

**EDITORIAL****Common Ear, Nose & Throat Problems in the Under- Five Sudanese Children**Wail N Osman <sup>1</sup>, Osman M Elmustafa <sup>2</sup> and Inas Mohamed Abd Elgalil <sup>3</sup>

1. Consultant ORL H & N Surgery and assistant professor, Department of Surgery, Faculty of Medicine, University of Gezira
2. Professor and senior consultant of ORL, H & N Surgery, Department of Surgery, Faculty of Medicine, University of Gezira
3. Registrar of ORL H & N Surgery. Sudan Medical Specialization Board

*Correspondence:* Wail Nuri Osman, MD, Otorhinolaryngologist, assistant professor, Department of Surgery, Faculty of Medicine, Gezira University, P O Box 20, Medani, Sudan. Tel: 0128151911. E-mail: [wailnuri2000@yahoo.co.uk](mailto:wailnuri2000@yahoo.co.uk)

**Abstract**

**Introduction:** The health problems of children and especially the under-5 years are of great concern and impact on both medical and surgical practice. No wonder they attract political and administrative concern

**Objective:** This study aims to identify the common Ear, Nose & Throat (ENT) problems of under-5 Sudanese children and to study the frequency, admissions, available beds and operations and to compare this work load with the rest of the ENT wards. Furthermore, to outline what is needed to improve the services for this age group.

**Methodology:** This is a retrospective hospital-based study including all patients (n=21384) who presented to the ENT department, Wad-Medani Hospital, Gezira, Sudan, during a period of two years from the first of January 2010 to the thirty first of December 2011.

**Results:** The total number of the under-5 children was 2330; which contributed to 41.32% of total paediatric age group, up to 16 years, (n=5639) and 10.90% of the total number of ENT patients who presented to the ENT department at Wad-Medani Hospital. The total number of admissions of under-5 children accounted for 32.72% of all paediatric patients and 20.66% of all ENT patients. Their commonest problems found in this study were; adenoiditis & tonsillitis (37.68%), otitis media (27.25%), Upper respiratory tract infections (URTIs) & allergy (12.31%), foreign body related (12.23%), otitis externa (5.45%), others (3.43%), epistaxis (0.75%), hearing & speech disorders (0.90%). The total number of children under-5 requiring surgical operations constituted 55.46% of all paediatric patients and 33.98% of the total number of all ENT patients who were operated on. Of these operations 57.01% were elective and 42.99% were emergency operations. The main indications in 94.77% of the elective operations were adenoidectomy & tonsillectomy, while most of the surgical emergencies 91.32% were due to foreign body related problems.

**Conclusions:** The ENT problems of the under-5 children in Wad-Medani General Hospital constitute an obvious high proportion of the work load. More attention is to be paid to this age group in terms of facilities, staff training and special requirements needed in settings and equipments. Thus, better handling and outcomes could be achieved for this important and delicate age group.

**Key words:** ENT, children, under five years

**Introduction:**

The health problems of children and especially those under-5 years are of great concern and impact on both medical and surgical practice. They constitute a great part of the work load and referral from primary health care centres and paediatric outpatients, <sup>1,2,3</sup> No wonder they attract political, administrative and community concern. The need to assess the under-5 ENT common health problems was initiated by the adoption of free medical services to this age group by the Federal Ministry of Health in Sudan. The ENT speciality cares for patients of all ages, but has a major concern to this special age group. Children are prone to ENT problems because many of their anatomical structures are developmentally immature and are prone to dysfunction. Besides that they do not complain of their symptoms resulting in many conditions being inadequately managed or left completely undetected. Their main problems are upper respiratory tract

## ***EDITORIAL***

infections (URTIs), allergy, adenoiditis, tonsillitis, airway obstruction, foreign body related accidents and congenital anomalies<sup>4</sup>. Over the past decades, there have been several developments affecting children's health and management. For example, vaccination schemes, allergy-related diseases and childhood demographics.<sup>5,6</sup> Wad-Medani General Hospital is the largest hospital outside Khartoum. The department of ENT consists of three wards for males, females and children with a total number of 26 beds. Only 6 beds are allocated for children. Although the current ENT department was established in 1989, yet it has no separate emergency unit. This situation has led many patients with ENT problems to be initially handled in paediatric hospitals and outpatient emergency units and general practice.

The objective of this study is to identify the common ENT problems of children below the age of five years who presented to the ENT department at Wad-Medani General Hospital, Gezira, Sudan and to study the frequency, admissions, available beds, operations and to compare their work load with the rest of the ENT patients. Furthermore, to outline what is needed to improve the services for this age group

### **Patients & Methods:**

This is a hospital – based retrospective study including all patients (n=21384) who presented to the ENT department, Wad-Medani Hospital, Gezira, Sudan, during a two years period from the first of January 2010 to the thirty first of Dec 2011.

The data was collected from hospital records, studied and analyzed for age group, gender, clinical diagnosis, admission and type of surgical operation performed. The sample included all paediatric patients less than five years of age. Preterm neonates and patients over the age of five years were excluded. Results were analysed and expressed as percentages tables and graphs forms using SPSS (version 17).

### **Results**

The total number of children under-5 years was 2330; which accounted for 41.32% of all the paediatric patients, up to 16 years of age, (n=5639) and 10.90% of the total number of all ENT patients (n=21384) who presented to the ENT department at Wad-Medani Hospital in two years; 2010 and 2011 (Table1).

The total number of this age group admitted was 615 which accounted for 32.72% of all paediatric patients (n=890) and 22.63% of the total number of all ENT patients admissions (n=2718) (Table 2).

The commonest problems encountered in this study in the order of frequency were; adenoiditis & tonsillitis (37.68%), otitis media (27.25%), Upper respiratory tract infections (URTIs) & allergy (12.31%), foreign body related accidents (12.23%), otitis externa (5.45%), others (3.43%), epistaxis (0.75%), hearing & speech disorders (0.90%) (Table 3).

The total number of children below the age of 5 years who required surgical operations was 670 patients constituting 55.46% of all paediatric patients (n= 1208) and 33.98% of all ENT patients operated on both elective and emergency (n= 1972) in the study period (Table 4).

***EDITORIAL***

**Table (1): Frequency of patients presenting to the ENT outpatient and referral clinics.**

Patients	Frequency	Percentage
Adults - Males	6698	31.32%
Adults - Females	9047	42.31%
Children 5 – 16 Years	3309	15.47%
Children under-5 years	2330	10.90%
Total	21384	100%

**Table (2): Age group distribution of patients admitted to the ENT wards (n=2718)**

Patients	Frequency of Presentation	Percentage
Adults (males & females)	1213	44.63%
Children (5-16 years) years	890	32.74%
Children under 5 years	615	22.63%
Total	2718	100%

**Table (3): Numbers and percentages of problems of the under-5 children (n=2330)**

Medical problem	Number of cases	Percentage
Adenoiditis & tonsillitis	878	37.68%
Otitis media	635	27.25%
URTIs (Pharyngitis, laryngitis, rhinitis, sinusitis) & Allergy	287	12.31%
Foreign bodies	285	12.23%
Otitis externa	127	5.45%
Others	80	3.43%

**EDITORIAL**

Hearing loss & speech disorders	21	0.90%
Epistaxis	17	0.73%
Total	2330	100%

**Table 4: Age groups distribution, numbers and percentages of operations (n=1972) performed for all ENT patients**

Patients	No. of Operations	Percentage
Adults (males & females)	764	38.74%
Children (5-16 years) years	538	27.28%
Children under 5 years	670	33.98%
Total	1972	100%

Of those 670 operations carried out for under-5 children; 382 (57.01%) were elective and 288 (42.99%) were emergency operations. Patients operated on were 380 males (56.72%) and 290 females (43.28%). This indicates slight male preponderance. The main indications in 94.76% of the elective operations were adenoidectomy & tonsillectomy (n=362), while most of the surgical emergencies (91.32%) were due to foreign body accidents (n=263). Bronchoscopy is the commonest emergency procedure performed (40.97%) in the under-5 and constituted 44.87% of all foreign bodies related accidents (Table 5).

**Discussion**

The ENT problems of children under five years of age in Wad-Medani General Hospital have an obvious high proportion of the work load on the ENT health service including frequency of presentation (10.90%), admissions (22.63%) and operations (33.98%). These findings are in agreement with many studies in the United Kingdom, Holland, Ireland and the Kingdom of Saudi Arabia<sup>1,2,3</sup>. The commonest problems in this study in order of frequency were; adenoiditis & tonsillitis, otitis media, URTIs & allergy, foreign body related, otitis externa, epistaxis, hearing & speech disorders. These results are comparable to the findings by Griffiths & Donnelly et al<sup>1,2</sup>. Two thirds of the surgical operations were elective and one third was emergencies. The main indications for the elective operations were adenoidectomy & tonsillectomy, while most of the surgical emergencies were due to foreign body related accidents. These results are similar to the results obtained by studies in Sudan, Saudi Arabia and United States.<sup>7,8,9</sup>

Paediatric problems, in general, constitute a high impact on the ENT departments. The under-5 years of age problems impose more medical and technical difficulties in diagnosis and management. The delay in diagnosis and management of these problems has a great impact on the outcome of treatment in terms of

**EDITORIAL**

both morbidity and mortality. The ideal setup is the one in which all children are cared for by paediatricians together with other specialities including the ENT which is the most integrated and needed specialty.

**Table (5): Numbers & percentages of elective & emergency operations performed for the under-5 children.**

Elective operation	No.	%	Emergency operations	No.	%
Tonsillectomy	330	86.39%	Bronchoscopy	118	40.97%
Adenoidectomy (± myringotomy)	32	8.38%	Foreign body Hypopharynx & Oesophagus	73	25.35%
Diagnostic bronchoscopy	10	2.62%	Foreign body Ear	49	17.01%
Direct laryngoscopy: Juvenile respiratory papillomatosis	3	0.79%	Foreign body Nose	23	7.99%
Cortical mastoidectomy	2	0.52%	Tracheostomy	8	2.77%
Cervical lymph node biopsy	2	0.52%	Mastoid abscess drainage & Cortical mastoidectomy	5	1.74%
Choanal atresia	1	0.26%	Drainage of post- auricular abscess	5	1.74%
Nasal dermoid	1	0.26%	Retropharyngeal abscess drainage	2	0.69%
Meatoplasty	1	0.26%	Drainage of submandibular abscess	2	0.69%
			Drainage of Parotid abscess	1	0.35%
			Drainage of septal haematoma	1	0.35%
			Repair of oropharyngeal & soft palate penetrating injury	1	0.35%
Total	382	100%	Total	288	100.00 %

**Conclusions and Recommendations:**

Children under-5 years constitute a considerable proportion of the work load in the ENT department. This includes the total number of patients attending the outpatients and referral clinics, admissions and surgical operations. This fact besides the rapid turnover of beds in this age group raises the need for planning for emergency and day surgery units. This will ensure proper delivery of services and to meet the growing

## ***EDITORIAL***

needs for these children. More concern should be focussed on providing special needs of the under-5 age group, including audiology services, endoscopic instruments and health professional training. All children are better nursed under the shared care with paediatricians who should be aware of common ENT problems and emergencies.

## **References:**

1. M. J. Donnelly, M. S. Quraishi and D. P. McShane. ENT and general practice: A study of paediatric ENT problems seen in general practice and recommendations for general practitioner training in ENT in Ireland. *Irish Journal of Medical Science*; 1995 Jul-Sep; 164(3):209-11.
2. Griffiths E. Incidence of ENT problems in general practice. *Journal of the Royal Society of Medicine*; Oct 1979, Vol. 72(10): p 740 – 742.
3. van Suijlekom-Smit LW, Bruijnzeels MA, van der Wouden JC, van der Velden J, Visser HK, Dokter HJ. Children referred for specialist care: a nationwide study in Dutch general practice. *Br J Gen Pract*. 1997 Jan; 47(414):19-23.
4. Sunil Kumar, Achal Gulati. Pediatric emergencies in otolaryngology in a metropolitan city. *Indian Pediatrics* 1999; 36: 1256-1258
5. Conyn-van Spaendonck MA, Veldhuijzen IK, Suijkerbuijk AW and Hirasing RA (2000) Strong decline in the number of invasive infections by *Haemophilus influenzae* during the first 4 years after vaccination of children against *H. Influenza* type b has been introduced. *Ned Tijdschr Geneeskd*. 144: 1069–73.
6. Strachan DP (2000) Family size, infection and atopy: the first decade of the ‘hygiene’ hypotheses. *Thorax*. 55 (Suppl 1): S2–10.
7. Osman, W N & El-Mustafa, O M. Common ORL Surgical Emergencies in Sudanese Children. *Sudan Journal of Medical Science*; Sep 2012; 7(3): 175-178
8. Al-Mazrou KA, Makki FM, Allam OS, Al-Fayez Al. Surgical emergencies in paediatric otolaryngology. *Saudi Med J* 2009; 30: 932-936.
9. Brodsky L, Poje C. Tonsillitis, Tonsillectomy, and Adenoidectomy. In: *Head and Neck Surgery-Otolaryngology*. Bailey BJ editor. Philadelphia: Lippincott Williams & Wilkins, 2001:979-991.