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SCHOOL EAR,NOSEAND THROAT DISEASES SCREENING PROGRAMME IN LAGOS,NIGERIA.

Medicine

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ABSTRACT

Background: Ear, nose and throat disease remain a common diseases in children in developing countries. It is usually wrongly or late diagnosed or complicated at presentation to Otorhinolaryngologist.
This study aimed at determines the common ear, nose and throat diseases and their prevalence in children at studied age group with possible responsible factor.
Materials and method: It is a prospective study of pupils in a private nursery (preschool) and primary school in urban area of Lagos, Nigeria. Inform consent was obtained from parent or guardian through the parent-teachers association of the school.
A total of 512 consented subjects were enrolled into the study between March 2015 and February 2016.
Data obtained were collated and statistically analyzed using SPSS version 16.
Results: A total of 512 pupils were enrolled into the study with male: female ratio 1:1. Commonest age group were 0-5 years.
Normal otorhinolaryngological findings was noted in minority population 71 (13.9%) of our enrollee. Ear, nose and throat diseases accounted for 54.1%, 55.3% and 18.0% respectively.
Earwax impaction 23.0% accounted for the commonest ear pathology. Other common ear diseases were otitis media with effusion, hearing loss and otitis externa were 15.0%, 8.3% and 5.1% respectively. Nasal diseases were found to be 26.2%, allergic rhinitis 12.1%, infective rhinitis and 9.4% adenoid enlargement. Distribution of throat diseases were 9.0% tonsillitis and 5.5%speech disorders.
About 98.0% had past history of ear, nose or throat diseases treated by 60.9% family physician, 20.1% paediatrician and 87 (17.0%) of the participants has had otorhinolaryngological consultation in life and 16 (3.1%) had either major or minor ear, nose and throat surgery before. There is scarcity of ear, nose and throat care centre and otolaryngologist and their services.
Conclusion: Preventable ear, nose and throat diseases were common among school children. Routine annual school otorhinolaryngological screening is recomended for preschool and school children.

KEYWORDS:

Ear, Nose, Throat, Diseases, Children, School.

INTRODUCTION

Ear, nose and throat diseases are one of the commonest public health concerns among children and adult in developing countries [1-4]. Parents and guardian commonly wrongly and lately present otorhinolaryngological disorders.

Otorhinolaryngological, head and neck disorders manifested as either less common congenital or commoner acquired diseases. The acquired diseases commonly presented as traumatic conditions (direct trauma or otolaryngologic foreign body impactions), inflammatory (reactive or infective) diseases such as rhinitis, tonsillitis, otitis externa or media and so on [5-7]. Other less common acquired diseases includes metabolic disorder, neurologic diseases, vascular diseases, neoplasm (benign or malignant) and so on.

World Health Organization suggest that, in developing countries, children should be screen at school entering age by simple audiometer and external ear inspection to study the extent of the problem among suspected children in a given community. Ear diseases could be a complications of pharyngeal or sinonasal diseases. The ear, nose and throat diseases are interrelated. Ignorance on diseases management, cultural background and poor socioeconomic status of the parents and guardians were among the factors responsible for low hospital attendance. One cannot also rule out low level of awareness of the ear, nose throat diseases, their predisposing factor manifestation including its complications among children by their parents or guidance. Their first point of seeking medical assistance are accident and emergency, primary health care, general practitioners or paediatrician [8-12]. The main mode of presentation to Otorhinolaryngologist were either emergency, complicated or chronic diseases.

In children knowledge of the ear, nose and throat diseases is very important because of the type of morbidities which they may cause due to impairment of the inherent physiologic functions with resultant poor academic performance, cross infection among pupils and school absenteeism. The common presenting problems includes hearing impairment, difficulty breathing, swallowing, phonation, speech disorder, protection of the lower respiratory tract and clearance of secretions [13-16]. Aesthetic problem of the face from congenital disorder and adenoid facies were documented in literature. There may also be parental psychological problem from children head and neck neoplasm.

Large percentage of Nigeria children are not likely to enjoy the preschool hearing screening programme because most of the few ear, nose and throat surgeon and audiologist are mainly found in tertiary health centre in the urban centres. Also mandatory preschool and annual school hearing assessment are not done in most school. Presentation of ear, nose and throat diseases or their complications are usually late presented in our hospitals. This is due to poor parental status and children are economically dependent.

There is a dearth of literature on the pattern of ear, nose and throat diseases among preschool and school children in Nigeria and in developing countries. This study is to form the bases for other similar study among children and to create further awareness of its significance in public health. This study on ear, nose and throat

diseases among children is to assist the educational sector to define a better medical curriculum for training in Otorhinolaryngology and significant for health authority in formulating health care planning and service in Nigeria. This study is aimed at determines the prevalence of different otorhinolaryngological diseases in an urban private school in Lagos, Nigeria.

MATERIALS AND METHOD

This is a prospective study of 512 urban private school children. The children are between the age of 2 and 12 years. These includes pupils in preschool (nursery) and primary school of the same school. The school health program was organized in collaboration with school authority and parent teacher association.

The study was carried out between March 2015 and February 2016. Brief but concise health talk on ear, nose and throat diseases was given to the pupil, teacher, parent and guardian in attendance. Informed consent was obtained from school authority, parents and guardian. Consented pupil were enrolled into the study.

Detail otorhinolaryngological history was obtained from subject, teacher, or guardian. Ear, nose and throat examination were done this including otoscopy. Screening audiometry, free field screening, distraction test, pure auditory tympanometry were done on pupils as required.

Inclusion criteria were pupil aged between 2 and 12 years. The pupils in the studied urban private school of Lagos only.

Exclusion criteria are children outside the age group, non consented pupil, parent or guidance.

Data obtained were collected and statistically analyzed using SPSS version 18.

RESULTS

All the parents/guardians 693 were invited for the ear, nose and throat health program. Five hundred and fourteen (74.2%) responded to the invitation while 512 (73.9%) consented to the study.

A total of 512 pupils were enrolled into the study. Female accounted for 262(51.3%) of the study group. Male : female ratio was 1:1.

Table 1 shows the age distribution of the studied population. The commonest 46.0%, age group was 0-5 years (preschool). Least age group was 17.6%, age group 11-16 year.

Further analysis of our data revealed a minority population of 71 (13.9%) were found to be clinically normal while majority population of 441 (86.1%)) has various form of otorhinolaryngological disorders. These were further classified into those with ear diseases 54.1%, the nose diseases 55.3%, the throat diseases 18.0% and head and neck diseases 8.2%. This was shown in figure 1.

Commonest ear diseases was ear-wax impaction which account for 23.0%. Other common ear diseases were otitis media with effusion and hearing loss accounting for 15.0% and 8.3% respectively. This is shown in figure 2.

The commonest prevalence nasal diseases in the pupils was allergic rhinitis. This accounted for 26.2% of the studied pupils. Figure 3, below shown prevalence of nasal disorders. Other nasal disorders seen were infective rhinitis and adenoid which accounted for 12.1% and 9.4% respectively.

As shown in figure 4 below, tonsillitis has the commonest prevalence of all throat diseases. This accounted for 9.0% of the studied ear, nose and throat disorders. Other common throat diseases were speech disorder and upper airway obstruction and were 5.5% and 2.1% respectively.

This study also covered the head and neck diseases. The commonest type in this study population was cervical lymphadenopathy and accounted for 39 (7.6%) and thyroglossal cyst was found in3 (0.6%) of the studied pupils.

Further analysis revealed 98.0% of the pupils had previously had various form of otorhinolaryngological diaereses. They were treated by 312 (60.9%) family physician, 103 (20.1%) by paediatrician and 87 (17.0%) of our studied group to have had various form of otorhinolaryngological consultation and 16 (3.1%) had either minor or major ear, nose and throat surgery prior to this work.

Table I: Age Distribution

Age range	Number	Percentage (%)
0-5	235	46.0
6-10	186	36.4
11-15	91	17.6

Figure 1:Prevalence of ear, nose, throat, head and neck orders

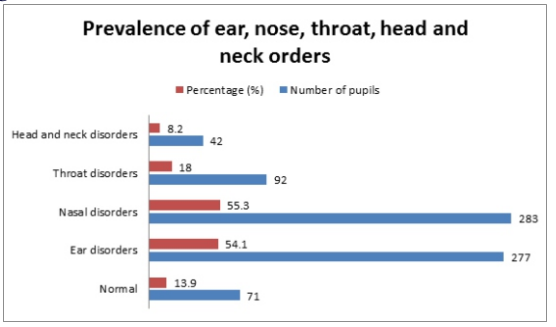


Figure2. Prevalence of ear diseases

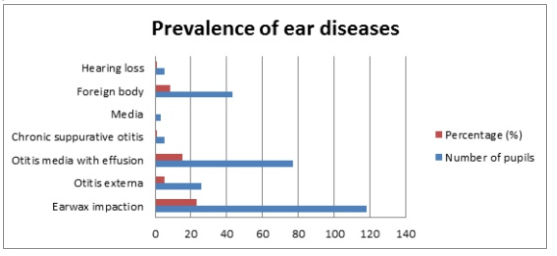


Figure3. Prevalence of nasal diseases

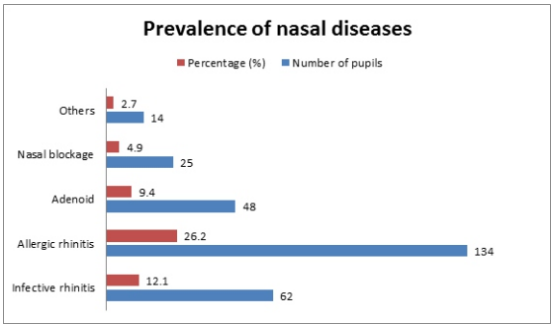


Figure 4. Prevalence of throat diseases

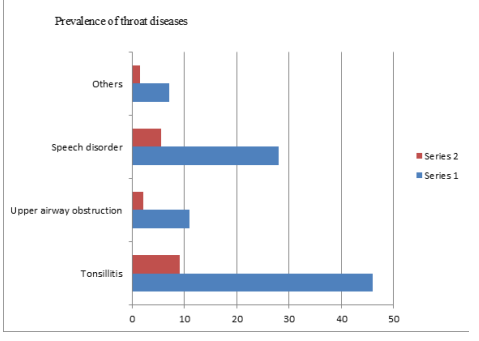
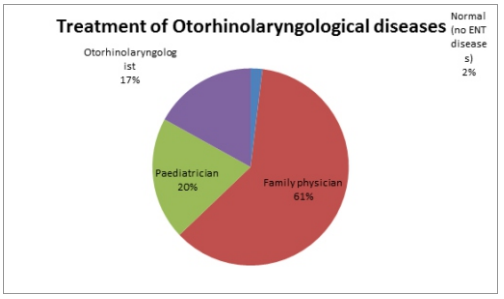


Figure: 5 Treatment of Otorhinolaryngological diseases



DISCUSSION

This ear, nose and throat study determine the pattern of otorhinolaryngological head and neck diseases of pupils seen in the studied private institution in Lagos, Nigeria. This study provided opportunity to have insight into the patterns of ear, nose and throat, head and neck diseases among preschool and school age group in our urban community.

Otorhinolaryngological head and neck diseases arecommon household conditions. This is also demonstrated in this work with 98.0% of the studied population had past medical history of otorhinolaryngological, head and neck disorders. By logical reasoning ear, nose and throat head and neck diseases are much prevalent than obstetrics and gynaecological diseases per household. It is significant to spread ear, nose and throat specialty to every households.

Majority of the studied population do not have access to ear, nose and throat head and neck surgeon in their locality. While low percentage 17.0% have access to Otorhinolaryngologist. Majority were seen and treated by family physician and paediatrician. The barriers could be due to cultural believe, socioeconomic factors, longwaiting time at hospitals by business men, company directors, professionals, long hospital protocol and so on [17-19]. Poor referral system by the managing medical practitioner could be another setback for patient to have access to otolaryngologist head and neck surgeon. This is one of the major reason for high prevalence of chronic otorhinolaryngological diseases or complicated cases presentation at ear, nose and throat clinic.

In this study, there was a slight female preponderance and the diseases affected all the studied age groups. About 50% of the participants were preschool age group have age ≤ 6years. The main health problems encountered in this population were ear, nose and throat infections. This may be due to low birth weight, malaria, peer age, malnutrition, infections and their complications in developing country such as Nigeria [20,21]. The encountered ear, nose and throat diseases in this study is likely to be complcation of the above disorders or may even worsen them when coexist. It is very important to emphatically state that existing health policies by both local or international bodies for paediatric population has significantly ignored the mortalities and morbidities that arise from the ear, nose and throat diseases.

In this study, nasal pathology, 55.3% is the commonest otorhinolaryngological head and neck diseases encountered. This may be due to high proportion of rhinitis which account for 38.3% and is the most predominant nasal disorder among the participants. Rhinitis may be reactive in nature (allergic or vasomotor) or infective form. Allergic rhinitis account for 26.2%. Infective rhinitis was noticed in 12.1% of the participants. Infective rhinitis could be secondary to viral, bacterial and fungal infection [22]. The predisposing factor are overcrowding, peer group, nasal foreign body, allergic rhinitis and so on. If infective rhinitis is left unattended to life threatened complications could occur with resultant various degrees of both morbidity and mortality [23].

In paediatric age group lympoid tissue located and distributed at the upper aerodigestive tract are prone to immunologic reaction to infective or allergic agent. Obstructive adenoid accounted for 9.4% and is the third commonest disorder in the nasal disorder in this study. Clinically obstructive adenoid present with mouth breathing, nasal obstruction, rhinorhea, snorring and obstructive sleep apnea syndrome [24]. Complicated obstructive adenoids may manifested as otitis media, malnutrition, hypoxia, pulmonary hypertension, right ventricular hypertrophy and cor-pulmonale and so on [25,26]. In this case adenoidectomy is indicated.

Tonsillitis is the commonest throat infection and accounted for 9.0% in this study population. Inflammation of palatine tonsils may result from allergy or infection in the throat and is another major disorder encountered in this study population. Tonsillitis is a childhood diseases as demonstrated in this study as well as widely reported in literature from different parts of the world [27]. Complicated tonsillitis could present as recurrent sore throat, obstructive tonsils, quinsy and so on. Complicated tonsils is an indication for tonsillectomy. Speech disorders are commonly developmental disorders and commonly found in children. This disorders was second common throat disorder and accounts for 5.5% of the study population. This may also be secondary to obstructive adenotonsillar enlargement and hearing impairment.

Ear disorders accounted for 54.1% of otorhinolaryngological head and neck diseases in this study age group. This is the second common disorders after nasal disorder in this study. This is contrary to findings in other research work. Earwax impaction is the commonest otological diseases. This is due to excessive accumulation of cerumen in the outer one third of externa auditory canal. The usual presentation were ear blockage, hearing impairment, earache. The management is by using ceruminolytic agent, syringing or wax hook. Otitis media is the next common to earwax impaction in this study. Commonest form of otitis media in our study is otitis media with effusion which is secondary to rhinitis. Contrary to other studies chronic suppurative otitis media is uncommon in this study population. Hearing impairment was noticed in 8.3% of our participants which greatly affected day-to-day learning and communication, smooth academic performance and social development of the affected participants. This probably resulted from complicated ear diseases, ototoxicity and congenital anomaly, drugs, noise and so on [28]. Pattern of hearing loss observed were conductive and mild sensorineural hearing loss. Management include eradication of causative disease, restoration of hearing and periodic audiometric assessment.

Otorhinolaryngological foreign body impaction is very low in this study population. This is contrary to previous study and this is probably because it is not hospital based study [29]. The findings of 0.6% foreign body in the ear may just be an incidental finding. Despite children are very inquisitive and eager to explore their body orifices within the head and neck with common object like erasa, pencil, bead, peanut to mention but few. The foreign bodies were managed by atraumatic removal.

Ear, nose, and throat with head and neck neoplasm were not seen in these participants. This may be due to study age group and our study is not hospital based. This finding is contrary to other findings in previous studies.

CONCLUSION

Commonest otorhinolaryngological head and neck pathology in this study are preventable acquired diseases such as earwax impaction, hearing loss, otitis media with effusion, allergic and infective rhinitis, adenoid enlargement and tonsillitis. All this major findings in this study are mainly infective in origin. Regular otorhinolaryngological assessment programme is recommended nationwide to avoid preventable morbidity, mortality and economic loss. Increase level of awareness of ear, nose, throat, head and neck surgical services is mandatory.

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