

**CHOOSE YOUR MOTHER
RIGHT AND LIVE**

AN INAUGURAL LECTURE, 2009

By

KIKELOMO O. OSINUSI

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CHOOSE YOUR MOTHER RIGHT AND LIVE

***An Inaugural Lecture delivered
at the University of Ibadan***

on Thursday, 11th March, 2010

by

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The Vice-Chancellor, Deputy Vice-Chancellor (Administration), Deputy Vice-Chancellor (Academic), Registrar, Librarian, Provost of the College of Medicine, Dean of the Faculty of Clinical Sciences, Dean of the Post-graduate School, Deans of other Faculties, and of Students, Distinguished Ladies and Gentlemen.

Introduction

It is indeed an honour for me and a great pleasure to deliver the 4th in the series of inaugural lectures for the 2009/2010 academic session on behalf of the Faculty of Clinical Sciences of the College of Medicine of this great University. I wish to thank the Dean of the Faculty of Clinical Sciences, Professor O. O. Oluwatosin and all the members of the Faculty for selecting the Department of Paediatrics as the source of this year's inaugural lecture.

The Department of Paediatrics started as a subspecialty in the Department of Internal Medicine at the inception of the University in 1948 and only attained the status of a full academic department in 1962. The first professor and head was Professor R. G. Hendrickse who left in 1969 to join the Liverpool School of Tropical Medicine where he became Director of the Tropical Child Health Programme. He was succeeded by the first indigenous Head of Department, Professor A. U. Antia, a distinguished scholar who piloted the affairs of the Department till 1977. The Department has grown tremendously, maintained a position of leadership in the country and is an acknowledged training ground for the academic staff of Departments of Paediatrics and Child Health of other Universities in Nigeria and beyond.

This is the 4th inaugural lecture from the Department of Paediatrics. The honour of delivering the first lecture goes to Professor J. B. Familusi in 1978; the title was "Children, Viruses: Problems and Promises."

The second was delivered by Professor Femi Jaiyesimi in 1986; the title was "Cruelty to Children by Nature and by Man". The third was by Professor O. O. Sodeinde in 1999; and it was titled "Students and Teachers: A Celebration". I stand before you today humbled by the fact that I am the first female occupant of an academic chair of Paediatrics of this great University and the first female to give an inaugural lecture from the Department.

Why did I choose the specialty of Paediatrics? Some of my friends have suggested that I chose Paediatrics so that I could continue the work started by my husband who is an Obstetrician and Gynaecologist, that is, take care of the children delivered by him. Although, that sounds like a nice romantic but also pragmatic reason, I am afraid that is not the reason. Another reason was suggested by a 6-year old patient of mine who also happened to be the daughter of a colleague. After I had finished seeing her in my office in 1987, she wanted to know if I chose to be a children's doctor to avoid reading the big books required to be a doctor of adults. "No" I replied, "in fact, the books I need to read to be a children's doctor are also big." "Why then?" she insisted. My answer was simple; "Because I love the smile of a sick child who has been made better by treatment." She was very pleasantly surprised. On her next visit, she brought me one of her toys as a present. It still stands in my office today, twenty three years later. Indeed that is my reason for choosing paediatrics.



Fig. 1. Gift from a patient 23 years ago

Children are the most sincere, unpretentious human beings. When they are ill, you will know that they are ill; when they are better, they will leave you in no doubt; they will begin to smile, chat and run around, no pretences, no exaggerations and no malingering. Indeed, what could possibly be more gratifying than the broad smile of a little child recovering from an illness?



Fig. 2. The smile of a child recovering from an illness

My interest in Paediatrics started during my penultimate year in the medical school when I had my rotation through the Department of Paediatrics. I was particularly struck by the diligence of the resident doctors working in the Children's Emergency Room, which by the way, was a mad house. Children were rushed in by screaming parents, either convulsing or almost dead. The doctors worked doggedly setting one intravenous infusion after the other, carrying out various procedures and pulling those children literally out of the jaws of death. Although many of the children still died because they came very late, the doctors were undaunted. Those who got well made their efforts worthwhile. I decided that looking after those children was rewarding in a special way and I decided to pitch my tent with Paediatricians. After graduation, I went to Glasgow where I had my internship and my resolve to pursue Paediatrics was stronger. Although the terrain was different and paediatric problems were different, the practice was rewarding to me all the same.

In December 1973, while still in Glasgow, I applied for a Senior House Officer's position in Paediatrics at the University College Hospital (UCH), Ibadan in response to a newspaper advertisement

sent to me by a friend, Dr Adewale Laditan from Nigeria. I got a response directing me to go to the office of the Crown Agent in London for an interview. I did and I got the job. In March 1974, I returned to Nigeria and I started the job. To my utter amazement, several people tried to discourage me from taking up the position; their reason, "Paediatrics is too rigorous for a woman, you cannot cope with it and look after your family; those who tried it before you had to leave." I know that they meant well but I was determined to stay. I am glad that I did; if I did not, it would have been a matter for regret.

Today, things have changed. Paediatrics has gone from being a no go area for women to an area where men are gradually becoming an endangered species. Women constitute about 50% of the paediatric resident doctors as well as academic staff, not only in Ibadan but in most Departments of Paediatrics across the country (see fig. 3).



Fig. 3. Consultants and resident staff, Department of Paediatrics COMUI/UCH

Health Status of Nigerian Children

The title of my lecture is "Choose Your Mother Right and Live", an intriguing title, I dare say. It is a hypothetical answer to a hypothetical question asked by a baby. The baby, after considering

all the hazards and obstacles to child survival in Nigeria asked in desperation, "What is the single most important thing that I can do to ensure that I survive"? The answer is "Choose your mother right and live".

I shall attempt in the course of this lecture to discuss the health status of Nigerian children, placing it in the perspective of the health status of children globally and within the African continent. I will also bring to the fore the pivotal role of a mother in the survival or otherwise of the child.

The Bible in Psalm 127 verse 3 says *"Behold, children are a heritage from the Lord; the fruit of the womb is a reward. Like arrows in the hand of a warrior so are the children of one's youth. Happy is the man who has his quiver full of them. They shall not be ashamed but shall speak with their enemies in the gate"*

This is a testimony to the premium placed on children in many cultures and communities. In Africa and other developing countries, children are very much desired and are regarded as priceless jewels. The premium placed on having children however is incongruous with the efforts made to ensure their survival. Families seem very excited, in fact overjoyed with the birth of a child but do not seem to do enough to keep the child alive and in good health, as a result of ignorance, poverty or both.

Article 1 of the Convention of the Rights of the Child describes a child as a person below the age of 18 years. When issues of child survival are discussed however, the children that are particularly focussed upon are those less than 5 years of age, usually referred to as under-five children. They constitute the most vulnerable group of children.

In 1960, it was estimated that worldwide, about 20 million under-five children were dying annually. Over the 46 years between 1960 and 2006, important advances in intervention for improvement of child survival took place and these led to a decrease in the number of child deaths from 20 million to about 9.7 million annually. Remarkable reduction took place in many regions of the world, but sub-Saharan Africa and South Asia remain the most troubling geographical areas where very little reduction in child deaths has taken place.¹ Fifty percent of the 9.7 million child deaths worldwide

occur in only six countries, ² Nigeria is one of these six; in fact, Nigeria has the second highest absolute number of under-five deaths in the world (see table 1 and fig. 4).

Table 1: Six Countries Responsible for 50% of the 9.7 Million Child Deaths World-wide (2006)

Countries ranked by total of child deaths	Number of child deaths number
India	2 402 000
Nigeria	834 000
China	784 000
Pakistan	565 000
D R Congo	484 000
Ethiopia	472 000

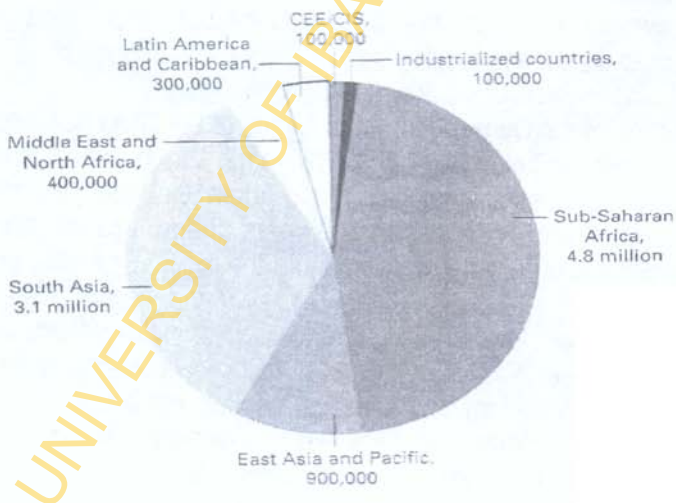


Fig. 4. Distribution of 9.7 million deaths among under-five children in 2006

(Source: UNICEF, World Health Organization, United Nations Population Division and United Nations Statistics Division.)

Child Survival Indicators

Child deaths can be categorized into three groups according to the age at which the deaths occur. The number of children who die within the first 28 days of life per 1000 live births is referred to as neonatal mortality rate; the number who die within the first year of life per 1000 live births is the infant mortality rate, while the number of children who die before the age of five years per 1000 live births is under-five mortality rate (U5MR).

These rates are sensitive indicators of a country's development and evidence of its priority and values. Unfortunately, these rates are very high in Nigeria. When ranked in descending order, Nigeria has the 12th highest under-five mortality rate out of 191 countries of the world for which data were available for ranking.^{3, 4} A comparison of the child mortality indices in Nigeria and some other countries as at 2006, is given in table 2.

Table 2: Comparative Child Mortality Indicators (2006)

Countries	Neonatal mortality rate	Infant mortality rate	Under-5 mortality rate	Under-5 mortality ranking
Sierra Leone	56	159	270	1
Liberia	66	157	235	5
Nigeria	53	99	191	12
Rwanda	45	98	160	18
Benin	38	88	148	20
Uganda	32	78	134	23
Ghana	27	76	120	32
Philippines	15	24	32	86
Jamaica	10	26	31	88
United Kingdom	4	5	6	161
Sweden	2	3	3	189

Source: Extracted from The State of the World's Children, 2008

The countries that have child mortality rates similar to, or higher than Nigeria are countries that had been at war, those currently having conflicts or those that have no natural resources.

An important effort to improve the health of children came with the Millennium Declaration in 2000. There are eight Millennium Development Goals (MDGs), most of which are child-rights focussed and development oriented. Reduction of child mortality is the focus of MDG 4 whose specific target is reduction of under-five mortality rate by two-thirds by the year 2015. Of the 191 countries for which adequate data were available, 129 are on track for achieving the MDG 4, having reduced the under-five mortality rate below 40 per 1000 live births or achieved an average annual reduction rate of 3.9% or more. Of the 46 countries in sub-Saharan Africa, only Cape Verde, Eritrea and Seychelles are on track to meet the MDG 4 and nearly half of the other countries in the region have registered either no change or only managed to reduce under-five mortality by an average annual rate of 1 percent from 1990-2006.⁵ Nigeria belongs to this latter group, making very little progress, with an U5MR of 189 per 1000 live births in 2007 and a marginal improvement over the rate of 230 per 1000 live births in 1990. This makes achievement of MDG 4 by the year 2015 very unlikely.

Causes of Death Among Under-five Children

Most of the deaths that occur in under-five children are from causes that are preventable or easily treatable.⁶ According to WHO, causes of under-five deaths globally are Neonatal causes (37%), Diarrhoea (17%), Pneumonia (19%), Malaria (8%), Measles (4%), HIV/AIDS (3%), and other conditions such as non-communicable diseases and injuries (10%).

Table 3: Major Causes of Death Among Children Under 5 Years of Age in the World, 2000-2003

Neonatal causes	37%
Diarrhoea	17%
Pneumonia	19%
Malaria	8%
Measles	4%
HIV/AIDS	3%
Others (non communicable diseases and injuries)	10%

The neonatal causes which account for 37% of all under-five deaths are birth asphyxia (26%), pre-maturity (23%), severe infections (23%), neonatal tetanus (10%), neonatal jaundice and others.

Nigeria has no reliable data on causes of under-five mortality because large proportions of child deaths are not medically attended, as a good proportion of the children become ill and die at home. Although there is legislation that all deaths in the country should be registered, most childhood deaths, for various reasons, are unregistered and causes of death outside the health facilities remain largely unknown. Hospital generated data however indicate that diarrhoeal diseases, pneumonia, malaria and vaccine-preventable diseases such as measles, tuberculosis and tetanus are the most common childhood diseases causing death among children less than 5 years old.⁷⁻¹⁰ Lately, HIV/AIDS has become a notable contributor to child mortality.

Malnutrition is very important in child survival. Although the severe forms of malnutrition have become less prevalent than in the past, the moderate and mild forms still persist; more than 50% of all childhood deaths have under-nutrition as an associated cause of death (figs. 5, 6, 7, 8 and 9).

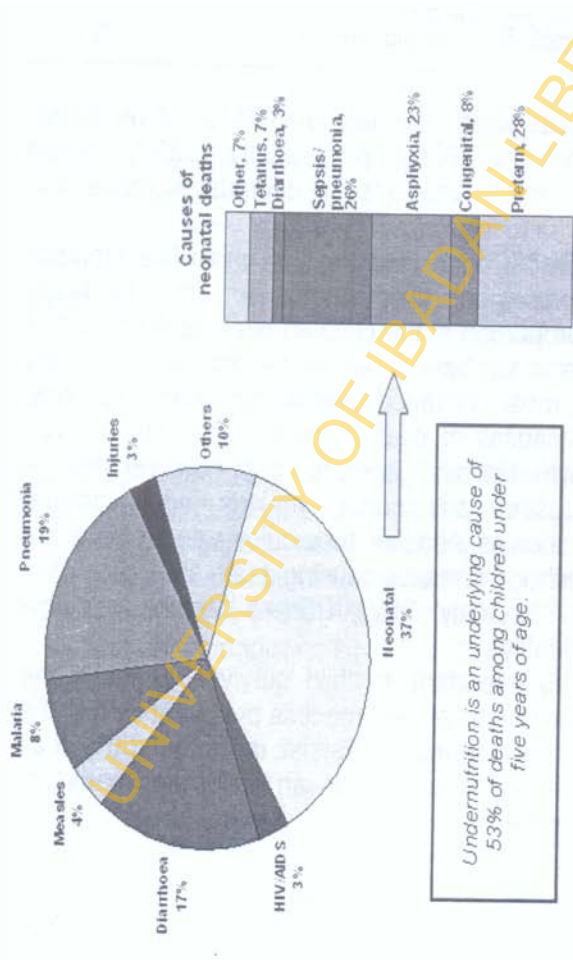


Fig. 5. Major Causes of death among children under 5 years of age and neonates in the world, 2000-2003

Source: WHO

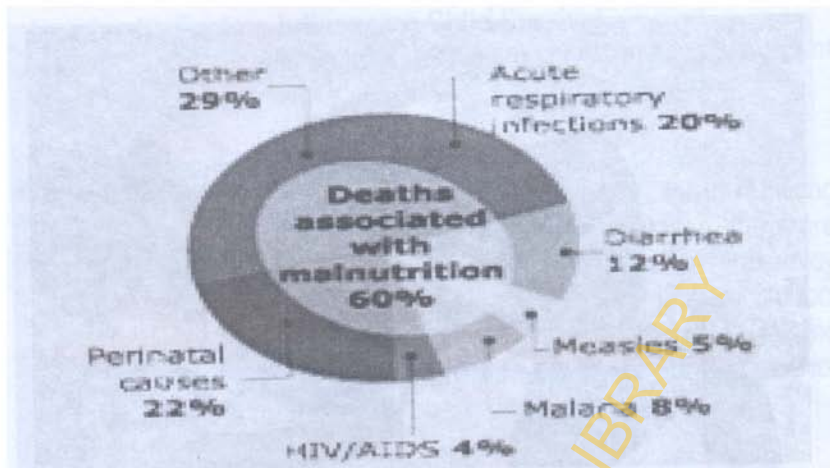


Fig. 6. Deaths among children under-five



Fig. 7. Front and back views of a severely malnourished child



Fig. 8. Another child with severe malnutrition



Fig. 9. Child with moderate malnutrition

Non-health Factors Influencing Child Survival

A number of non-health factors have been shown to have significant impact on child survival.

Women's Education

Women's education has been reported as a key factor in reducing child mortality. The higher a woman's level of education, the more likely it is that her children would be better nourished and enjoy better health. The percentage of females with primary school attendance in Nigeria is 58% compared with 66% for males; the corresponding figures for secondary school attendance are 33% for females and 38% for males.^{8, 11}

Access to Safe Water and Adequate Sanitation

Many of the diseases that cause death in children are largely related to the unavailability of safe water, unhygienic behaviour, poor sanitary facilities and poor housing conditions. It was estimated that only 48% of Nigerians have access to safe drinking water while 44% have adequate sanitary facilities.

Poverty

There is a synergistic interrelationship between poverty, ignorance, poor health, malnutrition and increased child mortality. A child born to a poor family is at risk of dying within a few days of birth or within the first month of life. If the child survives the first month of life, he is then exposed to increased risk of dying from malaria and diarrhoeal diseases due to poor living conditions, limited access to safe water, inadequate sanitation, malnutrition from household food insecurity or ignorance about good feeding practices. All these factors are further aggravated by limited access to healthcare facilities due to poor income.

Child Survival Interventions

It has been shown that over 60% of child deaths could be prevented by known simple interventions which can be implemented even in low-income countries.¹² These interventions are in two groups, preventive and treatment interventions. The preventive interventions

include antenatal supervision for pregnant women, clean delivery supervised by skilled attendants, newborn temperature control, promotion of breastfeeding, full immunization for vaccine-preventable diseases, availability of clean water, good sanitation, use of insecticide-treated bed nets and prevention of mother-to-child transmission of HIV. The treatment interventions on the other hand include prompt antibiotics for pneumonia, prompt treatment for uncomplicated malaria, oral rehydration therapy for diarrhoea, and so on. Reports from some low-income and middle-income countries over the past decades confirm the efficacy of the interventions in reducing child deaths.

In Nigeria, these interventions are available as part of a continuum of care in the Integrated Maternal, Newborn and Child Health (IMNCH) package as well as the Integrated Management of Childhood Illnesses (IMCI) but the coverage rates for many of the interventions are low, being well below 50% in most cases. Hence, the children continue to die because they have no access to the interventions. The most frequently reported barriers to access to these healthcare interventions are poor organization of the services, lack of funds, lack of means of transport and ignorance of availability of such services on the part of parents.

Government has the responsibility of providing healthcare facilities for its citizens and also has the added responsibility of ensuring equity in access to such facilities. Unfortunately, almost 50 years after independence, our government has not been able to remove this inequity. Empowerment of mothers can successfully circumvent the barrier of access to important health interventions and reduce significantly, the risk of child death. This brings us back to the title of my lecture, "Choose Your Mother Right and Live"!

At this point I wish to give the profile of the average Nigerian mother. She is a woman with little or no formal education; lives in the rural area or in an urban slum where there is very little infrastructural facilities. She works as a petty trader, a subsistence farmer or an unskilled worker in industry or government establishment with very low income. The average Nigerian woman has her first pregnancy before the age of twenty years and continues to bear children into her forties. She delivers many babies but loses

a good proportion of them before they reach age of five years due to preventable causes¹³. She has poor health seeking behaviour and indulges in many unsafe child care practices such as force feeding (figs. 10 and 11). She faces a lot of constraints, there is no social welfare services from government, no labour saving household appliances, she fetches her water, hews her wood, walks long distances or rides dangerously on “Okada”. She has no voice, has to seek the husband’s permission even to take the children to the clinic.



Fig. 10. A pregnant mother with several children



Fig. 11. A mother force-feeding her child

Mr Vice-Chancellor, if indeed it were possible for a baby to choose his mother, who will the child choose? Who would be a good mother? For the purposes of this inaugural lecture, a good mother is one who is educated i.e. has at least sound secondary school education. The significance of educating a girl is summed up in the following statement by Kofi Annan, immediate past Secretary-General of the United Nations,

to educate a girl is to educate a whole family. And what is true of families is also true of communities and ultimately, whole countries. Study after study has taught us that there is no tool for development more effective than the education of girls. No other policy is more likely to raise economic productivity, lower child and maternal mortality, improve nutrition and promote health. No other policy is as powerful in increasing chances of survival for the next generation.

In addition to education, a good mother is one who is empowered to contribute to family income if necessary and participate in decision making in the family, especially in matters affecting the health and wellbeing of the children. An educated and empowered mother will be able to maintain good health before and during pregnancy, deliver in the right place, maintain adequate sanitation, overcome all the barriers to access to preventive, health promotive and treatment interventions for her children and ensure their survival.

Unfortunately, it is not possible for babies to choose their mothers; the alternative is for families, communities and government to develop the potentials of all girls to be good mothers by ensuring that girls are educated and empowered not only to be able to ensure the survival of their children but also enhance the quality of their lives.

My Contribution to Scholarship

Mr. Vice-Chancellor, although I carried out research projects in areas of general paediatrics, my special interest is in the areas of Respiratory and Infectious diseases. Professor Olikoye Ransome Kuti, that doyen of Paediatrics and one of the fathers of primary healthcare in Nigeria at a public lecture in 1982 advised up and coming paediatricians who want to understand what is happening to the ill children they see in the hospital to start by looking at what happens in the community. In heeding this advice, I started my research activities in the communities and later focussed more on hospital-based studies. I invite you, ladies and gentlemen, to share with me some of my research work.

They will be discussed under 4 major areas.

- (i) Community-based studies on subjects such as growth of children, causes of illness and causes of death.
- (ii) Acute Respiratory Infections (ARI)
- (iii) Childhood Vaccine-Preventable Diseases
- (iv) HIV/AIDS in children

Community-based Studies

(A) *A Study of Secular Trends of Physical Growth of Pre-school Children in Ibadan.*¹⁴

A study of the secular trends of the physical growth of under-five children living in Idikan, a low socio-economic area of Ibadan was carried out in 1984. The aim of the study was to determine if children from the low social class were any bigger or taller than their counterparts 20 years previously. A total of 208 children, aged 1 month to 4 years were randomly selected from among the children living in the study community. Socio-demographic data were collected for each child, heights and weights were recorded. The weight-for-age and height-for-age of the children were calculated and compared with those of a similar group of children from Oje, also a low socio-economic area studied 20 years earlier. The result showed that weight-for-age of the children studied was only marginally better and there was no difference at all in the height-for-age values of the two groups of children. It was concluded that there was no appreciable improvement in the physical growth of the children studied and those studied 20 years previously. The factors which appeared to be responsible for the lack of secular improvement included high illiteracy rate among the mothers, large family size, poor environmental sanitation with its attendant recurrent diarrhoeal diseases.

(B) *A Study of Pattern of Illness Among Children from a Poor Urban Community.*¹⁵

A longitudinal study of the pattern of illness was carried out at Idikan, a poor community in Ibadan. The aim of the study was to find out the diseases that cause illnesses in children as well as frequency of those illnesses. Two hundred and fifty-six children were randomly recruited. Data on illnesses were collected through weekly visits to homes of the study children. The approach was basically symptom-oriented using retrospective interviews of mothers. Each child was also examined once a week. The commonest illness symptoms among the cohort of children were those of acute respiratory infections, followed by malaria and diarrhoea. The morbidity information reported in this

study showed that children in the study, like children in many developing countries suffer frequent episodes of communicable diseases. Their health could significantly be improved by effective health education and improved environmental sanitation.

(C) *Causes of Child Mortality in a Low-income Area.*¹⁶

In an attempt to collect some community based data on causes as well as social risk factors for under-five mortality, a cross-sectional study was carried out at Idikan community in Ibadan. The study population consisted of 112 mothers of under-five children. Relevant data were collected using a questionnaire. For each mother, the total number of children ever delivered and the number who died before reaching the age of 5 years was documented. For every dead child, the mother was encouraged to recall as vividly as possible all the symptoms and events that culminated in the death of the child. A cause of death was assigned using the technique of verbal autopsy. The 112 mothers had 444 children; 29 (25.9%) of the 112 mothers studied had lost one child each, 5(4.5%) had lost 2 children each, 4(3.5%) had lost 3 children each while 2(1.8%) had lost 4 children each. In all, 59 (13.3%) of the 444 children had died. Seventy-nine percent of the children who died belonged to mothers who had no formal education, 18.6% belonged to mothers who had some primary education while only 1(0.9%) belonged to a mother with some years of secondary education. The identified causes of death were measles, diarrhoea, neonatal jaundice, neonatal tetanus, respiratory infections, sickle cell crisis and malnutrition. The finding confirmed that most of the causes of child deaths are preventable by available health interventions.

Studies of Acute Respiratory Infections

As mentioned in the earlier part of this lecture, acute respiratory infections are very important causes of illness and death in children in developing countries. Prior to 1984, there was paucity of locally generated data on these infections in children. As a member of a multidisciplinary research group, I participated in extensive studies

of several aspects of acute respiratory infections. Before discussing the study, I wish to acknowledge Professor B. O. Osunkoya, now of blessed memory, a professor of Immunology who was the Principal Investigator of the research project sponsored by US National Academy of Sciences/National Research Council (BOSTID). I also acknowledge Professor W. I. Aderere, the co-principal investigator for the paediatric aspects of the study and all the other members of the research group some of whom are in this audience.

The research was in two parts, a longitudinal community based study and a descriptive hospital-based study.

(A) *The Longitudinal Community-based Study*

This study was carried out in a cohort of 400 under-five children who were well at the time of recruitment.^{17, 18, 19} They were followed up for 3 years. They were visited weekly to enquire about symptoms of acute respiratory infections. They were also encouraged to report in the clinic whenever they had any symptoms suggestive of acute respiratory infection. The findings included the following:

- Each child had 6-8 episodes of acute respiratory infections yearly.
- The incidence was highest in children 0-2 years
- Of the numerous episodes, 80-90% were usually mild, 9-10% moderate and only about 4% became severe and led to hospitalization.
- Associated risk factors were lack of measles immunization, use of wood or kerosene for cooking within the house and not in an outside kitchen and force-feeding of the children.

(B) *The Descriptive Hospital-based Study*

A total of 419 children who presented at the Children's Emergency Room of the University College Hospital with symptoms suggestive of acute respiratory infections over a period of 3 years were recruited into the study. Socio-demographic data were collected using a questionnaire and each child had detailed physical examination. Investigations carried out included viral identification, blood culture for bacterial

pathogens, chest radiographs, lateral radiographs of the neck where indicated and any other investigation deemed necessary.

The study

- yielded information about the epidemiology of the various clinical entities which make up acute respiratory infections.^{20, 21, 22}
- led to the identification of viral and bacteriological pathogens of acute lower respiratory infections in Nigerian children.^{23, 24}
- led to the identification of features peculiar to pneumonia caused by the various pathogens.^{25, 26}
- yielded information on features of acute lower respiratory infections caused by organisms which rarely cause pneumonia such as *Klebsiella pneumoniae*, *pseudomonas aeruginosa*, and *proteus* species.²⁷
- identified features which are predictive of bacteraemic and non-bacteraemic illnesses.²⁴
- Yielded information on outcome, mortality rates and risk factors for mortality.

These two studies on acute respiratory infections were the biggest ever carried out in this country and the publications that emanated from them continue to be reference points on the subject.

Vaccine Preventable Diseases

Childhood immunization remains an important strategy in the reduction of morbidity and mortality in children. According to the National Programme on Immunization Guideline, a child should receive immunization for Tuberculosis, Polio, Diphtheria, Pertussis and Tetanus. Yellow Fever and Hepatitis B vaccines have recently been added to the schedule. This group of diseases continues to cause a significant number of deaths because of the poor immunization coverage which stands between 30-50% for all the vaccines. My research work involves Tuberculosis, Measles, Tetanus and Yellow fever.

Tuberculosis

A prospective study of the clinical and epidemiological features of childhood TB was carried out over a period of 4 years.²⁸ A total of 193 children in whom a diagnosis of tuberculosis was made were studied. Of these, there was a history of immunization against Tuberculosis in 100(51.8%). Of the 100 who had a history of immunization, the BCG scar which is usually used as evidence of vaccination was seen in only 68 (68%). 50 (25.9%) had severe forms of tuberculosis; the distribution of the types are shown in table 4.

Table 4: Specific Clinical Diagnosis in 193 Patients with Tuberculosis

Diagnosis	No of patients	Percent of total
Pulmonary tuberculosis	82	42.5
Tuberculosis adenitis	38	19.7
Spinal tuberculosis	13	6.7
Abdominal tuberculosis	10	5.2
Tuberculosis meningitis	1	0.5
Miliary tuberculosis	1	0.5
Disseminated tuberculosis	48*	24.9
Total	193	100.0

* This included 3 patients with associated tuberculosis meningitis

Only 80 (41%) of the children were able to complete the treatment, due to inability to pay for the drugs. This study indicated that the coverage for immunization against TB was poor, the children had severe forms of the disease and access to treatment was denied to a good percentage as a result of lack of funds.

Tetanus

This can be divided into neonatal and post neonatal tetanus. My research work is directed essentially towards neonatal tetanus. A retrospective study of 136 cases admitted over a 4 year period was carried out.²⁹ The result indicated that the incidence of the disease had only declined slightly from the previous 10 years. None of the

mothers was immunized against tetanus. Fifty-four percent of the babies were delivered at home, the cord was poorly cared for in all of them. The mortality rate was 54.4%. This study indicated that antenatal immunization of mothers against tetanus was poor; rate of hospital delivery was low and traditional practice of caring for the cord with unhygienic materials persisted. These studies underscored the essence of prevention since the case fatality rate is usually very high.

Following the retrospective study, a prospective study of 75 cases of neonatal tetanus was carried out with a view to developing a prognostic scoring system which could be used to assess the severity of the disease and to serve as a basis for comparing results of different therapeutic interventions.³⁰

Measles

A prospective study of 376 children with measles seen at the Children's Emergency Room over a 3 year period was carried out.³¹

The result indicated that

- a good proportion of the children developed measles before they were due to receive the immunization at the age of 9 months, showing that there was a need to bring down the age of immunization to 6 months and give a second dose of the vaccine at 1 year of age as a booster.
- the case fatality rate of 29.3% was high, constituting 10% of all deaths in the Children's Emergency Room.

The idea of a second dose of measles immunization at one 1 year of age is now being considered as part of the National policy.

Yellow Fever

An effective yellow fever vaccine had been available since the 1970s but vaccination against yellow fever in this country had been limited to emergency mass vaccinations during outbreaks and as a requirement for international travels. Even during emergency mass vaccinations, children under one year of age were usually excluded for fear of severe side effects. The 1987 epidemic in Oyo State which necessitated vaccination of infants afforded us the opportunity of studying the side effects of and percentage sero-conversion

following vaccination with 17D yellow fever vaccine in children less than one year old.³² The result of the study showed that yellow fever vaccine is safe and fairly effective in infants and hence it was recommended that it should be included in the EPI schedule following the confirmation of our result by a larger study. To the best of our knowledge, it was the first clinical trial of the 17D yellow fever vaccine in children less than one year in Nigeria. It is gratifying to know that the vaccine has now been incorporated into the NPI schedule.

Studies on HIV/AIDS

The HIV/AIDS pandemic has important implication for child survival. In collaboration with other colleagues in the President's Emergency Programme For AIDS Relief (PEPFAR) funded HIV/AIDS programme, we worked in three areas; prevention of mother-to-child-transmission of HIV, treatment of the HIV infected children and care of children orphaned and made vulnerable by HIV. Before discussing these studies, I wish to acknowledge the other members of the group, many of whom are in this audience.

Of the three aspects of the programme, prevention of mother-to-child transmission (PMTCT) started first. Based on the fact that some transmission occurs during breastfeeding, we carried out a situation analysis of the existing infant feeding pattern at the commencement of the PMTCT programme in UCH.³³

The aim of the survey was to obtain information which would be useful in designing infant feeding counselling for the mothers. It was a cross-sectional survey conducted among 513 mothers of children aged 6-24 months, attending the infant welfare clinic. Data collection was by a structured questionnaire, which was supplemented by focus group discussions. The survey yielded important information about the current infant feeding practice which needs to be modified to reduce transmission through breastfeeding to the barest minimum.

A study was carried out on orphans and vulnerable children, to determine the prevalence of HIV positive orphans and to compare their socio-demographic and clinical characteristics with HIV-positive non-orphans.³⁴ Of the 110 HIV positive children studied, 40 (36.4%) were orphans, 13 (32.5%) were paternal orphans, 20 (50%) were

maternal orphans while 7 (17.5%) were double orphans. (In HIV medicine, an orphan is a child less than 17 years old who has lost either parent or both). All the orphans were cared for by the extended family; none was in institutional care. There were no significant differences in the school enrolment, severity of the disease, mean weight-for-age, weight-for-height and height-for-age z scores between the two groups. From the study findings, it appears that the extended family system is currently coping with the HIV/AIDS orphan situation but there is the need for the provision of social and economic support for caregivers of children orphaned by HIV/AIDS before the family system is overwhelmed. Other studies on the care of HIV infected children, HIV orphans and vulnerable children as well as prevention of HIV in children are still in progress.

All the studies indicate in one way or the other, that a mother can make a difference in whether or not a child is well nourished and how often he or she is ill. She can also affect the severity of illness, the healthcare that the child receives and the outcome of the illness. In effect, a mother can determine not only the survival but the quality of life of the child.

Recommendations

Mr Vice-Chancellor, in the tradition of inaugural lectures, I will now proceed to give some recommendations as to how the situation of child survival in Nigeria could be addressed.

My first recommendation goes to fathers. I know some in this audience will be wondering where the father stands in all this. Is he not important in ensuring the survival of the child? Oh yes, the father is very important but my advice or should I say recommendation is that fathers should love their wives. When you love a woman, you will support and empower her to do all that needs to be done to ensure that the children survive. There is a need for the mother to be a part of decision making in the family so that she will not have to wait until the father arrives before seeking medical attention for a sick child because it may be too late by the time the father arrives. In addition to empowering their wives, fathers can also contribute to creating a pool of good mothers by educating their daughters; again

I reiterate that there is no tool for development more effective than the education of girls.

My main recommendation is directed at the government which has the major responsibility of ensuring the survival of its next generation.

- To be able to address the problem, its magnitude must be known. For this to be so, birth and death registration must be enforced.
- The government must take the education of girls more seriously; there should be legislation making it an offence not to send girls to school up to a certain age.
- Life skill education should be provided in schools; this should include mother-craft and other aspects that will prepare girls to be good mothers.
- Facilities for antenatal care should be expanded so that they will be physically accessible to all. In addition, the services should be free and I mean actually free, and not a political slogan.
- All deliveries should be attended by skilled birth attendants and all newborn infants should be evaluated by health care providers before discharge.
- Routine immunization should be strengthened, made easily available and also free.
- Under-five clinics where children can access all the health preventive and promotive interventions should be established and services provided without payments from parents.
- Curative services should be free for children at least up to age of 5 years; some states advertise free services for children but those are just empty promises without cash backing.

In a nutshell there is a need to accelerate the passage of the National Health bill which will address the issues highlighted above.

Conclusion

In conclusion, I wish to restate a part of the Article of the African Union Charter on the Rights and Welfare of the Child: It says "every child has an inherent right to life; every child has the right to enjoy the best attainable state of health. State parties to the charter shall undertake to pursue the full implementation of these rights and in particular shall take measures to reduce infant and child mortality rates and to ensure the provision of necessary medical assistance and health care to all children."

Investing in the health of children is not only a human right imperative; it is a sound economic decision and one of the ways in which a country can set its course towards a better future.

Acknowledgement

"Inaugural lecture" has been given different definitions by various people. It has been described as an "*Iwuye ceremony*"; it is a ceremony or a celebration no doubt, whether it is *Iwuye* or not, I do not know. Emeritus Professor O. O. Akinkugbe while delivering the 16th University lecture described it as "a discourse in an area of specialty, often ending with a flourish simulating an academic thanksgiving." Vice-Chancellor Sir, in ending this celebration, I shall now proceed to my thanksgiving.

My most sincere gratitude goes to my parents both of blessed memory for their love and disciplined upbringing. I thank my father Papa Olabinjo Osibodu, an equal opportunity person; he believed in me, from the moment he learnt that I was interested in studying Medicine in the University; he spared no effort in assisting me to reach that goal.

I thank my mother Mama Ibijoke Osibodu. I was fortunate to have chosen her right and God Almighty gave her the grace to do all that was needful to ensure that I did not die in childhood. She nurtured me to adulthood and was also there for me as I progressed in my career. Together with my second mother Mama Oyinlola Osinusi, they looked after my children with great love and care in those early days when I spent considerable time away from home in pursuit of my career. I thank my siblings and other members of my family and my husband's family for their love and support.

I thank my teachers, from primary school to the University, for being used by God to gradually change me from a little girl who could neither read nor write to a professor of Paediatrics. I thank my teachers in the medical school from Anatomy right through to Surgery, I can see many of them in this audience. I appreciate all that you deposited in me and also thank you for coming to honour me today. I want to specially acknowledge Professor Adetokunbo Lucas who stimulated me with the keynote address titled *"Choosing One's Mother with Care, a Key to African Child's Survival"* which he delivered at the annual conference of the Paediatric Association of Nigeria in January 2008. My special thanks go to my teachers in Paediatrics and my mentors, Professor A. U. Antia of blessed memory, Professor W. I Aderele, Dr. Seriki, Professor J. B. Familusi, Professor Adeyokunnu of blessed memory, Professor Adeoye Adeniyi, Professor A.O. Folami, Professor Femi Jaiyesimi and Professor A.O. Laditan for their tutelage, support and encouragement.

I thank my fellow paediatricians nationwide, especially those who are active in the Paediatric Association of Nigeria. It is said that iron sharpeneth iron. By our interactions across Nigeria, we have improved the knowledge and skills of one another; we have impacted positively on the health of Nigerian children and have truly become a family.

I thank all my colleagues, older and younger, within and outside the Department, the resident doctors over the years whom God has given me the grace to mentor, for inspiring and challenging me. I thank all my friends, associates and collaborators, for their encouragement and support at different times. I acknowledge the special role played by Professor Biola Odejide, Dr. Regina Oladokun and Dr. Oluwabunmi Olapade-Olaopa in the preparation of this lecture. I really appreciate you all.

Now, I thank my best friend, my confidant, my lover and my husband, Professor Bandele Olajide Osinusi, who is always there for me, still as attentive, and caring, as he was in 1966 when we were both first bitten by the love bug. I appreciate everything and thank him for being a pillar of support. I thank our children Oluwatosin, AnuOluwapo, Olubukola, Olukemi and Olanrewaju, for

the joy they have given and continue to give us and for making everything worthwhile.

Finally, I thank the Almighty God, who is ever faithful, ever sure, without whom we cannot live, without whom we can not die. He brought me into the world, protected me and did not allow me to die from all the myriads of hazards confronting children in this country. He charted a path for me and gave me the opportunity to fulfil destiny. To Him and Him alone be all glory, honour and dominion now and for evermore.

The Vice-Chancellor, ladies and gentlemen, I thank you all for being here this evening to honour me. May God honour and bless you all.

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