUCTION

The pattern of Otorhinolaryngeal, Head and Neck diseases varies with age, sex, socioeconomic status and from one region to another[1-4]. Hospitalization for ENT diseases is indispensable especially for life threatening conditions. The hospital admission is required for diagnosis, reassurance and treatment[3].

ENT department, Usmanu Danfodiyo University Teaching Hospital, Sokoto, Nigeria.

Correspondence to:
STANLEY B. AMUTTA,
ENT Department, Usmanu Danfodiyo University Teaching Hospital, Sokoto, Nigeria.
GSM:- 08035030416
eMail:- samutta14@gmail.com

Hospitalization in a developing country like Nigeria may negatively affects the patients or family meagre resources, loss of productivity because of absence from work and school. In addition, there are limited hospital resources and trained Otorhinolaryngologist, thus, only complicated and complex ENT diseases deserve hospitalization in tertiary health institution.

The aim of this study was to assess the pattern of otorhinolaryngeal, head and neck surgical diseases hospitalized in a tertiary institution in Sokoto, North-Western Nigeria and make recommendations for improved diagnosis, medical and surgical treatment.

MATERIALS AND METHODS

This was a retrospective study carried out in the Ear, nose and throat (ENT) department of

the Usmanu Danfodiyo University Teaching Hospital (UDUTH), Sokoto, North-western Nigeria. UDUTH is a tertiary hospital that provides health care services to Sokoto, and the catchment populations in Kebbi, Zamfara and Niger states. The hospital numbers of the in-patients from January 2006 to December 2012 were retrieved from the admission register and their case notes collected from the hospital medical record department. Information gathered from the case notes included age, sex, religion, diagnosis and duration of hospital stay. The diseases were categorized into ear, nose and nasopharynx, throat, head and neck. Inclusion criteria were only patients admitted in the ENT ward and their medical records were available. Exclusion criteria were patients admitted in the ENT ward with missing hospital records and those with ENT diseases admitted in other departments in the hospital. Analysis was done by descriptive statistic using SPSS version 16.0

RESULTS

A total of Eighteen thousand and ninety three (18,093) patients were managed in both the out-patient and in-patient units during the period under review at the ENT Department of the Usmanu Danfodiyo University Teaching Hospital, Sokoto, Nigeria. Of the 18,093 patients, 8,659 (47.9%) were new cases while 9,434 (52.1%) were follow-up cases.

One thousand two hundred and twenty six (1,226) patients were managed in the in-patient unit comprising male 708 (57.7%) and female 518 (42.3%) with male: female ratio 1.4:1. Children were considered as those age 15 years and below and they constitute 434 (35.4%) in-patient while Adults aged 16 years and above and were 792 (64.6%). Hospitalisation rate was 6.8%. Muslim 1,091(89%) patients predominate, this was followed by the Christians 133(10.8%) and traditional religion 2 (0.5%). The age range was 6 months to 90 years. Mean age was 29.7 years. The average number of patient admission per month was 11 and the duration of the hospital stay was 10 days.

Diseases of the nose and nasopharynx were 441 (36.1%), followed by neck with 430 (35.1%), throat 258 (21.1%) and ear 92 (7.4%). The site distribution of the diseases and the prevalence for the age groups are shown in tables 1-4.

The six most frequent reasons for the hospital admission were tonsillitis with 224 (18.3%) patients, followed by epistaxis 105 (8.6%), nasal masses 100 (8.2%), neck and laryngeal trauma 91 (7.4%). Nasal and facial trauma and chronic suppurative otitis media accounted for 74 (6.0%) each.

Admissions due to tonsil related conditions were were acute exacerbation of recurrent tonsillitis in 126 (10.3%) patients, quinsy 21 (1.7%) and those admitted for tonsillectomy 77 (6.3%).

The aetiologic distribution of epistaxis was idiopathic 63 (5.2%), trauma 27 (2.2%), systemic hypertension 11 (0.9%) and thrombocytopenia 4 (0.3%)-fig.1.

Of the 100 (8.2%) nasal masses malignant sinonasal tumours were 56 (56%) in-patients, others were inflammatory nasal polyps 25 (25%), inverted papilloma 12 (12%) and antrochoanal polyps 7 (7%).

DISCUSSION

In this study the hospitalization rate was 6.8%. Comparatively, a similar hospital based study in Greece[3] reported 5.2% hospitalization rate. In contrast, the Greece study was in the ENT emergency department and the study period was only one year. Tonsillitis had the highest frequency among the in-patients during the period under review. It was most common among children and young adult. Similarly, tonsillitis was the most common throat complaint among paediatric age group in India[5] and one of the top ten otorhinolaryngological, head and neck disorders in Greece[3]. Furthermore, tonsillitis was the fourth of the five common ENT diseases in the ENT outpatient in Malaysia[4].

Our findings concur with the studies mentioned above. Those patients admitted with tonsillitis can be effectively managed by general practitioners[3,5] and those requiring tonsillectomy can be safely referred to the Otorhinolaryngologist. Therefore, creating awareness on the clinical presentation, diagnosis and effective medical treatment to the general practitioners at the primary and secondary health institution will reduce the in-patient burden of tonsillitis on tertiary health institution. In addition, it is generally accepted that many ENT surgery including tonsillectomy are suitable for day case approach[6], thus, introduction of day case tonsillectomy to those who fulfil the criteria will equally reduces the in-patient load. This will provide the Otorhinolaryngologist ample time to attend to complicated and complex ENT diseases.

Epistaxis was the most frequent nasal disease among the in-patients and ranked second disorder in the top six disorders in this study. Individual below 30 years of age were more affected, constituting 21.5%. This is in agreement with earlier study on the pattern of epistaxis in Sokoto[7]. Moreover, the aetiological factors of the epistaxis in this study support the earlier report from Sokoto[7] and similar to the report on paediatric patients in India[5]. In contrast, the study from Ibadan[1] reported low prevalence of epistaxis, but it was the second cause of emergency ENT admission in Ghana[8].

In another study on ENT emergency in India epistaxis accounted for 4% of the cases[9]. This difference in the frequency of epistaxis from one place or region to another is probably due to the variation of ENT diseases from one geographical location to another. Sokoto has a prevailing hot dry climate from the months of February to June and cold dry harmattan from November to January. This harsh weather is a known predisposing factor to epistaxis[7] and may account for the variation from one place to another.

Majority of the cases of sinonasal masses managed as in-patient were malignant lesions (56%). The reason for the relatively high rate of sinonasal malignancy in this environment is not clear; however this opens a window for further probe by interested researchers. The inflammatory nasal polyps were the consequence of chronic rhinosinusitis.

Facial trauma encountered in this study was more in adult than the paediatric in-patients. This difference may be due to involvement of adults in activities associated with trauma such as road traffic accident, assault, sport and fall from a height[10].

In this study adenoid enlargement was almost exclusively seen in children aged 15 years and below. This finding buttress the fact that adenoid is predominantly a childhood disease[11,12]. The frequency in this study was 4.9% in contrast to 9.2% reported in children less than 15 years of age from the study in the ENT out-patient in Ibadan.[1] The possible cause of this difference could be due to the larger sample size in the study from Ibadan, furthermore the adenoid in this study were those booked for adenoidectomy.

In this study the prevalence of CSOM was high and children 15 years and below were more affected than adult. In addition, the prevalence could be higher in a community based study. The reasons for the high CSOM prevalence among the in-patients were not illustrated in this study.

In contrast, a community based study of identifiable risk factors for CSOM in North-central Nigeria, the prevalence rate was 7.4% among school children age 2-22 years[13]. Moreover, low socioeconomic status, malnutrition and overcrowding had significant statistical association with the CSOM[13]. True reflection of the prevalence of CSOM in this environment can be more accurately defined by a cross sectional community study.

Table 1: Distribution of ear diseases by age group

Age range in years/disease	0-15	16-30	31-45	46-60	61-75	76-90	Total/%
CSOM	52	14	8	-	-	-	74(6.0)
Hearing loss	1	5	1	1	1	-	9(0.7)
Otitis externa	1	2	1	-	-	-	4(0.3)
Ear foreign bodies	1	1	1	-	-	-	3(0.2)
Vertigo	1	-	-	-	-	1	2(0.2)
Total	**56**	**22**	**11**	**1**	**1**	**1**	**92(7.4)**

CSOM = chronic Suppurative otitis media.

Table 2: Distribution of nasal and nasopharyngeal diseases by age group

Age range in years/disease	0-15	16-30	31-45	46-60	61-75	76-90	Total/%
Epistaxis	31	28	15	25	4	2	105(8.6)
Sinonasal Tumour	8	41	20	16	8	7	100(8.2)
Facial trauma	15	31	15	9	4	0	74(6.0)
Rhinosinusitis	5	27	19	11	4	0	66(5.4)
Adenoid	60	1	0	0	0	0	61(5.0)
NPC	4	7	7	9	1	0	28(2.3)
Nasal foreign body	3	2	1	1	0	0	7(0.6)
Total	**126**	**137**	**77**	**71**	**21**	**9**	**441(36.1)**

NPC= nasopharyngeal carcinoma.

Table 3: Distribution of throat diseases by age group

Age range in years/disease	0-15	16-30	31-45	46-60	61-75	76-90	Total/%
Tonsillitis	108	89	23	3	1	-	224(18.3)
Lymphoma	2	5	2	4	0	-	13(1.1)
OSA	2	-	-	-	-	-	2(0.2)
Throat foreign body	9	2	4	3	1	-	19(1.5)
Total	**121**	**96**	**29**	**10**	**2**	**-**	**258(21.1)**

Table 4: Distribution of head and neck diseases by age group.

Age range in years/disease	0-15	16-30	31-45	46-60	61-75	76-90	Total/%
Laryngeal trauma	7	14	15	38	14	3	91(7.4)
Goitre	3	6	36	12	-	-	57(4.6)
Salivary tumour	11	16	23	18	3	-	71(5.8)
Airway foreign bodies	50	2	4	2	-	-	58(4.7)
Oesophageal foreign bodies	22	2	4	4	2	1	35(2.9)
Airway obstruction	4	4	2	3	1	-	14(1.1)
RRP	12	-	-	-	-	-	12(1.1)
Other diseases	22	23	16	24	6	1	92(7.5)
Total	**131**	**67**	**100**	**101**	**26**	**5**	**430(35.1)**

RRP = recurrent respiratory papilloma.

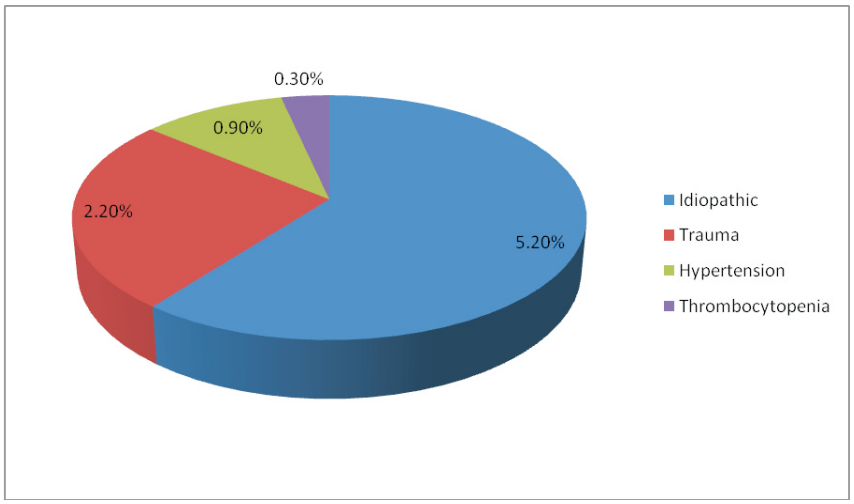

Figure 1: Aetiological distribution of patients with epistaxis.

CONCLUSION

The pattern of otorhinolaryngeal, head and neck diseases among the in-patients in this study varied with age, and decrease frequency in the nose, neck and throat and in descending order. The six most frequent reasons for the hospital admission were tonsillitis, epistaxis, nasal masses, neck and laryngeal trauma, nasal and facial trauma and chronic suppurative otitis media.

Creating awareness on the management of these diseases to the general practitioners at the primary and secondary health institution will reduce the burden of these diseases on tertiary institution.

Limitation of this study

There was limitation in the comparison of data because the population in this study was the in-patients, which has a dearth of literature. Secondly, being a retrospective study and hospital based, it serves as a guide and not a true reflection of the diseases in the community. A prospective study is needed to determine the prevalent otorhinologological, head and neck diseases in a community, which may also involve multi-institutional studies.

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Cite this article as: Amutta SB, Abdullahi M, Aliyu D, Manya C, Yikawe SS, Solomon JH. Pattern of Otorhinolaryngeal, Head And Neck Diseases In The In-Patient Unit of A Tertiary Health Institution In Sokoto, North Western Nigeria.
Bo Med J 2015; 12(2): 102 - 107. **Source of Support:** Nil, **Conflict of Interest:** None declared.