



# UNIVERSITY OF LAGOS, NIGERIA

## Inaugural Lecture Series 2016

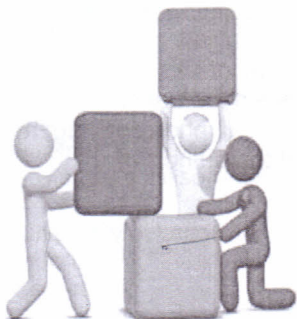
2016

**TOPIC:**

**BUILDING MY BLOCKS ON MY  
MENTOR'S GOLD, SILVER AND BRASS**

By  
**PROFESSOR ABAYOMI OLADAPO SOMEFUN**

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# **BUILDING MY BLOCKS ON MY MENTOR'S GOLD, SILVER AND BRASS**

An Inaugural Lecture Delivered at the University of Lagos  
Main Auditorium on Wednesday 20<sup>th</sup> of January, 2016

*By*

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My Lords, Spiritual and Temporal,  
Distinguished Ladies and Gentlemen,

Mr. Vice Chancellor Sir, I thank you for granting my request to bring my academic offering before you and this assembly. I am a story teller; the first story teller in my specialty came on 22<sup>nd</sup> of July 1998, he told the story of Otorhinolaryngology from Obscurity to Excellence. I stand before this assembly to build on this story. The number of my story is two hundred and eighty-seven in the life of the university. We are all masons building block upon blocks as long as the university endures. My story will take us through the town, through the common gate of training, professional development and academia and thereafter I will talk about my gown. I will share with you, my conventions, confessions, and convictions that stem out of my research findings in this speciality called Otorhinolaryngology (Ear, Nose and Throat) for the past nineteen years and also to set my agenda for my future works in this University of first choice. I sincerely hope that at the end of the offering Mr. Vice Chancellor will admit me into the conclave of Professors of the University of Lagos.

My departed mother, daughter of an Anglican priest told me the story of creation of heaven and earth (Genesis 1:1)<sup>1</sup> and that of man (Genesis 1:26)<sup>2</sup> as a child. She recounted the story of the breath of life; "And the Lord God formed man out of the dust of the ground and he breathed into his nostrils the breath of life and man became a living being. (Genesis 2:7)<sup>3</sup>



The breath of life opens all the hollow structures in man and brings them to function; the ear, nose and throat. The ear stands erect to collect and direct the sound of hearing. The nose and the throat remain patent in response to the act of breathing and swallowing.

Mr. Vice Chancellor Sir, permit me to ask this audience to breathe through their nostrils onto the back of one hand, then breathe through the mouth onto the back of the other hand and compare which hand is warmer. The breath passing through the nostrils is cooler compared to the one through the mouth. The nostrils help man to conserve his temperature by removing heat out of exhaled breath. This breath of life also helps man in maintaining his temperature where ever he lives. In like manner, the nostrils warm and add moisture to the breath going into man. This may explain why the noses of men living in the temperate climate are pointed and long, while those of men living in the tropics are broad and flat.

The throat is the royal passage of life. It admits food to nurture us, water to hydrate us, air to keep us alive. In addition, the throat speaks for the community and us in self-defence of our activities. The voice of man is the voice of God; when our voice is hoarse and not heard, it leads to frustration in an individual, discord in the family and violence in the community.

Mr. Vice Chancellor Sir, let me use the opportunity of this podium to thank you for the sacrament you do offer during the senate meetings made of kola nuts, bitter kola (Orogbo) and sweets. The kola keeps us awake, while the bitter kola refreshes our breath. Bitter kola does have medicinal values, it is known for its bacteriostatic, hygroscopic (removes water from tissues or reduces swelling) and mucolytic (breaks down mucus plug) properties. It has its usefulness in the treatment of voice change (Hoarseness) of viral or bacterial origin but not the one associated with tumour or cancer of the voice box. This bitter kola when chewed and retained in the mouth in the face of anger will restrain man from speaking evil; it dries up saliva, making articulation or oral communication difficult. (*A o ni fi orogbo senu ka fobi*)

The perfect potter, in his infinite love for man, while moulding man, put the organ of hearing and balance in the hardest bone in the human body called Petrous bone. Petrous meaning Rock; "And I say also unto thee that, Thou art Peter, and upon this rock I will build my house, and the gates of hell shall not prevail against it"<sup>4</sup>. The potter embedded this **precious** organ of hearing and balance deep in this solid and hard rock and protected it with the brain and built a fortress around it with skull bones for safety. The ear is the only sensory organ so treated by the potter, so the ear is **Gold**, which means power or good. Our hearing is our strength and it is **GOLDEN**.

Among the special senses in man the sensory organ of hearing is the last to sleep and the first to wake from anaesthesia. Even at death, when the eyes are closed, it is the last sensory organ to journey into the void. It is a resilient organ; it does not suffer injury gladly

All the special senses in man are all embedded in the head, (Ori) the sense of smell, taste, hearing, vision, food tract, airway and voice tract.

The Yoruba so much revere the Head (Ori) that they recounted the importance of Ori in the Yoruba scripture in Ifa, in Ogunda-meji<sup>5</sup>. It goes thus:

Orumila says that on entering a room with a low door we automatically bow. Ifa, the question is: "Who among the deities accompanies their followers on every journey, without ever turning back?" All the deities present Sango, Oya, Osun, Ogun, Obatala, Esu, and Orunmila replied "Yes we can accompany our followers on every journey, without ever turning back. Then Ifa asked them: "But what if, after a long journey, walking and walking, you arrive at the home of your fathers, and they give you all your favourite dishes, drinks and other appeasement". All the deities replied "After such satisfaction, we shall all return home." The Awo were astonished. They could not utter a word, for they did not understand the parable. Ifa, I confess my helplessness. Please

clothe me with wisdom. Ifa, you are the leader, I am the follower. You are the wise one who teaches wise things like one's father. Ifa, the question is: "Who among the deities accompany their followers on every journey, without ever turning back?" Ifa said: "It is Ori, Ori alone, who accompanies his follower on every journey, without ever turning back." Ori, I salute you, you, who does not forget your followers; it is the Ori that we ought to venerate and let divinity be. (Ori la ba bo ka fi Orisa sile). Ori is the highest and most important of all the Deities known to the Yoruba. It is the extension of Olodumare (God) in us. Ori is the custodian of human destiny.

The head wears the crown no other part of the human body does. "Ori la gbe ade fun, Ade ide". From Kumasi in Ghana to Ile-Ife in Nigeria, Africans decorate the head with ornaments. In the past they buried their supreme information and record of culture that depicted the great medieval civilisation of West Africa of about seven hundred years old or more in the attractive great work of art the **head cast in Brass. Brass** in its simplicity and dignity symbolises **strength and royalty**. This work of art for our sense of history outdated the celebrated Mona Lisa.

Cancer and Surgery involving the Head do have psychosocial effects on man. It can disfigure the patient, affect swallowing, voice production, speech, breathing, special senses, taste, smell and immunological surveillance. People in this part of the world are generally reluctant to do surgery involving the head.

Every surgeon must handle the head with care when afflicted with disease. Every Surgeon must know the success of his knife, be clear in his mind of those diseases and lesions that his knife can cure and use it wisely. For those that may defy his knife he should gauge his applications. Every surgeon must see his or her patients through the prism of their belief, culture, and religion; sometimes it has nothing to do with education.



Mr. Vice Chancellor Sir, when I received your approval for this solemn ceremony along with the University guidelines for presentation of inaugural lectures, item (f) read and I quote "Lecturer shall be conscious that some members of the audience may have visual impairments hence presentation slides should therefore be clear and bright." Sir, I am not qualified to say otherwise but let me say that the University omitted the hearing impaired in error as no provision for special education support programme was put in place for them. Hearing impairment is an invisible handicap and it is largely unrecognised and underfunded. Lagos state is the only state in Nigeria that runs integrated deaf education at primary school level. It has thirty one (31) inclusive units across the state. There are five Nigerian universities with deaf support education programme.

Man has it all good. Man, the only creature with his two feet firmly planted on earth and his head pointing towards heaven. The perfect potter made man strong and sufficient enough to stand erect on his two feet but free to fall. Free to fall into the abyss of pain and diseases. Man is plagued by viruses, bacteria and fungi resulting in infections and sometimes cancers in the ear, nose and throat.

Men assaults one another or inflicts injury on himself, an act of self-destruction, trauma to the ear in the form of direct slap or from excessive loud sound at social functions or at the disco house.

The Yoruba in the south western part of Nigeria are quite aware of dangers inherent in trauma to the ear. They have some ideas about the anatomy, (structures) physiology, (functions) and pathology (diseases) of the ear that they embedded their observations in their proverbs, philosophy or witty sayings:

"Ma gba eti e a ma ko orin" (Slap across the ear inducing tinnitus or hyperacusis)

"Ma fun e ni ifoti oloyi" (Slap across the ear inducing dizziness)



"Ma gba eti e inu a dun", "Ma gba eti e gbogbo nkan a ma wun e je"

A slap across the ear can stimulate the Vagus Nerve (vagrant, wandering nerve) inducing peristalsis in the stomach. If this nerve is excessively stimulated due to a slap across the ear, it can result in cardiac arrest. A Professor of pathology once told me a story of a man who slapped his wife and behold the woman collapsed and died. During court interrogation the man exclaimed "Mo kan de gba leti die ni, Oluwa mi, eti kenkele ni mo gba, abi eri aye. (Ignorance of course is no excuse in Law)

Mr. Vice Chancellor Sir, I am against any man beating his wife, my suggestion is the man who wants to beat his wife must have a marriage license, take her to burial and beat her only in the permissible place as many times as he wants. He must never beat the ear. Men must always remember the first day of recognition, the woman looking radiant and beautiful; the ear is the first organ that hears the first intention of "I love you." Even though the eyes might have seen but women will wait until the ears hear it.

The disc Jockey (DJ) at the disco house is smart enough to protect his ears with headphones but continues to blast the audience with loud music, sometimes damaging the hair cells in the inner part of the ear. Let us remind ourselves of the power of sound documented in history: the trumpet blast that shattered the walls of Jericho.<sup>6</sup> The power of sound that renders scores of people deaf in Hiroshima and Nagasaki from the unforgotten bomb. The sound that brought forth the Light in creation, Let there be Light. The talking drum that communicate with the depth of man and evokes emotion.

Hazardous sound exposures are many in our social life style. Music is one of them. Music gives pleasure with it accompanying emotional or spiritual upliftment as the case may be but every man must be aware of the hazardous effect of loud music or sound.

Mr. Vice Chancellor Sir, if I asked this audience, to make a choice between blindness and deafness, I am sure many will prefer to be deaf than to be blind, not understanding the numerous complications associated with being deaf. Light is the only stimulus for vision but the stimuli for hearing are sound, vibration and light. Helen Kellar,<sup>7</sup> a lecturer, poet, political activist and humanitarian who had dual sensory impairment (blind-deaf), once said

"Walking with a friend in the dark is better than walking alone in the light

Once, I knew only darkness and stillness, my life was without past or future, but a little word from the fingers of another fell into my hand that clutched at emptiness and my heart leaped to the rapture of living. Blindness will isolate you from things but deafness will isolate you from people".

Communication (Hearing and Speech) is the oil of any relationship. The twin of hearing in communication is Speech. Sometimes we say Silence is golden and **Speech is Silver**. Silver means purity, clarity, focus, and truth. In Arabic, speech is equated to Silver colour. In Urdu language (Chandi) mean soft, fluent and eloquent. In actual sense, you must hear first before you commune all to silence in the act of communication, so hearing is Golden not silence. Man is born with hearing but not with speech; we acquire speech. Man is born with vision but not with colour discrimination, we all acquire colour discrimination. That is why in nursery education we keep reinforcing colour codes to children weeks to months. This is the pitfall of modern day spiritual healers who sometimes present to us on the television the supernatural healing of people born deaf and in adulthood receiving cure involving hearing and speech at the same time on the same day! I do not doubt the power of prayer; neither do I jettison the efficacy of appeasement. I do not condemn in any way the belief system nor do I agree in-toto with it, but let me subsume it all in the words of Professor Osuntokun: "It is true (isn't it?) That: "every scientist knows or should know that not all that is not science is nonsense."<sup>8</sup>

The law of nature does not bestow on man the privilege of being born with speech. That is why it takes a while for a new-born baby to acquire speech provided the hearing is intact. Man needs to build a memory bank of words; out of the abundance of the memory does the man speak.

Hearing deprivation has its greatest effect on language development. Language is the currency for exchange of ideas. Ability to understand speech and to speak is one of the functions of human behaviour which distinguishes man from other animals. Whenever we find ourselves in a situation where we cannot communicate, we feel isolated and worthless.

**My confession:** when I came for the interview for the post of Associate Professor of this University, the Vice Chancellor at that time, Professor Tolu Odugbemi asked me at the end of the interview "Any question for us?" I asked him, "Sir how often do you check your ears?" He responded "What?" I quickly swallowed my saliva together with the question and answered "no question sir". Mr. Vice Chancellor Sir, I thought I could engage my teacher in a robust academic discussion about the ear. When I came for the interview for the post of Professor I was wiser. When you asked me "any question for us?" I stood up and thanked you for inviting me for the interview and you responded, "thank you also for coming" and I quickly escaped through the door!

The truth is I wanted to use that occasion to bring to the attention of my teacher that the ear, the recipient of our communication in the last one hour was excluded from the Annual Medical Check-up of the University for the Academic Staff.

## **MENTORING IN MEDICAL EDUCATION**

The title of my lecture is **Building my blocks on my Mentor's Gold, Silver and Brass**. I think it will be appropriate for me to give a little insight into Mentorship/Mentoring the importance in academic Medicine and how it can shape the life of a junior academic faculty member. First, let me make a distinction between Role Model and Mentor.



Role Model as defined by Dictionary.com is "A person who serves as an example of values, attitude, and behaviour associated with a role or persons who distinguish themselves in a way that other admire and what to emulate them". Two Medical practitioners fit this definition on my journey. The first is Dr. Isola Abudu (MBBS, FRCS, FWACS) an Orthopaedic Surgeon. He was my late father's childhood friend; he worked in Igboji Orthopaedic Hospital Lagos. This respectable surgeon would visit my father, immaculately dressed in suit and a bow tie. My parents had a high regards for him. At that early stage of my life, I thought of no other profession than to be a surgeon like him. He was instrumental to my choice of medical school.

Dr. J O Olabisi (MBBS, FRCS, FMCORL, FWASC) taught me ENT as a sub-specialty of surgery while in the medical school in my 500 Level class: a gentleman, prince and a surgeon. My first encounter with him in the class, in 1986 led me to the world of ENT Surgery, a decision that I took that same day. When I left the class for the library that day and I told one of my classmates about my dream, she burst out into laughter and the medical librarian almost threw her out of the library.

### **Historical Background**

The concept of Mentor has its origin in Greek mythology. Athena, was Greek goddess of wisdom, disguised herself as Mentor, a wise old nobleman, in order to act as self-appointed guardian to Telemachus, the son of Odysseus, during the Trojan wars and Odysseus 20 years absence from home.<sup>9</sup>

**Mentor** as defined by Dictionary.com is an expert with career experience, who provides guidance, encouragement, advice and support.

**Mentoring** as defined by SCOPME (Standing Committee on Post graduate Medical and Dental Education in London 1998) is a process whereby an experience, highly regarded, empathetic person (the Mentor) guides another (usually younger) individual (the Mentee) in the development and re-



professional development.<sup>10</sup> The Mentor, may not necessarily work in the same organisation or field as the Mentee. It can be a short process, many years or last a lifetime of the Mentor or Mentee. The Mentee from the relationship builds capacity, gains skills to develop his or her career and attains independence.

**Mentoring styles** can be one on one mentoring, peer mentoring. Team mentoring, where team of Mentors provide mentorship to mentees in their specific areas of interest. Group Mentoring: where Group of Mentees mentored by a single mentor or team and working in group or units.



**PROF. P.A OKEOWO WITH HIS MENTEES IN 1992**

**Mentoring Compacts or agreement:** A written agreement between the Mentor and the Mentee. It entails the details of the responsibilities of both the mentor and the mentee, mode of communication, monitoring, evaluation and feedback on activities and termination process if need be. Monitoring is a vital aspect of Mentorship; there should be documentation of all activities, interaction and feedback from both the Mentor and Mentee. Periodic evaluation of the process, content and outcome is sine qua non for the survival of mentorship. Recruitment and Implementation of mentoring programme must take into consideration local perspectives, faculty needs and cultural issues.

Mr. Vice chancellor sir, before my appointed as a lecturer in the University I had always dreamt of the Eldorado of academia which they call academic freedom. On my resumption, my mentor took me to Professor G.O.A Sowemimo who was then the Head of Department of Surgery. He cut short my fantasy, he coordinated the informal agreement between me and my mentor, he reeled out this informal guideline and responsibilities expected of me that will spur me to this height on my first day at work such as:

1. You must punctual to work every day.
2. You must dress formal in this department.
3. You must teach research, publish or perish.
4. You must take the research work given to you by your Professor with all seriousness.
5. You must keep your Professor (Mentor) abreast of all your research work.
6. You must keep a day as your research day devoid of any clinical activities.
7. You must never sever the umbilicus that brought you into the University, many did to their peril. With these short but strong words, I was welcomed into the Department of Surgery. He will check on me on monthly basis to know how well I was faring with my research work as part of his duties as head of the department.

### **Benefits of mentorship to the Mentee**

The Mentor sponsors the Mentee in obtaining training opportunities and scholarship. The Mentors uses his reputation and network of personal contacts to facilitate the mentee get employed. Mentor introduces the Mentee into social network where influential career decisions are made, ease of acceptance into socio-political network, choice of committee assignments, higher publication rates, publication in prestigious journals and sometimes facilitate research funding.<sup>11</sup> Mr. Vice Chancellor Sir, I must confess, I benefited from nearly all that I have mentioned above from my Mentor. (Professor P. A. Okeowo)

## **Benefits to the Mentor**

There is a sense of personal satisfaction and achievement, self-worth and self-actualisation and pride gained from seeing a colleague one has nurtured gain success and career satisfaction. Mentor's reputation is equally enhanced and a legacy is left behind.

## **Benefits of Mentorship to the Medical School and University**

Advancement of clinical care, better commitment to teaching, better staff recruitment, staff retention and sustenance of research capability within the country are some of the benefits to the academic environment.

Formal mentoring program in medical education first started in North America in late 1990<sup>12</sup> and gradually it is spreading to other parts of the world. Universities around the world are using formal Mentorship for faculty development and there is evidence in favour of such programmes.<sup>13</sup> Some faculty members think it should be reserved for advanced postgraduate trainees mainly for research. However, various medical specialties in Nigeria do informal mentoring. Formal mentoring is still a virgin territory in Nigerian medical education. What we have presently in our medical education is perceptorship, clinical supervision and informal mentorship running side by side.

## **MENTORING COMPACT IS OUR WAY FORWARD**

Maybe the time is right to introduce formal mentorship into our medical education. The mentoring compact should be drawn from training guidelines of National Post graduate Medical College of Nigeria, Public service rules and the code of conduct and ethics of Medical and Dental Council of Nigeria. The Compacts must be duly signed at the point of entry into the training programme. But let me add that the constitution of any country is a dead letter on the table; it is the spirit behind it that keeps it alive.

Mentorship should be all encompassing, cutting through academia, morals and ethics of the profession. Those values



which are important in our professional life, humility, integrity, respect, grace, dignity of man and generosity are old and true. Young medical practitioners must not strip themselves of the nobility bestowed on them during medical induction. Our white coat must never parade the streets; our fists must never be clenched. They must learn to embrace dialogue and mediation through respected personalities within the society. They must develop innovative and ingenious ways of expressing grievances without resulting into strike action. They must keep an abiding faith with our history, tradition, ethics, dreams and hopes, which linked us to our founding fathers even in our darkest night. We must be true to our founding ethos. Our quest for Doctor's welfare in the face of injustice, lop-sidedness professional rivalry and glaring corruption should not make us disregard professional obligations. Each time we abandoned our patients or shut down the hospitals, some of our patients meet untimely death, not only the patients also those who depend on them for support.

Our young colleagues if they so wish it, can be taught,  
They must apply themselves to become intelligent,  
They must love listening so they will learn;  
They must pay attention, so they will become wise.  
They must attend the gathering of elders,  
And attach themselves to wise men  
If truly they want to uphold the dreams of our founding fathers.  
(Apocryphal)

## **EAR, NOSE, THROAT, HEAD & NECK SURGERY AS A SPECIALITY OF SURGERY**

Ear, Nose & Throat Head & Neck Surgery is a specialty of Surgery but today, we have specialist for the Ear called Otologist, specialist for the Nose called Rhinologist, specialist for the Throat, Laryngologist and lastly Head & Neck Surgeon that deals with tumours in the E.N.T/Neck areas.

The Otologist deals with diseases of the ear and hearing problems and the laboratory where the test of ear function is carried out is the audiology laboratory. The science of



assessment and evaluation of hearing and vestibular function is called Audiology. It has evolved into a stand-alone discipline today using various diagnostic tools, such as pure tone audiometer, speech audiometer, tympanometer, otoacoustic audiometer, auditory brain stem audiometer, auditory steady state response audiometer and video-electronystagmography etc.

The first Nigerian trained as an (Audiometrist) Audiologist was Chief Jacob O. Talabi who gained a Federal Government scholarship to study Audiology in the UK in 1959 and returned home in 1962. He practiced in General Hospital Lagos, the oldest ENT Department in the country.

### **WHY THE TITLE OF THIS LECTURE?**

My dream was to be a Head & Neck Surgeon. I got scholarship and sponsorship under the mentorship of Professor P. A. Okeowo to understudy Professor Peter Alberti, who is an Otologist, WHO expert on Noise. He was in charge of Occupational Hearing Impairment Compensation programme in Ontario Canada. He mentioned on our first encounter the pioneering work of my mentor on otitis media and the dearth of research into other causes of hearing impairment and deafness in Sub Saharan Africa and about the dormant grant with WHO for Africa. He mentioned casually "when you get back home we shall look into it". I pondered, hearing impairment!

He later introduced me to Professor Patrick Gullane who is a Head and Neck Oncologist.

Professor Patrick Gullane asked why I was interested in cancer management. I catalogued all the woes that attended our care for patients with cancers in Lagos, Nigeria. He cautioned, "Mortality here is the same as it is in your country". He asked me before we settled for the day if I know Dr. Adekanye in Nigeria. I said no. By afternoon I had 20 publications of Dr. Adekanye practicing in Zaria, Northern Nigeria on my laps. A prophet is without honour in his own country and among his people.

My Mentor Professor P. A. Okeowo, is an Otolologist whose interest is in Ear diseases notably Otitis media.<sup>14-19</sup> Various forms of Otitis media have been documented as one of the leading causes of childhood hearing impairment, deafness, speech and language acquisition disorder.<sup>20-23</sup> My first research assignment was on Reported hearing Disability in line with World Health Assembly Resolution in 1995 (WHA 48.9), which directed member states to determine the magnitude, major causes of hearing impairment and to provide cost effective strategy for prevention and management of hearing problems and ear diseases in member states.<sup>24</sup>

Ladies and Gentlemen, if you ask me today where I stand in E.N.T sub-specialty? My response to you today is, "my feet are firmly planted in Otolology and my heart forever in Head/Neck surgery".

What are the changes in WHO estimates on Disabling Hearing Impairment (DHI) between 1985 and 1997 when I started my research. In 1985, 42 million were living with DHI, by 1995; it rose to 120 million with majority in developing countries.

## Grades of Hearing Impairment

Grade 0 None	25 dB or less	No/slight problems Hears whispers
Grade 1 Slight	26 - 40 dB	Hears/repeats words in normal voice at 1m
Grade 2 Moderate	child 31 - 60 dB Adult 41 - 60 dB	Hears/repeats words in raised voice at 1m
Grade 3 Severe	61 - 80 dB	Hears words shout- ed into better ear
Grade 4 Profound	81 dB or more	Cannot hear/under- stand shouted voice

**Disabling  
hearing  
impairment**

[Average 0.5, 1, 2, 4 kHz in better ear]

At this level and above, an individual begins to experience hearing problem a child is not making speech appropriate for his or her age or lack of speech or language development. An adult say pardon me I cannot hear you, speak up or claiming the speaker is noisy.

## **CONTRIBUTIONS TO KNOWLEDGE**

My contributions to knowledge are in two folds. On one hand is Otology with a focus on hearing impairment, starting from the magnitude and causes of hearing impairment, strategy for early detection and prevention of childhood hearing impairment and exploration of the risk factors and predictors of hearing impairment among the identified causes. On the other hand are my attempts at defining the burden and the challenges of management of cancers of the head and neck.

### **BUILDING MY BLOCKS ON MY MENTOR'S: OTOLOGY THE MAGNITUDE AND CAUSES OF HEARING IMPAIRMENT**

I documented on **Reported hearing disability a hospital based study**,<sup>25</sup> (1998 – 2000) which was conducted among patients seen in the ENT clinic of Lagos University Teaching Hospital between 1998 and 2000. A total of 368 (three hundred and sixty eight) were seen of which **81%** reported with bilateral hearing disability. Hearing disability was defined as having problem in hearing what people say to them. Following clinical and hearing evaluation, Disabling Hearing Impairment (DHI) was found in **62%**. Disabling Hearing Impairment (DHI) is that measured hearing threshold in the better ear averaged over frequencies of 0.5, 1 2 and 4 Kilohertz (KHz) of more than 30 dB in children (0-14yrs) and 40dB in adults (15yrs above).<sup>26</sup>

Seventy five percent (75%) of the studied group were in the age range of 5- 40yrs, who were mainly children, adolescent and young adults (pupils, students, professional, skilled workers) in their active age seeking education, vocation and employment, encountering handicapping and disabling effects of hearing impairment. More than **50%** of these groups were between ages of **5-15yrs. (at risk population)**



**Table 1: Aetiology of Hearing Impairment**

Diagnosis of Disease	No of Patients (n)	n. (%)
1. Ear Diseases (AOM,OM CSOM)	91	24
2. Infectious Diseases 3M (Measles Meningitis Mumps)	36	10
3. Non Infectious (Ototoxicity, Noise Presbycusis, Kernicterus Birth asphyxia Head injury,	129	35
4. Genetic/Congenital	12	3
5. Undetermined Causes	101	27

The documented etiologies (**Table 1**) were Non-infectious causes like drugs, noise, kernicterus which constituted 35%, various forms of otitis media 24%, infectious diseases 10% (3Ms), Genetic/Congenital 3% and undetermined **cause – 27%**.

The role of various forms of otitis media as the leading cause of childhood hearing impairment is well documented in Nigeria.<sup>14-23</sup> What is worrisome is the emerging trend of non-infectious etiology. For example, ototoxic drugs like aminoglycoside chloroquine and chloramphenicol, which are frequently used, either prescribed or un-prescribed in the treatment of perceived malaria, typhoid or febrile condition, which are endemic in Nigeria. Noise induced hearing loss (NIHL) is more from informal occupational and social sectors compared to industrialised countries.<sup>27</sup> The few factories with noise pollution have nothing in terms of noise conservation. Many of the affected staff is laid off once the company is notified of this impairment: worst still there is no compensation. The Expanded Programme on Immunization (EPI) has been effective in reducing the magnitude of infectious diseases. Among the undetermined causes (27 %), we believed there are many patients with **genetic or viral causes**. From the foregoing, we recommended the need to set up a national programme on prevention of hearing impairment and deafness



in Nigeria, enforcement of law against noise and sales of un-prescribed drugs. We also advised the Federal Government to formulate a national policy to make affordable hearing aids for hearing impaired available in various health outlets and the need to research into **genetic causes** of hearing impairment.

Of importance is the need to highlights and compare the results of the first National survey on hearing impairment and deafness in Nigeria with our hospital based report mentioned above, especially as it relates to the vulnerable **age group 5-40years** and setting the direction for further research on hearing impairment especially as it concerns children **aged less than 15years**.

We conducted the **first** National survey on hearing impairment and deafness in Nigeria and indeed the first in sub-Saharan African between **(2000-2001)** <sup>28</sup> with a sample size of 8,975 participants across three selected states in Nigeria namely KATSINA, BENUE and AKWAIBOM.

**Table 2: Hearing Assessment Findings among Subjects**

HEARING ASSESSMENT	NUMBER OF SUBJECTS BY STATE			ALL
	Ak	Bn	Kt	
Normal Hearing	1720 (85%)	3195 (81.8%)	2456 (80.7%)	7371 (82.1%)
Hearing Impaired (HI)> 25dbHL	304 (15%)	712 (18.2%)	588 (19.3%)	1604 (17.9%)
DHI all ages (Absolute values)	166 (8.2%)	264 (6.8%)	276 (9.1%)	706 (7.9%)
DHI 4years and above (in better ear)	81(4.4%)	217(6.1)	212(7.6)	510(6.2)

**Table 3: Causes of Ear Diseases among Subjects with Hearing Impairment**

CAUSES	NO OF SUBJECTS (n)	n. (%)
1.Wax/Foreign bodies	830	(9.2%)
2.Ear diseases(AOM,OM,CSOM)	1,059	(11.8%)
3.Infectious diseases 3M	180	(2%)
4.Genetic	9	(0.1%)
5.Non-infectious diseases	288	(3.2%)
6.Undetermined	970	(10.8%)

**Table 4: Age Specific Hearing Impairment Three States (Overall)**

Age	Total no	DHI	DHI (%)
0-9	3,311	284	8.6
10-19	2,586	136	5.3
20-29	873	35	4.0
30-39	646	40	6.2
40-49	533	45	8.4
50-59	404	41	10.1
60-69	328	49	14.9
70-79	200	44	22.0
> 80	92	32	34.8
Total	8975	706	100.0

Age	Total no	DHI	DHI (%)
<5yrs	1221	32	2.6
5-14years	3820	378	9.8
15years and > 80	3934	296	7.5
Total	8975	706	7.9
15years and above In better ear		370	4.5

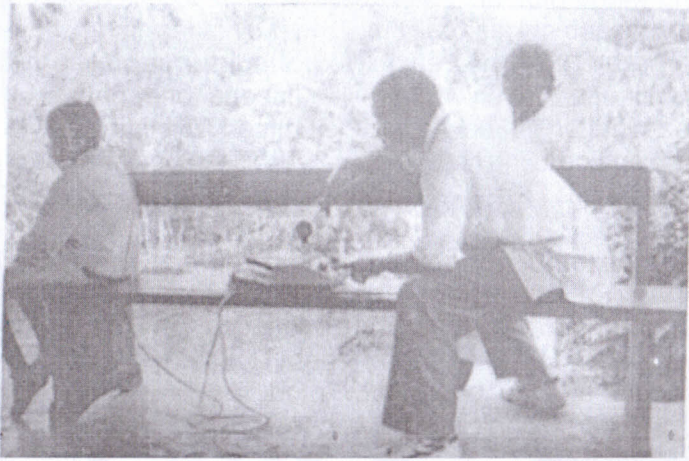
The results of the National survey further corroborated our previous work that **Ear diseases** (AOM OM CSOM) and **non-infectious causes** were the leading causes of hearing impairment among Nigerians. (**Table 3**) Majority of these causes were **preventable** and attention was also drawn to a large proportion (**10.8%**) of patients that will need further investigations either for **viral studies** or **genetic studies**.

Katsina State had the highest **DHI in better ear** for age 4years and above 7.6% because it lies in the Meningitis belt of sub-Saharan Africa, followed by Benue state 6.1% and Akwa Ibom state 4.4% The overall age specific DHI (absolute value) of **2.6%** was recorded in children less than 5years, **9.8%** in children age 5-14years, and 7.9% for subjects 15yrs and above while the DHI for the same age group in **better ear** was 4.5%. (**Table 4**) The magnitude will reflect in the population with over 3.7 million children below 15yrs with DHI and 5 million people above 15yrs with DHI. This drew our attention to this vulnerable age group **6 months to 15years in our society**. The devastating effect of hearing impairment and deafness on children if diagnosed after **six months of age** lead to delay and sometimes to irreversible damage to the process of language acquisition, intellectual, social and emotional development.<sup>29</sup>



**MEMBERS OF A COMMUNITY IN UKPATA OBOLOM IN ORON LGA IN AKWA IBOM WAITING FOR EAR EXAMINATION AFTER COLLECTING SURVEY FORMS**





**DR. SOMEFUN CONDUCTING HEARING TEST AT ABIAKPO IKOT OBIONTING IKOT EKPENE LGA**



**DR. SOMEFUN PERFORMING EAR EXAMINATION (OTOSCOPY) ON A PARTICIPANT AT CHARANCHI LOCAL GOVERNMENT IN KATSINA**



**DR. SOMEFUN TRAINING A CHEW ON OTOSCOPY IN AKWA  
IBOM STATE**



**DR. SOMEFUN CONDUCTING A TRAINING SECTION ON  
SCREENING AUDIOMETRY IN AKWA IBOM STATE**

Since children constituted the bulk of the vulnerable group for hearing impairment in our previous studies, we decided to probe further into **communication disorders** among children knowing that hearing and speech are intertwined in the life of any developing child. (A healthy child is a wealthy nation) I set out to research into communication disorders in children age **6 months to 15 years**.

I studied the pattern of **communication disorders**<sup>30</sup> (2002-2003) among 184 children aged **6 months to 15 years** which involved hearing, speech and language disorders in the Audiology clinic in ENT department of LUTH (a collaborative work with Audiologist both within and outside the hospital, Speech pathologist and Paediatric Neurologist).

We assessed hearing and speech in children using the audiological and speech tools. We assessed and evaluated hearing using Visual reinforcement audiometry, pure tone audiometry, tympanometry, otoacoustic emission and auditory brain stem audiometer. Speech was evaluated depending on developmental age for babbling, speech imitation, and vocalisation, comprehension of spoken language in terms of hearing, listening attention span and understanding. Language production was assessed in terms of syntactic, semantic and phonation.

The commonest communication disorder was Hearing impairment and delayed speech in 46%, followed by specific language impairment in 24% and hearing impairment only in 20%. Central speech disorders in 6.5%, Rhinolalai in 2.5% and Stuttering 2.5%. (**Table 5**) Most of the causes of communication disorders affecting these children were **preventable** like meningitis, kernicterus, ototoxic drugs, birth asphyxia, measles, seizures disorders, cerebral palsy and otitis media. The etiology was unknown in 48%. (**Table 6**)

The most significant finding in this study was that **74%** of children between **6 months and 4 years** had various communication **disorders**<sup>30</sup>. This age bracket will turn our attention to evolve a strategy for early detection and



prevention of Childhood (infants/new-born) hearing impairment.

We concluded on the need for improved investigations of communication disorders as there were only **two centres** in Lagos where full audiological work could be done. We emphasised the need for early detection by way of high index of suspicion by both the parent and Healthcare professionals. Appropriate intervention through amplification using Hearing Aid, Cochlear implant programme and speech therapy is crucial and this can be achieved through systematic capacity building by training of Audiologists and Speech therapy. While cochlear implant surgery has rekindled the hope for children with sensory hearing impairment the cost of surgery and lack of supportive services makes it undesirable for low income country like Nigeria.<sup>31</sup>

**Table 5: Pattern of communication disorders in Nigerian children**

Diagnosis	Children < 4 years (%)	Children ≥ 4 years (%)	Total (%)
Hearing impairment and delayed speech/language	68 (36.9)	16 (8.7)	84 (45.6)
Hearing impairment	32 (17.4)	4 (2.2)	36 (19.6)
Central speech disorder	8 (4.3%)	4 (2.2)	12 (6.5)
Specific language impairment	28 (15.2)	16 (8.7)	44 ((23.9)
Rhinolalia	-	4 (2.2)	4 (2.2)
Stuttering	-	4 (2.2)	4 (2.2)
Total	136 ( <b>74</b> )	48 (26.)	184 (100.0)

**Table 6: Aetiology of communication disorders in Nigerian Children**

	Hearing impairment/ aphasia n. (%)	Hearing Impairment n. (%)	Central speech disorder n. = (%)	Specific language impairment n. (%)	Rhinolalia n. = (%)	Stuttering n. = (%)	Total n. = (%)
Meningitis	8 (4.4)	8 (4.3)	-	-	-	-	16 (8.7)
Kernicterus	4 (2.2)	4 (2.2)	-	-	-	-	8 (4.3)
Birth asphyx	8 (4.3)	-	4 (2.2)	-	-	-	12 (6.5)
Ototoxicity	4 (2.2)	-	-	-	-	-	4 (2.2)
Measles	16 (8.7)	-	-	-	-	-	16 (8.7)
Seizure disor	8 (4.3)	4 (2.2)	8 (4.3)	-	-	-	20(10.9)
Cerebral pals	4 (2.2)	-	-	-	-	-	4 (2.2)
Congenital	-	4 (2.2)	-	-	4 (2.2)	-	8 (4.3)
OME	-	8 (4.3)	-	-	-	-	8(4.3)
Unknown	32 (17.3)	8 (4.3)	-	44 (23.9)	-	4(2.2)	88(47.9)
Total	84 (45.6)	36 (19.6)	12(6.5)	44 (23.9)	4 (2.2)	4(2.2)	184 (100)

Among the undetermined causes of communication disorders which constituted 27-47% from our three previous research works, we identified the need to look closely at this group I believe there are many patients with genetic and viral causes. I got a grant from the University to conduct an in-country research into genetic causes of hearing impairment. We collaborated with Professor Odeigha of the Department of Science, University of Lagos but due to power outage among other challenges, our samples could not be kept frozen in the laboratory and we retired the money to the University.

**STRATEGY FOR EARLY DETECTION AND PREVENTION**  
**Early detection of infant hearing loss; current experience of health professionals in developing country (2005) <sup>32</sup>**

Before we went into the community, we wanted to know how much the healthcare practitioners knew about early detection of infant hearing loss. We interviewed 256 Nurses and 161 Medical practitioners using an open- ended questionnaire from two tertiary hospitals (Lagos University teaching Hospital (LUTH) and Lagos State University teaching Hospital), state owned Maternity hospital and the oldest children hospital Lagos (Mercy Children Hospital). The hospitals were selected because of their high potential to attract majority of children with hearing loss. We explored the participants experience with infant hearing loss, earliest age at which hearing loss was

suspected or detected, mode of detection, and action taken. Possible association between participants' age, sex and work experience and first encounter with hearing impaired child by multiple regression analysis.

Results showed nurses were older than the doctors and they had more years of working experience. Less than half of the nurses (39%) and doctors (47%) indicated a past encounter with an infant or child with hearing loss. Few Nurses (25%) and Doctors (14.5%) detected or suspected children with hearing loss within the first 6 months of life. Majority of doctors (68.4%) detected hearing loss after first year of life: parental concern was significantly more likely to prompt detection by doctors than by nurses. Many health professional have limited experience in effective management of infants with hearing loss. Because of this delay some children end up in schools for deaf, where sign language is the only mode of communication, while the majority are not attending any formal education. Overall, there were few significant differences in current practices between nurses and doctors in contrast to their work experience.

### **Universal Infant Hearing Screening Programme in a Community with Predominant Non- Hospital Births<sup>33</sup> (2005-2008)**

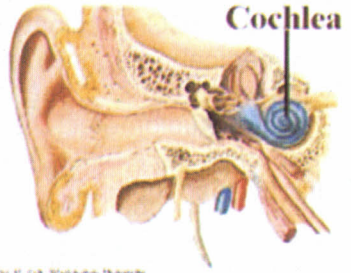
As part of our strategy for early detection and prevention of congenital or early onset sensorineural hearing impairment in infants, we went into the community, in the inner city area of central Lagos and we used the platform of four primary health care centres that administered routine Bacille Calmette-Guerin (BCG) in 2005-2008, which were administered on separate weekdays. Of all routine childhood immunization in developing world, BCG immunization clinics have the highest uptake with coverage thus attracting a high proportion of mothers who delivered outside the hospitals. Although, BCG is given shortly after birth, it is unusual to present few babies after three months of birth. This screening programme was offered to infants three months old or younger in order to facilitate comparison with other screening programmes: more so, older babies were often restless and difficult to test in non –hospital



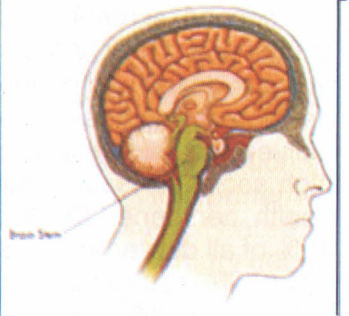
settings. Medical and socio-demographic variables of both the mother and infants were documented with a structured questionnaire. We did a hearing screening for 7179 infants who came for BCG vaccination between 2005-2008.<sup>33</sup> We trained non-medical personnel on the field on the use of two different types of automated hearing screening machines, Otoacoustic Emission Audiometer (OAE) and Automated Auditory Brain Stem Response audiometer (AABR) which are user friendly, cost effective and robust.

The hearing screening protocol consisted of two stage screening, first with transient otoacoustic emissions followed by Automated Auditory Brain Stem Response (AABR) for those that failed emission test. (**Table 7**) Those that failed the Auditory Brain Stem Response test were referred to diagnostic centre for further evaluation and appropriate intervention.

The two stage screening protocol has a sensitivity of 92% and specificity of 98%. We got an overall failure rate or referral after the second screening stage of 1.8% which translates to a prevalence rate of hearing impairment in excess of 2-4/1000 live births in developed countries<sup>34</sup> comparable to rates from other developing countries.<sup>35</sup> We documented that 52% of infants were delivered outside the hospital facilities by mothers in middle or high social classes, although 57% were attended to by skilled health personnel. Traditional Maternity homes accounted for 40% of all deliveries or 76% of non-hospital deliveries. A total of 474 (6.6%) of the infants had a history of neonatal jaundice (NNJ) out of which 26% required phototherapy and / or exchange blood transfusion. It is important to state that a high proportion of birth in most communities in developing countries occurs outside the hospital.<sup>36</sup> It noteworthy that the use of non – facility based services has nothing to do with social class.



**SCREENING HEARING TEST  
ON A NEW BORN IN A HEALTH CENTRE USING  
OTOACOUSTIC EMISSION (OAE)**



**SCREENING HEARING TEST ON A NEWBORN IN A  
HEALTH CENTRE USING AUTOMATED AUDIOTORY BRAIN  
STEM RESPONSE AUDIOMETER (AABR)**

**Table 7: Summary of two-stage hearing screening outcomes of infants attending BCG immunization clinics in Lagos**

	Total (%) n. = 7175	Passed n. = 6653	Failed (%) n. = 128	Incomplete (%) n. = 394
<b>MATERNAL PROFILE</b>				
<b>Age (Years) (a)</b>				
< 20	241 (3.4)	229 (3.4)	3 (2.4)	9 (2.3)
20-35	6352 (88.7)	5899 (88.8)	112 (88.2)	341 (87.0)
> 35	570 (8.0)	516 (7.8)	12 (9.4)	42 (10.7)
<b>Social Class</b>				
High (i)	428 (6.0)	402 (6.1)	2 (1.6)	24 (6.1)
Medium (ii & iii)	5203 (72.5)	4833 (72.6)	78 (60.9)	292 (74.1)
Low (iv & v)	1544 (21.5)	1418 (21.3)	48 (37.5)	78 (19.8)
<b>Parity (b)</b>				
Primiparous	2897 (40.4)	2718 (40.9)	47 (36.7)	132 (33.5)
Multiparous	4273 (59.6)	3930 (59.1)	81 (63.3)	262 (66.5)
<b>Antenatal Care</b>				
One or more visits	7030 (98.0)	6525 (98.1)	122 (95.3)	383 (97.2)
None	145 (2.0)	128 (1.9)	6 (4.7)	11 (2.8)
<b>Place of Delivery</b>				
Hospital	3466 (48.3)	3217 (48.4)	53 (41.4)	196 (49.7)
Outside hospital	3709 (51.7)	3436 (51.6)	75 (58.6)	198 (50.3)
<b>Attendant at delivery</b>				
Skilled	4059 (56.6)	3769 (56.7)	65 (50.8)	225 (57.1)
Unskilled	3116 (43.4)	2884 (43.3)	63 (49.2)	169 (42.9)
<b>INFANT PROFILE</b>				
<b>Gender</b>				
Female	3420 (47.7)	3182 (47.8)	59 (46.1)	179 (45.4)
Male	3756 (52.3)	3471 (52.2)	69 (53.9)	215 (54.6)
<b>Gestational age (c)</b>				
= 37 weeks	7062 (98.5)	6560 (98.6)	117 (95.9)	385 (97.7)
< 37 weeks	106 (1.5)	92 (6.7)	5 (4.1)	9 (2.3)
<b>Age at Screening (d)</b>				
= 30 days	6202 (86.4)	5829 (87.6)	78 (60.9)	295 (74.9)
> 30 days	973 (13.8)	824 (12.4)	50 (39.1)	99 (25.1)
<b>Weight at screening</b>				
= 2500g	6473 (93.0)	6017 (93.3)	106 (85.5)	350 (90.9)
< 2500g	486 (7.0)	433 (6.7)	18 (14.5)	35 (9.1)
<b>Gestational type</b>				
Singleton	6941 (96.7)	6443 (96.8)	117 (91.4)	381 (96.7)
Multiple	234 (3.3)	210 (3.2)	11 (8.6)	13 (3.3)
<b>Gestational defect (e)</b>				
No	7109 (99.1)	6591 (99.1)	127 (99.2)	391 (99.2)
Yes	66 (0.9)	62 (0.9)	1 (0.8)	3 (0.8)
<b>Hyperbilirubinaemia</b>				
No	7051 (98.3)	6552 (98.5)	118 (92.2)	381 (96.7)
Yes	124 (1.7)	101 (1.5)	10 (7.8)	13 (3.3)

We came up with some predictive variables that can be used by health care professionals in the primary health centres in



assessing high risk infants thereby referring them early for appropriate intervention.

### **Predictive Factors for Hearing Screening Failure**

1. Multiple gestations.
2. Hyper bilirubinemia requiring Exchange blood transfusion (EBT).
3. Post-natal sepsis.
4. Late presentation for BCG vaccination after 3months.
5. Maternal variables: - Low socio-economic class with antenatal care (ANC) outside the hospital, usage of herbal drugs during ANC, non-hospital delivery, delivery by non-skilled workers.

These factors are more peculiar to our environment in addition to other known risks factors like prolonged incubator stay, prematurity, ototoxic drug usage, and birth asphyxia.

We concluded that routine immunization clinics are valuable platform for community based New-born Hearing Screening and this would be effective in attracting substantial proportion of babies born outside the hospital; this is comparable to hospital based hearing screening. This strategy will lead to early detection within the primary health care setting and will reduce the burden of hearing impairment among children in our society.

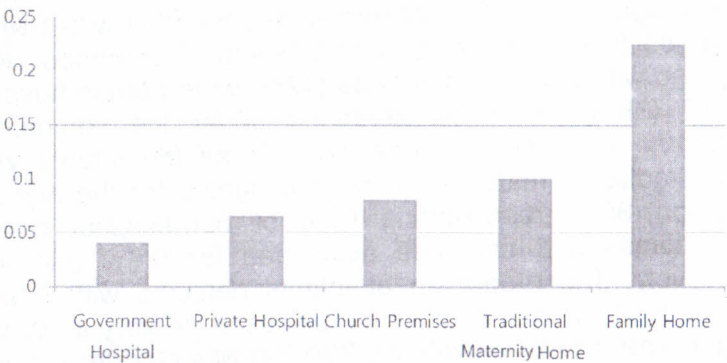
### **Place of birth and characteristic of infants with congenital and early onset hearing loss in a developing country <sup>37</sup> (2005-2008)**

I compared the results of this two- stage hearing screening protocol of community based study with 7179 infants<sup>33</sup> with a hospital- based study using the same protocol among 4,718 infants (2005-2008)<sup>38</sup>. This is the first study sets out to establish relationship between the place of birth and SNHL in infants. It is one of the few pilot studies in developing countries with a large sample size. All infants who failed AABR under both programmes were scheduled for diagnostic evaluation, using tympanometry with high frequency probe tone for babies less than 4months old; diagnostic tone pip auditory

brain stem response (ABR), and free field visual reinforcement audiometry for babies older than 6months.

A total of 11,897 infants were screened under both programmes. Of the 4718 screened under the hospital- based program only 12 (0.3%) infants were confirmed with Sensorineural Hearing Loss (SNHL) and from the community based program 71 (1.0%) infants were confirmed with SNHL. Overall 83 (0.7%) of the total 11,875 infants screened were confirmed with SNHL. Total of 39 (47%) were born in hospital and 27 (38%) of infants screened under the community programme were born in hospitals. Of all the infants with SNHL, traditional maternity homes accounted for the highest proportion 36%, representing 68% of non-hospital births; family homes and churches accounted for 9.6% and 4% respectively. The proportion of infants detected with SNHL from the total births in each of the places of delivery is shown in **Fig 1**. The highest prevalence 23/1000 was reported among infants born in family homes and the lowest rate was 4/1000 in government hospital. The overall crude prevalence rate of 7/1000 live birth almost doubled the estimates of 2-4/1000 from developing countries. Mothers of those born outside the hospital were likely to belong to the Yoruba tribe ( $p<0.001$ ), they use herbal medication in pregnancy ( $p<0.001$ ), deliver vaginally ( $p=0.004$ ) but without skilled attendants at delivery ( $p<0.001$ ). There was no significant difference among the infants. This study allowed us to capture some of the impact of **perinatal acquired causes**, on the true burden of congenital and early onset SNHL. This pattern of non- hospital delivery is unlikely to change due to socio-cultural, religious and economic factors affecting maternal health seeking behaviours. Mothers chose private Maternity homes because of personalised care, emotional support from traditional birth attendants during child birth which is lacking in public hospitals. Some avoid hospital delivery because of dissatisfaction with practices, which they considered as disrespectful, inhuman, and shameful, (lack of respected maternal care) in addition aversion to caesarean operation. We concluded that a significant proportion of infants with SNHL in many developing countries are likely to be born

outside the hospitals thus underscoring the need for community oriented Universal Neonatal Hearing Screening (UNHS) to facilitate early detection and intervention. **Otolaryngologists** and the **paediatrician** should consider a more active role in fostering community-oriented delivery of primary ear care services.



**Fig 1: Proportion of infants detected with hearing loss from total births across place of birth (n = 11.897) (2005-2006)**

**Sensorineural Hearing Loss in Infants with Neonatal Jaundice in Lagos: A Community Based Study<sup>39</sup>**

I researched into the incidence and predictors of sensorineural hearing loss (SNHL) among infants with neonatal jaundice<sup>39</sup>. This is one of the emerging non-infectious causes of childhood hearing impairment. Infants attending well-child clinics for routine immunization between 2005-2006 with history of neonatal jaundice had screening hearing tests done by two stage protocol with transient evoked oto-acoustic emissions and automated auditory brainstem response. All infants who failed the two stage screening programme were scheduled for diagnostic evaluation, using tympanometry with high frequency probe tone for babies less than 4 months old, diagnostic tone pip auditory brain stem response (ABR) and free field visual reinforcement audiometry for babies older than 6 months.



Predictors of SNHL among infants with a history of NNJ were determined with multivariate logistic regression based on adjusted odds ratio at 95% confidence intervals.

Three thousand six hundred and seventy six (3676) infants were enrolled into the study, 52.4% were born outside the hospital 71 (2.1%) had SNHL, 234 infants had neonatal jaundice of which 14 (6%) had SNHL. Bilateral moderate hearing loss in 3 (21.4%), severe in 8(57.1%) and profound in 2 (14.3%) infants. 1(7.1%) had unilateral SNHL, 6 (42.4%) had a profile suggestive of auditory neuropathy. (**Table 8**) Low social class (OR 6.04, CI 1.33-27.48) Multiple gestations (OR 10.55, CI 1.98-56.11) and exchange blood transfusion (OR 7.74, CI 1.66-36.2) were predictive of SNHL. Follow up counselling and interventions, including provision of hearing Aids where appropriate were provided for infants with severe to profound bilateral SNHL, while on-going parental surveillance was recommended for infants with mild to moderate or unilateral hearing loss.

SNHL is prevalent among infants that survive severe NNJ and early detection of affected infants through community orientated hearing screening is feasible to minimise the long term developmental complication.

**Table 8: Profile of infants diagnosed with sensorineural hearing loss**

	Child Code	Sex	Place of birth	Age at Screening	TEOAE Status	Type of Hearing Loss	Age at Diagnosis (days)	NN Treatment	Other known medical conditions (Treatment)
1	S167	M	Health centre	7	Pass	Bilateral severe	83	PTY + EBT*	Kernicterus
2	S308	M	General Hospital	4	Refer	Bilateral moderate	35	PTY + EBT*	Kernicterus
3	S483	M	General Hospital	82	Refer	Bilateral moderate	100	PTY *	First twin: sepsis (gentamicin, ceftazidime)
4	S484	M	General Hospital	82	Refer	Bilateral moderate	100	PTY *	Second twin: sepsis (gentamicin, ceftazidime)
5	S490	F	Private Hospital	10	Pass	Bilateral profound	56	PTY + EBT*	Kernicterus, sepsis (gentamicin)
6	S1389	M	Private Hospital	7	Pass	Bilateral severe	40	PTY + EBT*	Kernicterus, sepsis (gentamicin)
7	S140	M	Herbal Home	44	Pass	Unilateral severe	50	Herbal therapy	Not available
8	S1308	M	Herbal Home	6	Refer	Bilateral profound	39	PTY + EBT*	First twin: sepsis (gentamicin)
9	S1423	M	Family Home	12	Refer	Bilateral severe	37	PTY + EBT*	First twin : kernicterus, sepsis (gentamicin)
10	S2266	M	Herbal Home	16	Pass	Bilateral severe	77	PTY	Bilirubin encephalopathy, sepsis (gentamicin)
11	S2267	M	Herbal Home	17	Refer	Bilateral severe	64	PTY + EBT*	Sepsis (gentamicin, ceftazidime)
12	S3529	M	Herbal Home	25	Pass	Bilateral severe	40	PTY	Second twin: sepsis (gentamicin, cefuroxime)
13	S1983	M	Family Home	40	Refer	Bilateral severe	51	Ampidox	Deafness in older sibling following severe NNJ
14	S1575	F	Church Premises	5	Refer	Bilateral severe	73	PTY + EBT*	Kernicterus

Note: All infants were full-term (>37 weeks); \*Treated at children's specialist hospitals: PTY, phototherapy; EBT, exchange blood transfusion, hearing loss grades: moderate (41-70dBnHL); severe (71-90dBnHL); Profound (>90dBnHL), TEOAE, transient oto-acoustic emissions. The term 'sepsis' is used collectively for septicaemia, meningitis and pneumonia

We drew the attention of the Otological and Audiological communities to the **need for standardisation of methods<sup>40</sup> for worldwide infant hearing screening** (2008) based on our research experience. Our paper focused on variations of cut off for Disabling Hearing Impairment in United Kingdom, United States of America and WHO Classification of childhood hearing loss undermining comparability of keys findings in the reported series. We noted also that no uniform case definition presently exists for infant hearing screening programs worldwide especially for minimal hearing loss. The implications for exclusion of minimal hearing loss were explored within the context of International classification of Functioning (ICF), Disability and Health of WHO and its adapted version for children and youth (CY). We posited that a revised WHO classification that accounts for all categories of Hearing loss based on ICF-CY might provide a suitable framework for improved uniformity in reporting standards. We also discussed the scope and limitations of current Technologies for screening Hearing tests based on some intrinsic and extrinsic factors in the instruments otoacoustic emission (OAE) and automated auditory brain stem response (AABR). TEOAE and DPOAE instruments are set to pass subjects with average hearing sensitivity better than 30dbHL. This implies that Hearing loss in the range of 16db to 30db will be missed. The stimulus level for most AABR instruments is set at 35dbnHL implying that the technology will miss 16-35dbHL. The current AABR technology is designed only to identify infants with moderate to profound SNHL, hence the need for diagnostic auditory brain stem response (ABR) test.

We concluded this research train of thought with a wakeup call publication titled. **"Implementing the WHO guidelines for early detection of sensorineural hearing loss<sup>41</sup>** (2012) in New-born and infants in Nigeria". We drew the attention of all stakeholders' obstetricians, paediatricians, otolaryngologists, audiologists and other health workers on the importance of universal hearing screening at community level; emphasising that our teaching hospitals can be used for screening as well



as a diagnostic centres. We also reiterated the need for Ministry of Health (MOH) to come out with a policy and the need for government to make Universal Neonatal Hearing Screening (UNSH) part of the National primary care programme.

## **EXPLORING THE IDENTIFIED CAUSES OF COMMUNICATION DISORDERS FOR RISKS AND PROMOTING FACTORS**

### **MIDDLE EAR DISEASES**

**OTITIS MEDIA (OM):** Otitis media is an inflammation of the middle ear space. The progress of such inflammation varies. It may proceed to fluid formation called OME behind an intact ear drum. In severe cases there is bacterial colonisation of fluid with established infection called Acute Otitis Media (AOM). The tympanic membrane may ruptures leading to purulent discharge from the ear and if poorly treated progresses to chronic suppurative otitis media (CSOM).<sup>42</sup>

OM is a childhood disease. Most studies focused on incidence, prevalence, microbiology and various factors promoting the disease.<sup>43-45</sup> Varied prevalence rates for otitis media with effusion in children had been quoted in Nigeria,<sup>46-47</sup> but very few studies reported otitis media with effusion in adults.<sup>48-51</sup> We explored the disease spectrum to establish if otitis media is prevalent among adults in Lagos.

### **Adult onset otitis media with effusion (OME)<sup>52</sup> (2000-2002)**

Otitis media as a disease entity has drawn recognition to itself as a childhood disease not only in terms of prevalence, but more because of its complications, like hearing impairment, deafness, speech and language acquisition disorder and cognitive disorders. I carried out a prospective study over a two year period among patients referred to our clinic. A total of 195 patients were diagnosed with OME out of 2,396 patients referred for various otolaryngological conditions in our clinic between 2000-2002. I documented a Hospital based prevalence of 2.6% for OME in adults, with infective and

allergic sinusitis as one of the major predisposing factors. Ninety –two percent (92%) were medically treated successfully and 8% had surgery (tympanosotomy). OME though recognised as a childhood disease may be as prevalent in adults as in children but with less complication. OME, as single clinical feature or in association with allergy or sinusitis is most unlikely to harbour nasopharyngeal carcinoma (NPC). Therefore nasopharyngoscopy and biopsy are likely to give low yield of positive biopsy and the cost implication must be borne in mind.

**Otitis media in aged 16years and above<sup>53</sup> (2000-2001)** and observation by one of the authors while in KomfoAnokye Teaching Hospital Kumasi Ghana as a visiting Professor showed that 30% of the clinic attendance was Acute Otitis Media and there were as many adults as children. The adult with de-novo infection were interviewed. KomfoAnokye Teaching Hospital though a tertiary institution provides tertiary, secondary and primary care. In Lagos area this crowd would be shared between the primary and secondary care centres. ENT Specialists in Lagos hardly see acute otitis media, ab-initio this falling on paediatricians and general practitioners.

I collaborated with our colleagues in Lagos State University Teaching Hospital (LASUTH) over a 15months period (**2000 to 2001**) and we studied patients aged 16yrs and above. We reported 84 patients of which 80% were from LASUTH, majority within 20-29yrs of age. Eighty-eight percent (88%) reported the disease as de-novo attack while 12% as trauma induced. Acute and chronic rhinitis and tonsillo-pharyngitis were reported with some of the patients and no single patient was seen with nasopharyngeal carcinoma. We concluded that Acute Otitis Media can occurs de-novo in adults meaning an infection which does not seem to have antecedent in childhood infection or trauma and it is not an acute-on- chronic infection However a careful examination of the patient must exclude nasopharyngeal tumour.

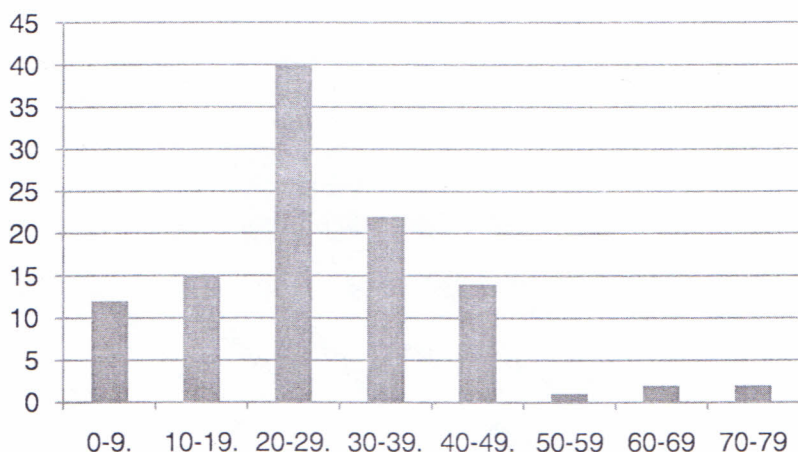
### **Burden of Chronic Otitis Media (CSOM)<sup>54</sup> (1992-2000)**

Chronic Otitis media formed the bulk-work of otolaryngological

practice in West Africa 10-15 years ago.<sup>54-57</sup> The burden of Chronic Suppurative Otitis Media(CSOM) entails its prevalence, complications, socio-economic consequences, loss of man hours from work and school attendance, frequent hospital visits with its financial and emotional drain. We investigated the burden among our patients between 1997 and 2000, in terms of the complications, treatment outcome, personal and national cost of treatment of CSOM.

I documented a Hospital based prevalence of 5.4% which is of public health importance. The peak occurrence of CSOM in this series was in age group 20-29 and 30-39 (Fig 2) with duration of chronic ear discharge running up to 20years, which **showed** that many contracted the disease in childhood and carried it into adulthood. Twenty-two percent (22%) presented with mild hearing loss and **44% with disabling hearing impairment**, 60% as unilateral disease and 40% as bilateral disease. Patients' on the average had eight hospital visits per year and spent an average of three hours per visit. Complications were seen in 9% of which 4.5% was due to extra-cranial complications mainly mastoid abscess, 1.8% intracranial complications and 2.7% with cranial complications. 80% were treated conservatively with medications and 20% had surgery of which cortical mastoidectomy was done in 11.8%. Most of our patients agreed to surgery where there is a complication. The major operative finding in the middle ear and mastoids were granulation tissues and polyps, cholesteatoma is uncommon. The estimated direct economic cost of diagnosis and treatment of chronic suppurative otitis media per patient came to N10,889:00. This is rather high bearing in mind this is a disease of low socioeconomic class while the minimum wage per month is N7,000:00.



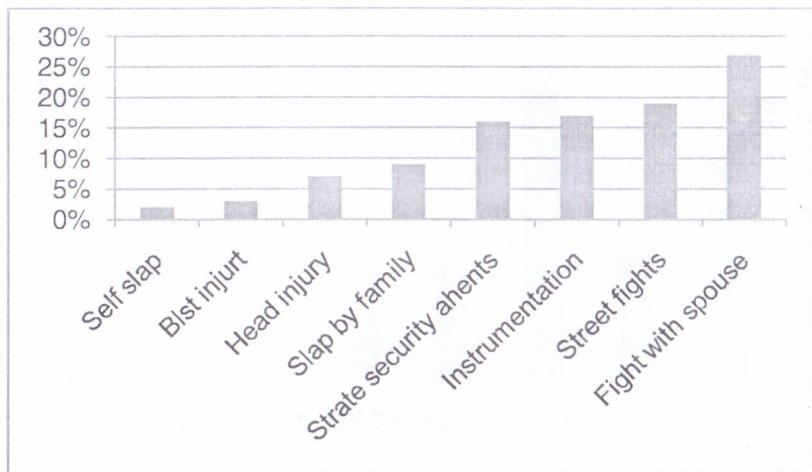


**Figure 2: Age Group Distribution of CSOM**

### ***DIRECT TRAUMA TO THE EAR***

#### **Traumatic Perforation of the Tympanic Membrane <sup>59</sup>**

I was involved in a collaborative study; we evaluated the causes, clinical features and treatment of traumatic tympanic membrane perforation in University of Port-Harcourt Teaching Hospital. Traumatic perforation of the tympanic membrane was 8.5% (58 patients) of otological diseases over a three year period mainly among young adults. Causes of traumatic perforation were fight with spouse 28%, street fights 19%, instrumentation 17%, and assault by state security agents 16%. **(Figure 3)** Most of the female's traumatic perforation 55% was caused by their spouse from direct slap. Children constituted 9% of this study group. Varied degrees of hearing loss was recorded among 85% notably was conductive hearing loss. Most of the traumatic perforation were treated none surgically and more than half 54% were lost to follow up after 3 weeks.



**Figure 3: Causes of Tympanic membrane Perforation**

### ***INDIRECT TRAUMA (NOISE AND IRRADIATION) (2005)***

#### **Permanent Hearing loss among Professional Spice Grinders in Urban Community<sup>60</sup>**

This study set out to determine the pattern and predictors of Noise Induced Hearing Loss (NIHL) among small scale and self-employed chilli pepper grinders in the largest single market known as Mile 12/Ketu Lagos. (Informal sector of the economy) Audiological evaluation was conducted for all the participants using diagnostic pure tone audiometry at frequencies of 0.5,1,2,3,4,6, and 8 KHz. The noise level measurement for wet and dry grinders with duly calibrated integrated sound level meter set to the "A" weighting network/slow meter response was done.

Out of 136 studied, Female to Male 2:1, Mean age was 40yrs, mean years spent as grinder was 10years and mean hours spent daily at work was 13hours. 85 (62.5%) were confirmed with slight to moderate NIHL (26-60dB) using the mean hearing threshold at 3, 4 and 6kHz.(**Table 9 & 10**) The right ears was worse than left ears among those engaged in wet-only or wet-combined with dry pepper grinding. Most of the grinders are right handed and thus tend to listen to the sound of the grinders as they manually crush the pepper in the loading bowl of the grinder. Amplification devices may be

ineffective for the frequencies, but the importance of the high frequencies on speech perception and discrimination essential for active daily function cannot be ignored.

Spending over ten years in commercial grinding and working for more than 12hours a day was predictive of NIHL. The study highlights the silent burden of occupational hazards with reference to largely unregulated economic activities in the informal sectors in resource poor country.

**Table 9: Pattern of hearing loss among professional grinders (n=142)**

Grade of Hearing Impairment	Better Ear			Worse Ear		
	Male	Female	All	Male	Female	All
Normal (<26dB)	15	36	51	11	22	33
Slight (26-40dB)	24	49	73	18	53	71
Moderate (41-60db)	2	10	12	10	19	29
Severe (61-80dB)	-	-	-	1	1	2
Profound (>80dB)	-	-	-	1	-	1
<b>Total</b>	<b>41</b>	<b>95</b>	<b>136</b>	<b>41</b>	<b>95</b>	<b>136</b>

**Table 10: Mean (SE) hearing thresholds (3, 4 and 6 KHz) among professional pepper grinders (n = 136)**

Type of pepper grounded	Right Ear				Left Ear			
	3 kHz	4 kHz	6 kHz	Average	3 kHz	4kHz	6kHz	Average
Wet only	34.12	33.77	44.12	37.34	31.69	30.54	41.55	34.60
Standard Error	(1.76)	(1.82)	(2.18)	(1.82)	(1.65)	(1.67)	(1.96)	(164)
Dry Only	38.38	37.35	43.09	39.61	38.53	38.09	45.74	40.70
Standard Error	2.73	3.05	3.27	2.84	2.57	2.86	3.76	2.89
Wet and Dry	35.7	36.96	45.54	39.41	33.75	36.07	45.00	38.27
Standard Error	3.77	4.13	4.13	3.83	3.21	3.64	3.47	2.26

Difference between wet and dry: right ear - p = 0.448; left ear – p =0.045



## **Subjective Tinnitus and Its Association with Use of Ear Phones among Students of College of Medicine, University Of Lagos<sup>61</sup> (2012)**

Noise can arise from variety of occupational and recreational sources causing tinnitus, hearing loss and hyperacusis. The use of different types of ear phones for entertainment has become common and fashionable among our youths. We studied the prevalence of the use of ear phones for entertainment and the relationship between usage and subjective tinnitus among the students in the university. A total of 388 participants were studied. The prevalence of ear phone use was 96% and that of tinnitus was 21%. Among those that had tinnitus 94% were ear phone users. 20% of the ear phone users and 29.4% of the non-ear phone users had tinnitus. Tinnitus was commonest in students that used both ear insert phone and head set (33 %,) though those that used ear insert recorded higher tinnitus level prevalence than those that used only head set. 55% listened to personal stereo player (PSPs) with the ear phones at subjective sound level of talking, 23% at shouting level and 6% at car horn level. 19%, 21% and 23% of each group respectively had tinnitus. 92% used ear phones for 1-6hrs/day while 61% had used it for <1-3hours/day. 91% had used earphones for 1-6years while 60% had used it for 1-3years. There was no statistical association between the duration of ear phone use in hours and the prevalence of tinnitus. This finding lies within the limits of global prevalence of tinnitus among adults population of 10-33%<sup>62</sup>

There was no statistical association between the duration of ear phone use in hours, type of ear phones and the prevalence of ringing noise in the ear (tinnitus) at subjective loudness level of normal talking 60dB SPL, this listening pattern being below **85dB/8hrs per day** explains why tinnitus was not reported more by ear phone users. This work confirmed that there is no truth in the purported hearing loss being reported by customer care executives of telecommunication companies.

## **Post –Irradiation Hearing Loss in Head and Neck Patients in Lagos<sup>63</sup> (1998-2001)**

A prospective study was conducted in Lagos University Teaching hospital on severity and type of hearing loss on Head and Neck Cancer patients treated with external radiation beam of 45-55Gy in twenty to twenty five weeks of treatment. Patients had pre irradiation and post irradiation audiogram at 3weeks, 8weeks and 6months and results were compared. Tumour site distribution showed 20% in Nasopharynx, 25% in larynx, 15% in the Nose, and paranaasal sinuses, 10% in the parotid, 5% in the Ear and 7.5% in the oral cavity and mandible respectively. Pre radiation hearing assessment revealed 78% with normal hearing, 10% with mild SNHL, and 7% with mild to moderate conductive hearing loss. Final post radiation hearing assessment after 6months revealed normal hearing in 80%, 14% with mild SNHL and 3% with moderate SNHL, 1% with conductive hearing loss and 3% with mixed hearing loss. Negative effects of radiotherapy in the ear were seen in 6% mainly in mandibular, parotid and ear tumours. We concluded that external beam irradiation could have a significant effect on Hearing and Neck patients irradiated for cancers hence pre-treatment and post treatment audiological assessment should be an integral part of pre-therapy evaluation for medico-legal reasons.

## **INNER EAR DISEASE**

### **VESTIBULAR DISORDER (DIZZINESS) (2007-2009)**

**Vestibular disorders among adults in a tertiary hospital in Lagos Nigeria.**<sup>64</sup> Dizziness are not uncommon complaint in ENT Clinics. To a large number of practitioners, the treatment of dizziness remains the same irrespective of the etiology that is anti- vertiginous drugs. The study was conducted in Otorhinolaryngology and Orthopaedic Clinics of Lagos University Teaching Hospital Lagos and Nigeria Army Audiological Centre, 68 Nigerian Army Reference Hospital Yaba Lagos Nigeria. All the adults referred to Audiology clinic had detailed clinical and neuro-otological examination done.

Clinical diagnoses were made on standardised criteria. The patients had audiological, vestibular (videonystagmography

(VNG) evaluation using infra-red system, and radiological examination. (X-ray cervical spine or CT scan of the brain and internal acoustic meatus when indicated)

A total of 102 patients were seen, 29% recorded their duration of dizzy spell in seconds, 68% recorded within minutes to hour and 3% with no definite pattern. Caloric test, a vestibular subtests of VNG was abnormal in 46%, while with the oculomotor subsets, smooth pursuit tests was abnormal in 7%, saccade tests was abnormal in 8% and OPK abnormal in 9%. Peripheral vestibular disorders constituted about 95% of dizziness of which Benign Paroxysmal Positional Vertigo (BPPV), Meniere's and recurrent vestibulopathy were the commonest while Central vertigo accounted for 5%. The severity of most of the documented peripheral vestibular disorder seems to be mild, 87% of functional scale described the attacks as having no effect on activity while other admitted they stop during the attack with no change thereafter. The severity and the disability from the attacks form the basis for invasive or surgical intervention. This is at variance with reports from Europe and North America which indicated surgical treatment options for treatment of peripheral vestibular disease in 10% of Meniere's disease <sup>65</sup> and we noted Meniere's disease have a better prognosis with medical treatment among our patients compared to Caucasians.

## **THE BURDEN AND THE CHALLENGES OF MANAGEMENT OF CANCERS OF THE HEAD AND NECK**

The burden of managing head and neck cancer (HNC) is enormous. Annually, more than 10 million persons are diagnosed with cancer.<sup>66</sup> More than half of these persons are in the developing world. The World Health Organisation (WHO) estimates that 12.5% of all deaths worldwide are due to cancer. This is greater than HIV/AIDS, malaria and tuberculosis combined.<sup>67</sup>

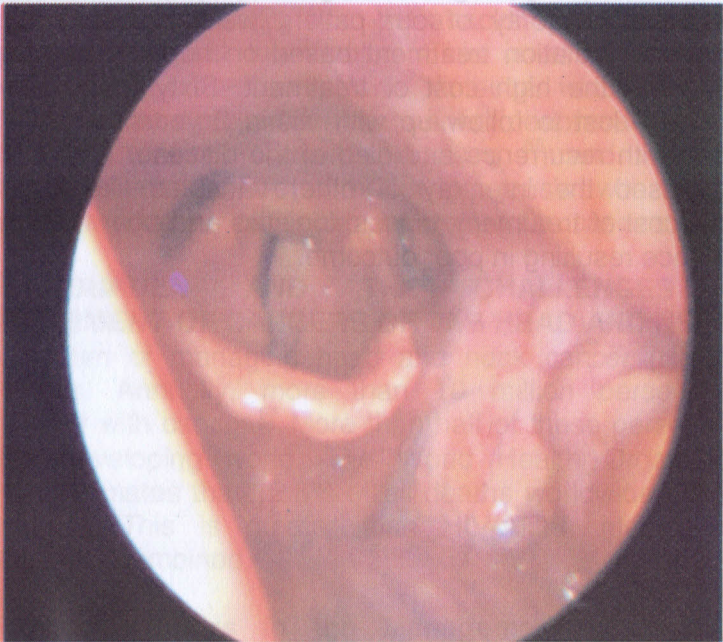
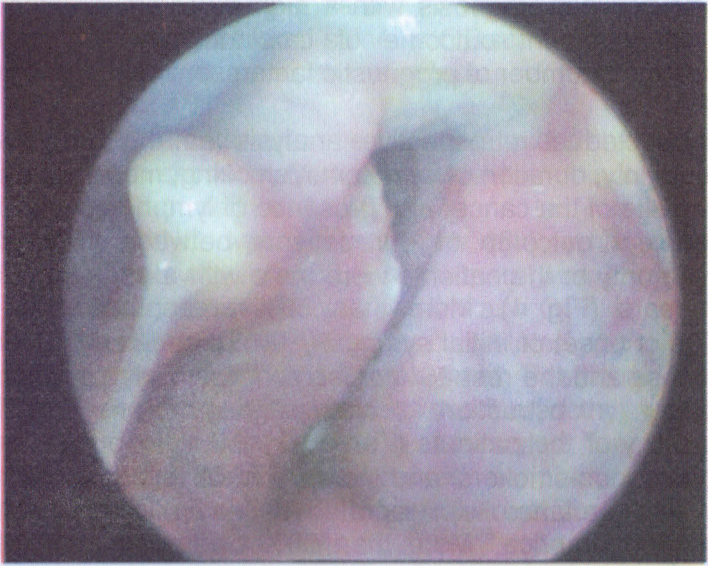
## **Prognostic Factors in the Management Outcome of Carcinoma of the Larynx <sup>68</sup> (1996-1999)**

Carcinoma of the larynx is an uncommon disease. It is the second commonest cancer in ENT Clinic LUTH. This cancer



has a favourable prognosis with a high cure rate if detected early. Management outcome of carcinoma of the larynx depends on a number of prognostic factors.

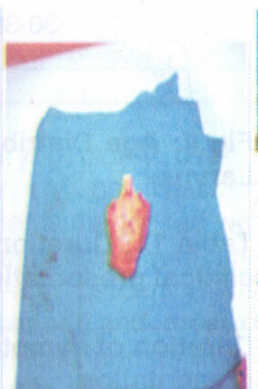
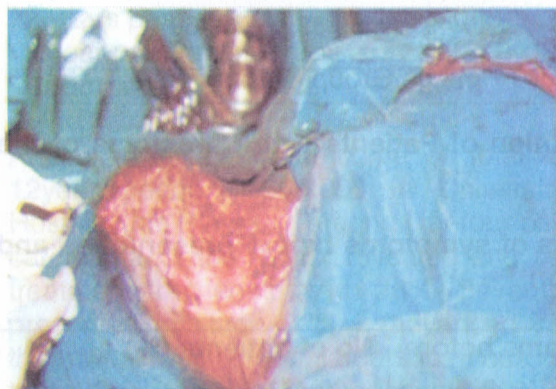
We conducted a retrospective analysis on the prognostic factors mainly, duration of symptoms, smoking, medical status, size and site of the cancer and presence of lymph nodes in the management outcome of our patients between 1996 and 1999. Majority of the patients were male with a peak between 50-59 years (**Fig 4**). More than 50% presented within 3-6 months of onset of initial symptom, 14% presented with only hoarseness and the rest 86% presented with varied degree of respiratory obstruction necessitating pre-treatment tracheotomy of the patients (**Table 11**). Many of our patients 86% were non-smokers and non (Alcohol) spirit consumer which is at variance with reported series in literature from Europe and America.<sup>69</sup> More than 58% of the tumours were glottic in site presenting in stage 3 (T3) and were well differentiated. Majority of our patient were biased against surgery and radiation treatment based on hearsay and they grapple with the high cost of treatment. Sixty four percent (64%) were lost to follow up with within 2 years while 17% reported with recurrence and died of the disease. (**Table 12**) We stressed the interplay of other variables like tumour biology, cost of treatment, biases, logistics and poor follow up compliance resulting in poor outcome.



**ADVANCED VOCAL CORD CANCER SEEN THROUGH A VIDEO -ENDOSCOPY**



**TRACHEOSTOMISED ADVANCED LARYNGEAL CANCER PATIENT**



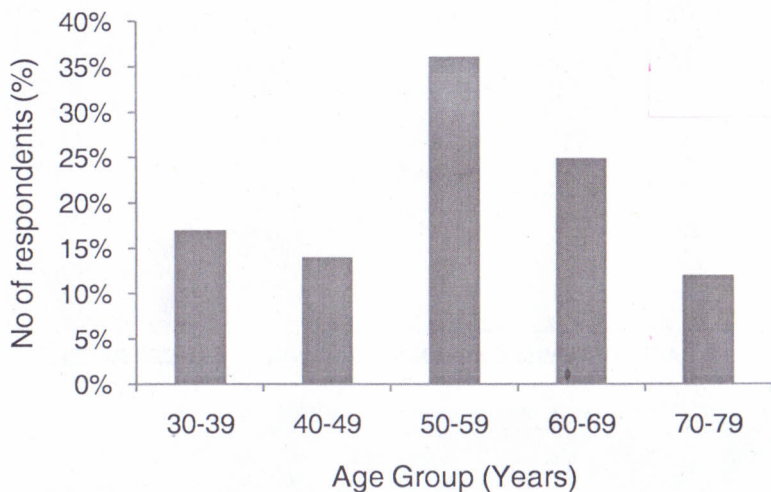
**TOTAL LARYNGECTOMY**

**EXCISED LARYNX**



**POST LARYNGECTOMISED PATIENT**





**Fig 4: Age Distribution of Patients with Carcinoma of the Larynx**

**Table 11: Durations of symptoms before presentation and clinical presentation**

Duration of symptoms before presentation	No of patients (%)
3 – 6 months	(58.3)
7-12 months	(33.3)
2 years	(8.3)
<b>Clinical Presentation</b>	
Hoarseness	(13.88)
Mild/Moderate stridor/	(47.22)
Hoarseness	(38.8)
Respiratory obstruction/	
Severe stridor	

**Table 12: Follow-up/Recurrent/Survival of Laryngeal Carcinoma Patient**

<b>Follow-Up</b>	<b>No of Patients (%)</b>
Lost < 1 year	(11.1)
Lost > 1 year	(36.2)
Lost > 2 years	(16.7)
Death – 1 year after treatment	(11.1) (5.6)
Death – 2 years after treatment	(5.6)
Death unrelated to carcinoma	
<b>Alive/Free of Disease</b>	
4 years post radiotherapy	(2.8)
2 years post-surgery	(2.8)
1 year post radiotherapy	(8.3)
<b>Reported Recurrence</b>	16.7)

A similar review of outcome of total laryngectomy over a 12year period 1986-1998 in University of Jos Teaching Hospital Jos Plateau<sup>70</sup> among fifty-four patients diagnosed with carcinoma of the larynx revealed late presentation with pre-treatment tracheostomy in 26%. Seventy-four percent (74%) presented in stage 3 & 4 (advanced disease) and most of them were well differentiated squamous cell carcinoma. Thirty-two (32%) had total laryngectomy, 20% were inoperable and 48% refused surgery. Nine months post-surgery 47% had tumour recurrence. Outcome of total laryngectomy without adjunct radiotherapy was unsatisfactory in the management of advanced carcinoma of the larynx due to late presentation.

### **Ophthalmological complications of nasal/paranasal sinus diseases Head/neck tumours<sup>71</sup> (2003-2005)**

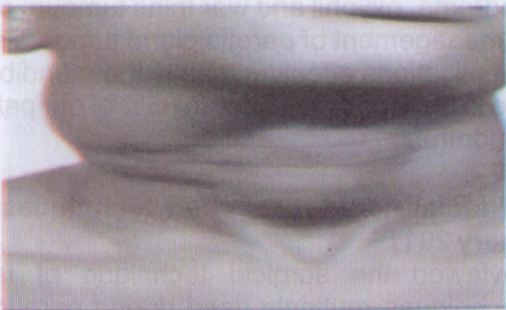
The proximity of the eye to the nose, paranasal sinuses and skull base makes it vulnerable to be involved in diseases in this adjoining area. We studied a total of 229 patients over a three year period (2003-2005) in a collaborative study looking at ophthalmological complications arising from nose, paranasal and head and neck tumours. Eighty-eight percent (88%) presented primarily to ENT surgeons while 12%

presented to ophthalmologists. Otolaryngological diagnoses were: sinusitis 75%, nasal polyposis 12%, nasopharyngeal carcinoma 10%, maxillary carcinoma 2.3%, nasoethmoidal carcinoma 0.9%, and frontoethmoidal carcinoma 0.4%. The ENT related ophthalmological complications were seen in 8% which included, proptosis, proptosis/ restrictive myopathy, visual loss and enophthalmus which is still a significant health problem of late presentation. While 39% had non-ENT related ophthalmological complications like vernal conjunctivitis, kerato conjunctivitis, refractive error, cataract, bilateral maculopathy and physiological cupping. Rhinosinusitis though increasing in prevalence has resulted in less complication as previously documented decades ago in Nigeria due to predominant allergic type with fewer complications and also due to the availability and access to antibiotics and anti-allergic drugs.

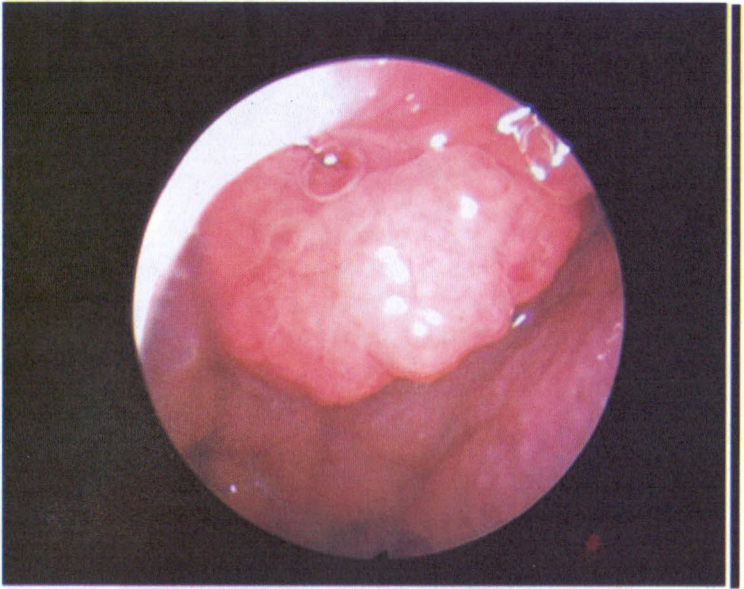
### **Malignant Tumour of Nasopharynx<sup>72</sup>**

We reviewed fifty five (55) patients seen over a ten year period (1988-1998) in Jos Plateau for epidemiological factors, clinical presentation and treatment outcome. Most of the documented aetiological factors with Nasopharyngeal tumours in literature like smoking, alcohol, un-gutted salted fish were absent in this series, with most of the patients presenting late. Seventy one percent (71%) presented with neck swelling, 42% with nasal mass, 35% with epistaxis (nasal bleeding) and 26% with pharyngeal mass. Treatment and follow-up were unsatisfactory as patients could not afford the cost of radiotherapy and anti-cancer drugs.





**ADVANCED NASO-PHARYNGEAL CANCER PATIENT**



**NASOPHARYNGEAL TUMOUR SEEN THROUGH VIDEO - ENDOSCOPY**

### **Surgery of Parotid gland Tumours<sup>73</sup> (1994-2005)**

Tumours of the parotid gland are not common. We reported our experience on the presentation and the management of parotid gland tumours seen in LUTH over a period of twelve years 1994-2005.<sup>72</sup> A total of 58 patients were seen, 72% presented as pre-auricular swelling, 1.7% as dumb-bell and post- surgical recurrence tumour respectively, 6.8% as tail of parotid tumour and 3.5% as bilateral disease. Sixty-five percent (65%) were pleomorphic adenoma, 21% carcinoma 3% lymphoma and 2% Sjogrens syndrome, oxyphil and war thins tumours respectively. Our surgical management of parotid gland tumours showed few operative complications affecting mainly the mandibular branch of facial nerve in 69%, with recovery in 65% of our patients within 3months – 9months.

### **A survey of facial nerve dissection techniques in benign parotid surgery 2011<sup>74</sup>**

We also reviewed the surgical technique of facial nerve dissection techniques routinely used during parotidectomy for benign parotid tumours<sup>74</sup> by Nigerian Oral and Maxillofacial

(OMF) and Ear, Nose, and Throat Surgeons. About half (47.5%) of the surgeons routinely used the ante grade technique, while only a few (12.5%) used the retrograde technique. A large of them (40%), however used a combination of ante grade and retrograde routinely. The use of peri-operative facial nerve monitoring devices is an uncommon practice amongst OMF and ENT Surgeons in Nigeria.

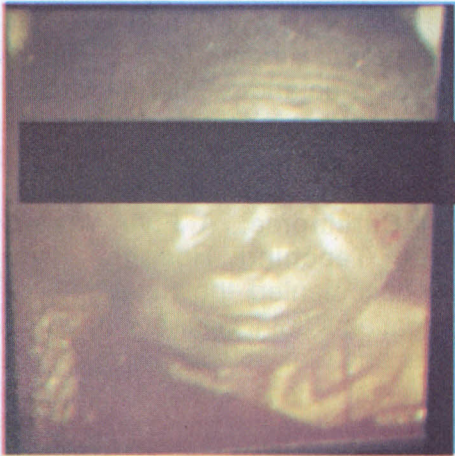
**Maxillary Antral Carcinoma: A Five Year Study at the Lagos University Teaching Hospital Lagos Nigeria<sup>75</sup>.** (1993-1997) We documented the management problems of (38) thirty-eight patients with Maxillary Antral Carcinoma co-managed with Oral and Maxillofacial Surgeon over a five year period. More than half presented with late features, mainly facial swelling (60%), orbital swelling 27%, nasal obstruction 42% and gingiva-palatal swelling 37%. We documented poor treatment outcome with palliative surgery, chemotherapy and radiotherapy **Table 13** with attendance poor follow-up.

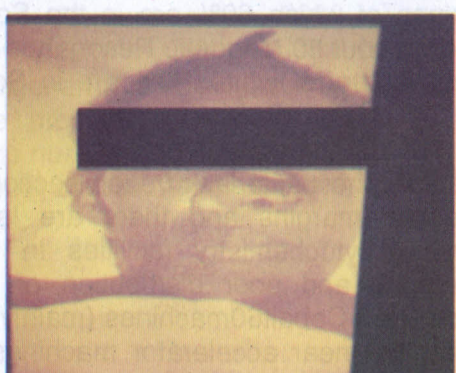
**Table 13: Treatment Modalities.**

Treatment Offered	No of Patients	(%)
Surgery followed by radiotherapy		
Hemi maxillectomy + XRT	26	68.2
Hemi maxillectomy + Orbital exenteration + XRT	4	0.52
Radiotherapy alone	3	7.89
Radiotherapy + Chemotherapy	2	5.26
No treatment	3	7.89



ADVANCED NASO ANTRAL CARCINOMA PATIENTS





**ADVANCED NASO ANTRAL CARCINOMA PATIENTS**

## **Current evidence on the Burden of Head and Neck cancer in Nigeria<sup>76</sup> (2009)**

Nasopharyngeal cancer is the commonest cancer in the Ear Nose Throat region in Nigeria followed by Naso-antral carcinoma and Carcinoma of the larynx is the third commonest cancer in this country<sup>74</sup>. Most of the well-known risk factors were absent in many of our patients, like alcohol, smoking and un-gutted salted fish.

We identified various factors as challenges resulting in poor outcome of management of Head & Neck cancers in Nigeria. These are:

- Patient factors;
- Diagnostic factors; and
- Treatment factors.

Late hospital presentation (stage 3 & 4) was common in 80% of our patients with associated poor medical status, poor motivation; cultural, religious beliefs and pre-hospital patronage of traditional medicine practitioners. Many are unwilling to accept surgery at first presentation until when they are fully compromised with the disease.

There is lack of modern, clinical and diagnostic equipment, endoscopes, consoles and operating microscopes. There is inadequate and poor distribution of Computerise Tomogram (CT) scan machines across the country. We have about 100 CT scan machines of which 60% are in the South West of Nigeria. There are about 50 Magnetic Resonance Image (MRI) machines in the country of which 70% are in South West of Nigeria.

Most of our teaching hospitals lack frozen section facilities to determine resection margins and there are less than six centres for immunocytochemistry facilities in the country. There is inadequate and poor distribution of radiotherapy machines. There are 3 Cobalt60 machines (mainly in the South West of Nigeria), 5 Linear accelerator machines across the country.



There is low specialist manpower across the country. As of 2015, we have less than 300 Ear, Nose and Throat Head/Neck surgeons in Nigeria, with about 350 radiologists, less than 100 pathologists and less than 30 radiation oncologists with less than ten radiotherapy centres in Nigeria. In addition, there are fewer than 50 practicing Oral and Maxillofacial Surgeons in this country.

All these are insufficient for Nigeria's population. There is lack of multidisciplinary cancer units or tumour board. The chemotherapeutic drugs are scarce and expensive. Ladies and Gentlemen all these challenges lead to poor outcome.

### **CONTRIBUTIONS TO UNDERGRADUATE AND POST GRADUATE MEDICAL TRAINING IN NIGERIA**

I have been dutifully engaged in the training of medical students and also learning from my students for the past 18yrs; I am an eternal student.

I was involved with mentorship of 14 postgraduate Medical Doctors, in the fellowship programme of both NPMCN and WACS of which five were along my focus of research in **Otology**.

I have been saddled with the responsibility of coordinating and instructing in simulation training for surgical skills acquisition in Temporal bone (Ear) surgery since 2005 and Endoscopic Sinus (Nose) Surgery since 2008. These courses are organised by faculty of ORL National post graduate Medical College of Nigeria for resident Doctors across the country. The courses are presently domiciled in LUTH, giving me the opportunity to nurture about 460 postgraduate medical doctors till date on both courses; some of them are back as instructors on the course.

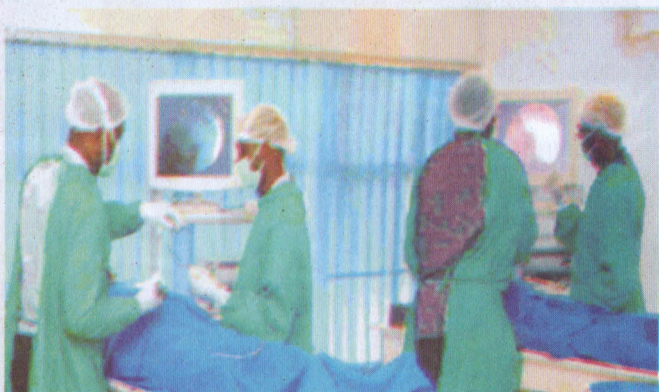


**POSTGRADUATE MEDICAL DOCTORS PERFORMING EAR SURGERY IN THE TEMPORAL BONE LABORATORY**



**POSTGRADUATE MEDICAL DOCTORS PERFORMING EAR SURGERY IN THE TEMPORAL BONE LABORATORY**





POSTGRADUATE MEDICAL DOCTORS PERFORMING ENDOSCOPIC SINUS SURGERY IN THE SURGICAL SKILL LABORATORY



**DR. SOMEFUN INSTRUCTING A POST GRADUATE DOCTOR IN  
ENDOSCOPIC SINUS SURGERY**

Mr. Vice Chancellor Sir, I will like to share with this assembly an extract of my correspondence with one of my Mentors, Professor Peter W. Alberti and his comments on mentorship, postgraduate medical training and my work on Hearing impairment before I conclude this lecture.

Sent from Samsung Mobile

----- Original message -----Subject: Re: Happy New Year  
and Thank you

**Dear Prof. Somefun,**

*Congratulations on your successful career and in particular on your chair and work with postgraduates. This I have always found to be most rewarding if not always acknowledged. I remember almost 60 years ago asking my surgical hero, the professor of surgery in Newcastle who had just become Dean of Medicine why he did this and denied many patients his obvious skill as a surgeon. His response was that as Dean of Medicine, he influenced the patients of 70 graduates each year rather than just selfishly looking after his own. You clearly are built in the same mould.*



*As a postgraduate fellow/PhD student at Washington University St. Louis, I was enormously impressed by the formal training program for the residents, with lectures of some sort every evening, often by the very top surgeons. I was introduced to formal temporal bone drilling and taught head and neck anatomy to the residents. This was so different from what I had experienced in the UK where training was an apprenticeship, follow a senior surgeon around and emulate him as well as one could. It worked but it was lengthy and not as comprehensive as my American experience.*

*I was very impressed by your work with the National hearing survey in Nigeria some years ago now. I think it was an important and worthwhile venture because so little was known about the causes and prevalence of hearing loss in central Africa, nor indeed in virtually any tropical countries. I am not sure whether Dr Bu Xingkuan from Nanjing China was in the department at the same time as you – he was a senior fellow working part time with me. He too has gone from strength to strength and undertook a major hearing prevalence survey in China which has also added significantly to the accuracy of world figures. Your two surveys are most important; He became chairman of the Chinese medical Association audiology section and as such wielded significant influence in the country.*

*I have lost touch with Prof. Okeowo; I hope he is well. If you see him, please give him my regards.*

*Again with heartiest congratulations,*

**Peter Alberti**

## **CONCLUSION**

Ladies and Gentlemen for the past few minutes, I have been talking about the challenges, the future and the triumph of man as regards diseases in the Ear Nose and Throat and Head and Neck region using the currency of language. Pains know no language; diagnosis and finding treatment do not isolate any border. We as a people must take our destiny into our hands to improve on our University Medical workshop (LUTH) and our Health Care System. Prevention, early detection and intervention will solve 60-80% of causes of the medical problems mentioned (Ear diseases, hearing impairment and Cancers) here today

**THE WAY FORWARD:** Our current research focus is a multicentre study in six zones of Nigeria on the role of Epstein Barr Virus and Human Papilloma Virus in the causation of



common Cancers in ENT areas in Nigeria and Candidate gene analysis on Hearing impairment and gene analysis on the identified common Head and Neck Cancers.

## RECOMMENDATIONS

### GOVERNMENT

Government to make policies that will have impact on the people affected with disabling hearing impairment and cancers: make new-born hearing screening a national policy within our healthcare system, make hearing Aids, and cancer drugs affordable.

### INDIVIDUAL, PRIVATE COMPANIES AND GOVERNMENT:

We must encourage individuals, private companies and government to give more support (**infrastructures**) to people living with disabling hearing impairment and cancers, build more hospices, which care for and support people living with cancer and advanced diseases.

### UNIVERSITY:

University should be encouraged to make provision for special education support programme for persons with hearing impairment during University public lectures, ceremonies and in lecture Halls.

The University should include hearing screening as part of the Annual medical Check-up at the Medical Centre for Academics. It is my wish that the University take a second look at the audiology/speech curriculum submitted few years ago in order to start a training programme in clinical audiology and speech therapy. The teachers of the deaf and graduates of special education have over the years filled the gap. There is no Clinical training in this area in Nigeria. It is my wish that the University build an **AUDIOLOGICAL CENTRE** within College of Medicine, there is a donor who promised **to equip and maintain for ten years if University yield to our prayer.** There is no teaching hospital of any University in Nigeria as of today where a full range of hearing and vestibular evaluation can be done.

## **HEALTH PROFESSIONALS:**

We must improve on our clinical services for Ear care, Cancer prevention, early detection, diagnosis and treatment especially at primary health care centres.

**TASK SHIFTING:** We need to train Community Health Extension Workers (**CHEWS**) at primary health care centre about Ear care and warning signs of ENT cancers.

## **PUBLIC:**

We need to increase our level of action on advocacy on Ear care and Head and Neck Cancer (HNC). We need to create awareness among the populace through information dissemination, health education, cancer outreach services and increase cancer prevention initiatives.

## ACKNOWLEDGMENTS:

Today, I wear the emblem of the University of Lagos as a lecturer; I have been on this soil using the resources of this University for teaching learning and research for all that its worth for my self-esteem, self-worth, sense of achievement and confidence in my professional role.

Mr. Vice Chancellor Sir, with all sense of humility, I can say I have a rewarding career in Medicine and in academia. I am eternally grateful to the University of Lagos that bestowed on me the appointment of a Professor of Surgery three years ago. I am grateful also to the Provost and the entire staff of College of Medicine, the Chief Medical Director and the entire staff of Lagos University Teaching Hospital. I am also grateful to the Foundation Fellows, First Generation Fellows and other members of ORL faculty, and National Post Graduate Medical College of Nigeria that I have served for 15 years up to date.

Permit me to use the Cross as a symbol of my acknowledgment. Each part of this cross represents those men and women that have supported me through my academic and professional sojourn.

The upper part of the cross represents those men that mentored me and with them I have spent short but memorable rewarding time, my sincere gratitude to **my teachers and mentors**. Let us praise illustrious men. Many are alive but retired, while others are still active, some have gone home to reside in the Great Ocean of love and Mercy. Today let me celebrate them at this assembly. The Perfect potter has created an abundance of glory and displayed his greatness from earliest times. Some wielded authorities like Kings and were known for their strength. Others were intelligent advisers and they utter prophecies. Others directed by their advice and words of teaching.

Mentors in my professional and academic career: Dr. Isola Abudu, Dr. J. O. Olabisi, Dr. Nelson Daniel (late), Prof. P.A. Okeowo, Prof. G.O.A. Sowemimo, Prof. B. Akande, Prof. Peter W. Alberti, Prof. Patrick Gullane, Chief A. Akibola (late), Prof.



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The lower part of the Cross which is firmly rooted in the soil represents numerous medical students and postgraduate students over 18years who continue to inspire me reminding me that I am an eternal student.

The central part of the Cross is the connecting point or the epicenter of all the joints. Here lies my departed parents, my family, siblings, Somefun and Adeogun families, my in-laws and friends.

My departed father Mr. OLUWOLE SOMEFUN once told me 'every man is a child twice in his life at the beginning and later in his life'; at eighty-five his steps became slow. He walked me to school at age six via the rail track and told me take bold

steps each time on the track so that I can get to school early and get back home faster. I went to this place of memory with my two sons hoping they will be able to take a similar bold step on the rail-track just as I did many years back, after telling them the story of my early life.

My sons (Aramide and Ajijola) after trying their feet on the track, asked me, where are the trains? I replied, "Once upon a time in a far country called Nigeria". We visited the signal cabin, the communication canopy of every railway station, we met it abandoned and desolate, now communication was replaced with mobile phone.

My daughter (Mojinoluwa) (Sisi mi) does sing for me "All things bright and beautiful, all creatures great and small," and I will interject, "we kill them all in Nigeria," only for her to reply, "Daddy you are wrong that is not what my teacher said." Maybe I am wrong, just like my daughter said. Let me indulge myself in the innocence and purity of her age and be hopeful of a better Country.

My departed mother MODUPEOLA SOMEFUN, daughter of an Anglican priest and headmaster, she was a school teacher and later a trader. I say "PRAISE TO MUM".

Dr. Oluwatosin Somefun, (Sisi) a public health physician in her own right, my treasure, my friend, confidant and beautiful wife. I thank you for your love, support, patience, endurance and steadfastness with me on this journey. Let me subsume it all in the lyrics of the song titled "iyawo mi" by Timi Dakolo

Like an angel in the morning, shooting  
star across the night.  
The most beautiful Sisi I've ever seen  
in all my life --- -----

Sisi commit all these to perpetual memory in the firm belief and unwavering faith that I am yours forever. Thank you for travelling with me.

My siblings: Omotayo, Oladunni, Babatunde, Adeola, Akinyemi and their spouses. The Somefun family from Ikija Oke-Ona descendants of Efunsiem, daughter of Lisa of Ikereku in Abeokuta led by my Uncle Abolomope and the Adeogun family from Keesi town Egba Alake led by my Uncle Adebowale, I appreciate you all.

My in-laws, the Esan Ayungunmaru from Ikoro Ekiti, and the Otubushin family from Ijebu Ode I salute you all.

I acknowledge you Tokunbo Talabi my childhood friend, today I look back on our journey and say it is well; Jide Ogundana, my learned friend and the living library; Yomi Disu I salute you and other great friends here present.

Friends in the medical industry here present you supported our courses in the past: from Mobil House, Freeman House, NNPC, First Consultant Hospital, Grafils medical and Reddington hospital. All Souls Anglican Church Ilupeju members and my neighbours here present I thank you all.

Mr. Vice chancellor sir, for my confession today in your mercy grant me forgiveness, for my conventions cutting through the golden wisdom of my mentors, in your mercy grant me forgiveness. For my convictions from my research findings, Mr. Vice Chancellor sir, I have no apology to render.

Mr. Vice Chancellor Sir, despite the trials on this journey from the beginning of my life just as my name connotes "ABAYOMI", the Grace and Mercy of God have shown so many times in my life, and I am bound to be grateful to GOD. Sometimes I find solace in the song of the ship wrecked sailor, "The Amazing grace":

'Through many danger, toils and snares,  
I have already come;

'Tis Grace hath brought me safe thus far,  
And Grace will lead me home.

Ladies and Gentlemen, I am done with my academic offering and prayers; I will lay them before my Vice Chancellor for his blessings. Let every master builder be careful how he builds on the blocks. My tale is done.



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