

UNIVERSITY OF LAGOS School of Postgraduate Studies



Teamwork and Divine Intervention: Reminiscences on Research Activities in a Developing Country Setting, Nigeria

> Ву Professor Tolu Odugbemi, оом

> > 26TH JULY, 2018



### UNIVERSITY OF LAGOS School of Postgraduate Studies (SPGS)

Annual Lecture 2017/2018

# Teamwork and Divine Intervention: Reminiscences on Research Activities in a Developing Country Setting, Nigeria

#### Delivered by

#### Professor Tolu Odugbemi

OON, NNOM, Hon.D.Sc., PhD (Sheffield), MD (Lagos), DFMC, PNMC, FAS, FRCPath (UK), FMCPath. (Nig), FWACP (Lab. Med.). Professor of Medical Microbiology and Parasitology

Former College President, National Postgraduate Medical College of Nigeria Former Vice-Chancellor, University of Lagos Former Vice-Chancellor, Ondo State University of Science and Technology

26th July, 2018

#### Copyright © 2018, Tolu Odugbemi

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without prior permission of the copyright owner and School of Postgraduate Studies, University of Lagos.

ISBN 978-978-55101-5-7

Published by **Concept Publications** E-mail: conceptpublications@gmail.com deleconcept@yahoo.co.uk for **School of Postgraduate Studies** University of Lagos Akoka, Lagos Nigeria.

Designed, printed and bound in Nigeria by **Concept Publications** (Press Division), Lagos. 77, Shipeolu Street, Palmgrove, Lagos, Nigeria. Website: www.conceptpublications.com Phone: +234 802 309 4010, +1 469 655 1225

### Introductory Remarks: The School of Postgraduate Studies

The School of Postgraduate Studies of the University of Lagos has grown in leaps and bounds since its informal beginnings in various departments of the University in 1966/67. Today, over 10,000 doctoral, masters and postgraduate diploma students are registered in programmes across the University, with over 7,000 graduating during the last convocation ceremony in May, 2018.

Postgraduate studies at the University of Lagos had its formal start in July 1981, when the University Senate approved the set-up of a School of Postgraduate Studies to coordinate and develop research studies through a formalised University-wide programme. The primary objective was to provide academic and research programmes geared towards meeting the high level needs for knowledge and skills in Nigeria and the world at large. Since its establishment, and in pursuance of this mandate, the school has trained thousands of people who are working in various federal and state government establishments as well as in different international agencies and private organisations.

The programmes run by the school fit into the wider vision and mission of the institution. They are subjected to periodic review in order to meet the challenges of a fastchanging global system and respond appropriately to the emerging dynamics of the society.

As part of the effort to bridge the gap between town and gown, an annual lecture series was introduced. Eminent



Nigerians from all walks of life have been invited to deliver the annual lecture. In 2008. Mr. Felix Ohiwerei delivered the annual lecture on "The role of the ivory tower in preparing future leaders." The Sultan of Sokoto, Alhaji Muhammad Sa'ad Abubakar III, delivered the 2009 Annual Lecture entitled, "Leadership, higher education and challenge of development in Nigeria." Pastor Enoch Adebove's lecture titled "The nature of light" was delivered in 2010. His Excellency former President Olusegun Obasanjo whose lecture titled "Strategic re-positioning of postgraduate education in Nigeria" was delivered in 2011. In 2012, His Excellency the former Governor of Lagos State, Mr. Babatunde Raji Fashola, SAN delivered the annual lecture titled "Education. research and national development: Bridging the gap between town and Gown". The Annual Lecture for 2015/2016 titled "Redefining the role of traditional institutions for national development" was delivered by the Ooni of Ile-Ife, His Imperial Majesty, Oba Adeyeye Ogunwusi, Ojaja II. The last annual Lecture titled "Governance and democracy in Nigeria" was delivered by the Pro-Chancellor and Chairman of the Governing Council of Osun State University, Mallam Yusuf Ali, SAN. From the above, all the past lecturers are eminent leaders from various callings with considerable social significance.

The remarkable and orderly development of the School of Postgraduate Studies, University of Lagos over the last five decades shows how collective efforts and teamwork could move mountains under divine directions.

I therefore thank immensely, Professor Solomon Akinboye, Dean of School of Postgraduate Studies (SPGS), a humble, outstanding, amiable socio-political scientist and an excellent team-player, as well as the entire management of the SPGS for the honour of inviting me to be the lecturer for



this year. I thank the Vice-Chancellor, Professor Oluwatoyin Ogundipe, FAS, and the University of Lagos management team for accepting the title for 2017/2018 lecture.

My lecture topic is chosen as a tribute to all my students, members of staff, colleagues, friends and family who effected great and immeasurable impact on me to make this day of happy reminiscences happen. I hereby present my views on "Teamwork and Divine Intervention: Reminiscences on Research Activities in a Developing Country Setting, Nigeria."

Research activities require good funding, and are essentially carried out in various institutions, and most often at tertiary education level, but it is appropriate to emphasize the role of other levels of education which play vital roles in the development and final output of research works.

# Pattern of Educational Institutions in Nigeria

Institutions were run by missionaries. The environment of the institutions then was decent, serene and very conducive for learning. I still recall many primary and secondary schools had good buildings and other physical structures, with nice, beautiful flowers and ornamental trees adorning roads, streets and hedges and lawns playing their part, thus commanding an atmosphere of respect. It is very unfortunate that such gains have fizzled out over the years.

We give credit to private organisations and religious bodies for running fair institutions. However, many of the tertiary institutions are magnificent in names only. Evidence of research works is meagre. There is no more

culture or tradition of beautification of the environment. It is very distressing that tertiary institutions that should be orderly and decent are just "shows" (arena) for chaos and disruption. The few tertiary institutions that have reasonable access to funding have their campuses littered with dilapidated buildings and poor landscaping. We must return to the tradition and culture of beautiful gardens with lovely flowers within the various schools/campuses. The "plastic ornamentals" that should be banned are now what we have as interior decorations in many of our institutions thus degrading green environment. The parks and gardens of old should turn our institutions into great research centres for horticulture because Nigeria is in the tropical zone. In some other African countries, like Kenya, South Africa and Morocco, flowers are exported to generate income. The plastic ornamentals which are now increasingly used and found as decorations make us look, "anti-green" and anti-nature. Things have changed indeed. This is an example of one area where research can make all the difference for our society.

Research activities are very important for national development. In present-day Nigeria, the classification of institutions and ownership are as follows:

- (1) Pre-school education;
- (2) Primary school education;
- (3) Secondary school education; and
- (4) Tertiary education.

6

### Owners/Proprietors of Schools in Nigeria

- (1) Government (federal, state and local)
- (2) Private (organisations, families, individuals, etc.)

The 6-3-3-4 system of education was introduced in Nigeria



in 1982/83 session but implemented in 1990. Since that period, the last significant changes in the Nigerian education system happened in 2009 and 2016 when we switched from the 6-3-3-4 to the 9-3-4 system. The new system involved students passing through nine years of compulsory basic education with six years in primary school three years in junior secondary school, then three years in senior secondary school and the last four years of higher education. The new system was aimed at meeting the educational needs of citizens and equipping the youth with viable skills to make them self-reliant. A child who is not academically proficient, after nine years of schooling, would proceed for vocational and technical studies.

These days, the academic calendars of most tertiary institutions are not regular because of disruption of academic programmes by incessant strikes. What are the factors triggering the strikes?

- Funding (how can we fund education and where are the leakages?);
- Welfare;
- Staffing; and
- Government policies.

# What Are the Factors Hindering Good Standards of Education in Nigeria?

The main factors can be attributed to bad planning of curricula of institutions and lack of knowledge of what education is all about by owners of institutions. Irregular payment of staff salaries result in workers looking for alternative sources of income and poor attitude to work. The bad and unconcerned approach of owners of institutions to the welfare of their staff is inhuman, and invariably leads to an unproductive workforce.



 $\overline{7}$ 



Lack of motivation is another issue hindering good standards of education in Nigeria. When members of staff are not properly motivated, their attitude to work hinders productivity. In the education sector in Nigeria, many teachers in various parts of the country are being owed several months of salaries. With this, chances are slim that the teachers will carry out their work with the required enthusiasm for the benefit of students. Consequently, teachers now look for alternative means of earning some income to survive.

Research funding especially at tertiary education level is vital for good output that will be relevant to societal needs. The issue of funding is a critical factor hindering the standard of education. In Nigeria today, education is on the concurrent list and it is an open secret that all government owned institutions are underfunded. As at today, federal universities charge relatively little or no fee for any of their programmes, in spite of the obvious reality of the huge investment needed to ensure a vibrant educational system.

The private universities are just a little well-off, university education involves huge capital outlay, and the rate of return cannot be dramatic. Many proprietors including faith-based ones are unable to take their universities to the needed next level because of limited patronage that has not afforded them the opportunity of expansion.

Another issue that has served as a hindrance to quality education in Nigeria is corruption. We find funds which are earmarked for the education sector being misappropriated by officials. Many of the top officials are unaware of the guidelines for their service; they thereby foster an environment conducive for corruption. The issue of

unqualified teaching personnel cannot be left out. Recently, some state governments discovered that many of its teachers in public primary schools were unqualified. This is, indeed, the sad reality of our education sector in Nigeria. This issue, however, dovetails with the case of corruption in the form of bribes solicited before employment. Of course, we cannot get the best hands in such an environment; thus, our dwindling standard of education. Appointment of unqualified personnel into academic and managerial positions reduces the standard of education. Such staff cannot give what they do not have. I wish to emphasise that establishing new universities is not bad, but increasing the number of universities that are substandard with low quality is dangerous and counterproductive.

Another major problem that has been plaguing the Nigerian education sector over the years is the belligerent stance of the unions from the various segments of the workforce, and this has permeated through to the student unions. The activities of the unions have led to the incessant strikes in our various tertiary institutions which continue to hamper the quality of education and health with resultant interdisciplinary disharmony, ultimately leading to poor services with impact on the kind of graduates we produce.

## Need for Reorientation Programmes at All Levels

In order to get better and effective results for products of our institutions, there must be reorientation to provide insight/way forward for:

- Government
- Unions
- Staff and students
- Other stakeholders: parents, employers of labour etc.



Our universities have to work hard with the right calibre of eminently qualified staff that have passion for education, excellence and breakthroughs to impact the society positively. Most of our universities are now fast becoming local community centres/institutions and not really focussed on the triple mandate of teaching, research and community service. My experience is that local communities see universities sited in their domains as local community institutions for employing all their community members at anytime without recourse to the needs of the universities or budgetary allocations and societal relevance.

In the past, our universities in Nigeria recruited top scholars and administrators from the United States of America, the United Kingdom, India, Canada, Egypt, Ghana, other Commonwealth countries, etc. Furthermore, students from such countries come to our tertiary institutions to study. Today, our students move to other countries where they pay heavily to attend institutions "abroad," and such fees cover accommodation and tuition. I must point out that many of the institutions situated abroad are really well-equipped with a wide range of learning resources. Universities are supposed to be international, and contributions should not be of mean value. Therefore, there is an urgent need for reorientation of various communities to note that universities located in their environs will certainly influence their communities one way or the other through outstanding research output, thus enhancing the outlook of university towns.

Also, there should be appropriate criteria for appointment and promotion of staff. Employees need to be motivated through prompt and regular payment of

salaries. Remuneration is a key factor that determines staff motivation, especially in the face of dwindling resources and harsh economic reality. They also need to be encouraged by way of promotion and upgrading. Stringent conditions for promotion which do not necessarily capture merit, poor working conditions amongst other things, kill the morale of staff and reduce their productivity. Sponsorship for training and conferences for staff is also a means of motivation. Through these sponsorships, staff will be better equipped, exposed and motivated to add value to the various teaching schedules. In the same vein, underperforming and erring staff should be properly sanctioned to curtail laxity.

### Importance of Quality of Education

We must make our universities truly universal and of the highest standards. A much higher quality of the so-called universities will make them solve societal problems through excellent research output. Universities need to be properly funded to make the institutions have solid infrastructure, and attract and retain good and great staff and push out meaningful research findings. It is not the quantity of universities in any state/nation that matters but the quality. Research equipment and facilities in all institutions should be of the highest standard, top-heavy while research ideas, whether simple or complex, must be clear, flexible, relevant and adaptable to societal needs.

# Funding

Our governments should pay attention to funding of primary and secondary education and ensure the implementation of a transparent recruitment process



that allows for the engagement of qualified teachers. Also, federal universities should be removed from the civil or public service syndrome and allow variations from institution to institution, but of course, controlled with guidelines by the National Universities Commission (NUC) as the monitoring agency.

Each institution should be allowed to collect appropriate revenues for training each student on his/her programme from his/her sponsors (government or private). The training fee for each programme will have to be established, and constantly reviewed by the government agency (e.g. NUC). This implies that government should reimburse institutions annually, equivalents of amount estimated for training all students sponsored by government or for all students if free education is envisaged. Payment per student will enable both the student and parents to appreciate government expenditure on them as opposed to the current practice. Also, those unable to cope through poor performance will not keep themselves in the system indefinitely as government payment on individuals will definitely be regulated. I must emphasise that no Nigerian student with capacity to perform should be denied opportunity to study to any of his or her desired level. Therefore, scholarships must be generously provided for less financially privileged students. The feeding policy of primary school children by the Federal Government is commendable as no hungry student can learn or carry out meaningful creative activities.

Also, the universities should be allowed to employ and remunerate the staff appropriately based on a minimum template established by government. This will reduce



academic calendar disruptions due to wage agitations to the barest minimum. It is counterproductive not to pay staff their salaries and allowances as at when due.

Furthermore, there must be a political will on the part of the government and the focus of it should be quality orientation programmes to re-educate communities to raise funds to offer scholarships to their needy indigenes. Endowment funds by wealthy citizens should be encouraged with donation in cash and kind to achieve desired positive results. The University system should be for gaining and transfer of knowledge, not for placements of sycophants or ethnic champions, unqualified friends and relations.

It is noted that funding remains a big challenge in Nigeria. However, even in developed countries like Canada, the United States, the United Kingdom etc. with great institutions, funding is critical but all other sources needed to yield funding to make institutions viable and optimal are explored. The potential of funding are itemized for various institutions to explore:

## Sources of Funding

- (i) Government subventions (usually capital and recurrent);
- (ii) Government grants and interventions (to address specific matters);
- (iii) School fees, levies etc.;
- (iv) PTA support;
- (v) Donations;
- (vi) Internally generated revenue (IGR);
- (vii) Partnerships;
- (viii) Alumni relations;



- (ix) Taxes; and
- (x) Research findings: patents, consultancy.

The institutions in Nigeria should carefully look at the points on funding listed above and the governing boards/councils should be sincere to debate and apply what would suit each institution so that the end-products will be relevant in making the society better.

#### Maintenance Culture and Antisocial Behaviour

The unfortunate trend of widespread lack of maintenance culture and antisocial behaviour in all our communities and institutions need to be addressed urgently. Apart from poor and un-landscaped campuses with abandoned equipment in the stores, or even warehouses, where the items got expired, we should look around us and our environments.

A casual observation of these problems in our environment could even stimulate further research. For example, abandoned vehicles on the roads lead to high rate of road accidents. Are these not excellent research topics? Imagine an interrogation of the behaviour on the part of drivers, inspectors, judicial officials-enforcers, courts, and prisons. Are they not subjects for reformation?

Many institutions have dilapidated infrastructure adjoining new structures with unkempt environment and poor landscaping. One therefore wonders why scattered buildings could just have been built for irregular pecuniary benefits and not to advance knowledge. On entering some of such buildings, the toilet facilities are locked up and when open, the toilets are unfit for human use.



Health services and development of health systems in developing countries is limited by infighting amongst workers. Not enough has been done to learn from herbalists to develop our medical and pharmaceutical science.

**Farming and challenges:** An insecure environment is a serious crisis. The on-going imbroglio between herders and farmers could easily be solved, if we are sincere. This is my personal view. I once met an elderly angry man in a village whose all adult children were unemployed. The elderly man would certainly like his offspring to be gainfully employed and be successful too. This is a major degree of poverty from someone who saw his situation as "hopeless".

My experience in the United States of America in the 1970s showed that party going was an important social activity for students. However, there was a risk of a fight breaking out at such social gatherings. The feeling among students, then, was that the best means of securing protection was for each person to hold a gun. It appears this is still the sentiment. Imagine the rate of school shootings in the USA today!

#### My Reminiscences on Research Activities

#### Past Research Interests

I have reflected on some of my past research areas in collaboration with outstanding students, scholars, colleagues and remarkable teachers. In sincere appreciation to divine intervention, most of the research works and publications in reputable journals, with sense of humility, have attracted local, national and international honours and awards. Some research areas include:

• *Eperythrozoon coccoides* and mixed infections,

- Diarrhoeal diseases and pathogens, Streptococcal infections,
- Sexually transmitted infections/diseases in particular in children,
- Nosocomial infections.
- Antimicrobials and resistance, molecular biology with distribution of plasmids in pathogens. Beta-lactamases, detection methods and beta-lactamase inhibitors like clavulanic acid and sulbactam.
- Meningitis and its pathogens like *Neisseria meningitidis* and reporting of serogroup W-135 which may become important in epidemic meningitis if not included in vaccine production.
- Unusual pathogens: *Kingella denitrificans*, rare and unknown pink-pigmented organisms,
- Medicinal plants etc.

I will talk further on my reminiscences to elaborate on a number of co-researchers that made teamwork productive and enjoyable. Research should not be viewed with trepidation rather it should be seen as part of finding solutions through simple, reliable and repeatable methods to challenges that humans can encounter in life changing scenes.

Research is mainly 'creation of knowledge'. It is defined in the Merriam-Webster Online Dictionary as "studious inquiry or examination; especially: investigation or experimentation aimed at the discovery and interpretation of facts, revision of accepted theories or laws in the light of new facts, or practical application of such new or revised theories or laws." According to the Organization for Economic Cooperation and Development (OECD), research comprises "creative and



systematic work undertaken to increase the stock of knowledge, including knowledge of humans, culture and society, and the use of this stock of knowledge to devise new applications." Research may be basic or applied and is generally known to follow a certain structural process. Often, it starts with observations and formation of the topic, setting up a testable hypothesis, conceptual definition, study design, data collection, analysis of data, data interpretation and conclusion. From the foregoing, to make any ground-breaking discovery, it cannot be a solo effort but by "team work and divine intervention".

In my early research life in 1969/70, I was blessed to be awarded a predoctoral New York Commonwealth Fellowship to the University of Rochester, New York where I studied under the supervision of two eminent scientists – Dr. Lowell Glasgow, Professor of Paediatrics & Virology and Dr. Albert Ritterson, Professor of Parasitology. The research was on *Eperythrozoon coccoides*. I. effect on the interferon response in mice. (Glasgow L. A. Odugbemi, T. O. et al. 1971, article published in *Journal of the American Society for Microbiology* – Infection and Immunity).

Let me give a summary of the work.

*Eperythrozoon coccoides* is a common blood parasite of rodents and the aetiological agent of a chronic infection present in many mouse colonies. After primary infection, mice develop a parasitaemia and anaemia followed by a chronic, latent infection. During the acute phase of infection, mice manifest a striking suppression of interferon production in response to induction with Newcastle disease virus, Chikungunya virus, and poly I: C. These data suggest that the reticuloendothelial system involvement with this agent is associated with impairment





of the interferon response. The enhanced susceptibility of *E. coccoides*-infected animals to certain viral infections may be related to this suppression of interferon production.

The outcome of the study then opened new challenges of mixed infections of *Eperythroon coccoides* and rodent malaria parasites like *Plasmodium berghei* and *Plasmodium chabaudi* causing severe fatality among rodents like mice. Since the old study, I have always reflected that a host that harboured two or more bacterial, viral, fungal and parasitic mixed infections that occur in a developing setting like Nigeria might need to be treated differently from someone with a single pathogen or parasite. This view requires more studies. The research cooperation with my former supervisors in the USA initiated me into the beauty of teamwork.

I recall my supervisor Professor Ritterson pointed to the fact that malaria was common around Genesee River in Rochester, New York in the olden days but with improved environmental sanitation, malaria became a thing of the past in the area. I hope our attention should be drawn seriously to the need to tackle challenges posed by dirty environment and infectious diseases like malaria, Lassa fever and many other communicable diseases in developing countries.

At the College of Medicine of the University of Lagos, my outstanding teachers — Professor Oladeinde Dosumu-Ogunbi and Professor Deji Femi-Pearse — who were my supervisors sustained my interest in research in topics like diarrhoeal diseases and pathogens, streptococcal infections, and nosocomial infections. Many research publications in reputable peer-reviewed journals emerged from these studies.



My research works at the University of Sheffield, United Kingdom from 1976 to 1978 under the supervision of my eminent teachers, Professor Michael G. McEntegart and Dr. Anthony Jephcott, centre on sexually transmitted infections/diseases, *Neisseria gonorrhoeae* and *Betalactamases* led to my doctoral degree and publication of top-rated articles in high ranking journals. As a result of various contributions to knowledge over the years, the University of Sheffield conferred on me an award of Honorary Doctor of Sciences (D.Sc.) in the July University convocation in 2011.

Teamwork created new avenues in research endeavours for me in a way that the prestigious Fogarty International Fellowship (NIH) Award supported my research at the Centers for Diseases Control (CDC) in Atlanta Georgia, USA in 1982/83. My supervisors, Dr. William Albritton, Dr. Robert Weaver and Dr. Robert Arko made the doors wide open for my significant works on Antimicrobials and Resistance, Molecular Biology with distribution of plasmids in pathogens; unusual pathogens: *Kingella denitrificans*, rare and unknown pink-pigmented organisms.

My reminiscences on research continue to enrich my experience in appreciating divine intervention. My numerous former students who are occupying key positions played significant roles. The pioneering works on plasmid screening of bacterial pathogens with Dr. Daniel Kolawole Olukoya, currently the General Overseer of Mountain of Fire and Miracles Ministries (MFM) and Chancellor of Mountain Top University were remarkable. We assembled all sorts of experimental gadgets including my wife's hair comb to create holes in agarose gel to add materials electrical separation of the plasmids. Our achievements on



plasmids led to good pioneering publications on plasmid technology. Dr. Olukoya and I also diverted attention to early phase research on medicinal plants.

There are many other teachers, colleagues and students that influenced my research interests including the late Professor Akin Adesola, Professor Adeoye Adeniyi, Professor E. Ade Elebute, Professor S. Olu Oduntan, Lateef Salako, Benjamin Osuntokun, Umaru Shehu, Ajibayo Akinkugbe, Bisi Akinrimisi, Wale Tomori, Ade Adedeji, Dovi Kufeji, Modebola Ajasin, Rotimi Fakeye, Boaz Adegboro, Femi Ayeni, Yomi Durosinmi-Etti, Soga Sofola, Kayode Odusote, Dr. Tola and Dr. Mrs Lara Roberts, GCE Okeke, C. Nwokoro, Lekan Abudu, Stephen Elesha, Prof. Bash Akande, the late Professor Alex Boyo, and others that time will not permit to list.

Other areas that we need to watch are environmental impact on malaria (old and new), mixed infections (malaria with other parasites) and possible outcomes with standard antibiotics/drug resistance from the bad habits of misuse and abuse of drugs. Peer pressure and mental health among youths needs to be seriously considered. Also noteworthy is the menace of rodents visá-vis Lassa fever, plague etc.

Plastics have adverse effects on fishes because such materials are not easy to degrade, water collected serve as breeding sites for mosquitoes and provide them with time for action. Imagine natural flowers being replaced with plastic ornamentals in our homes and institutions. I will present some recent studies on rare medicinal plants including those that are "adjudged to be mysterious" and also use the opportunity to highlight the importance of cooperation, mutual respect and teamwork.

# Research on Some Aspects of Selected Medicinal Plants

The research efforts into medicinal plants should be intensified in Nigeria. I commend those scientists who have shown commitment to the scientific study of medicinal plants in our research institutes and tertiary institutions. It must be stated that studies of some rare plants demand courage, determination, humility and respect for community elders, priests (e.g. Aborè) otherwise, the research would end in frustration and failure. Teamwork, in an extraordinary ways, pays a lot to achieve positive findings. I have selected the following plants:

Okoubaka aubrevillei, known in Yoruba as Igi-ńlá. Gossypium arboreum, known in Yoruba as Owu Akęsę. Aframomum meleguata, known in Yoruba as Atare.

*Thaumatococcus danielli*, known in Yoruba as Ewé-ęran. *Aristolochia ringens* known in Yoruba is Ako-igun.

*Crassocephalum rubens* known in Yoruba as ebirę; note that this is different from *Crassocephalum crepidiodes* (ebolo).

Studies into medicinal plants demand genuine interdisciplinary approach and cooperation. There are some of the plants that are not readily found in our forests nowadays. Therefore, there is a need for conservation and planting in well-defined plots of land. Medicinal plants have become increasingly important in our interest to provide solution for a number of diseases which are often stated thus in local parlance: "not amenable to modern medicine, go back home to villages to find cure". Drugs from medicinal plants may serve as answers to global challenges posed by increasing global threats caused by antimicrobials-resistant bacteria, fungi and viruses.





Teamwork has played wonderful dividends in my research into medicinal plants.

I acknowledge greatly Professors Modupe Ogunlesi, Wesley Okiei, Professor H. A. B. Coker, Dr. Gloria Ayoola and Professor Yemi Olatunji-Bello who have joined me in some significant studies on medicinal plants. The other outstanding field research workers are Baba Benjamin Daramola and Mr. Thomas Kolawole Odewo who were former members of staff of Forest Research Institute of Nigeria (FRIN) and Reverend Peter Fabeku, Chief Damilola Ogungbemi, Asosanyin of Okeigbo land, Oba Olu Babajide, the Olu-Oke of Okeigbo Kingdom, Okeigbo Chiefs-in-Council and St. Luke's Anglican Church, Okeigbo.

I must also acknowledge Chief (Mrs.) Titi Odugbemi, Senator Leke and Chief (Mrs.) Lanle Mamora, my late auntie Comfort Akinla, Mr. Femi and Mrs. Regina Odugbemi, Engr. Temitayo Odugbemi, Dr. Jubril Oyeneyin, Chief Olu and Mrs. Bimbola Olayinka, Mrs. Dupe Popoola, Mrs. Agbeke Oyeneyin, Mr. Wale Kolajo, the late Chief Bayo and Mrs. Bola Akinterinwa, Professor Mopelola Olusakin and many journalist-friends, and media practitioners for their encouragement and support.

The search for some rare plants received wise counsel and blessings of Papa His Royal Majesty Oba Jacob Ala, the Alaaye of Oke-Ayedun Ekiti who directed his local traditional medicine chief to cooperate fully with his sonin-law, fondly called, "Prof." Some of the mysterious functions of *Okoubaka aubrevillei*, Igi-ńlá were carefully narrated to me and the early prompting about twenty years ago led to the successful location of the mystic tree. The "Igi-ńlá search team" led by Baba Benjamin



Daramola made it possible to have another interesting location where fruits and young tree of *Okoubaka* were found. The successful experimental planting of fruits and cuttings of *Okoubaka aubrevillei* was remarkable and it is a reflection of divine intervention. The PowerPoints will highlight further findings.

# Teamwork and Importance of Administrative Consultations

The catch phrase, "teamwork and divine intervention" has been widely used by my colleagues and friends over the years. It is divine to be at the right place, at the right time with the right people. I have accepted a life philosophy that you are what you are as reflected by the friendships you have.

It was divine that I had an opportunity given by the Ondo State Government in September 2010 to see to the takeoff of a state university, Ondo State University of Science and Technology (OSUSTECH), Okitipupa which had had its licence withdrawn by the NUC. The cooperation and support of the University Council, led by Professor Funso Akere, and other members of Council including Olori Florence Adedugbe, eminent and revered Obas, in particular, His Royal Majesty Oba Thomas Adesayo, traditional chiefs, respected religious leaders, notably His Grace Archbishop G. L. Lasebikan, Rt. Revd. Bishop Ebun Ogunele, Revd. Azuka Ogbolumani, the Chief Imam of Okeigbo, the Chief Imam of Araromi Obu, and the management and staff of Federal Institute of Industrial Research (FIIRO), Oshodi made the task fulfilling and less rigorous.

It was most tasking mentally and physically how to get a

campus for the take-off and recruiting appropriate staff and admitting pioneer students. Fortunately, I had a reservoir of talented and selfless administrators and academic and technical staff to fall on.

I recall the cooperation of the former Vice-Chancellors of the University of Lagos, Professor Rahamon Bello and the late Professor Tokunbo Sofoluwe who granted permission to Professor Bunmi Magbagbeola who served as the pioneer Dean of Science and many others. It is notable that among those granted short-time permission were Dr. (Mrs.) Taiwo Ipaye, current Registrar, late Mrs. Morenike Adare, Deputy Registrar and Professor Solomon Akinboye, current Dean of the School of Postgraduate Studies.

The following members of staff were backbones in planning and executing the strategy for the successful take-off of Ondo State University of Science and Technology, Okitipupa: Professor Ngozi Osarenren, Professor Bola Oboh, Professor Eddy Omolehinwa, Dr. Bolajoko Dixon-Ogbechi, Professor Ifunanya Nwokoro, Dr. Aderonke Samuels and Professor Elijah Avolabi current Vice-Chancellor of Mountain Top University, the late Professor Ajibade Salau former Dean of Faculty of Engineering and his team. Professor Amos Akinwande was extremely hard working, sincere, dependable and God fearing. He was a great asset. It is noteworthy that ten academic programmes presented to the NUC were accredited within two years of take-off. The other remarkable and historic event for which *teamwork* played a key role was the conceptualisation of the first university of medical sciences in Nigeria.

The Federal Government report on needs assessment as relating to Ondo State made the former Governor of Ondo



State, Dr. Olusegun Mimiko to inaugurate, on 22nd August 2013, the Committee on Needs Assessment Report for University Education in Ondo State. The committee membership consisted of Professor Tolu Odugbemi as the Chairman and other members: Professor Niyi Akinnaso, Professor Ige Bolodeoku, Chief Mrs. Olufunmilayo Edu, Mrs. Yemi Mahmud, Alhaji Kazeem Olanrewaju, and Mr. Steve Awosika as the Secretary. The main task, "to urgently undertake a holistic and patriotic review of the state of higher education in Ondo State, critically examine the facts captured in the FGN Needs Assessment Report and make general and specific recommendations on the appropriate actions required towards repositioning university education in Ondo State for education service delivery."

The committee membership reflected high calibre of experienced and dedicated people. The Ondo State Government offered me the opportunity to serve as the Chairman of the Committee. The wisdom and the experiences created deep reflections on issues of tertiary education in Ondo State that was managing two state universities and one state polytechnic. The most obvious path considering of dwindling resources was merging the existing tertiary institutions in the state. Another strong consideration of the committee was the need for a medical school as the state did not own one or host one owned by the federal government or private institution.

However, our committee was asked to suspend its assignment following the unfortunate plane crash at that time that affected eminent indigenes and thus led the government to maintain the status quo with regards to the operations of the state-owned tertiary institutions.



With this, there was a dilemma on what to do with the proposed medical school. Our novel solution was to establish the first medical university in Nigeria. I must take this opportunity to appreciate some administrators, colleagues, friends and experts on medical education who offered free advice or wrote special and useful articles on curricula for Medicine and allied Health Sciences which formed the initial conceptual note for the new university.

The experiences which I acquired over the years with colleagues in the National Postgraduate Medical College of Nigeria (NPMCN), the Nigerian Association of Colleges of Medicine (NACOM) and the Association of Vice-Chancellors of Nigerian Universities were maximally utilized in the conceptualisation of the first university of Health Sciences in Nigeria. The experience of Dr. Taiwo Ipaye who had her doctoral thesis on health-related topic was tapped successfully. Other eminent colleagues apart from Dr. Mrs. Taiwo Ipaye were Professor Wole Atoyebi, Professor Amos Akinwande, Professor Christy Okoromah, Professor Solomon Akinbove, Professor Sola Odujirin, Professor Muyiwa Odusanya, Professor Bayo Onajole, Professor Jane Ajuluchukwu, Dr. Abiodun Ayoola, Mrs. Agnes Bamgbala, Arch Bola Balogun, Professor Julius Okojie, Chief Mrs Titilayo Odugbemi, Engr. Tolu and Dr. Mrs. Sotonye Odugbemi, Dr. Tinuola Odugbemi, Dr. Babatunde Odugbemi, Funmi and Seyi Awobusuyi, Dr. John Olowoyeye, Mrs. Bunmi Olowoyeye, Mr. Felix Olaniyan, Professor Femi Mimiko, Professor Sambo Zailani, Mr. Yinka Adekalu, and Mrs. Adenike Aro.

The conceptualisation of a new university of Health Sciences along the pattern of those in Southern Africa

was thought feasible. Consultations with eminent stakeholders were ensured. Evidence of "Teamwork and Divine Intervention" should be seen here too. The Ondo State Government under the leadership of the Governor, Dr. Olusegun Mimiko and the Ondo State House of Assembly saw to the establishment of the university and HRM Oba (Dr.) Victor Kiladejo, Osemawe of Ondo Kingdom, a decent and respectable medical practitioner was the royal stimulant for the huge success of the new project, University of Medical Sciences, Ondo City. Today, the succeeding Ondo State Government under the able, visionary and mature leadership of the Governor, Arakunrin Oluwarotimi Akeredolu SAN bought into the vision and has supported fully and ensured the survival of the new tertiary institution.

# **Conclusion and Recommendations**

Teamwork is a keyword in this lecture; because teamwork should be seen as a vital catalyst in any human endeavour. I call on researchers, political class, civil service, hospital workers, management teams of institutions etc., herders and farmers to note this word *teamwork*. Divine intervention has also been highlighted in the lecture:

Religion is critical in human life; it should guide humans in relating to one another. Search for Miracles should not be substitute to hard work. Superstitions should not be allowed to be guiding principles in the developing countries.

Research at all levels should be encouraged, maintained and sustained.

Focus, integrity, courage, perseverance, and passion are



important behavioural attributes for meaningful and productive research which will impact positively on the society. We all have serious challenges, and they require joint efforts to control/handle. It is a time for action and not just "talk talk". Our various universities and states all over the country should have modern agriculture facilities. Cattle, sheep, goats, chickens, fish etc. should be kept in modernized areas all over the country. Milk should produced in hygienic factories all over the country. No group of people or ethnic nationality should have monopoly to keep cattle, to sell spare parts etc. The youth roaming the streets or tending to cattle from village to village need to be rehabilitated and be engaged in schooling in their communities. Modernisation, civilisation, civics and technology need to be urgently introduced and applied in all our institutions.

There are now alternatives to the use of petrol, what are our universities doing? Technology is not given sufficient attention in Nigeria. What about steel industries? Ajaokuta is in a pathetic state in the 21st century! This is courting human disaster if not collectively managed. Propaganda and fake news will only worsen matters. The "oyinbos" will perfect their war machines, and be ready to sell/test in undeveloped nations, and the war machines will never be tested on their own people. Modern technology to "kill" poverty, hunger and anger is the answer! Truly a broken society and broken 21st century!

This is a strange time. Hate speech and propaganda on race, ethnicity and religion are being circulated on social media. Things are truly volatile and unstable. Humanity is given little regard. Deceit, insincerity and hatred permeate the land. It is unimaginable and unacceptable



in the so-called "civilized societies," where war machines are "priorities" which are regularly being improved upon to add to human misery and poverty. I wonder why the efforts put on various war machines are not directed at finding solutions to end civil strife and wars leading to lasting peace and love. Education is in dysfunctional state because it fails to address challenges of misery and poverty. Religion and most religious leaders add to ignorance, poverty and misery, instead of ameliorating mutual suspicions and evils. God save us all from ourselves. We should tolerate any religion so far it is tolerant of others and share a philosophy: "Love your neighbours as yourselves".

In all sincerity, few of any institutions or communities in Nigeria are spared of deceit, idleness, intrigues, backwardness, insincerity and inadequate planning. Colonialism was bad but institutions left by the colonialists decades ago were relatively solid, though few. Our churches and religious centres should not be business centres or propaganda offices, but dedicated to care for the weak and the poor!

Today we should pull together to build a modern and civilized nation, solve problems and challenges created by ethnicity, religion, greed, and corruption in "our lands". God deliver us from all.

**Prof. Tolu Odugbemi,** OON, NNOM, Hon.DSc., PhD (Sheffield), MD, (Lagos), FAS, DFMC. Email: toluodugbemi@gmail.com Tel: +234(0)8033028995 P.O. Box 54, UNILAG, Akoka, Lagos State. www.medicinalplantsinnigeria.com



#### **Further Suggested Reading**

#### Theses

Odugbemi, Tolu (1978): Studies on the Pathogenicity of Gonococci. Ph.D. Thesis, University of Sheffield, England.

Odugbemi, Tolu (1982): Observations on some factors that influence in vitro antimicrobic susceptibility testing of common bacterial pathogens, M.D. Thesis, College of Medicine University of Lagos, Lagos, Nigeria.

#### Books

30

- Experiences starting a new university in a developing country setting, Nigeria - OSUSTECH, edited by Tolu Odugbemi, T. F. Ipaye, A. I. Akinwande and Adeyinka Adekalu.
- (2) Contribution to a chapter on: Introduction to Infectious Diseases, pages 155-162. In: *Human Pathology: A Complete Text for Africa*. Ed'B Attah, Ibadan University Press, Ibadan. 2000.
- (3) Outlines and Pictures of Medicinal Plants from Nigeria. A textbook edited by Tolu Odugbemi. University of Lagos Press, 2006.
- (4) A Textbook of Medicinal Plants from Nigeria, edited by Tolu Odugbemi, University of Lagos Press. 2008.

Website: www.medicinalplantsinnigeria.com

#### Articles in Learned Journals

- Glasgow, L. A., Odugbemi, T., Dwyer, P. and Ritterson, A. L. (1971). Eperythrozoon coccoides: Effect on the interferon response in mice. Infection and Immunity (*American Society for Microbiology*) 4: 425-439.
- Odugbemi, T. and Ogunbi, O. (1975). Pyogenic Meningitis in childhood in a four-year period at Lagos University Teaching Hospital. *Ghana Medical Journal*. 14(4): 277-181. Odugbemi, T. Fadabungi, O. and Ogunbi, O. (1977). Same

Odugbemi, T., Fadahunsi, O. and Ogunbi, O. (1977). Some



aspects of Haemophilus influenzae meningitis in Lagos. *Nigeria Medical Journal*, 7(2): 133-137.

- Odugbemi, T. O., Lesi, F. E. A. and Feyisitan, A. A. (1976). Symmetrical Gangrene of the Extremities caused by Neisseria meningitis type C. *East African Med. Journal*. 53 (3), pp. 143-148.
- Odugbemi, T. O., Ajasin, M. A. and Ogunbi, O. (1976). Staphylococcal Scalded Skin Syndrome in Nigerian Children, a report of three cases. Journal of Tropical Medicine and Hygiene, 79 (12): 260-263.
- Ogunbi, O., Femi-Pearse, Deji, Fadahunsi, O., Daniel, S. O., Odugbemi, Tolu, Lawal, S. F. and Ogunbi, L. O. O. (1976). The Streptococcus and its non-suppurative sequela in Lagos: An Epidemiological survey. (Abstract) Proceeding of the Second International Conference on Paediatrics in the tropics: Ibadan. *Nigerian Journal of Paediatrics*, 3(2): 74.
- Odugbemi, T. O., Hafiz, S. and M. G. McEntegart (1977). Penicillinase-Producing Neisseria gonorrhoeae: Detection by starch Paper technique. *British Medical Journal* vol.2, (6085) August 20, pp. 500.
- Odugbemi, T. O., Hafiz, S. and M. G. McEntegart (1977). Penicillinase-Producing Neisseria gonorrhoeae: Detection by Starch Paper techniques. WHO/VDT 77. 113. WHO/VDT/RES/GON. 77. III (World Health Organisation).
- Odugbemi, Tolu and Brian Dean, (1978). Iron content of different colonial types of Neisseria gonorrhoeae. *The Journal of General Microbiology*, 104, 161-163.
- Odugbemi, Tolu and Saleem Hafiz (1978). The effects of iron chelators on the colonial morphology of Neisseria gonorrhoeae. *The Journal of General Microbiology*, 104, 165-167.
- Odugbemi, T. O., McEntegart, M. G. and Hafiz, S. (1976). Effects of various divalent cations on the survival of Neisseria gonorrhoeae in liquid media. *British Journal of Venereal Diseases*. 54, 239-242.
- Odugbemi, T. O., Lawal, S. F. and Ajasin, M. A. (1984). Observation on the beta-lactamase activities detectable in



clinical fluid specimens. *Nigerian Medical Journal*, 14 (3 & 4): 161-166.

- Roberts, E. A. U., Odugbemi, T. O. and Okoisor, F. E. (1980). Antimicrobial susceptibility of the viridans streptococci isolated from the mouths of patients attending dental clinic in Lagos University Teaching Hospital. *Nigerian Dental Journal* 1(1): 64-69.
- Odugbemi, T. O., Oyerinde, J. P. O., Isaacs-Sodeye, J. O. and Roberts, J. I. K. (1982). Parasitic and bacterial aetiology of childhood enteritis in the under 5 at Lagos University Teaching Hospital. West African Journal of Medicine.1 (2): 19-24.
- Odugbemi, T. O. and Abudu, O. (1984). Gonococcal Salpingitis versus acute appendicitis: Caution in diagnosis. *Tropical Doctor* 14: 44.
- Odugbemi, T. O., Brown, S. T., Biddle, J. Johnson, S. Perkins, G. Dewitt, W. and Albritton, W. L. (1983). Plasmid profile, sero-grouping and auxotyping of Neisseria gonorrhoeae isolates from Africa. *British Journal of Venereal Diseases*, 59: 41-43.
- Odugbemi, T. O. and Arko, R. J. (1983). Differentiation of Kingella denitrificans and Neisseria gonorrhoeae by growth on a semi-solid medium and sensitivity to amylase. *Journal* of *Clinical Microbiology*, 17 (2): 389-391.
- Odugbemi, T. O., Whittington, W. L., Dewitt, W., Perkins, G, Johnson, S, Biddle, J. and Albritton, W. L. (1983). Epidemiological characterization on Neisseria gonorrhoeae from Far East. *British Journal of Venereal Diseases*, 59 (5): 285-288.
- Arko, R. J. and Odugbemi, T. O. (1984). Superoxol and amylase inhibition tests for distinguishing gonococcal and nongonococcal cultures growing on selective media. *Journal of Clinical Microbiology*, 20(1): 1-4.
- Odugbemi, T. O., Biddle, J. and Zaidi, A. (1984). Comparative in vitro activity of Augmentin, Amoxicillin, Ampicillin Sulbactam and Ampicillin against Neisseria gonorrhoeae

isolates from Africa. African Journal of Sexually Transmitted Diseases. 1 (3): 77-79.

- Odugbemi, Tolu, Jatto, Susan, A. and Afolabi, Kola (1985). Bacteroides fragilis meningitis. *Journal of Clinical Microbiology*, 21 (2): 282-283.
- Odugbemi, Tolu, Onile, B. A., Adetoro, O. O., Ayorinde, O. and Alausa, O. K. (1986). Sexually Transmitted Diseases: A 19month clinic experience at the Ilorin University Teaching Hospital, Ilorin. Kwara State, Nigeria. Nigerian Medical Practitioner. 11 (4): 95-98.
- Agbede, O., Olowoyeye, J. O. and Odugbemi, T. (1985). Clinical relevance of mycologic investigations in Laboratory Medicine: Ilorin experience. *Nigerian Medical Practitioner*. 10: 9-13.
- Odugbemi, Tolu (1987). An open evaluative study of Sulbactam/Ampicillin with or without Probenecid in Gonococcal Infections in Lagos. *Current Therapeutic Research*, 11 (1): 542-551; (Drugs 35 (Sup.7): 89-91 (1988).
- Olukoya, D. K., Odugbemi, T. O. and BAMGBOSE, S. O. (1986). Some aspects of traditional therapy of gonorrhoeae in Lagos Nigeria. *Journal of Research in Ethno-Medicine* 1: 26-29.
- Odugbemi, T. O., Nwofor, C. and Joiner, K. T. (1988): Isolation of an unidentified pink-pigmented bacterium in a clinical specimen. *Journal of Clinical Microbiology*, 26 (5): 1072-1073.
- Joiner, K. T., Odugbemi, T. O. and Afolabi, J. K. (1990). Disease in children due to Serogroup W-135 Neisseria meningitidis. *African Journal of Medicine and Medical Sciences* 19 (1): 1-3.
- Odugbemi, Tolu and B. A. Onile (1988): Paediatric gonorrhoeae: Is it receiving adequate attention? *American Journal of Reproductive Immunology and Microbiology* 18 (1): 32-34.
  - Olukoya, D., Coker, A. O., Gbenle, G. O., Akinrimisi, E. O. and Tolu Odugbemi (1988). Study of Plasmid screening amongst

pathogenic bacteria isolated in Nigeria. African Journal of Medicine and Medical Sciences 17: 163 - 166.

- Olukoya, D. K., Daini, S. A., Coker, A. O., Odugbemi, Tolu and Akinrimisi, E. O. (1988). Antimicrobial Susceptibility patterns and Plasmid Profiles of Enteropathogenic Escherichia coli isolated in Nigeria. *European Journal of Epidemiology* 4 (3): 306-309.
- Odugbemi, T. O., Lawal, S. F. and Odusote, K. (1989): Could Streptococcal infection be one of the causes of Bell's palsy? *European Journal of Epidemiology*. 5: 135-127.
- Odugbemi, Tolu and Egri-Okwaji, M. T. C. (1991). Screening of children for enteric bacterial pathogens in the outborn neonatal ward in Lagos, Nigeria. *European Journal of Epidemiology*. 7 (4): 427-430.
- Odugbemi, Tolu, Odujinrin, O. M. T., Akitoye, C. O., Oyerinde J. P. O. and Esumeh, F. I. (1991). Study on the pH of Ogi, Nigerian fermented weaning food and its effect on Enteropathogenic Escherichia coli, Salmonella typhi and Salmonella paratyphi. *Journal of Tropical Medicine and Hygiene* 94 (4): 219-223.
- Odugbemi, Tolu, J. P. O. Oyerinde, O. M. T. Odujinrin, O. Akitoye and F. I. Esumeh (1993). Bacteriological study of Ogi fermented weaning cereal food and its potential safety at the time of use in a rural Nigerian Community. *Transactions of Royal Society of Tropical Medicine and Hygiene*. 87: 234-235.
- Akitoye, C. O., Odugbemi, Tolu, Odujinrin, O. M. T. and Oyerinde, J. P. O. (1991). "Potentially" Contaminating Behavioural Practices in the Preparation, Feeding and Storage of "Ogi" - An Infant Cereal in Rural Nigerian Community. Journal of Early Child Development and Care. 71: 45-52.
- Atoyebi, O. A., Sowemimo, G. O. A. and Odugbemi, Tolu (1992). Bacterial flora of burn wounds in Lagos, Nigeria: a prospective study. *Burns* 18 (6): 448 451.
- Odugbemi, Tolu, Anandan, N, and Olivia N Lina, (1992). Urinary tract Pathogens with a Special Reference to Mucoid

Pseudomonas aeruginosa at Aflaj General Hospital. Annals of Saudi Medicine 12 (6): 581 582 (letter).

- Odujinrin, O. M. T., C. O. Akitoye, Tolu Odugbemi, J. P. O. Oyerinde and F. I. Esumeh (1993). Ethnographic study on childhood diarrhoeal diseases in a rural Nigerian community. *West African Journal of Medicine*. 12 (4): 185 186.
- Atoyebi, O. A., Sowemimo, G. O. A. and Odugbemi, T. (1996). Relationship of bactereamia to burn mortality in Lagos, Nigeria. Nigerian Postgraduate Medical Journal. 3(2): 4652.
- Kesah C., Ben Redjeb S., Odugbemi T. O., Boye C. S. B., Dosso M., Ndinya Achola J. O., Koulla-Shiro S., Benbachir B., Rahal K., and M. Borg. (2003). Prevalence of Methicillin-Resistant Staphylococcus aureus in Eight African Hospitals and Malta. *Clinical Microbiology and Infection*. 9(2): 153-156.
- Aibinu E. I., Ohaegbulam V. C., Adenipekun E. A., Ogunsola F. T., Odugbemi T. O. and Mee B. J. (2003). Extended-Spectrum β-Lactames Enzymes in Clinical Isolates of Enterobacter Species from Lagos, Nigeria. Journal of Clinical Microbiology. 41(5): 2197-2200.
- Aibinu I, T. O. Odugbemi and Brian J. Mee (2003). Extended-Spectrum 
  B-Lactamases in Isolates of Klebsiella spp. and Escherichia coli from Lagos, Nigeria. Nigerian Journal of Health and Biomedical Sciences. 2(2): 53-60.
- Aibinu E. I., Adenipekun E. A and Odugbemi T. O. (2004). Emergence of Quinolone Resistance amongst Escherichia coli strains isolated from clinical infections in some Lagos State Hospitals in Nigeria. Nigerian Journal of Health and Biomedical Sciences. 3(2): 73-78.
- Idika, N., Odugbemi, T. O. and Ekanem, E. E. (2005). An Evaluation of the Bacteriological Quality of Water Consumed by the Inhabitants of Some Rural Areas of Lagos State. Nigerian Journal of Health and Biomedical Sciences.4 (1):61-66.

- Fusi-Ngwa, C. N. K., M. T. C Egri-Okwaji, T. Odugbemi and E. Iroha (2007). A study pediatric nosocomial methicillinresistant Staphylococcus aureus in Lagos, Nigeria. *International Journal of Biological and Chemical Science*. 1 (1):54-60.
- Ayoola G. A., Akpanika G. A., Awobajo F. O., Sofidiya M. O., Osunkalu V. O., Coker H. A. B., Odugbemi T. O. (2009) Antiinflammatory Properties of the fruits of Allanblackia floribunda Oliv. (Guttiferae). *Botany Research International*. 2(1), 21-26.
- Ayoola G. A., Ngene I. E., Awobajo F. O., Jaleel C. A., Olatunji-Bello I. I., Odugbemi T. O. (2009) Hypoglycaemic effect of the aqueous extract of the leaves of Allanblackia floribunda Oliv. (Guttiferae). *Journal of Phytology* 1 (4): 260-266
- Aibinu I. E., Pfeifer Y., Ogunsola F., Odugbemi Tolu, Koenig W. and Ghebremedhin B. (2011) Emergence of B-lactamases OXA-10, VEB-1 and CMY in Providencia spp. from Nigeria. *Journal of Antimicrobial Chemotherapy*. 66 (8): 1931-1932.

