



## Otologic Disorders in Children: Our Experience in a Private Hospital Setting in Port Harcourt, Nigeria

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### Authors' contributions

This work was carried out in collaboration between both authors. Author LOO designed the study, performed the statistical analysis, wrote the protocol for the study and wrote the first draft of the manuscript. Author OCM managed the analyses of the study. Both authors managed the literature searches. Both authors read and approved the final manuscript.

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### ABSTRACT

**Background:** Otologic disorders have been found to be important health problems among children Worldwide. This study was done to establish the pattern of otologic disorders in children as seen in a private hospital setting in Port Harcourt Nigeria and to suggest measures to curb the menace posed by these diseases.

**Patients and Methods:** A prospective study of all children seen with otologic disorders in Kinx Medical Consultant clinic located in Port Harcourt, Rivers State, Nigeria over a 2 years period from January 2013 to December 2014. The following patients' data were documented in a proforma and analyzed for age, gender, investigation results, diagnosis and treatment modalities. The data were entered into SPSS version 16 computer software and analyzed descriptively.

**Results:** A total of 85 patients presented with otologic disorders out of a total number of 650 cases seen in the clinic during the period of study, giving a prevalence of 13.08%. There were 35 males and 50 females giving M: F ratio of 1: 1.4. The age range was 6 months to 17 years with mean of (2.4 ± 1.6) years. The age range 2-4 years accounted for majority of the cases 35 (41.18%).

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Chronic Suppurative Otitis Media was the commonest condition seen 30 (35.29%), followed by hearing loss 15 (17.65%) and otomycosis 15 (17.65%). The commonest mode of treatment was conservative medical treatment 50 (58.8%). The patients with hearing loss were further sent for more audiological assessment in centres that have the appropriate facilities to carry out complete audiological assessment.

**Conclusion:** Chronic suppurative otitis media was the commonest otologic disorder found among children in our series. Meanwhile, conservative medical treatment was the commonest mode of treatment. It is important to put some effort into the training of otologists, provide all the relevant surgical equipments as well as carry out otologic health education by embarking on public enlightenment campaigns targeting parents and guardians.

*Keywords: Otologic disorders; chronic suppurative otitis media; conservative medical treatment; hearing loss; otomycosis.*

## 1. INTRODUCTION

Children form a bulk of patients seen by otolaryngologists across the globe [1]. In Nepal 26.7% of Otolaryngologic cases seen in a tertiary health facility in Nepal were between the ages of 1-16 years [1]. In Ibadan South Western Nigeria 41% of cases seen by Fasunla et al. [2] were in children less than 15 years old. Otologic disorders ranked highest in children in most studies carried out by many researchers especially within the Sub Saharan African region [2-5]. No doubt otologic disorders are major public health concern due to their associated morbidity and mortality more so in the developing nations [5-7].

The otologic diseases cause significant discomfort and hearing loss both in children and adult. In children, speech developmental delays and academic failure may result [8,9]. Complications such as deafness, meningitis, brain abscesses, and facial nerve paralysis may also occur and hence proper management of ear disease is critical in all patients [10].

A large percentage of children with otologic disorders especially those in rural and semi urban areas may not have access to an otolaryngologist because of the dearth of this group of specialists within the Sub Saharan Africa. A literature check in our setting revealed paucity of information on otologic disorders among children. Therefore, this study was done to establish the pattern of otologic disorders in children as seen in a private hospital setting in Port Harcourt Nigeria and to suggest measures to curb the menace posed by them.

## 2. PATIENTS AND METHODS

A prospective study of all children seen with otologic disorders in Kinx Medical Consultant

clinic located in Port Harcourt, Rivers State, Nigeria over a 2 year period from January 2013 to December 2014. The following patients' data were documented in a proforma and analyzed for age, gender, investigation results, diagnosis and treatment modalities. The data were entered into SPSS version 16 computer software and analyzed descriptively.

## 3. RESULTS

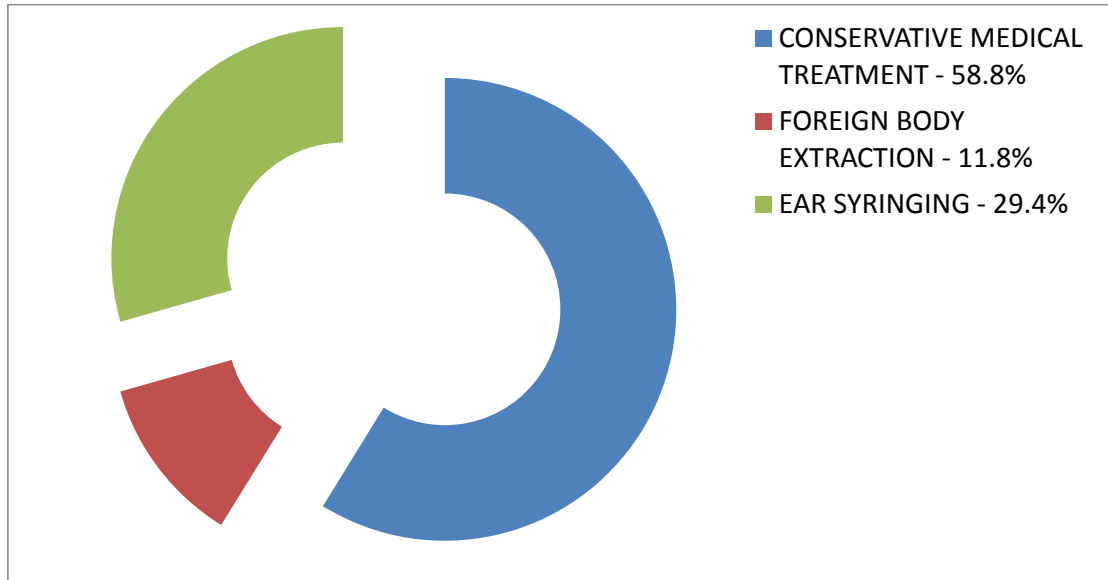
A total of 85 patients presented with otologic disorders out of a total number of 650 cases seen in the clinic during the period of study, giving a prevalence of 13.08%. There were 35 males and 50 females giving M: F ratio of 1: 1.4. The age range was 6 months to 17 years with mean of (2.4 ± 1.6) years (Table 1). The age range 2-4 years accounted for majority of the cases 35 (41.18%). Chronic Suppurative Otitis Media was the commonest condition seen 30 (35.29%), followed by hearing loss 15 (17.65%) and otomycosis 15 (17.65%) (Table 2). The commonest mode of treatment was conservative medical treatment 50 (58.8%) (Fig. 1). The patients with hearing loss were further sent for more audiological assessment in centres that have the appropriate facilities.

**Table 1. Age range of patients**

Age (years)	Number	Percentage (%)
< 2	20	23.53
2 - 4	35	41.18
5 - 7	10	11.76
8 - 10	8	9.41
11 - 13	4	4.71
14 - 15	6	7.06
> 16	2	2.35

**Table 2. Otologic disorders**

Otologic disorder	Number	Percentage (%)
Chronic suppurative otitis media	30	35.29
Cerumen Auris	10	11.76
Foreign body in the external auditory canal	10	11.76
Otomycosis	15	17.65
Acute otitis externa (correct)	5	5.88
Hearing loss	15	17.65



**Fig. 1. Mode of treatment**

**4. DISCUSSION**

Prevalence of otologic disorders in this study is 13.08%. This is much less than 57.84% reported in Nepal [1] and 33.9% gotten by Akinpelu and Amusa in Nigeria [2]. The lower prevalence reported in this study may be as a result of the smaller sample size used in this study. Moreover, most of our patients were from the urban areas since Port Harcourt is a cosmopolitan city as against other studies done that had most of their patients from the rural areas and semi urban areas [1,4].

This study showed a slightly female preponderance which is at variance with the male preponderance observed by Nepali and Sigdel in Nepal [1] and Akinpelu and Amusa in Ile-Ife in Nigeria [6]. The commonest age group affected was 2 to 4 years which accounted for 41.18% of otologic disorders. This is similar to the work of Akinpelu and Amusa [6] where they

found children less than 5 years of age to be more affected with otologic disorders.

The commonest otologic disorders seen in this study was chronic suppurative otitis media (35.29%) followed by hearing loss and otomycosis. This agrees with the work done by Akinpelu and Amusa [6] who found chronic suppurative otitis media to be commonest with a prevalence of 33.9%. Furthermore, Ilechukwu et al. [5] in Enugu and Singh and Kumar [7] in India also found otitis media to be the most commonly diagnosed ailment affecting the ears in children.

However, our study differs from the works of Ahmed et al. [3] in North-Western Nigeria. Nepali and Sigdel [1] in Nepal and Adhikari et al. [4] in Kathmandu Valley who found Cerumen Auris to be the commonest otologic disorder with a prevalence of 69.1%, 40.9% and 60.6% respectively.

A study done by Ologe et al. [11] in rural school children between 6-14 years of age group in Nigeria and that done by Shankar et al. [12] also showed high prevalence of chronic otitis media. In fact, chronic suppurative otitis media is about the commonest condition seen in the otorhinolaryngologic (ORL) clinic in Nigeria according to the findings of Ogisi and Osammar in [13] and Bhattia and Varursheje in [14].

The importance of early diagnosis of otologic diseases cannot be over emphasized. Several researchers have documented that early detection and timely treatment of otologic disorders in patients particularly poor and illiterate ones may prevent life-threatening complications and reduce the burden of the disease [8-12,15,16]. However, we did not find complications in our patients.

Conservative Medical treatment was the commonest mode of treatment used in the management of the children with otologic disorders in our series. This mode of treatment was also found to be the predominant mode of treatment by other researchers [2,3,15]. The paucity of otologic surgeries can be blamed on lack of relevant equipments such as operating microscopes, microsurgical instruments and the expertise to carry out otologic surgeries [15].

## 5. CONCLUSION

Chronic suppurative otitis media was the commonest otologic disorder found among children in our series. Meanwhile, conservative medical treatment was the commonest mode of treatment. It is important to put some effort into the training of otologists, provide all the relevant surgical equipments as well as carry out otologic health education by embarking on public enlightenment campaigns targeting parents and guardians.

## CONSENT

As per international standard, informed written consent was obtained from the parents and guardians of the children and preserved by the author(s).

## ETHICAL APPROVAL

Ethical approval was sought from the hospital ethical committee.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

## REFERENCES

1. Nepali R, Sigdel B. Prevalence of ENT diseases in children: Hospital based study. *The Internet Journal of Otorhinolaryngology*. 2012;14(2).
2. 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.
3. Ahmed AO, Kolo ES, Abah ER, Oladigbolu KK. An appraisal of common otologic disorders as seen in a deaf population in North-Western Nigeria. *Ann Afr Med*. 2012;11:153-6.
4. Adhikari P, Kharel DB, Ma J, Baral DR, Pandey T, Rijal R, Sharma H. Pattern of otological diseases in school going children of Kathmandu valley. *Int. Arch. Otorhinolaryngol*. 2008;12(4):502-505.
5. Ilechukwu GC, Ilechukwu C, Ezeanolue BC, Okoroafor IJ, Ojinnaka NC, Ubesie AC, Emechebe GO, Eze J. Ear-related problems among children attending the paediatric and otorhinolaryngology out-patients clinics of the University of Nigeria Teaching Hospital, Enugu. *Afr Health Sci*. 2016;16(2):363-6.
6. Akinpelu O, Amusa Y. Otological diseases in Nigerian children. *The Internet Journal of Otorhinolaryngology*. 2006;7(1).
7. Singh A, Kumar S. A survey of ear, nose and throat disorders in rural India. *Indian J Otolaryngol Head Neck Surg*. 2010;62(2): 121-124.
8. Vikram BK, Khaja N, Upayashankar S, Ventatesha BK, Manjunoth D. Clinico epidemiological study of complicated and uncomplicated chronic supportive otitis media. *J Laryngolo Otology*. 2008;122(5): 442-446.
9. Rao RS, Subramanyam MA, Nair NS, Rajashekar B. Hearing impairment and ear diseases among school entry age in rural South India. *Int J Pediatr Otorhinolaryngol*. 2002;64(2):105-10.
10. Lieu JE. Speech language and educational consequences of unilateral hearing loss in children. *Arch Otolaryngol Head and Neck Surg*. 2004;130:524-530.
11. Ologe FE, Nwawolo CC. Prevalence of CSOM among children in rural community

- in Nigeria. Niger Postgrad Med J. 2002;9:63-66.
12. Shankar NR, Swaroop Dev M, Geethachary. A study of the prevalence of ear diseases in school children of rural Tumkur District, Karnataka. Journal of Evolution of Medical and Dental Sciences. 2015;4(32):5506-5511.
  13. Ogisi FO, Osammar JY. Bacteriology of chronic suppurative otitis media in Benin. Niger. Med. J. 1982;12:181-190.
  14. Bhattia PL, Varursheje R. Patterns of otorhinolaryngology disease in Jos community. Niger. Med. J. 1987;2:68-73.
  15. Ibekwe MU, Oghenekaro EN. Otologic diseases in a tertiary hospital in the Niger Delta Region of Nigeria. J Med Med Sci. 2013;4(3):96-100.
  16. Onotai LO, Osuji AE. Chronic suppurative otitis media in Nigerian children: The Port Harcourt experience. Br J Med Med Res. 2015;7(10):833-838.

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