The Production of this Programme Booklet was facilitated by Drs O A Windapo, F F Adams-Momoh and E Onyero
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PROGRAMME OF EVENTS

Day 1  Wednesday 16th November
❖ Arrival and Registration
❖ ARSPON Governing Council meeting - 4.00pm
❖ ARSPON Annual General Meeting - 5.30pm
❖ Dinner at the conference centre - 7.00pm

Day 2  Thursday 17th November
❖ First Scientific Session
❖ Tea Break
❖ Opening Ceremony by Federal Minister of Health
❖ Lunch
❖ Symposium: TRAINING FOR RURAL SURGERY
❖ Cultural Night at Eleruwa of Eruwa’s palace

Day 3  Friday 18th November
❖ Second Scientific Session
❖ Tea Break
❖ Third Scientific Session
❖ Lunch
❖ IFRS General Meeting
❖ Gala Night at Conference centre

Day 4  Saturday 20th November
Departure

LOCAL ORGANIZING COMMITTEE
Dr Oluyombo A Awojobi – Chairman
Dr FF Adams-Momoh – Co-Chairman
Dr RO Tijani – Secretary
Dr AOB Adenuga – Treasurer
ORIGIN OF
THE INTERNATIONAL FEDERATION OF RURAL SURGERY

by Dr R D Prabhu, President, IFRS 2005-09

Rural surgery, as we define it now, has existed ever since man has been treated for illness. After all, simply put, rural surgery is the affordable surgical care nearer the homes of patients. Despite the progress of times and the medical sciences, changes in the philosophy of commerce and the increased importance given to earning more money have marginalized the poor and the rural communities from the benefits of advanced medical and surgical care. Yet as in the past, there now are some dedicated doctors and surgeons who function as rural surgeons, in almost all the countries, barring a few.

In India, the national body of surgeons was only interested in promoting the advances in surgery, irrespective of its affordability by the common man. Needs of surgery for rural communities and the poor received only the lip sympathy. This attitude continued for years until one President of the Association of Surgeons of India (ASI), Dr. Rangabhashyam thought that ASI must look into the needs of its rural surgeon members. Succeeding President, Dr Udwadia, went even further and highlighted the importance of rural surgery for the country. The interest of ASI ended there.

At such a time, Dr. Balu Sankaran, retired Director General of Health Services of India and Dr N H Antia, pioneer plastic surgeon and member of advisory body for national health policies, joined hands with another six rural surgeons and launched the Association of Rural Surgeons of India (ARSI) in November 1992. Starting of ARSI was hailed by many senior surgeons from India and abroad. Many surgeons from far away countries like Australia, US and Canada even became overseas members of ARSI.

ARSI promotes need-based, affordable, multi-specialty surgical care, with available manpower and infrastructures in rural communities and in poor urban communities. It believes that with the basic qualification of medicine like MB,BS, it is possible to perform life-saving and important emergency surgical procedures from all the branches of surgery.

The German Society for Tropical Surgery (DTC) evinced interest in the activities of the ARSI. DTC itself practices and promotes rural surgery and even sponsors training of surgeons from developing nations in rural surgical procedures. Soon, surgeons from other countries like Holland, United States, Canada, Australia, Bangladesh, UK, African countries like Tanzania, Uganda, Kenya, Nigeria, and even Cuba began participating in the annual conferences of the ARSI. Latin Americans too showed interest but language barrier came in their (and our) way.

It became clear that Rural Surgery is a global phenomenon even in many developed countries. Rural surgeons from many far away countries showed interest in the activities of ARSI. Seeing such global interest in rural surgery, Dr Thomas Moch and Dr. Gabriela Holoch from DTC conceived the idea of forming an International Society of Rural Surgery (ISRS), devoted to rural surgery so that the philosophy may make affordable health care available to many more communities. Dr J K Banerjee from ARSI seconded it. The idea received unanimous support from the ARSI. During the 11th annual conference of ARSI in September 2003 in New Delhi, the proposal of forming the international society was discussed in detail. Dr N H Antia and Dr R R Tongaonkar also supported the proposal. Dr Thomas Moch from the DTC Germany and Dr Moses Okech from Kenya and Dr P L Kibatala from Tanzania, all of whom were at the Delhi conference, welcomed the idea.
After the conference, Dr Moch and Dr Banerjee sat down and drafted the first guidelines for its formation which were circulated through the newsletter of ARSI. This was formally accepted at the next conference in Sivakasi, Tamil Nadu the next year where Dr. Peter Reemst of Holland was also present.

The 13th annual conference of the ARSI was a combined meeting of ARSI, Association of Surgeons of Rural India, a section of ASI, and it was also considered to be the first conference of the International Society of Rural Surgery. It was held in September 2005, in Ujjain, M.P. India. Delegates from Tanzania, Uganda, Kenya, Germany, Holland and USA, participated in it.

The society proposed was a federation of associations of rural surgeons of different countries and it was to devote itself to promote healthcare of the unreached in each country. This healthcare may include, as far as possible, affordable, appropriate, multi-specialty, essential surgery, overcoming the constraints and poor infrastructure.

During the meeting in Ujjain on 25th September 2005 (which was considered to be the first general body meeting of the new society), delegates unanimously accepted the proposal of forming an international society. It was named International Federation of Rural Surgery, or IFRS. The draft document of memorandum and rules and regulations were also accepted and the office bearers were elected for their first two-year term. The first office bearers of the IFRS were:

President: Dr. R. D. Prabhu (India)
Vice President: Dr. P.L. Kibatala (Tanzania)
Hon. Secretary: Dr. Thomas Moch (Germany)
Jt. Secretary: Dr. J.K. Banerjee (India)
Treasurer: Dr. Peter Reemst (Holland)
Directors Dr. K. Dakshinamoorthy (India)
          Dr. Vincent Mubangizi (Uganda)
          Dr. John Wachira (Kenya)
          Dr. Randall Zuckerman (USA).

Dr. Kibatala from District Designated Hospital, Ifakara, Tanzania and Dr. Zuckerman from the Bassett Healthcare, and Mithoefer Centre for Rural Surgery, New York, U.S.A. were co-opted members on the board as they did not belong to any association of rural surgeons in their country. However they were soon to organise one in their own country.

The first Members (national associations of rural surgeons) of the IFRS were the ARSI (India), ASRI (India), DTC (Germany) and Holland Group of Surgeons.

The DTC (Germany) has been generous enough to bear the initial administration and communication costs, if any, of IFRS. The subscriptions, fees etc were to be decided upon by the new office bearers.

Please log on to the website www.ifrs-rural.com for more information about the IFRS.
ABOUT THE ASSOCIATION OF RURAL SURGICAL PRACTITIONERS OF NIGERIA

Nigeria could claim to have given the blueprint of primary health care delivery to the world 15 years ahead of the World Health Organization's Alma Ata Declaration on the same subject. In 1963, the Faculty of Medicine, University of Ibadan, initiated this momentous programme, based at Igboora in rural Ibarapa District of Oyo State, South Western Nigeria. Professor (now Emeritus) T O Ogunlesi, OFR was the first director for fifteen years. Although a cardiologist, he is better known as a community physician.

In an attempt to provide the surgical component of the programme in the late seventies, the Department of Obstetrics and Gynaecology and the Department of Surgery of the University College Hospital, Ibadan sent registrars on monthly rotation to the District Hospital, Eruwa – the only hospital in the district at the time. In 1975, this arrangement was strengthened by the appointment of the late Dr C A Pearson, a Briton, as the Chief Medical Officer of the programme resident in Igboora and was further boosted in 1983 when Dr O A Awojobi, a general surgeon and an alumnus of University of Ibadan, took up appointment at the District Hospital, Eruwa an employee of Oyo State Government. Due to bureaucratic bottlenecks, he resigned in 1986 to set up a private practice, Awojobi Clinic Eruwa in Eruwa town.

In 1980, Dr Pearson and other notable Nigerian general practitioners founded the Faculty of General Medical Practice (Family Medicine) of the National Postgraduate Medical College of Nigeria, NPMCN, in Lagos.

The Association of Family Physicians of Nigeria (AFPON) was launched in 1998 to promote Family Medicine which is the medical specialty that endeavours to provide comprehensive primary and secondary care (including rural surgery) to the entire family unit from birth to old age. It aims to address the most frequent medical/surgical problems in the population and can be considered a specialty of common diseases. They are trained to treat patients in the context of the entire family.

The Fellows of the Faculty were to operate at the primary and secondary levels of the health care pyramid and there were 116 Fellows by examination as at September 2007. All who were still in Nigeria were based in urban centres or tertiary institutions. There was none in a rural/urban slum setting where most of the families reside - the gap being filled creditably by the medical officers who were in the vanguard of the formation of the Faculty.

The disillusionment of the young doctors in the long training period and the insufficient training posts for the various fellowships of the NPMCN are serious deterrents to young doctors seeking to improve their skill and knowledge.

It was against this backdrop that four general surgeons who were in or had supported rural practice (Prof S K Gyoh, Prof E Alufohai, Dr A C Sagua and Dr O A Awojobi) decided to co-opt their junior colleagues in rural/urban slum practices for the inauguration of the Association of Rural Surgical Practitioners of Nigeria, ARSPON, that took place in the home of Prof S K Gyoh in Gboko, Benue State on 12th January 2008. Present at the inaugural meeting were Prof S K Gyoh, Drs E R Saliu, A O B Adenuga, M H Adabanija, A C Sagua, Dr F N Atsen, O J Fatokun, Tule Terver Zua, Dzer Hembre, O Ajose, A Idoga, Pevkyaa Yandev, A Ikpren, Yaji Samuel, Amah Anselom, A Rijam and O A Awojobi. Apologies were received from Prof E A Alufohai, Drs A O Windapo, J K Ladipo, (Mrs) M A Ladipo, and R O Tijani.

One of the main aims of the association is to provide training opportunities for doctors to acquire surgical skills in a short period that will enable them provide safe and affordable surgery to the rural/urban slum poor using appropriate technology that is time tested, scientifically sound and culturally acceptable. This will be achieved in collaboration with relevant training colleges and universities.
We have had three national conferences held in rural practices of members: Dr A O B Adenuga’s Layo Model Hospital, Ikire, Osun State in 2008, Dr J I Umunna’s Jasman Hospital Limited, Udo-Izinhinite, Imo State in 2009 and Dr P Yandev’s TBT Hospital, Gboko in 2010. The first conference had an international flavour with the attendance of Dr Fassil Gebreegziabher from Tanzania. An innovation we have brought into conference literature is the publication in full the text of all the papers and guest lecture delivered on the occasion (www.ifrs-rural.com). This will constitute a resource for continuing professional education.

In November 2009, a 50-man contingent attended the joint conference of the International Federation of Rural Surgery, IFRS and the Association of Rural Surgeons of India, ARSI that took place in Pipalia, Rajasthan. During this conference, ARSPON was admitted into IFRS, Dr Awojobi was elected the secretary of IFRS and honoured with the fellowship of ARSI; Prof O O Ajayi and Dr J I Umunna were elected directors of IFRS. Nigeria won the bid to host the 4th conference of IFRS in November 2011.

It is hoped that in the nearest future, Nigerians who live in the rural areas will have access to affordable and safe surgical care and the Family Physicians would move out of tertiary institutions and provide the necessary service and leadership at the primary and secondary levels where they truly belong.

ABOUT AWOJOBI CLINIC ERUWA

Awojobi Clinic Eruwa, ACE, was founded in the rural town of Eruwa, Oyo State, Nigeria on 26th October 1986 by Dr and Mrs O A Awojobi. The couple had worked in the government District Hospital, Eruwa from 1983. However, due to bureaucratic bottlenecks, they resigned to set up ACE.

Dr Awojobi is a rural surgeon and Mrs Awojobi, a radiographer. Both received their training exclusively at the University College Hospital, UCH, Ibadan.

With the monumental support of the people of Eruwa and the guidance of their teachers, ACE started off in rented apartments but moved to the 20 acre permanent site in August 1990. This piece of land was donated to ACE by the traditional ruler and his people.

At ACE, appropriate technology has been adopted in the provision of water and energy supply and the fabrication of several hospital equipment like the manual haematocrit centrifuge, the operating table, the water distiller and autoclave that are powered by maize cob furnace, atraumatic suture and the pedal suction pump.

In the building industry, they have fabricated the portable concrete mixer, sandcrete mixer and vibrator for moulding interlocking cement blocks. This endeavour has reduced the cost of setting blocks in building houses by forty per cent.

In 2001, through a letter from Dr J K Banerjee of the Association of Rural Surgeons of India, ARSI, to their teacher, Prof O O Ajayi, the Awojobis attended the 9th conference of ARSI that took place in Puri, Orissa State. This interaction and the attendance of the Awojobis at the second conference of IFRS in Ifakara, Tanzania in 2007 eventually led to the formation of ARSPON and her affiliation with IFRS.

Dr and Dr Mrs Shipra Banerjee visited ACE in February 2009 on their way to the conference of the West African College of Surgeons that took place in Conakry, Republic of Guinea.

Dr Awojobi has been supported in no small measure by a senior colleague and mentor, Dr B G K Ajayi, an ophthalmologist and alumnus of UCH, Ibadan, who extended his urban-based practice by single-handedly funding the building of the ultramodern Akef El Maghraby Eye
Clinic adjacent to ACE in 2008 at a cost of 70 000 US dollars. Dr Ajayi had been using the facilities at ACE since 2001.

Since 2008, ACE has been in close collaboration with OPERATION HERNIA, OH, a UK based NGO headed by Prof Andrew Kingsnorth and Dr Awojobi is the coordinator of OH missions in Nigeria.

OH assisted in upgrading another theatre in the clinic with two air conditioners and the generator that powered them, provided three diathermy machines, four sets of surgical instruments and a portable electric autoclave. Each mission brought a lot of surgical materials and other equipment like the pulse oxymeter and electric suction machine which had been left behind for the use of the clinic. The services of all members of the missions had been rendered \textit{ex gratia}.

OH missions have created the opportunity of training Nigerian doctors and surgeons to perform the Lichtenstein mesh repair of inguinal hernias. In this regard, the assistance of Dr R Tongaonkar of ARSI who generously donated a large amount of the affordable Indian mesh is acknowledged and appreciated.

Each OH mission has brought the other benefits of medical tourism in the form of revenue generation for the local hotel industry (where members of the mission stay) and the goodwill generated from the reports of the visiting teams to their respective employing institutions in Europe. Members of the missions have indicated their willingness in building another operating theatre complex and recently, a member of the mission, Mr John Pickering, has raised the sum of £1 300 to install solar powered electricity supply in the clinic. The local transportation system and cafeterias have benefitted from the increased number of patients coming from the cities, towns and villages.

OH has used its website (\url{www.operationhernia.org.uk}) to increase the profile of ACE and its unique way of delivering health care to the rural populace on the global health map such that foreign medical students, surgical trainees and specialists have spent varying periods of two to four weeks in the clinic.

During the combined IFRS/ARSPON conference, OH will conduct a mission from 14\textsuperscript{th} to 18\textsuperscript{th} November 2011.

\textbf{REGISTRATION}

Please register at the email address of the conference secretariat.

The registration fee for delegates and accompanying person(s) is 100 US dollars \textit{per person} and is payable on arrival at the conference venue. It covers accommodation, conference materials, meals and transportation from Lagos to Eruwa and back to Lagos.

\textbf{YOU ARE WELCOME TO RURAL NIGERIA!!}
All protocols,

It gives me great pleasure to welcome our royal fathers, the communities, all our teachers, delegates and colleagues to this conference which is being hosted in Nigeria for the first time. What a significant and historic event.

Statistically, about 80 per cent of the country’s population are rural and sub-urban dwellers. We also experience the inverse-ratio when it comes to the distribution and building of health facilities like it is in some other parts of the world. The few cities we have in Nigeria are to a large extent not meeting with the urban and regional planning regulations hence we have slums dotted around the few planned layouts.

The theme for this year’s conference - TRAINING FOR RURAL SURGERY - can be looked at with a national perspective but what we have practically on ground now has been the concerted efforts of a few surgeons who decided to identify with the rural dwellers despite the comfort and other numerous opportunities that are obtainable in the cities.

Training for rural surgery in any setting will have fewer challenges if there is Public-Private Partnership that is jointly operated to the letter. But, in a situation where the rural surgeon or surgical practitioner takes up the responsibility without government support, then, there are bound to be uphill tasks of keeping trained manpower in the designated areas of training and ensuring that those trained have passion for identifying with rural dwellers. The ability to make do with the available infrastructure in a rural setting will be the goal of someone that has made up his mind to practice in the rural community. One of such facilities that will be very suitable for training in rural surgery is this venue of the conference - Awojobi Clinic Eruwa (ACE). We have similar facilities in some rural communities all over the country.

We hope the present government will put TRAINING FOR RURAL SURGERY as one of her priorities so that the future of safe and essential surgery in the rural communities can be guaranteed as this will reduce the drift to the urban areas for surgeries that can be handled in such rural settings.

This conference is going to be memorable in many aspects, more so, that we have the major stakeholders in our midst. I will implore delegates to take active part in each activity for the next three days and then go back with happy memories.

Once again, I welcome our kabiyesis, teachers, colleagues from abroad and all of us to this conference.

Thank you all.
GOODWILL MESSAGES

AN ADDRESS DELIVERED BY PROFESSOR MBA O. OKORONKWO, OON, DEPUTY VICE CHANCELLOR, ACADEMIC, NATIONAL OPEN UNIVERSITY OF NIGERIA, AS THE SPECIAL GUEST OF HONOUR AT THE 4TH BIENNIAL CONFERENCE OF THE INTERNATIONAL FEDERATION OF RURAL SURGERY (IFRS), AND FOURTH ANNUAL CONFERENCE OF THE ASSOCIATION OF RURAL SURGICAL PRACTITIONERS OF NIGERIA (ARSPON), HOLDEN AT AWOJOBI CLINIC ERUWA, ERUWA, OYO STATE, 16TH – 19TH NOVEMBER, 2011.

PROTOCOL

It is with great pleasure that I address the 4th Biennial Conference of the International Federation of Rural Surgery (IFRS) and Fourth Annual conference of the Association of Rural Surgical Practitioners of Nigeria (ARSPON), as the SPECIAL GUEST OF HONOUR today, on behalf of my wife, Lady Patience Nnenna Okoronkwo, I wish to thank the organizers for inviting us.

This is an event where men and women of the “knife and scissors” are gathered to discuss “TRAINING FOR RURAL SURGERY”, a topical issue that is relevant to the health needs of the teeming rural masses of this country, who have been neglected in matters of health. To the rural surgical practitioner, today is your day because today’s event can never be forgotten in history.

Anyadiegwu (2009), defined Rural Surgical Practice as “multi-disciplinary surgery under constraints to make surgical care accessible to the rural community in the rural areas”. He further noted that rural surgery is all about offering many other operative procedures that are not normally within the ambit of the general surgeon in tertiary institution. Rural Surgery requires courage, capability, resourcefulness and innovative spirit to struggle with very scanty resources, both human and material. Admittedly, 30% of Nigerian’s population live in city centres while, 70% are rural dwellers, predominantly farmers and artisans. It is these rural farmers who produce the food that feeds the nation and when they are indisposed, they would prefer to be near home for the care and support of their families; they would also appreciate avoidance of unnecessary expenses in transport fares, hotel accommodation, feeding and discomfort relatives (Gyoh, 2009).

The cost of health care has become less affordable due to the application of more sophisticated technologies for which running cost has to be recovered. The most damaging result is the people’s partial loss of confidence in modern scientific medicine which has provoked a mass exodus to syncretism, suspect religious organizations, a return to divination, spiritualism, exorcism and the bizarre health practices of the distant past (Ajayi, 2007, citing Awojobi, 2006).

Training for Rural Surgery is a component of rural surgical practice to enhance optimum performance, maintain standards and ensure best practices at all levels. This is very necessary because there is no denying the fact that basic comprehensive surgical care is the need of the vast majority of the over 150 million Nigerians. It provides surgical care at an affordable cost and also fulfills the objective of taking caring surgery to the door steps of our rural communities.

The National Open University of Nigeria (NOUN), is properly positioned to take on the Training of Rural Surgeons through the Open and Distance Learning Mode (ODL). This is because the University offers various academic programmes that lead to Certificate, Diploma and Degrees. The University offers open and flexible entry requirements to increase access and equity; degrees and diplomas by cumulative credits to allow the students time for earning or to attend to their other social obligations and commitments; multimedia course packages to suit not only the specific needs of a particular subject matter but also the differing learning habits and techniques; courses are prepared by course teams including a variety of experts to provide up-to-date and rich content and specialized instructional design for easy access, grasp, retention and retrieval; programmes made available to
students at their own places, to be completed at their own time at their own place, and in most cases at affordable costs.

The programme on Rural Surgery as is being proposed, is meant for MBBS doctors having degree or diploma in either of the general surgery, Orthopaedics and Obstetrics and Gynaecology. It is a comprehensive package comprising of general surgery, specialty surgery, orthopaedics, obstetrics and gynaecology and ENT. Brief essential components of radiology, anaesthesia and practical tips on setting up a private nursing home have been covered in the curriculum.

I must commend Dr. Oluyombo Awojobi, one of you, who has placed rural Eruwa on the world map through hardwork in rural surgery and humility. I have seen at a very close range, the appropriate technology in primary health care as espoused by late Professor Olikoye Ransom Kuti and also other biomedical inventions of Dr. Awojobi. I say more grease to your elbows.

I wish you a very successful conference and happy deliberations.

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TRAINING OF BIOMEDICAL ENGINEERS FOR RURAL MEDICAL PRACTICE IN DEVELOPING COUNTRIES - CHALLENGES AND PROSPECTS

by

PROF I A ADEYEMI
Vice-Chancellor, Bells University of Technology, Ota, Ogun State.

Biomedical engineering can be described as “Application of engineering principles to understand, modify or and control human/biological systems”. In broader terms, biomedical engineering involves the following:

- Detection and monitoring of physiological signals
- Therapeutic and rehabilitation devices/procedures
- Devices for replacement/augmentation of bodily functions
- Medical imaging

A Biomedical Engineer should therefore be somebody who has been sufficiently and adequately exposed to the basic principles of engineering and those of medical practice to enable him carry out the role or assignment which the above definition confers on him. He must be a Bioengineer, Instrumentation Engineer, a Biomaterials Scientist, an Orthopedic Surgeon, an Ophthalmologist, a Dental Surgeon, a Technologist and Technician, all in one. As is the case in other fields of engineering, he must be a graduate who must have been exposed to the rudiments of research and development and may, therefore, by choice of career be a Research Scientist.

Biomedical Engineering is a multidisciplinary field and a student intending to be a biomedical engineer must be adequately exposed to all these areas.

The two major institutions available for his training are the Universities and the University Teaching Hospitals. In addition to these, he must spend quality time in other related engineering and health Institutions that are located outside these two.

In order to be able to adapt well to Rural Medical Practice, the Biomedical Engineer as a student, must have been exposed to the best of training inside the University. He must also have received training in ‘improvisation and adaptation’ in order to survive in the rural area where the things
(equipment and otherwise) that will be available or the situations he finds himself in may be at variance with those inside the universities and hospitals which are located in the urban centers. He may need to be a manufacturer of simple devices; hence he needs to undergo a course in design and manufacturing while in school. He also needs tutorship under electrical technicians in how to maintain power supply while operation is going on in the theatre and so on. He will definitely need training in entrepreneurship.

CHALLENGES OF TRAINING FOR RURAL MEDICAL PRACTICE IN DEVELOPING COUNTRIES.

The challenges of training a good Biomedical Engineer are many and these are compounded by those problems that currently bedevil our higher institutions of learning. Some of these include:

- Acquisition of up-to-date technological equipment to meet the professional challenges, for instance, up-to-date computer software.
- Lack of raw materials to be used in making the required equipment to meet both rural and international standards.
- Poor training standard in comparison with counterparts in developed countries.
- Erratic power supply would be a great challenge in manufacturing, maintenance and clinical trials.
- Poor funding and lack of properly conducted research which is fundamental to the discipline.
- The quality of the training delivered to the prospective Biomedical Engineers.

PROSPECTS

Considering the outlined activities of a Biomedical Engineer, the horizon is bright and the job prospect is good. However, these aforementioned challenges will pose a serious threat in the realization of these laudable ideas.

The rural community would be able to benefit from the immense modification of the delivery of health care system with the innovation that comes with good training, exposure and opportunities for research to a prospective Biomedical Engineer as he would be able to modify equipment to meet the needs of the rural community which is in dire need of his services.

Furthermore, emphasis worldwide now, especially in developing countries, is on improvement in primary as against conventional or highly sophisticated health care delivery system. It can, therefore, be adduced that Biomedical Engineering is a highly virgin and fertile field in developing countries.

BELLS UNIVERSITY OF TECHNOLOGY AND TRAINING IN BIOMEDICAL ENGINEERING

Bells University of Technology, Ota, established in 2005, is the first private university of technology in Nigeria. Currently the University has six Colleges including the College of Engineering which was established in 2008. One of the novel programmes in the College, now in its third year, is Biomedical Engineering with twenty (20) students on the programme. As a University without a Medical School, the University had to explore linkage possibilities with established Institutions with Medical Colleges and a Rural based Medical Centre. I am pleased to place on record that the Biomedical Engineering in Bellstech has one of the foremost rural medical surgeons in the world, Dr O A Awojobi, on its staff list and with a formal linkage agreement signed between his clinic (AWOJOBI CLINIC ERUWA) Oyo State and Bells University of Technology. Linkages are being explored with other Institutions and hospitals within and outside Nigeria.

In concluding this address, I wish to thank the organizing committee of this conference for the opportunity to address this international gathering of eminent personalities in rural medical practice and to state that our doors are wide open in Bells University of Technology, Ota where the President/Chairman, Board of Trustees, Emeritus Professor O O Akinkugbe, is an icon in the medical profession. We are willing to partner with you in filling one of the missing gaps in health care delivery system in Nigeria which is Biomedical Engineering.

I wish you fruitful deliberations, the outcome of which, I hope, will be beneficial to rural dwellers worldwide.
PAPERS AT SCIENTIFIC SESSIONS

PRELIMINARY RESULTS COMPARING NON-OPERATIVE TO OPERATIVE SPINAL FRACTURE MANAGEMENT IN A TRAUMA CENTRE IN TANZANIA

A B Anthony MD
Muhimbili Orthopaedic Institute,
Dar es salaam
Tanzania.

BACKGROUND

Clinical presentation and radiological findings of a spinal injury determine the objectives of management. The aim is to decompress the neural elements, realign and stabilize the spine and get the patient out of bed early. A retrospective analysis of patients with spine injuries was undertaken at Muhimbili Orthopaedic Institute in Dar es salaam Tanzania for a period of one year.

METHODS

Case notes and radiographs of patients managed from March 2008 to August 2009 were reviewed with reference to ASIA score on admission, at discharge and on last follow up, length of hospital stay, complications and length of follow up.

RESULTS

Forty patients were seen. Male to female ratio was 4:1. Age ranged between 7-71 years with a mean of 35.5 years. Twenty patients had motor vehicle injuries, 12 fell from heights and others were gunshot, assault and domestic falls. Patients who had surgery stayed in the ward for an average of 13.72 days compared to 41.96 days among those who were managed conservatively. Nine patients (81.8%) surgically managed who had neurological deficit improved 1 to 3 ASIA score on discharge. One patient in surgery group (9.1%) developed grade 1 right heel pressure sore compared to 7 patients (24.1%) in the other group who had grade 3 to 4 sacral sores. Eleven patients (27.5%) could be followed up for a period ranging between 3 weeks to 12 months.

CONCLUSION

Early surgery to patients with spinal injury reduces duration of hospital stay, minimizes incidence of developing pressure sores and improves neurological recovery. As this is an ongoing study, more time is needed to recruit more patients and follow them up for a longer period.
INTRODUCTION:
Rural surgery in Tanzania date back to the pre-western civilization when village healers employed various means of the “healing art”.

Western medicine is recorded to have started in 1800s when Sultanate of Zanzibar was formally established in 1832 when Sultan Seyyid Said, ruler in Oman, moved his capital from Muscat to Zanzibar. Western colonial powers established Embassies at Zanzibar. The French assisted the French missionaries of the Holy Ghost Fathers in 1868 to establish the first dispensary on the Mainland at Bagamoyo. The inception of this marked the RISE of western medicine.

In 1895 a prominent Indian merchant by the name of Sewa Hadji Paroo donated the First Hospital to the Holy Ghost Fathers who managed this Hospital until 1912 when it was handed over to the German Administration.

A new two-storey hospital was built by the Germans in 1912 nearby the acquired old hospital from the Holy Ghost White Fathers. The Hospital survived both the 1st and 2nd World Wars and although its upper floor was condemned and removed in 1954, the main building of the hospital was refurbished and formed the central core of the present Bagamoyo District Hospital today.

As a matter of a very important historical note, the same Indian merchant had been approached by the First Chief Medical Officer in the German Administration Dr. Alexander Becker for the building of a Modern Hospital in Dar es Salaam in 1893 and, appropriately, was named SEWA HADJI HOSPITAL. When the British took over administration of Tanganyika, first medical training schools were opened for Assistant Health Inspectors, Laboratory Technicians and Medical (Hospital) Assistants. The SEWA HAJI Hospital functioned as such for 67 years until 1961 when it was replaced by Princess Margaret Hospital which later was renamed Muhimbili Hospital.

RURAL HEALTH SERVICES
It was anticipated that the functions of Regional Hospitals and District Hospitals throughout the country would cover and deliver medical care including specialists’ services in the rural areas. This expectation springs out from our ambitious programmes whereby a trained surgeon would be stationed at every Regional Hospital centre. This dream has not been realized due to multifarious nature of obstructions containing brain-drain, natural reduction, and new-trained surgeons being absorbed in the training institutions and personal dislike of surgeons abhorring working in the rural areas.

The result of all these factors is that the rural areas are without surgical services. Moralists say that this is because urbanized professionals loath to live in hardship. Old missionary doctors used to like the romantique of remoteness and never had to worry about the education of their children, or about social security, they chose that life hoping the rewards in a better world (Loefler 1986).

SURGERY AT A RURAL CENTRE
Surgery at any level must be a safe procedure. It demands competent surgeon, aseptic environment and equipment. If surgery for the community is to be of benefit, it must be accessible whenever needed on regular pattern.

OUT-REACH VISITS
There is an out-reach programme carried out under the African Medical Research Foundation (AMREF) operated from Nairobi to send specialist doctors to the Regions from city-centre medical institutions like Muhimbili National Hospital in collaboration with Muhimbili University. Similar programmes function from KCMC in Moshi and Bugando in Mwanza.

SURGICAL CAMPS
The (National) Tanzania Surgical Association at times organizes teams of surgeons to districts where “there is no surgeon” to ‘camp’ at these hospitals for a week conducting out-patient clinics and surgeries. The shortcomings of such CAMPS is that the distance from the Centre is too wide to be demand-effective.

ROLE OF REGIONAL HOSPITALS

These CAMPS should be frequent, regular and accessible. Such CAMPS can thus be very much target-effective if they are organized from Regional Referral Hospitals of every Regional Hospital.

LOCAL RURAL SURGERY

An ideal situation to deliver surgical care will only be achieved if proper surgery services will be available beyond the district hospitals. This big dream can only be attained if surgeons will be available within the district area of jurisdiction. This is a very ambitious expectation but it can be achieved if a deliberate programme to attract, invite, and recruit retiring specialist surgeons take up special posts in the District Administration or make special accommodation to be made, especially by District Councils to encourage indigenous surgeons RETURN to their villages and establish surgical centres in the rural areas.


**INCIDENCE OF LEFT AURICLE THROMBUS AT ATRIOTOMY IN RHEUMATIC HEART.**

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OBJECTIVE
The purpose the study was to documents observed left auricle thrombus in patients having left atriotomy at a new cardiac unit in developing country Tanzania with high prevalence of rheumatic heart disease.

METHODS
Patients demographic data; residency; echography; left auricle findings, and surgery documented in patients who had left atriotomy from May 2008 to January 2011 and analyzed with SPSS.

RESULTS
One hundred and thirty four patients 89 females (66.6%) and 45 males (36.6%) with mean age 23.78±11.6 (range 7 to 58) years had left atriotomy for:- mitral valve replacement 82 (61.2%), repair 45(33.6%), open mitral commissurotomy 5 (3.7%) and myxoma 2 (1.5%). Indications were:- mitral regurgitation 89, (66.4%), mitral stenosis 43, (32.1%) and myxoma 2, (1.5%) respectively. Seventy patients (52.2%) were from rural setting and 64 (47.8%) urban. Three (2.2%) patients had left atrial thrombus, all from rural habitat; two male with mitral regurgitation, and one female with mitral stenosis in age range of 30-39 years. Preoperative Transthoracic Echo (TTE) detected thrombus in two patients, with one male patient diagnosed intra-operatively. Remarkably while the thrombus extended into the left atrial wall, laminated, and fixed; atrial fibrillation and left atrial diameter more than 8.5 cm were common findings in all patients. No embolic phenomenon noted in these patients.

CONCLUSION
Left auricle thrombus is rare though common in patients with atrial fibrillation and is associated with thrombo-embolism, none noted in our three patients. The left auricle thrombus missed on TTE had risk of embolization during cannulation and initiation of cardiopulmonary bypass (CPB). Caution should be not to manipulate the left atrium before aortic cross clamp application during CPB. The preponderance of thrombus in patients from rural setting needs further studies.
CASE REPORT

Mrs AY is a 20 year old house wife - a primigravida that presented in labour after having been managed in a nearby maternity home with the labour already fully established but which they later discovered that the external cervical os could not be located.

The patient was admitted into the labour room and general examination revealed a young primigravida, not apprehensive of why she was referred to us, BP was 115/80 mmHg - sitting position, no leg swelling. Abdominal examination revealed a fundal height of a term gestation and fetal heart rate was 124/min and regular. Vaginal examination revealed a well formed vagina but with a fibrous band midway up into the vagina and with a pin-hole size of orifice in the upper vault of the vagina anteriorly. There was no anterior fornix or posterior fornix as it was more of hypoplastic upper vault. It was then apparent that the patient would not have a vaginal delivery. This anatomical anomaly was explained to the husband who then agreed that Caesarian Section operation be carried out on the wife.

After the surgery, the pinhole orifice was widened and a plastic mould, non-collapsing, was inserted from the uterus to link up with the vagina. Post operative days were uneventful and the patient was discharged on the 8th day post-up for follow-up at the outpatient dept. To ensure that the passage created did not close up, the couple was counseled on the need for child spacing so that the patient’s condition could be fully reassessed before the next pregnancy.

DISCUSSION.

The uterine cervix, the lowest region of the uterus, attaches the uterus to the vagina and provides a passage between the vaginal cavity and the uterine cavity. The cervix, only about 4cm (1.6 inches) long, projects 2cm into the upper vaginal cavity. The cervical opening into the vagina is called the external os, the cavity running the length of the cervix is the endocervical canal, the opening of the endocervical canal into the uterine cavity is the internal os.

The endocervical canal transports semen into the uterine cavity. When it is time for childbirth and the patient falls into labour, gradually the lower uterine segment is formed. This forms a continuous stretch into the cervical musculature that now thins out to accommodate the head of the baby as the uterine contractions gradually assist in the descent of the baby through the cervical canal into the vagina and eventually for delivery.

It is an uncommon finding to have a hypoplastic cervix. Full prenatal examination could have revealed the hypoplasia of the upper vagina and cervix during routine vaginal examination at the ante-natal clinic in this patient. The husband was a young man of 25 years who later admitted to the shallow vagina but never knew what the normal one should be during coitus. He could not ascertain if it was normal as that was his first encounter and has been the only sexual partner till date. Premarital counseling is of great relevance especially when both couples are under the age of 25 years or if their generational age is going to be 21 years as against the normal range of 26 to 30 years. Early referral prevented the patient from going into obstructed labour and this is one of the areas that the maternity homes deserve commendation as against what it was many years back when patients would have been fully obstructed before they were referred to the appropriate health facilities.
The hospital is a community based hospital in Oyo town, established on the 7th of December 1988. Oyo town is located 50km northwards from Ibadan. It has a state hospital which in the past rendered services in line with what a state hospital is supposed to offer. Situations have changed in recent times as such facilities are now inadequately manned as most doctors will prefer to work in city hospitals.

Momoh Memorial Hospital (MMH) is among the 17 health facilities in the four local government councils in Oyo zone. Most of the inhabitants are peasant farmers and petty traders. MMH has its own bore-hole for supply of running water. There is a 25ft deep local well that serves as back up for local use when water is yet to be pumped from the bore-hole. MMH is a 37 bedded hospital being manned by 5 doctors with 3 among the doctors residing in the hospital premises. All other cadres of staff were employed from within the community. The beds are of local fabrication by community based welders. The theatre table was fabricated with a designed local hydraulic jack improvised by Dr O.A Awojobi.

No special days are set aside for surgery as procedures are being carried out as they present and are ready for surgery after the basic pre-operative work up. Whenever post National Youth Service Corps doctor is employed, he/she is made to assist in the theatre for the first 3 months after which he is allowed to operate under supervision and advised to keep studying continuously. The doctors are encouraged to read and pass their primaries such that they can proceed to the specialty of their choice within 3 years of being employed.

Primary care surgery is entrenched in the daily activities of the hospital as the support services from the laboratory, X-ray, Physiotherapy, Ultrasound, Pharmacy, Records and Nursing services are sourced from within.

Each rural environment has its own characteristic features. Our own community has the following features; (1). Income per head is low compared to their counterparts that are urban dwellers. (2). Choice of work is limited as there are more opportunities in the cities. (3). Family life is highly observed with lots of benefits when it comes to all forms of support from extended family members unlike in the cities where dysfunctional families are on the increase. (4). Many morbid conditions are still on the undifferentiated stage hence if properly handled most of these patients would always remain grateful to the attending medical doctor. (5). The issue of difficult patients is not yet a threat apart from the non-paying patients whose conditions are understandable.( 6). For doctors that are very disposed to primary care among rural dwellers, litigations are rarely heard of as the human efforts of the attending doctor is most often appreciated by these rural dwellers. (7).This disposition further encourages the care giver to grow gradually on the job with skill aquisition that has no hindrance. (8). As many sophisticated equipment may attract high health bills, the place of improvising modern technology has made it possible for patients in the rural areas to access such health facilities at affordable bills. (9). It has been observed that 80 percent of the surgical conditions are handled at primary/secondary care levels without much sophistication and at bills that are affordable. (10). Skill acquisition by the young doctors is usually with no major distractions as there are fewer stressors. (11). Outcomes of surgeries are usually good once the basic aseptic measures are observed. (12). Health promotion sessions are usually very well appreciated as they have enough time to spare for such sessions in a rural setting. (13). Unhealthy nutritional lifestyles now causing dislipidaemias in the Western world and city dwellers is not among the health indices that can pose threat in a rural setting. (14). All categories of staff are recruited from the community hence training them on the job and their subsequent services to the community makes it a win-win situation as this has made it possible for MMH to have some staff employed in 1989/1990 to still be among the very active workers as pension scheme and other welfare packages are made available to them.

In summary our own training in rural surgery has been a multifaceted task. It entails recruitment from the community and making use of available tools thus ensuring that the health care services are affordable and acceptable by the inhabitants of the community.

CHALLENGES

(1). The young boys and girls are occasionally attracted to the city by other job opportunities or when they get married especially when a hard working young nurse needs to relocate to join husband in the city. (2). Part-time educational opportunities that are weekend programmes are readily available in
cities irrespective of the discipline. (3). Access to all available networks of internet services and cybercafes are only obtainable in cities. (4). Electricity supply is a common denominator to all of us in Nigeria and that has made us to design theatres and wards with good natural illumination and ventilation.

SKILL ACQUISITION AS A RURAL SURGEON - MY STORY

Dr L.A. Durojaye
Maciland Medical Centre, Ijegun-Ikotun, Lagos.

Ijegun-Ikotun is an Awori community in Alimosho Local Government Area. The area can be regarded as one of the urban slums of Lagos state with prevalent population of Igbo and Yoruba. The particular location of Maciland Medical Centre is the interior part of Ijegun in which there are no good roads and portable water. The power supply in the area is equally erratic.

My wife and I started Maciland Medical Centre in 1996 without much skill, especially in the area of surgery. So we had to depend on other surgeons for all our operations. This continued till 2004 when I travelled to Congo Brazaville to see a friend that we schooled together in Russia. While in Congo Brazaville, I saw how costly medical or health dispensation was and immediately I began to nurse the idea of having a medical outfit over there. Then I realised how my ability to conduct surgical operation will also be an added advantage.

Back in Nigeria, I began to make effort to acquire the skill but all to no avail. All my surgeon friends were not taking me serious. My search continued until 2008 when I came across an advert in the paper by Dr Tayo Apampa which I responded to immediately. I was invited to Korede Hospital, Onikolobo for an interview. At the interview, I made him realise how badly I wanted the skill. By October 2008 I started working at Korede Hospital.

The training afforded me the opportunity of travelling to Awojobi Clinic Eruwa where I was exposed to surgery. This continued two weeks intermitently every month. After my second visit I began to acquire the skill. I began to close skin after operation and within short period of time I did my first Herniorrhaphy under the supervision of Dr A C Sagua who always came to Awojobi Clinic Eruwa twice a week.

Dr Ogunsina, who was one of our trainers at Korede Hospital, then invited me to OGRUMED’s Outreach (Ogun State Rural Medical). At the outreach, I was able to try my hands on several herniorrhaphy cases. Within a short period of time, I began to do C/S and operations for ectopic pregnancy.

With the concept of surgery at an affordable rate which I learnt at Eruwa and an attempt to be relevant in the society, I began to organise surgical programes under the umbrella of the Association of Rural Surgical Practitioners of Nigeria at Maciland Medical Centre in which over hundred cases have been treated. The skill of surgery has brought blessing to Maciland Medical Centre as cases like thyroidectomy, myomectomy, hysterectomy, prostatectomy and other cases have been done routinely by the attending surgeon, Dr Sagua. Below is the table of cases done in all the surgical workshops at Maciland Medical Centre till date.

My sincere appreciation goes to Dr Tayo Apampa who I always regard as my saviour. Meeting him has set my career on a good path. He showed me the world of a competent general practice and he introduced me to people I will forever remain grateful to God that I met in my life e.g. Dr Oluymombo Awojobi and Dr A.C. Sagua. Dr Awojobi exposed me to surgery at affordable rate and Dr A.C. Sagua who supervised my first Herniorrhaphy and since then he has always been there anytime I call for help.
### CAESAREAN SECTION CASES IN NDUBUIS MEDICAL CLINIC IN 2009 AND 2010

Dr J N Afuka

**INTRODUCTION:**

Ndubuis clinic is a ten bed clinic with one attendant doctor, two staff nurse/midwives and ten nurse attendants; located at the heart of Mbaise. The clinic is patronized by patients from local government areas of Aboh Mbaise and Ezinihitte even though it is located in Aboh Mbaise. From the Statistical year book of 2006 of Imo State of Nigeria, Aboh Mbaise has a land mass area of 185.5 Km² and a projected female population of 92,461 for 2005; while Ezinihitte has a land mass area of 108.30 Km² and a projected female population of 74,513 for 2005.

**METHOD OF DATA COLLECTION:**

The data for this study were collected from the clinic delivery register for January 2009 to December 31st 2010.

**RESULT:**

<table>
<thead>
<tr>
<th>S/N</th>
<th>Nature of the Operation</th>
<th>Number of Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Thyroidectomy</td>
<td>19</td>
</tr>
<tr>
<td>2</td>
<td>Myomectomy</td>
<td>12</td>
</tr>
<tr>
<td>3</td>
<td>Hysterectomy</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>Prostatectomy</td>
<td>8</td>
</tr>
<tr>
<td>5</td>
<td>Breast lump</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>Head lump</td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>Hernia</td>
<td>56</td>
</tr>
<tr>
<td>8</td>
<td>Hand contracture release</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>Hydrocelectomy</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>Orchidopexy</td>
<td>3</td>
</tr>
<tr>
<td>11</td>
<td>Lipoma</td>
<td>2</td>
</tr>
<tr>
<td>12</td>
<td>Keloid</td>
<td>3</td>
</tr>
</tbody>
</table>

**ANALYSIS OF THE REPORT:**

Two hundred and twelve deliveries were carried out in Ndubuis Clinic from January first 2009 to December 31st 2010. Out of thirty three deliveries were by caesarean sections constituting 15.15% of all deliveries during this time period and 45.45% of these cases were in the age group of 21yrs to 25yrs. The indications for caesarean sections were as follows:
1. Breach presentation in a primipara 03
2. Ruptured ectopic pregnancies 03
3. Prolonged obstructed deliveries due to cephalo-pelvic disproportion (CPD) 10
4. Severe eclampsia 03
5. Hand prolapsed 02
6. Cord prolapsed 01
7. Elective due to previous Caesarean section due to CPD 02
8. Unbooked cases referred from maternities due to CPD 07
TOTAL 33

CONCLUSION:

These figures are consistent with what obtains elsewhere and in agreement with the World health Organization figures. The World Health Organization has determined an “ideal rate” of all cesarean deliveries (such as 15 percent) for a population. One surgeon’s opinion is that there is no consistency in this ideal rate, and artificial declarations of an ideal rate should be discouraged. Goals for achieving an optimal cesarean delivery rate should be based on maximizing the best possible maternal and neonatal outcomes, taking into account available medical and health resources and maternal preferences. This opinion is based on the idea that if left unchallenged, optimal cesarean delivery rates will vary over time and across different populations according to individual and societal circumstances.

VAGINAL HYSTERECTOMY UNDER LOCAL ANAESTHESIA

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Contact Us: 02169-225161, Fax: 02169-226041

Uterocervical prolapse is quite common in India, more so in the rural India. This is attributed mainly to, more number of deliveries, short interval between the births, birth injuries and home deliveries by untrained dais, prolonged labours, early age of marriage and thereby early age of delivery, lack of rest between the pregnancies, social shyness: neglected old agers and poverty … Nutritional Anaemia mainly Iron and Folic Acid deficiency. The Problem of prolapsed is quite miserable 25yrs after independence, 75% of population of this country, which lived either in villages or in urban slums, had negligible access of a qualified Gynecologist or a surgeon! Forget about Anesthesiologist or a pathologist. Few surgeons and Gynecologist ventured to go to small towns without Anesthetists branch was only a bud in 1970’s and 80’s.

I started my practice in 1989 in a small town in Satara district. I had learnt the basics of Gynecology and anesthesia from my friends: I had learnt to intubate patients on cadavers. I had no certificate of a trained Gynecologist or an Anesthetist. Situations made by double up ‘in my carrier. I started performing operations under Local regional spinal open drop and intubation anesthesia. Rather, I had no choice as I was without anesthesiologist! In rural: fact ce, one has to be a jack of all and master of SURGERY.

In a rural practice, I had no Acharya and no Dronacharya., but I had books, good basics, and deep desire to learn …EKLAYA education is my Example of life.

One fine morning of 1996, I was to operate a case a 65 yrs old lady with procedentia & kyphoscoliosis, diabetes and hypertension. A high risk and refused on the grounds of DM, HT. And told by relatives that the wound would not heal! I tried for spinal anesthesia several times but in vain. Then I just gave a thought why not try ‘Local?’ I explained the procedure to the old grandma gave her a ‘lytic cocktail’ and infiltrated the vaginal tissues in planes keeping in mind the toxic dose of xylocaine. To my surprise, Grandma gave me excellent co-operation. I was quick too, to finish the operation in 30-35 minutes. It was a great day for me. But then I thought, I would seek for reference and improve myself. I opened books, called friends there was no reference at all! Vaginal hysterectomy under local Anesthesia! This was very cost effective, quick, cheap to the patients and to the surgeon too! No complications and no risks especially of anesthesia. As a matter of fact my
selection criteria was ‘refusal or unfit for surgery under spinal or general anesthesia’ The another advantage was I needed no sophisticated operation table no special instruments! I have performed on the most simple op. Table! Any poor patient can afford to undergo this surgery, as it was very cheap. No old women should die with procedensia untreated, cause she is refused on the grounds of ‘high risk’ or ‘no money’!

METHODOLOGY

- Materials
- Indications
- Neuroanatomy
- Geriatric problems
- Procedure
- Advantages
- Conclusion

Criteria For Selection

1. Procedentia with menopausal uterus, grade 3 prolapse
2. Unfit for G.A. /S.A.
3. Associated IHD, HT, Spine defect old age debility.
4. Unacceptability fo ring pessary.
5. Pull test.
6. Patient stabilized with medical problems (HT,DM,COPD,etc)
8. Patient compliance is necessary ( Pre-op counseling useful )

MATERIALS:

245 CASES BETWEEN 1996---2010

<table>
<thead>
<tr>
<th>AGE IN YRS</th>
<th>NO. OF CASES</th>
<th>RISK FACTORS</th>
<th>SPINE</th>
<th>CHEST PROBLEMS</th>
<th>RHD</th>
<th>ANEMIA DEBILITY / OTHERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>LESS THAN 40</td>
<td>26</td>
<td>- 2 4</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>15</td>
</tr>
<tr>
<td>41-55</td>
<td>65</td>
<td>4 8 6</td>
<td>-</td>
<td>8</td>
<td>-</td>
<td>22</td>
</tr>
<tr>
<td>56-65</td>
<td>69</td>
<td>6 16 12</td>
<td>8</td>
<td>12</td>
<td>1</td>
<td>27</td>
</tr>
<tr>
<td>66-75</td>
<td>35</td>
<td>- 6 4</td>
<td>4</td>
<td>14</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>76 AND ABOVE</td>
<td>30</td>
<td>- 3 7</td>
<td>10</td>
<td>18</td>
<td>1</td>
<td>12</td>
</tr>
</tbody>
</table>

PROCEDURE:

PRE ANASTHETIC SEDATION-Aim is to Provide Analgesia during operation

COMBINATION OF FORTWIN+ CALMPOSE, KETAMIN+MIDAZOLAM , FORTWIN + PHENERGAN WERE USED.

Steps

- Lithotomy position given.

Simple O.T. table

More Comfortable with Foam & leg rest.
Preparation of Xylocaine

30 cc Xylocaine with or without adrenaline/SENSORCAINE + 30 cc Distilled water Adrenaline avoided in HT & IHD cases. Doses were calculated as per the weight of the patient.

- Cleaning & draping is done. Gently hold the Cx using vulsellum forceps. Pull the Cx. You will hardly find pain. Empty the bladder by using metal catheter and gauge the lower limit of Cystocele. Here, folay catheter can be used instead of metal catheter and pre-operative folay's indwelling catheter has an advantage. The bladder always remains empty because if the surgical time is prolonged, the full bladder causes discomfort and pain during operation hence now a days I prefer first indwelling catheterization and then surgery.
- 10 cc Xylocaine infiltrated in anterior vaginal wall. This provides easy plane of dissection between vaginal wall, bladder and uterus. Use of adrenaline minimizes oozing and prolongs action of Xylocaine.
- 5cc xylocaine infiltrated into each lateral vaginal wall.
- 5cc xylocaine infiltrated into posterior vaginal wall.

Pudendal Nerve

Pudendal nerve bloc GIVEN

Pudendal nerve is sensory as well as motor. It is blocked at the landmark of Ischia spine by guiding index finger of left hand and injecting 10cc xylocaine by right hand for patient’s left side and vice versa. Now wait for 3 minutes

After palpating the greater sciatic notch, with the use of spinal needle xylocaine is infiltrated in a fan shaped manner.

- Two triangular flaps of ant vaginal wall are raised & reflected as laterally as possible. Bladder pushed upwards as high as possible. 2cc Xylocaine infiltrated at the vascico-uterine peritoneum.
- Lat. & posterior vaginal walls dissected from the Cx. This exposes mackenrodt & cardinal ligaments with the same place. 2cc Xylocaine Infiltrated before opening Douglas pouch and the pouch is opened as shown below
- Left index finger is passed through the pouch of Douglas and vascico uterine peritoneum is opened. Bladder pushed behind the symphysis pubis.
- Stepwise hysterectomy is performed by clamp & divide method. The suture ends of mackenrodt & tubo-round lig. Pedicals are kept long. Do not apply any forceps to the skin.
- Peritoneum of the fold of bladder and Dougls pouch identified and held with forceps.
- Peritonization is completed using no. 1-0 chromic catgut by a purse string suture. Posterior peritoneum should be picked up at the highest possible level to prevent Douglas hernia.
- Redundant peritoneum of Douglas pouch needs excision
- I put an additional triangular stitch to prevent Douglas hernia. The stitch starts from left mackenrodt and round ligament & through peritoneum of Douglas pouch and then comes out on right side. This forms additional sling to prevent Douglas hernia.
- Now repair of cystocele is done by modified mayo ward stitch using 1-0 catgut. Dissected fibro muscular layer can be sutured by ‘pants on waist’ method. 3-0 vicryl provides better strength and effective support to the bladder.
- Excise the redundant vagina guiding index finger so that excision doesn’t overlap the sutured fibro muscular layer or pedicals.
- Redundant vagina is sutured in an inverted in an inverted T fashion by using no. 1 chromic catgut.
- Metal catheter tells us that there is no damage to the bladder and urine output is also good! Packing of vagina becomes very easy. Decompression gives rest the fibro muscular sutures (cystocele repair). Posterior perinorrhaphy can also be performed at this juncture.
- Foley’s catheter is inserted. A roller pack soaked with Betadine ointment is inserted into the vagina. Remember index finger is the best packing forceps.
- I put a stitch across the labia majora (S stitch or Shivade stitch). This has certain advantages. It prevents the pack from coming out especially when the patient coughs or strains during defecation. I have seen patients with packs half in, half out.
- I perform Lords anal dilatation in each and every case. This gives rest to the perineum, it itself is a treatment for first degree piles and fissures which is a very common presentation with procendicia. Thirdly post op pain is much reduced.
- Average time required for the procedure is 30-35 minutes. Only one assistant (unqualified but trained by me) required. No anesthetist needed. No intra-op complications were noted. No case needed conversion to S.A.or G.A.

**POST-OP TREATMENT**
1. Feeds after six hours.
2. Early ambulation.
3. Sphincter contraction exercise on 3rd post-op day.
4. Removal of stitch and pack on 2nd post-op day
5. Removal of catheter on 5th post-op day
6. Discharge on 7th post-op day.
7. Antibiotics= ciprofloxacin + Tinidazole for 6 days.

**ADVANTAGES**
1. Economy / cost effectiveness – Economy for the patient & for the surgeon. Only one unit of IN. required. In only one case blood transfusion was given.
2. Average blood loss 100-125 cc
4. Acceptability was 100%
5. Anesthetist not required. No patient needed ventilation / oxygen.
7. Minimum hospitalisation 6-7 days.
9. No post-op analgesics required.
10. Can be done with the simplest operation table and doesn’t require very sophisticated table
11. Quality of done of a old women is markedly improved. An old lady with procedentia and a dangling uterus with a wadaling gait is an awkward sight. The same lady goes home with a smile for she has become more ‘young’ and has not lost many coins!

**Discussion**

Geriatric patients are always a problem for the anesthetist especially for major surgical procedures. There is progressive diminution of the cardiopulmonary function, reduction in the hepato-renal microsomal enzymatical activity, progressive degeneration of the CNS, ANS, PNS due to age. There is structural and functional loss of neurotransmitters and reduction in number of neurosensory end organs. This all leads to increasing pain threshold to initiate all forms of perception of pain touch, smell, etc…. There is qualitative reduction in the affinity of adreno receptors for both agonist and antagonist molecules. This phenomenon is called as differentiation. Hence the old man or the woman can dear pain. I have taken advantage of this.

**CONCLUSION**

Vaginal hysterectomy under local anesthesis is a simple & safe technique, gives excellent results even for high risk cases, is cost effective & should as an innovative for the rural surgeons.
INCIDENCE OF FIBROID (MYOMA)
Among Women Of Child-Bearing Age. A Case Study Of Ndukwu Hospital In Amaifeke Orlu L.G.A Imo State Nigeria

INTRODUCTION
Fibroid (MYOMA) is a benign tumor of smooth muscle that develops in or around the uterus. Fibroids are common and affect about 20% of child-bearing women of over 30 years of age. Women of African descent are two to three times more likely to develop fibroids than women of other races. The cause of fibroid is not known, however their development seems to be associated with the female hormone, estrogen. Fibroids appear during the childbearing years when a woman's estrogen level is high period. Other factors are family history, having the first menstrual period (menarche) prior to age 10, consumption of alcohol (beer), uterine infection, and hypertension. Fibroids may not produce symptoms, but may cause abnormal vaginal bleeding or discomfort. Fibroid develops in different shapes, size and occupy positions in uterus such as intra mural, subseros, submucous, pedunculated, and parasitic. (source: PubMed).

Objective: To document ten years myomectomy carried out at Ndukwu Hospital, the age range, and parity of the patients, location of the fibroid in uterus and reason for surgery.
Method: A ten year review of surgical records at the above rural hospital from 2003 to 2011 showed that 98 patients had myomektom. The age range of the patients was 22 to 44 years, married women were 51 (49.47%), unmarried were 47 (40.6%).

Observation: All types of fibroid mentioned above were found during the surgery and coexist in one uterus. Submucous form under the endomterial lining or compress on it the endometrium is important for fertility and the creation of many hormones necessary in normal female physiology. This type of fibroid causes menorrhagia. Of the 98 myomektomy carried out 50 (49%) of them were due to menorrhagia, 35 (34.3%) intramural fibroids were found during surgery and four of them caused obstructed labor leading to cesarian section, 9 (6.82%) were found around the cervix causing excessive vaginal bleeding, 2 (1.66%) were found in the fallopian tubes, and 1 calcified fibroid was found hanging down from the tip of left nipple.

Conclusion: Fibroid tumors are fairly common and occur in up to 50% of all women. Most of the time, uterine fibroids do not cause symptoms or problems, and a women with fibroid is usually unaware of its presence. Indication for surgery were menorrhagia, obstructed labor, inconivence to the patient, and infertility. Twenty patients who returned to me were pregnant or delivered babies after myomektomy. All the patients were operated under spinal anesthesia with out any complication. On a sad note there were two “mysterious death”.
SUMMARY

Training in Rural surgery involves all participants who have anything to do in a rural surgery setup. Each category of worker has a special programme of training. The rural surgeon must be a Fellow of a postgraduate College of Surgery. Part of his fellowship training should include postings in established rural hospitals manned by certified surgeons. Non-fellows who practice Surgery in the rural setting should have a special programme with both academic content and a practical one. Both classes of practitioners will thus be better equipped for the challenges and multidisciplinary nature of Rural Surgery. Ancillary staff should also undergo training and retraining to be able to keep pace with expected good hospital practice.

INTRODUCTION

Rural Surgery has been defined as need-based multidisciplinary surgery under resource constraint to make surgical care accessible to the rural community.

Simply put, Rural Surgery is Surgery performed in the rural area. In advanced and developed countries this surgery is performed by doctors who are trained, and certified after a successful Residency program.

In Nigeria and most other developing countries, Rural surgical practice is not the prerogative of the certified surgeon. There are general duty doctors or general practitioners who perform Surgery at various levels. They serve very important roles in the rural community as they take care of several emergency situations and do a number of elective cases. They outnumber the few surgeons who operate in the rural setting. There is need therefore to equip them by organized training so that the rural people can get effective and safe surgery.

In the practice of Rural Surgery it is not the doctors alone who are important. There are the certified nurses, nurse-aids, and other ancillary staff who make surgery possible. They need training in their areas of operation. Even the Rural surgeon needs to be continually retrained.

TRAINING OF THE RURAL SURGEON

The formal training of the rural surgeon is primarily the same as for any other surgeon. There is not, at the moment, any organized or special programme for the training of the rural surgeon in Nigeria. He first trains as a General Surgeon, undergoing a residency programme. He undergoes the same Residency programme which, generally, will last four years after the Primary examination, but in actual fact can last much longer. There are two postgraduate colleges available for the training of surgeons in Nigeria at the present time: The Nigerian Postgraduate Medical College and the West African College of Surgeons. They have similar curriculae but these are not geared to providing the sort of surgical manpower needed in Rural Surgery. There are three components of the programme, namely The Primary, Part One and Part Two and a trainee has to pass examinations in all three to qualify as a surgeon.

THE PRIMARY EXAMINATION

This is intended for the acquisition of essential knowledge in the basic sciences which will help the surgeon understand the principles and practice of Surgery. It includes knowledge in Anatomy, Physiology, Biochemistry, General Pathology, as well as Anaesthesia, Radiology and imaging techniques. This programme is undertaken by the would-be surgeon at his own pace. Success in it will lead to the next stage.

THE PART ONE EXAMINATION

This incorporates clinical apprenticeship of two years scheduled duration in Teaching Hospitals and some Federal Medical Centres. Here the trainee is schooled by consultant surgeons and is expected to show evidence of performance and assistance in a number of
surgical procedures at the end of this part, when he is judged eligible to appear for the Part One Examination. Unfortunately the success rate is too low to satisfy the manpower needs of the country in Surgery. Besides no part of this training takes account of the special needs in Rural Surgery.

THE PART TWO (FINAL PROGRAMME AND EXAMINATION.)

The last two years on the schedule are spent in the trainee’s chosen area of specialization. He may be expected to present a Dissertation. Here again the success rate is low and is far away from the requirements of Rural Surgery. The question may then be asked: What qualification is required as a rural surgeon?

A rural surgeon must have undergone a formal, prescribed, residency training in General Surgery, and has been admitted into a College of Surgeons as a fellow. The qualifications obtained in Nigeria are The Fellowship of The Medical College of Surgeons (FMCS) and The Fellowship of the West African College of Surgeons (FWACS). Fellowship of some foreign Colleges of Surgeons may also be acceptable. Such a surgeon has only gone one step on the pathway of the Rural Surgeon, should he decide to be one. A rural surgeon needs experience in other fields of Surgery which could not be available to him in the formal residency programme. The training of a surgeon should be undertaken, not all of it in a tertiary institution, but should include a period in established rural hospitals manned by surgeons. Thus he can be more meaningful in the delivery of surgical services to the majority of Nigerians. Versatility is the hallmark of the rural surgeon. He practises, in addition, other disciplines than his core speciality. This has to be so because in the practice he will be challenged in these other disciplines, namely, Obstetrics and Gynaecology, Otorhinolaryngology, Orthopaedics and fractures, Anaesthesia, and general Medicine. The totality of these experiences will equip him to safely and satisfactorily serve the needs of the rural community. This means that the superspecialist cannot fit into rural surgical practice as a sole operator except he is invited in his field.

ACQUIRING THE SKILL FOR RURAL SURGERY

Acquisition of skill and competence in Rural Surgery requires that the doctor does a number of cases repeatedly, then compares his successes and failures, in order to perform better. Most of the skill is self-taught, the surgeon learning by the cases he does. This is facilitated by the fact that the rural surgeon has a large workload, greater than that of his urban counterpart. This workload is a major source of training and learning.

Another facet for the rural surgeon, like any other surgeon, to acquire knowledge is attendance at conferences and workshops, both locally and internationally, where scholars with various aspects of knowledge and experience make their contributions. In this context the reading of relevant journals and the use of the internet are indispensable.

Collaboration with other surgeons in practice is another fruitful channel of training for the rural surgeon. Arranged visits to other surgeons’ practice allows for consolidation and addition of knowledge and is advised. Such relationship exists between Jasman Hospital and Eruwa Clinic. One should acquire knowledge wherever it is found, and from anybody who has it. It should be possible for small groups of surgeons to form a mutual consultative alliance both for exchange of ideas and standing in for one another in times of need.

THE TRAINING OF NON-SPECIALIST RURAL SURGICAL PRACTITIONERS

The term “non-specialist rural surgical practitioner” should be applied to the general duty practitioner to distinguish him from the certified surgeon because their training needs are different. This will allow a fashioning-out of a programme that will suit his practice as most of them are self-employed. Such a programme should be flexible, stretched out, fragmented, and not take him away from his practice for a long time at a stretch. It should be academic as well as practical. He can also, in addition adopt the same methods the certified surgeon uses to retrain himself. This will help him perform better by understanding the reasons for any operation he performs. It is untenable to say “I have been doing this for many years, what is there for anyone to tell me?” Humility will tell us there is so much knowledge we are yet to have and will do well to have.
TRAINING OF ANCILLARY STAFF.

Various vital functions in any rural surgical practice are performed by non-doctors. The training and re-training of nurses are cardinal, as the nurses are the eye of the doctor in relation to patient care. They should be allowed in-service study leave, attendance at nurses’ conferences to acquire specialised skills and also have on-the-spot training to adapt to the idiosyncrasies of a particular practice. There is a category of nurse aids, usually drawn from the local community and trained on the job in special areas, who are unrecognized by the government, but who perform well in ascribed functions. They are used by many doctors, as the government-recognized nurses are reluctant to work in rural private hospitals. They need to have continued instruction in the special areas where they are assigned.

The have been successfully by visiting expatriate surgeons to provide surgical services to a remote area of Sudan. Schools of Health Technology where community nurses are trained are now operative under government administration in some states of Nigeria. Doctors in private rural practice are using the products of these schools more and more to complement their nursing staff. Other ancillary workers who need to be trained and refreshed are radiographers, the anaesthetic assistants, the accounting staff, the drivers, the security staff, the orderlies and even the cleaners. Training in this regard is inhouse and often informal, consisting essentially of instructions by the doctor.

CONCLUSION

All categories of workers in rural surgical practice need to be trained and re-trained. The objective of this training is to acquire new knowledge and refresh old knowledge, in order to practise effectively and safely and to be up to date. All avenues to achieve this should be explored and members of the International Federation for Rural Surgery should establish the means, as a matter of policy, for groups or individuals who ask for training or re-training to have access to them by mutual help. This is one way the federation can achieve its stated objective of providing safe surgical services to the often rural poor.

TRAINING FOR RURAL SURGERY - EXPECTATIONS OF THE NIGERIAN MEDICAL OFFICER.

Dr G O Salaudeen

INTRODUCTION

Nigeria could claim to have given the blueprint of primary health care delivery to the world 15 years ahead of the World Health Organization’s Alma Ata Declaration on the same subject. In 1963, the Faculty of Medicine, University of Ibadan, initiated this momentous programme, based at Igboora in rural Ibarapa District of Oyo State, South Western Nigeria.

While Nigerian-trained doctors and specialists could hold their own in the early years, in the last quarter of a century, medical training at the undergraduate and postgraduate levels has faced a lot of challenges to the extent that the Bachelor of Surgery of the composite degree of MB, BS has become just symbolic.

Although, specialist family physicians are to provide leadership at the primary and secondary levels of the health care pyramid, all who are still in Nigeria are based in urban centres or tertiary institutions. There is none in a rural/urban slum setting where most of the families reside - the gap is being filled creditably by generalist medical officers who were in the vanguard of the formation of the Faculty of Family Medicine of the National Postgraduate Medical College of Nigeria, NPMCN.

CHALLENGES TO TRAINING FOR RURAL SURGERY

The disillusionment of young Nigerian doctors in the long training period and the insufficient training posts for the various fellowships of the NPMCN and the West African Colleges of Physicians and Surgeons are serious deterrents to their desire to improve their skill and knowledge. Many who have passed the primary examinations of the various specialties could not get placements in the residency programmes of the few teaching hospitals.

This explains why most of them practise surgery by trial and error with unfortunate outcomes in several cases. Also, due to the severe shortage of surgically skilled physicians especially in the rural areas, many non-physician Nigerians, with the connivance of bona fide poorly skilled physicians, are even performing operations with disastrous consequences.
Prof S K Gyoh, former chairman of Medical and Dental Council of Nigeria, MDCN, and first president of the Association of Rural Surgical Practitioners of Nigeria, ARSPON, recently reported an epidemic of faecal fistula in his home state, Benue, caused by these non-physician compatriots working in private hospitals of doctors who also work in public hospitals. Evidence at the MDCN also showed that over 95 per cent of the cases that came to the disciplinary tribunal were of surgical mishaps in the hands of medical officers who did not have formal surgical training.

EXPECTATIONS
So, when I heard of the formation of ARSPON with the major aim of empowering medical officers with surgical skill, I was elated and quickly mobilized my colleagues in Lagos State to form a vibrant branch of ARSPON which was launched in 2009. Since then, the branch has sponsored regular surgical missions in the practices of members during which our senior colleagues, Drs A C Sagua and G S Ogunsina, have participated and trained several colleagues to offer safe and essential surgery to our patients in the urban slums of Lagos.

Following the annual conference at Jasman Hospital Ltd, in Udo-Ezinihitte, Imo State in November 2009, the Association mandated contacts with bodies saddled with postgraduate training in surgery. It was in this respect that I made contact with the Registrar of the National Open University of Nigeria, NOUN, whose family I have been taking care of for some years. ARSPON has now submitted to NOUN a proposal for MSc (Primary Care Surgery) which is more appropriate in addressing the health care challenges of Nigeria than the Master of Public Health, MPH. At our last conference in Gboko, I was elected as the chairman of the education committee saddled with continuing the work started by Papa (Dr) J I Umunna and Dr O A Awojobi.

In order to be in the forefront of this endeavour of skill empowerment, I have enrolled for the MSc (Surgery) of the University of Ibadan as a full time student with the hope that, on successful completion, I could be a resource person for the NOUN programme which will be better suited for practising medical officers all over the country as the university uses the long distance learning techniques and has added at least three month rotation in busy surgical practices of senior physicians nationwide.

I am reliably informed that Dr O A Awojobi, consultant rural surgeon and former national secretary of ARSPON, has submitted a proposal to the Faculty of Surgery, West African College of Surgeons that will make the fellowship training in stages (diploma, membership and fellowship) and incorporate credible nongovernmental hospitals as training institutions.

The major advantages of this scheme include:

a. Residents do not stay for five to six years in tertiary institutions during which they behave like career officers who specialize in labour union matters. Many tertiary and public hospitals are closed for most of the year due to the demand of doctors for increased salaries.

b. More opportunities are created for training middle level manpower for services in rural and remote areas.

c. Non-governmental hospitals with underutilized surgeons and family physicians (who practise primary care surgery) will become training grounds for service and research.

d. The products will be fully prepared to work at all levels of the health care pyramid. A staged training programme will be more acceptable in keeping the medical officers in the rural setting.

e. The critical mass to achieve the MDG's will be attained sooner than later.

In far away Malawi, the authorities displayed pragmatism to solve their health challenges when non-physician clinical officers were trained to insert ventriculo-peritoneal shunts for hydrocephalus, resect and anastomose bowel in strangulated inguinal hernia and transvesical prostatectomy for benign prostatic hyperplasia. Our own teacher, Emeritus Prof A Adeloye taught them the insertion of VP shunts during his 10 year sojourn as foundation professor of surgery in their college of medicine.

A review of the outcome of surgeries performed these clinical officers revealed no significant difference with those done by specialist surgeons.

So, if Malawi could achieve this feat with non-physicians, Nigeria should do better with the hundreds of unskilled young doctors graduating from our medical colleges.
These are the facts that prompted us to choose TRAINING FOR RURAL SURGERY as the theme of this conference. I would like to express my sincere gratitude to my senior colleagues in ARSPON: Prof S K Gyoh, Papa (Dr) Umunna, Drs Awojobi, Sagua and Ogunsina, Prof M Okonronkwo, the deputy vice-chancellor (academic) and his team in NOUN and finally my colleagues in the education committee and other members of our great association.

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SETTING UP A RURAL HOSPITAL ECONOMICALLY

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NEED FOR RURAL HOSPITAL

Many countries, including India are trying to improve their economy & in fact improving their standard of living. Even then in a country like India, today 70% population is residing in rural areas, where 400 million people do not have access even to primary surgical care. Still there is poverty and ignorance. 40% of Indians are living below poverty line and in rural backward areas more than 80% families are living below poverty line.

Our Government is supposed to take care of health of people but the existing Govt. hospitals & Primary Health Centers (PHCs) are not functioning properly. A recently built sub-district hospital in our town with World Bank loan of $500,000/- is not functioning at all. In last 2 years except for family planning operations & minor wound suturing not a single appendix, hernia or caesarian section was done in this hospital.

If such is the state of affairs in Government Sectors, then where the poor people should go for their health needs? If such a patient lands up in a corporate hospital, or an ICU in a city or district place the charges are so exorbitant that he has to spend his life time earnings and sell or mortgage his means of living like his farm or take loans and if he cannot repay the loan then resort to suicide.

In such situation either the NGO run hospitals or small private hospitals run by doctors like us, have to take the responsibility of looking after the health of the people residing around us & give them the treatment at affordable cost at their door step. I am not aware about the conditions in other developing countries like Africa but they must be same here also.

Let us see how one can set up a small rural surgical hospital economically and reduce the cost of treatment to poor patients. As a rural surgeon working in a small remote town for last 45 years, my talk will be based on how I set up my small private hospital and reduced the cost of treatment.

When I started my practice in 1967 there were hardly any surgeons or postgraduates working in rural areas, in our district. I was the only surgeon at periphery. In fact on 3 sides of my town there was no hospital for a distance of 150 kms.

The transport facilities were meager. Except for an occasional State transport bus coming to the town the only transport available was bullock cart. At times the patients were brought on hand carts & sometimes even on hands. There was lot of poverty also.

A small rural hospital can be started in any building available either rented or our own. We started our hospital in a 120 year old building made of only raw mud (Not even un-bumt bricks). Because it
needed repeated repairs & maintenance & painting, initially we decorated at least our operation theatre & consulting room with false walls & false roofs using asbestos or cement sheets. Later when the funds became available all the old buildings were decorated this way, even replacing the old stone floor with glazed tiles. Similarly we fixed natural black stone sheets to outside walls exposed to weather & rains. This not only decorated our buildings but reduced the maintenance cost almost permanently.

To avoid flies and mosquitoes entering the buildings we used mosquito-nets to all windows and doors and used door-closures to shut doors when not in use.

Instead of taking hefty loans with high interest rates for establishing the hospital one can start the work with minimum equipment & go on adding the equipment as the funds become available. It took us 13 years to purchase a hydraulic operation table, shadow-less lamp & a cautery machine & almost 31 years to have new building that too when my son, a gynecologist & daughter-in-law, an anesthetist, joined us.

If there are no radiologist or pathologist in the town it will be better to purchase a small 50 MA X-ray machine & set up a small laboratory which will considerably reduce the cost of these investigations to the patient who otherwise will have to travel to a bigger city with many relatives. Similarly later one can add EKG machine & Sonography machine & even different scopies.

To save on accessories simple cheap indigenous methods can be used. Instead of purchasing a Beam Collimator to center the X-ray beam costing around Rs. 3,000/$ (70) in 1970 I used masons centering device costing hardly Rs. 10/- (20 Cents).

As every penny is important, while purchasing routine instruments like artery forceps & Allis forceps every instrument has to be tested individually. Artery forceps & mosquito forceps are tested by holding a thread & pulling it, if the thread slips the instrument is not good & discarded. Similarly, Allis forceps is tested by holding a piece of paper & pulling it, the paper should tear & not slip.

If costly equipment like shadow less lamp, hydraulic operation table or a cautery machine, which are a life time investment, are to be purchased then it is better to consult and take opinions of your senior colleagues who already are using them. Sometimes it is better to spend little more and go for a product of a standard, well known and well established company so that for any future problem like maintenance, repairs and availability of spares parts, become easy.

REGARDING ANESTHESIA.

Many surgeries can be performed under local or regional anesthesia like spinal or epidural or short intravenous general anesthesia. But few major operations need prolonged general anesthesia. This can be done using Bellows & long acting relaxant like pavulon (pancuranium) and draw over ether anesthesia. Boyle’s apparatus which needs lot of oxygen and Nitrous-oxide, and costly anesthetic agents like halothane, is not necessary. I do have Boyles but not used it for years. Medical Oxygen is not available in remote areas. Industrial oxygen used for welding purposes is cheap & available anywhere. There is no difference between Medical & industrial oxygen.

An Indigenous 10 times cheaper ventilator working on electricity, battery or manually, is one of the good additions to Anesthetic equipment. We are doing all major surgeries on this ventilator.

One more asset to a rural surgeon where qualified anesthetist is not available and the rural surgeon has to administer anesthesia himself, is to have a pulse oxymeter. One need not have a costly pulse-oxymeter costing $1000/- even a cheaper instrument costing $200/- is good enough.

For electric failure much can be done. When inverters were not in vogue and we could not afford generators, we used a car battery, battery charger, car headlamp fitted to operation theatre light & a car fan & foot operated suction machine in Operation Theater, and hurricane lanterns in wards. Later we purchased an old alternator & old tractor engine & started our generator.

We used cheap furniture made of natural stone sheets to reduce the manufacturing & maintenance cost.

For hot water for the patients we installed a hot water geyser working on wood, waste materials, mainly using dried tender coconut shells to heat the water. If the water is hard, it spoils the equipment if sterilized in boiling water. Use of ion-exchange water softener increases the life of instruments tremendously & keeps them clean.
Once the hospital infrastructure is established, the main item of running expenses is the payment to hospital staff. In my opinion it is far more advantageous for a rural surgeon to have a medico-spouse, who will help him or her in every walk of life. It was the only condition I had, while selecting my life partner before my marriage.

If other family members are working in the hospital they can be paid enough, and all the money comes to our home. We can even take loans from them and pay the interest to them, instead of paying to banks.

To appoint qualified staff nurses and other paramedics, consumes the major share of our income. One can appoint unqualified staff and train them properly. We had many such persons who are with us from the beginning of our hospital almost for 40-45 years. They are doing excellent work. Our unqualified x-ray technicians who are just 10th standard passed can take excellent pictures. My first assistant is my cousin who is only 8th standard passed.

In small town hospitals we allow patient's relatives to stay with patients who look after their patients and new born babies well, thus reducing the nursing load and need for many nurses. Moreover we allow them to cook their food in hospital; this also reduces cost of treatment tremendously.

USE OF DISPOSABLES

Today is the era of using disposables. Yes, we do use disposable syringes & needles, but there is no need to throw away everything like gloves, towels & other plastic apparels they can be re-sterilized by autoclaving and the cost reduced. We use sterilized rexin on the trolley and on the abdomen to prevent contamination from body fluids thus reducing infection considerably. For abscesses and minor infective surgeries we use old cloth pieces, get them sterilized & throw them after their use.

Other recurrent expenses are repairs & maintenance of costly equipment. We should have preliminary knowledge of this equipment & take personal interest in their maintenance. Every time there is no need to call the service engineer. Most of times, faults are in the electric wires and a simple cheap device like a Multimeter can detect the fault which can be repaired locally by any one even an untrained but experienced person. One can also have comprehensive Insurance of costly equipment which can help in major break down needing replacement of costly parts.

Most of the Rural surgeons also have to set up their Blood Transfusion Service, doing all the necessary tests, taking blood from voluntary & related donors & transfusing it to patients immediately without keeping it in refrigerator even for a minute. We termed it as Unbanked Directed Blood

TRANSFUSION OR UDBT.

On clinical side when the surgeon wants to learn new techniques and add newer gadgets he has to find various ways. Different types of scopies and Ultrasonography were non-existent during our student days & we have never handled them. When I wanted to learn use of these gadgets nobody allowed me to touch them, I prepared potato model for learning TUR Prostates and a plaster of Paris model of stomach to learn upper G. I. Endoscopy. I learnt Ultrasonography just observing experts doing it. I used to take extra tracings and extra films of my Sonography reports and later verified my results from experts. I did same things when I was learning EKG. I learned all these new techniques and even new surgical procedures going to bigger cities like Bombay (Mumbai) 3 days in a week travelling 400 kms over night by bus.To get hang of these procedures in short time I arranged free diagnostic camps under expert supervision in my clinic at the time of inauguration.

As the rural patients could not afford or were not ready to get Cesarean Section done I had to resort to destructive procedures like craniotomies, eviscerations and internal podalic versions to extract babies, learning these techniques from a senior general practitioner from our town.

To keep the knowledge up-to-date the rural surgeon has to keep purchasing recent editions of standard text books and subscribing to many journals, at times referring them during surgery also.

To reduce cost of surgeries the rural surgeon may have to resort to, and do research on things like use of 4000 times cheaper mosquito-net for repairing hernias and popularize it across the world.

With all such measures over the time if the surgeon wishes he can progress to any heights using ingenious methods. The best example is our own Dr. Oluyombo Awojobi! Friends, please remember, if there is a wish there is a way and sky is the limit for one’s progress.
Over the period of 45 years we have progressed slowly. We now have 5 buildings, bed strength up to 30 beds, two X-ray machines, two Ultrasonography machines, an advanced Laboratory with analyzers & cell counter, Upper G. I. Endoscope, Cyst scope, laparoscope, and video endoscope. We have two well-equipped Air-conditioned operations theatres, complete with Boyle’s apparatus, ventilators, cautery machines, 3 pulse oximeters. There is separate labor room with 2 tables. For electricity back up we have many inverters, two big Generators, a small canteen and a chemist’s shop in the premises and what not. Our clientele is increasing day by day and we are getting patients from distances of over 200 kms.

At the same time we have a good living too, having a big residential house, a garden, a small swimming pool and 3 cars.

All these things we have achieved doing totally ethical practice at really affordable cost to rural folk, doing quality work with comparable results to anywhere in the world! Our charges are 10 times less as compared to cities. For 3 days stay in an air-conditioned room, 1 hour use of operation theatre and giving spinal anesthesia our charges were Rs.1500 ($32) while for the same services I had to shell out 17 times more money i.e. Rs:26,650/- ($580/-) for my prostate operation in city of Pune. What a difference!

Friends, ultimately all these material requirements, building, furniture, equipment, does not contribute much to the success of a surgeon. It is the surgical skill of the surgeon, his humanitarian behavior with the patients and his morals, count in the long run. Dr. Sitanath De, (FRCS) one of our senior colleagues from Jhargram (West Bengal) works on a simple wooden table, simple lamp & open ether anesthesia performing all major surgeries like gastrectomies, gall bladder surgeries & even pancreatic surgeries, that too with minimal charges to the patients!

Therefore initially one can start with minimum equipment and simple building and can be a really successful surgeon and later one can progress to any height if one wishes to.

**PRACTICAL DEMONSTRATION OF PRIMARY HEALTH CARE PRINCIPLES BY AWOJOBI CLINIC ERUWA IN IBARAPA COMMUNITY**

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**ABSTRACT**

The major key to attaining the social goal of health for all is the worldwide implementation of Primary Health Care (PHC). Emphasis is on ensuring an acceptable level of health for all which will allow every citizen, especially in the rural communities to lead an economically and socially productive life. However, WHO’s 2008 assessment of the way health care is organized, financed and delivered worldwide documented a number of failures in implementation of PHC in the rural communities due to inadequate organization, high cost of care, non-accessibility and non-utilization of local technology.

Against this background, Awojobi Clinic Eruwa (ACE), a PHC model hospital in Ibarapa district was established in 1986 with the vision of providing the kind of essential health care intended by the Alma Alta Declaration of 1978. ACE, in the Vanguard of the provision of affordable, accessible and acceptable health services for the rural population, provides an ideal hospital setting for rural patient care with patients having implicit confidence in its compassionate approach to care. It addresses the main health problems in Ibarapa community, providing promotive, preventive, curative and rehabilitative services.

This paper documents the demonstration of PHC principles and philosophy in ACE which has produced positive impact on the socio-economic development of Ibarapa community.

**INTRODUCTION**

Data set out in the WHO’s 2008 report are indicative of a situation in which many health systems have lost their focus on fair access to care, their ability to invest resources wisely and their capacity to meet the needs and expectations of people especially in impoverished and marginalized groups. As the report noted, conditions of inequitable access, impoverishing costs and erosions of trust in health care constitute a threat to social stability.
To steer health systems towards better performance, the report calls for a return to PHC, a holistic approach to health care formally launched 30 years ago. In response to this call, ACE as a pace setter of private health system in the public service has set out a way to tackle inequities and inefficiencies in health care through its practical demonstration of PHC principles with total commitment. The focus of this paper is to give the summary of the way health care is organized, financed and delivered by ACE in Ibarapa community, in line with the spirit of Alma Ata Declaration of 1978.

THE REPORT

ACE is a typical hospital in a rural setting established in 1986 in Eruwa with the support of the community people. The Clinic took off in the rent-free accommodation and interest-free loan by members of the community. The clinic gradually expanded over the years to a 40-bed hospital consisting of male and female medical and surgical units and maternity unit. ACE is centrally located to serve the seven towns that constitute Ibarapa community with an estimate population of 200,000.

The community is well known internationally for rural – population based research in the fields of community and internal medicine. ACE is one of the settings used for rural community health practice and experience by medical and nursing students from the College of Medicine, University of Ibadan. ACE has been accredited to run three months tutelage position (two resident doctors at a time) by the faculty of Family Medicine, National Postgraduate Medical College of Nigeria.

“Community spirit” is the core of administration at ACE. The essence of community spirit in governance is the involvement of a local citizenry in their social welfare through the generation of ideas, consultation, mobilization and implementation of socio-economic programmes within the framework of broad government policies.2

PHC PRINCIPLES AND THE PRACTICE AT ACE

The five PHC principles include:

1. **Equitable distribution of resources**: Implies that there should be continuous and organised supply of health care that is geographically, functionally and financially within easy reach of the whole community.3

   **The practice at ACE**: All the seven towns in Ibarapa have easy access to the clinic because it is centrally located. The clinic provides 24 hours service at a very cheap and low cost. At ACE, intravenous fluid is produced with local technology in the same way prepared by the imported ones and there has never been any adverse report traceable to the application of ACE intravenous fluid. The fluid is produced at 10% of the cost on the open market, that is even after adding energy cost and other overhead cost, making it very cheap for the patients.

2. **Community participation**: Community participation is the process by which individuals and families assume responsibility for their own health and welfare and for those of the community thereby developing the capacity to contribute to their’s and community’s development.4

   **The practice at ACE**: In the last 25 years, the people of Eruwa led by the Kabiyesi in collaboration with local friends in Ibarapa community have been largely instrumental to the planning and implementation of health services at ACE. The success of health care recorded at ACE to date is attributed to the collective social responsibility of Ibarapa people. To demonstrate their interest in search of health development, the people of Eruwa assumed responsibility for their own health and welfare by donating large area of land free of charge for the construction of ACE. Some individuals gave loans at no interest and no collateral while others offered free labour.

Management of health care at ACE is in form of team work where there is no employer or employee. All members of the team owe allegiance to their patients who receive the best and the cheapest health services in return. The management is sustained through the cooperative effort of professioners and non-professioners offering selfless service in the health sector. This is the spirit of participation. Panicker and Dhauda also employed community participation principle in the control of filariasis in India.5

3. **Appropriate technology**: Implies that all levels of the health system should identify local materials that could be adaptable to their use. That is, using only those technologies that have really proved their worth and can be afforded. A survey should be carried out in the community with the aim of identifying local materials that could be adaptable to their use.
The practice at ACE: Adoption of appropriate technology is the cornerstone of ACE in providing affordable health services in Ibarapa community. Much efforts has gone into the adoption of appropriate technology in the field of water and energy supply, adaptation and fabrication of basic equipments. Six deep wells have been sunk from where water is pumped into a 30,000 litre reservoir using portable pump. In addition, an earthen dam has been constructed across a stream that runs through the clinic. Therefore, water runs everywhere in the clinic throughout the year.

The buildings are constructed with large windows so that natural lighting is adequate in the day time. Ventilation is good and obviates the need for fans or air conditioners. Autoclave and water distiller are being produced from domestic cooking gas cylinders, powered by fabricated coal furnace. It takes 20 minutes to autoclave materials and water is distilled at the rate of 10 litres an hour. Pedal suction pump is fabricated from plumbing pipe, a piece of leather and a reversed bicycle value.

An operating table built from local materials in 1986 is still in use to date. It was made of 90% wood and 10% metal, covered with formica to improve its ahestesis and allow washing down. It is sturdy, has the basic tilts required by the surgeon using hydraulic jerk of a motor car. Haematocrit centrifuge has been fashioned from the rear wheel of a bicycle. The disc revolves at 5400 rpm enough to pack the red cells in five minutes. To minimize transportation problem in the remote areas of Ibarapa community and to reduce patients' travel time, a tricycle has been invented from the conventional motorcycle and adapted for a village ambulance. The local technologies employed by ACE have really proved their worth embracing the spirit of self reliance.

4. Focus on prevention: States that in the task of improving health of the people, emphasis should be placed on preventive aspects including immunization of people against communicable diseases.

The practice at ACE: The implementation of National Programme of Immunization (NPI) at ACE has reduced the rate of tetanus, measles and poliomyelitis in Ibarapa community. Immunizations are given as often as possible especially against childhood killer diseases like tetanus, measles, poliomyelitis and diarrhoeal diseases. Health education and health – promoting admonitions are routinely given to patients and relations who visit the clinic particularly in the prevention of water-borne diseases.

5. Multisectoral approach: This principle stresses the significance of collaboration in the implementation of PHC.

The practice at ACE: Through its multidimensional approach, ACE has made a lot of efforts to bring the various sectors together for better healthy living and improved socio-economic development of Ibarapa community. ACE believes that there can be no developments in health without the inclusion of other parameters of general development in a society. For instance, Ibadan Jaycees, a philanthropic organization of young professionals was involved in sinking a borehole in the hospital to provide additional source of water.

Impact of ACE on socio-economic development of Ibarapa community:

It is evident that the ACE’s two and a half decades of health services in Ibarapa community has enhanced the quality of people’s life and the general development of Eruwa in particular and Ibarapa in general. These include employment opportunities for medical and nursing professioners, artisans, carpenters, iron-mongers, builders, plumbers, electricians, petty traders, food hawkers, road haulage operatives and many others. All of these must have contributed to poverty alleviation.

As reported in the Millennium Development Goals, (MDG) poverty is more pronounced in rural areas compared to urban areas in Nigeria. The incidence of underweight children was also reported to be higher in rural areas. It is estimated that by 2015, between 30.1 and 40.4 million Nigerians would still be living in poverty. ACE is a role model in poverty reduction which is the core of Nigeria’s medium term development programme National Economic Empowerment and Development Strategy (NEEDS). Any interventions directed at poverty reduction as demonstrated by ACE will benefit all segments of the Nigerian society especially the vulnerable groups.

In collaboration with initiative for Integrated Community Welfare in Nigeria (IICWIN). ACE also provides rural AIDS treatment services with a twice monthly clinic. The services offered include HIV counselling and Testing (HCT), clinical evaluation of People Living with HIV/AIDS (PLWHA), basic laboratory investigations, simple treatments of opportunistic infections, syndromic treatment and palliative care.

Clinical report of some cases diagnosed and treated at ACE: In Ibarapa community, among the causes of death in children, anaemia ranked higher with overall percentage of 18.3%, followed by
respiratory tract infection 15.1% and septicemia (11.3%). Mortality was lowest in pulmonary tuberculosis (0.7%) and tetanus (1.0%). In fact, there was no record of tetanus between 1997 – 2001. No single case of poliomyelitis, diphtheria and pertussis.

The major causes of death in adult are infections such as tuberculosis, typhoid fever, meningitis, infective hepatitis, pneumonia, tetanus and septicemia. They constitute 56.3%, followed by cardiovascular disease (14.7%). Many of these infections are preventable.

Pattern of surgical cases indicate that hernias constitute the most common surgical problem in rural Ibarapa community. Most of the clients affected are mainly farmers.

The trend of hernia cases remained consistently high, from 431 (5.7%) in 1998 to 797 (10.6%) in 2007. The highest peak was recorded in 2004 with 912 cases (12.1%). Interestingly, all the clients affected engaged in farming.

Other types of surgical cases are various type of tumour, laparatomy for intestinal obstruction, gynaecologic, infection, caesarean section, thyroideectomy, sequestrectomy, orchidopexy, major open fracture, vaginal hysterectomy, splenectomy, vesico vaginal fistula repair and nephrectomy.

Of great concern is the high rate of cancer of the cervix (11.5%), breast (9.1%) and prostate (9.1%).

**Implication for nursing practice:**

The provision of PHC is a natural extension of nursing practice especially as it applies to community health. Nursing in PHC is addressed to the health needs of individuals and communities throughout the whole health care continuum - that is, primary, secondary and tertiary, in homes, schools, health centres, clinics and hospitals. Nurses are seen as a powerful ally in the coalition needed to promote health for all through PHC.

Considering the vision of ACE in providing the kind of essential health care intended by the philosophy and principles of community health nursing, which is also in line with Alma Ata Declaration of 1978, ACE is considered a good setting for teaching and practical experience in community health nursing. It has all the resources including free accommodation required for community posting which is necessary to ensure that nursing students are conversant with the problems within the community especially in the rural setting. The facilities in ACE are appropriate and adequate for nurses in training to take their part in the assessment of the health of individuals and families in Ibarapa community.

**CONCLUSION**

ACE has demonstrated that health for all can be achieved at minimal cost if the primary and secondary levels of health care are made to function effectively.

ACE has proved in theory and practice that it is possible to develop village, ward and district health services by using simple scientifically sound technology through determination, commitment and full participation of the community people. It also serves as a training and research centre in the rural setting for the future generation of young medical and nursing students. This is what PHC stands for and it worths emulating.

**REFERENCES**

INTRODUCTION
Operation Hernia is a surgical programme intended to treat and teach inguinal hernia surgery in low and middle-income countries. Our mission statement reads: “Operation Hernia is committed to providing high quality surgery at minimal costs to patients that otherwise would not receive it”. (Charity Commission No 1138396).

Operation Hernia is a 100% volunteer organisation, currently with no overheads. It was initiated in 2005 with the help of the Plymouth-Takoradi link and has since formed collaborations with the European Hernia Society (of which I am the immediate past President), the Operation GivingBack organisation of the American College of Surgeons and the American Hernia Society. It is similar in concept to the very successful humanitarian organisations that deliver surgery for single conditions such as obstetric fistula, cataract and maxillofacial disorders (cleft lip and palate). In 2006 the British High Commission in Ghana donated money towards the establishment of a Hernia Treatment Centre in Takoradi which is visited by volunteer teams four times a year. In 2008, a Nigerian surgeon Dr Charles Sagua joined the Takoradi mission as an observer and returned with his impressions to discuss with Dr Yombo Awojobi at the Awojobi Clinic Eruwa (ACE). A site visit to ACE in June 2009 was followed by two further missions that year to ACE.

Since 2005 over 50 missions have been accomplished worldwide. Teams of surgeons and anaesthetists have originated from 22 countries and more than 5,000 hernias have been treated. Our main assets are the time and expertise of our Volunteers who pay all their own expenses when on a mission.

The goal of each mission is to provide immediate capacity, and the aim is to provide training and sustainability. We adopt a “lean” (minimalist) approach (as opposed to the “brigade” method in which a large number of volunteers mimic the conditions in their home country) with small groups of surgeons and anaesthetists integrating with local personnel using locally available equipment.

LOCATIONS
Four additional sites have been opened in Ghana at Carpenter, Dixcove, Nalerigu and Bole. Four sites have been used in Nigeria at Eruwa, Aliada, Okpoga and Abor Mbaise. Other centres have been established in Cote d’Ivoire (Abidjan), The Gambia (Farfenni), Mongolia (Ulaan Baatar and beyond), Ecuador (La Concordia), Moldova (Soroca) and Malawi (Thyolo). To this total of 15 locations at least two new locations are already lined up for 2012.

GLOBAL HEALTHCARE
One billion people worldwide are without healthcare and one billion have minimal access to healthcare. Sub-Saharan Africa has about 39,000 doctors but it is estimated by the World Health Organisation that 290,000 are needed. Fifty-seven countries worldwide are in a healthcare crisis of which 36 are in Sub-Saharan Africa.

Eleven percent of the global burden of disease can be treated by surgery. In rural Africa caesarean section and hernia are the commonest elective surgical procedures. However, both of these operations are carried out much less frequently than required with the result that obstructed labour causes mortality and obstetric fistula; neglected hernias cause mortality (from strangulation) and physical incapacity. It has been estimated by the WHO that the poorest third of people in the world undergo only 3.5% of the annual estimated 234 million surgical procedures. Since hernias are so common this burden of neglect falls disproportionately on hernia sufferers. Unlike many surgical procedures, a simple, cheap 30 minute hernia operation returns the patient to full health. The modern and very effective technique is to repair the hernia with mesh. In rural Africa mesh is not affordable, so the majority of hernias are stitched with higher complications, delayed, painful recovery and frequent recurrence of the hernia.

Barriers to adequate provision of surgical care in rural Africa include deficiencies in infrastructure, water supply, electricity and oxygen. In most rural hospitals there is a dearth of equipment, and
trained surgeons and anaesthetists are unwilling to be posted to these areas. Therefore only basic surgical interventions such as abscess drainage and wound toilet are performed in rural hospitals. Surveys show that the average rural hospital in Africa performs only five operations per week of which two are emergent and only one or two per month are for hernia.

The WHO has recognised the need to rollout surgery in the developing world and the World Bank has launched a clinical package but caesarean section is the only surgical intervention in this package. Proposed solutions include the unlikely scenario that Governments will provide well equipped hospitals with fully trained doctors, surgeons and nurses in the near future. However, such a concept is supported by the West African College of Surgeons and the College of Surgeons of East, Central and Southern Africa. In the short term humanitarian missions such as Operation Hernia will provide a stopgap. This stopgap is likely to last for at least the next generation, and without interventions from outside agencies, countless untreated patients will continue to suffer. Further short term solutions include task shifting to non-medically qualified personnel.

Economists consider improving surgical capacity at district hospitals to be among the world’s top priorities. The World Health Organisation has recently provided a specific tool for quantifying surgical capacity. This is the GIEESC to assess emergency and essential surgical care which measures such things as electricity supply, running water, oxygen, fuel, infrastructure, personnel and supplies. In all rural communities in African countries the GIEESC has found severe limitations in all these areas.

**INGUINAL HERNIAS**

Hernias occur with a similar frequency in all populations and are affected by ethnicity and occupation, with a slightly increased frequency in Africans. The lifetime risk for hernia of men is 27% and for women 3%. The annual incidence is between 100 to 150 per 100,000 population. Operation Hernia has discovered that the prevalence in rural areas of Northern Ghana is more than 10 times the predicted level because of the near total neglect of hernia surgery for many years. This has resulted in many men suffering large incapacitating hernias which limit their daily activities. Every African living in a remote village can tell a story about a relative or village member who died due to the untreated complications of a hernia. In rural areas more men suffer from hernia than suffer from HIV.

**IMPROVING SURGICAL CARE**

Operation Hernia upgrades infrastructure by purchasing generators, air conditioners, electrodiathermy machines, surgical instruments, gowns, drapes, autoclaves, drugs and supplies in order to furnish an environment for the delivery of high quality surgery. In addition a hernia awareness campaign is conducted by local nursing personnel to recruit patients for each hernia mission. There is considerable cost to the host hospital during the mission week, because of high surgical throughput including increased activity in the laundry and the sterilisation process with extra staff hours required. Volunteers (in UK and Africa) put in many hours of administration prior to each mission to ensure that it runs smoothly. Patients themselves are required to pay for preoperative blood tests and postoperative drugs for pain relief. This usually amounts to between $20-40. Volunteers require to be screened and affirm their commitment to “global standards of care”. In addition their credentials and experience are evaluated by an Operation Hernia committee and applications are made for them to receive local medical licensing. Trainees in the host country are required to register and provide a summary of their competence in hernia surgery, to ensure that they have the correct level of expertise on which to build and teach them mesh hernioplasty technique. Hands-on teaching is provided together with theoretical lectures covering anatomy and surgical technique.

**FRUGAL INNOVATION**

To lower the cost of hernia surgery in rural Africa Operation Hernia has pioneered the use of mosquito net mesh to replace industry manufactured synthetic mesh, which is the current standard of care in developed countries. The cost of mosquito net is negligible; the cost of commercial mesh is about $30-40 per patient. The mosquito net mesh was introduced by an Indian surgeon in 1996 and has been used in that country in many thousands of patients. It was not widely known outside the Indian subcontinent until I made a chance discovery in 2006. The originator Dr Tongaonkar has since provided advice to Operation Hernia and attended the European Hernia Society in 2009 to present his data. To follow this up an important economic analysis was made by Operation Hernia with the assistance of the Business School of the John Hopkins Medical School in the United States. This used the WHO approved cost effectiveness tool, the Disability Adjusted Life Year (DALY). A DALY represents the loss of one year of equivalent work that an individual could accomplish at full health. Our studies indicated that a mosquito net mesh hernia repair averts 9.3 DALY’s per person. The cost of averting each DALY was very accurately calculated to be $12.88, which amounts to a total cost (9.3x$12.88) of $120 per patient (for the surgery). This cost per DALY compares favourably with that for treating a cataract ($9), basic immunisation ($10), malaria prevention and treatment ($24), anti retroviral therapy ($350 - $1500). An editorial comment on the publication by the Operation Hernia
team from the editor of the Archives of Surgery (a highly cited surgical journal) reads as follows: “A fabulously clever, inexpensive and context appropriate way of treating surgical disease”.

CONCLUSION
International humanitarian missions can make a significant contribution to surgical training in low income countries in Africa.

ANATOMIC PATHOLOGY SERVICES IN THE RURAL SETTING
Jaiyeola Thomas
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INTRODUCTION

Significant numbers of clinical diagnosis or treatment decisions are based on information provided by pathologists and medical scientists. Unfortunately, the contributions of this healthcare service is often unseen, hence there is little or no discussion about the crises of pathology services and workforce. This crisis has greater implications and impact for pathology services in the rural setting. Rural laboratory medicine requires a different approach from practices in the higher institutions. It requires a wider range of skills and a general, multidisciplinary approach. Rural pathologists and scientists need broad skills to deal with the complexity of the various subspecialties: hematology, coagulation, blood banking, biochemistry, microbiology, and histopathology. It also requires mechanical skills, analytical minds and adaptability to maintain equipment and services with minimal resources and infrastructure.

The shortage of personnel and lack of desire to work in rural areas also compound these issues. However this should not be a deterrent from moving forward and providing community health services that is affordable, accessible and within the limitations of our infrastructure and resources. Pathology services in this setting should not be less adequate, but must be practical, scientifically sound, accurate, reproducible and socially acceptable. Facilities and procedures can be adapted and modified to support the needs of clinicians while ensuring evidence-based quality care.

In addressing this issue the focus of this discussion will be on anatomic pathology services, an integral and essential complementary service to surgical practice and a medium for surgical-pathologic correlations and interactions.

HISTOPATHOLOGY SERVICES: PROBLEMS AND LIMITATIONS

Recognizing the fact that things are not always what they seem, it becomes imperative that surgeons have access to tissue diagnostic services of all excised specimens for accurate diagnosis and appropriate treatment. Unfortunately, this is usually not available. To overcome the problem of histopathology services in the rural setting, surgeons can work in collaboration with the pathology department in higher institutions and have their specimens processed. However, the major drawbacks are inaccessibility, limited resources/infrastructure and long turnaround time that may take months, by which time the relevance of tissue diagnosis to patient management is delayed or lost. To reduce or limit this problem, surgeons may resolve to gross and sample the specimens in their hospitals, taking appropriate section that can be processed in–house and the stained sections sent for review by a pathologist (pathway adopted by Awojobi Clinic Eruwa). This routine, though feasible, may not be available in all settings and potentially increases the workload of the already overburdened surgeons. Therefore a broader solution is needed to provide the necessary support for our rural surgical colleagues and at the same time bring preventive and curative care closer to the community.

POTENTIAL SOLUTIONS

The ultimate goal of any health care delivery system is disease prevention, provision of cure or reduce morbidity, alleviation of pain and improved quality of life while acquiring data to determine disease burden, ensure appropriate resource allocation, policy development and evaluation of impact of any intervention. In order to achieve the goal of accessible health for all and implement the WHO resolution on cancer control programs, evidence-based interventions for prevention, early detection and diagnosis need to be introduced.

Rural surgeons in collaboration with pathologists are best positioned to provide and achieve these goals. In view of the limitations in most Sub-Saharan countries, the necessary diagnostic techniques and procedures have to be locally appropriate and sustainable to be effective.
To achieve this, the needed diagnostic techniques must be cost effective, simple, easy to apply, accurate and reliable with short turn-around time, and requiring easily available, affordable equipment and consumable material.

Cytology, a simple standardized low-technology procedure, fulfills these criteria and is most useful in low-resource settings. The fine needle aspiration (FNA) technique, a minimally invasive procedure, is well tolerated, accepted by patients, cheap, simple, accurate and cost-effective. If appropriately used, cytology is effective in addressing the major components of cancer control programs. Its effectiveness in cancer reduction and prevention, through screening for precursor lesions and early diagnosis in cervical cancer has already been well documented.

CYTOPATHOLOGY

Cytologic techniques are currently available, although not in widespread use. Lack of awareness and inadequate number of skilled personnel are the limiting factors to their successful implementation. Currently, the focus of research, and resource investments are channeled towards alternative methods and technology that can bypass the role of trained cytotechnologists and cytopathologists. However, whatever methodology or technology introduced is likely to be plagued by the same geopolitical and social issues that have affected the implementation of other health services. Therefore, attention and resources should be focused on training local cytologists, education of the populace and health-care personnel to improve awareness of the applicability of the technique. There is a large pool of untapped, underutilized trainable manpower in most of our countries. With available trained personnel in the field, the chances of making cancer screening feasible would be improved.

Applications of cytopathology

Cytopathology has important role in the diagnosis of infective conditions, and early detection of neoplastic diseases and precursor lesions. It is an essential tool in mass screening which can be used for therapeutic purposes especially in the management of benign cystic lesions. Cytology is also useful for follow-up and monitoring of diseases especially cancers, aiding early recognition of relapse or recurrence. In some instances, FNA may be the safest technique and the only possible diagnostic method in individuals who are medically restricted or unsuitable for open surgery. For the patients, the procedure is psychologically better, prevents hospitalization and leaves no scar.

Cytology as a screening tool

With regards to cervical cancer control, the conventional Pap smear is time tested, validated and proven as a useful screening tool and is probably still the best option for prevention of cervical cancer. It is important to note that the impact of screening with the cheaper conventional Pap smears on the incidence of cervical cancer was felt long before the advent enhanced technology.

Conventional Pap screening, should be encouraged alongside enhanced community education and immunization as this will remain an essential component of any future cervical cancer control program to be implemented. Development and expansion of local trained manpower therefore appears to be a practical, sustainable, efficient and effective way to optimize the potentials of this simple technology. So far the initiatives at cervical cancer screening in Nigeria have been hospital-based and offered as opportunistic tests. Undoubtedly the majority of women are not reached; the time has come to solicit the assistance and support of the association of rural surgeons to advocate for preventive care at the community level by increasing the awareness of prevention and early detection of diseases.

Cytology as a diagnostic tool

Fine needle aspiration is a minimally invasive, cheap, cost-effective and accurate technique that is well-tolerated and acceptable to patients. This technique requires no hospitalization and can be done as outpatient procedure. In an environment where healthcare-seeking behavior is guided by social and cultural taboos about causes of diseases and surgical intervention, cytology procedure is more acceptable. FNA is gradually replacing open biopsy especially for the investigation of deep-seated lesions. Image-guided aspiration using ultrasound can expand its applicability and versatility. The extent and level of use of FNA service can be guided by the problems to be solved, the facilities and ancillary techniques available, as well as the prevailing clinical needs and expectations. As such, laboratories can set local standards and determine the choice of processing, stains and fixatives. This makes it easy for low-resource settings to determine what is appropriate and essential for their local clinical needs.
The typical medical centers deal with heavy patient load, inadequate operating room facilities and limited operating room time that culminate in long waiting lists for operative procedures including diagnostic biopsies. In these circumstances, FNA is a useful procedure for triaging cases for better utilization of services, appropriate patient selection for surgery and better treatment plan, making patients better psychologically prepared for definitive operative procedure. In addition to the use of cytopathology in cancer diagnosis, the procedure provides a simple and cheap investigative modality for infective conditions. FNA of lymph nodes is an underutilized modality for diagnosis of mycobacterial infection. Reports from low-resource countries have documented the usefulness of this technique in the investigation of lymphadenopathy and the diagnosis of granulomatous lymphadenitis. One of the important advantages of FNA, is that repeat aspirates can easily be done which can enhanced diagnostic yield, especially in circumstances where ancillary studies or cultures are not available.

FNA, which does not require open biopsy, with its attractive low cost and the real-time, on-site assessment can easily complement tissue biopsy. The advantages of FNA are enormous but the technique is underutilized. The technique can easily be acquired and requires minimal equipment. With a dedicated team, the use of FNA, complementing clinical examination can aid early diagnosis and appropriate timely treatment.

Limitations of cytopathology
The limitations are similar to that of other histopathology procedures and include false positive and false negative results, sampling and interpretation errors. Fortunately the rates are low. Contraindications and complications are also very few, usually limited to hemorrhage and infection which is extremely rare if appropriate antiseptic technique is used. FNA is contraindicated in vascular tumors and malformations as well as hydatid cyst disease.

PATHOLOGY TRAINING FOR LOW-RESOURCES SETTING

Training in any discipline should be geared towards the needs, expectations, available resources and disease pattern of a community. While there are many lessons that can be learnt from what obtains in the Western world, there are unique problems, socio-cultural and political which make it impractical to directly import programs that have worked in these countries. By defining our needs and objectives we can develop practical and realistic strategies to address our specific issues and medical needs. We should not attempt to match or copy the Western operational set-up. We should develop strategies and approaches that would be feasible within our environment, accommodated within our limited resources, cultural acceptable and workable with the limited infrastructural support.

Question?
Is Western (US, UK, Europe) training appropriate for subsequent pathology practice in the rural setting?

My observation is that training in these countries is tailored towards their societal needs and expectations. Available treatment modalities, infrastructure, resources, demands of patients and insurance companies, fear of litigation as well as rules and policies of the multiple regulatory bodies often determine the practice style. As a consequence, these fuel the reliance on ancillary, expensive, sometimes unnecessary, diagnostic tests and techniques. The result is that trainees from these centers often are frustrated when all the sophisticated and latest technology is not available and cannot adapt local material/resources for use.

CONCLUSION
In conclusion, education and training innovations are the keystones to the growth of the discipline in low-resource settings. Personnel training in sustainable technology is a more effective way of improving access to timely cares and early treatment. Therefore, I would recommend that surgical residents should spend three months in the pathology department where they will acquire the skill for fine needle aspiration cytology.

A good understanding of morbid anatomy is invaluable to the practicing rural surgeon. The trainee will, in addition to working as a resident in pathology, use the period to refresh the study of the gross anatomy of the thorax and abdomen, perform such operations as inguinal herniorrhaphy before the embalmment of a body and various forms of gastrointestinal anastomosis using basic instruments and the homemade atraumatic sutures.
INTRODUCTION

Rural surgery is not primitive surgery or inferior surgery and may require more surgical capability beyond the conventional definition of the limits of general surgery.

Safety issues have taken a priority place with anaesthesia providers since the introduction of Ether Anaesthesia in 1846. The provision of safe anaesthesia requires trained personnel, preoperative patient evaluation, anaesthetic planning, intraoperative and postoperative care and the management of systems and personnel that support these. In 1989, an International Task Force on Anaesthesia Safety worked for two years to create the “International standards for a safe practice of Anaesthesia” (2). The standards document was adopted by the World Federation Society of Anaesthetists in 1992 and recommended to all member societies including those in Africa. A resultant improvement in safety profile is thus evident in most developed countries. In those countries, the safety of anaesthetic procedures has improved several fold in the last 40 years with reduction of deaths from 2 deaths per 10,000 to 1 death per 300,000 (3).

In developing countries, although there is paucity of published data, the rate of anaesthesia related mortality may be several hundred times higher than in developed parts of the world. In Africa in particular, perioperative morbidity and mortality is still very high. Avoidable anaesthesia mortality has been reported in studies from Zimbabwe as 1:3000), (4); 1:1900 in Zambia (5); 1:500 from Malawi (6) and 1:150 from Togo (7). Other reports in obstetrics patients from Nigeria (8) and Malawi (9) confirm these findings and add evidence that anaesthesia technique and lack of training, supervision, and monitoring are contributory factors. Other related factors include late presentation of patients to hospital, poor patient preparation, lack of resources including trained manpower and equipments with lack of safety culture.

Other factors like traditional beliefs with superstitious underpinnings could even be blamed for disastrous outcome!

The World Health Organization (WHO) with the World Alliance for Patient safety has developed a comprehensive Surgical Safety Checklist e in furtherance of the “Safe surgery saves life” initiative (10). Also, WHO Department of Essential Health Technologies and Pharmaceuticals (EHT) and its Clinical Procedures Unit, is now focusing on activities that will have a sustainable impact on the safety and quality of surgical services at the first referral level. In 2005, WHO Global Initiative for Emergency and Essential Surgical Care (GIEESC) was established to strengthen capacity to deliver effective emergency surgical care at the first referral level facility including making available a model list of essential equipment and supplies for safe surgery and anaesthesia (11). African anaesthetists should be fully involved in these international initiatives in order to promote safe surgery and anaesthesia.

SURGERY AND ANAESTHESIA
It is estimated that over 230 million surgical procedures are performed around the world each year (12). This volume exceeds the number of childbirths globally, but with far higher death rates.

Thus the provision of safe surgical care has become a major global health priority - WHO patient safety “safe surgery saves lives”, 2007 and GIEESC.

The spectrum of surgical practice is a reflection of the disease pattern. The 3-tier stratification of the health care delivery system (primary, secondary and tertiary) corresponds to the level of surgical sophistication available at different levels.

The words ‘Anaesthetist’ and “Surgeon” are used for a variety of health personnel in Africa and role of the anaesthesia professional is poorly understood.

Anaesthesia is provided by different categories of personnel including physicians, nurses, clinical assistants, technicians with various levels of training and with or without certification. Surgery is also performed by trained surgeons, medical officers and clinical assistants many of whom are self-trained on the job. This is a reflection of the little importance attached to safe outcome of surgical procedures.

In general, while surgery can be categorized as minor and major and assigned to different cadres of operators, no such classification is feasible in anaesthesia since a minor surgery can require complex anaesthesia technique due to patient factors. Safety of patients becomes compromised when non-physician anaesthesia providers work unsupervised in remote locations or is made to perform beyond their training and expertise. In such situations, ‘ignorance is bliss’ and preventable deaths occur but are unrecognised as such.

In the rural areas the ‘surgeon’ also provides anaesthesia for both adult and paediatric surgery - often with ketamine, spinal and other local or regional blocks (13). In a report based on a 6 year experience with surgery in children in a rural hospital in Northern Nigeria 95% of the operations were not of complex nature and could be performed by general duty doctors with general surgical experience (13). If trained on simple, safe anaesthetic techniques and airway management, such surgeons could have better safety profile than untrained designated anaesthesia providers. They are also able to support non-physician anaesthetists when working together since the surgeon may be the only medical personnel on site and may be required to provide medical leadership when complications occur unexpectedly.

The provision of safe anaesthesia requires trained personnel, preoperative patient evaluation, anesthetic planning, intraoperative and postoperative care and the management of systems and personnel that support these activities. The current safety profile of anaesthesia has been achieved through a combination of factors within the several components that make up the micro system of the perioperative period. These components include patients and personnel (human), technologies and the complex interaction with their environment. In 1989, an International Task Force on Anaesthesia Safety worked for two years to create the “International standards for a safe practice of Anaesthesia” (15). The standards document was adopted by the World Federation Society of Anaesthetists in 1992 and recommended to all member societies including those in Africa. A resultant improvement in safety profile is thus evident in developed countries. Thus, in developed countries, the safety of anaesthetic procedures has improved several fold in the last 40 years with reduction of deaths from 2 deaths per 10,000 to 1 death per 300,000 (16).

In developing countries, although there is paucity of published data, the rate of anaesthesia related mortality may be several hundred times higher than in developed parts of the world. In Africa in particular, perioperative morbidity and mortality is still very high. Factors include late presentation of patients to hospital, poor patient preparation, lack of resources including trained manpower and equipments with lack of safety culture. In the review by McKenzie (4,5) out of 34,553 surgeries performed at Zimbabwean teaching hospitals, 45(51%) of the 89 deaths recorded were due to avoidable causes including haemorrhage and poor preoperative management. In a review of perioperative deaths in a Nigerian tertiary institution, (13) 48% were assessed as ASA IV – V with bleeding and sepsis being the commonest underlying causes of death. Early presentation of patients to hospital, adequate preoperative care and improvement in hospital facilities were recommendations made to reduce the rate of perioperative deaths.

ANAESTHESIA PROVIDERS AND MANPOWER SITUATION IN NIGERIA

In the rural areas the ‘surgeon’ also provides anaesthesia for both adult and paediatric surgery - often with ketamine, spinal and other local or regional blocks (12). In a report based on a 6 year experience with surgery in children in a rural hospital in Northern Nigeria 95% of the operations were not of complex nature and could be performed by general duty doctors with general surgical experience (13). If trained on simple, safe anaesthetic techniques and airway management, such surgeons could have
better safety profile than untrained designated anaesthesia providers. They are also able to support non-physician anaesthetists when working together since the surgeon may be the only medical personnel on site and may be required to provide medical leadership when complications occur unexpectedly. It is this need that led the West African College of Surgeons to have surgical resident rotate through Anaesthesia for one month clinical posting during the training period for the surgical Fellowship. 

A shortage of the most basic facilities (including infection control), equipment, and drugs, makes administering anaesthesia difficult. There are only 13 anaesthesiologists for 27 million people, compared with 12,000 for 64 million in UK and most anaesthesia is administered by non-medical practitioners. Their situation is not dissimilar to other locations that have been described in Africa. Although the situation in different parts of the world varies widely, anaesthesia services in many countries are extremely challenged, particularly in rural areas. In the Gambia, this chronic manpower shortage was addressed through a National Health Development project which included training of nurse anaesthetists. For the most part of Africa; deficiencies go unrecorded as there are few systematic reviews of the situation. It is also difficult to define the “safe anaesthetist” as implied when non-physician anaesthetists are trained, provided with minimal resources for the difficult terrain of anaesthetic practice in African countries. It will be more ideal to train more physician anaesthetists, give them access to the same career development as all other specialists and they can be encouraged to work in Africa and supervise fewer non-physician anaesthetists in the team.

International standards are an important part of promoting safety and guiding development of anaesthesia services. These same standards were adopted by the Nigerian Society of Anaesthetists in year 2000. An essential aspect is standard routine monitoring which is now non-invasive, employing blood pressure cuff, ECG, and pulse oximetry. All Anaesthetists and Anaesthesia societies in Africa should be safety advocates and urge Ministries of Health in their countries to incorporate anaesthesia standards in healthcare planning.

PERI-OPERATIVE ANAESTHETIC CARE

The first and most important component of peri-anesthetic care, including monitoring of the anesthesia delivery system and the patient, is the continuous presence of a vigilant anesthesia professional during anesthesia. In addition to use of monitoring technology, careful continuous clinical observation is required because equipment may not detect clinical deterioration.

The patient must be evaluated by an anesthesia professional prior to administration of anesthesia and an appropriate anesthetic plan formulated. The anesthesia professional must ensure that all necessary equipment is present and functions correctly prior to initiation of anesthesia care.

Monitoring during anesthesia should include; oxygenation, Supplemental oxygen is HIGHLY RECOMMENDED for all patients undergoing general anesthesia. The anesthesia professional should verify the integrity of the oxygen supply.

Tissue oxygenation should be monitored continuously. For visual examination, adequate illumination and exposure of the patient should be ensured whenever practicable. Continuous use of pulse oximetry is HIGHLY RECOMMENDED.

The adequacy of the airway and ventilation should be continuously monitored at least by observation and auscultation whenever practicable. Where a breathing circuit is used, the reservoir bag should be observed. Continuous monitoring with a precordial, pretracheal, oroesophageal stethoscope is RECOMMENDED.

Arterial blood pressure should be determined at appropriate intervals (usually at least every 5 minutes and more frequently if indicated.

A means of measuring the temperature should be available and should be used at frequent intervals where clinically indicated (e.g. prolonged or complex anesthetics, young children).

All patients are entitled to appropriate efforts to prevent and alleviate postoperative pain employing available appropriate medications and modalities; these efforts are therefore HIGHLY RECOMMENDED. Usually, the involved anesthesia professional assumes initial responsibility for this.

SAFETY CULTURE
In order to promote safety of patients and personnel in the perioperative arena, it is important to develop safety culture within the organization. However, acquiring a safety culture is a process of collective learning that recognizes the inevitability of error and proactively seeks to identify latent threats. Team work and incorporation of systems for reporting and analyzing adverse events are essential ingredients. Part of the safety culture is the use of protocols, checklists before surgery and good record keeping. The WHO is currently working with the World Alliance for Patient safety on the second Global patient Safety Challenge “Safe surgery saves life” to formulate a comprehensive surgical safety checklist. Incident reporting systems which are not well established in African anaesthetic practice, can provide warning, raise awareness about important problems and provide some understanding of causes. However, if incident reports are to be of real value, they should be reviewed by clinicians and ideally, by people who can tease out the human factors and organization issues. Such reports should not be used mainly for witch-hunting or punishment.

In developed countries, other practices that have been utilized for “Making Health Care Safer” that derive from fields outside health care and are applicable to anaesthesia include:

**ROOT CAUSE ANALYSIS**

Computerized physician order entry and decision support as a means of reducing medication errors

Automated medication dispensing systems

Bar coding technology to avoid misidentification errors

Aviation-style preoperative checklists for anesthesia equipment

Crew resource management, a model for teamwork training and crisis response modeled after training approaches in aviation

Simulators (of patients or clinical scenarios) as a training tool

Anaesthetists and nurses need good attention, sound judgement and a quick reaction time especially when dealing with emergency situations. Thus, individual factors including fatigue and sleep deprivation can impact on safety of patients. This has been shown by the Australian Incident Monitoring Scheme (AIMS) where fatigue was listed as a contributing factor in 152 incidents (2.7%) of all reports up to 1997. These incidents which are also common in Africa included: pharmacological incidents (syringe swaps, drug error), haste, distraction, inattention and failure to check equipment. A significant factor identified as avoiding serious outcome was providing relief for fatigued anaesthetists. Other studies have shown that fatigue reduces medical task performance including ECG interpretation accuracy, and intubation skill. Thus, many international industries especially aviation has regulations to ensure that fatigue does not put lives to risk and The European Working Time Directive requires:

11 hours rest in every 24 hours

minimum 24 hours rest in every 7 days or minimum 48 hours rest in every 14 days

maximum of 58 hours work per week

From 2009 a maximum of 48 hours work per week

The dearth of anaesthetists in Africa does not allow room for sub specialization and even non-physician anaesthetists are made to handle all categories of patients, to the best of their ability but not necessarily to the best interest and survival of the patient!. The situation is made worse when different levels of expertise is required from a single provider e.g neonate, geriatrics, obstetrics, neurosurgery all within the same operation list

In order to provide safe anaesthesia, hospital managers in Africa must ensure that anaesthetists have sensible work patterns with adequate rest breaks. The scenario whereby one anaesthesia professional serves several surgeons continuously without any period of rest can only spell disaster.

Improving the situation in developing countries?

Surgery, obstetrics, and anaesthesia need to work together— they are nothing without each other. Support for good-quality training for non-physician anaesthetists and recruitment of more doctors into anaesthesia is vital, as is retaining them after training.

REFERENCES
MEDICAL IMAGING IN A RURAL PRIVATE HOSPITAL
- AWOJOBI CLINIC ERUWA EXPERIENCE.

Mrs Atinuke O Awojobi
Radio/Ultrasoundographer

INTRODUCTION

The ultimate goal of any health care delivery system is the prevention of disease and in the alternative, provision of cure or alleviation. The concept of health care cannot be successfully implemented without the support of diagnostic services which include facilities for Medical Imaging such as Radiation Technology and Ultrasound Scan (USS).

Radiation Technology came into existence following the discovery of X-Rays by Williams Roentgen in 1895 and ever since, its application has gained a wide ground especially in medical diagnosis and therapy. The use of USS is as recent as late 1970’s, when in 1974 the Sound Navigator and Ranging Principle (SONAR) was applied in medicine and Grey Scale Ultrasonography was developed in Sydney, Australia.
Most of the machines now being manufactured have real time transducers which allow movements to be seen, very compact and sufficiently mobile to be used in the clinic or on the wards if required.

Awojobi Clinic is a private hospital that has been fully operational with a resident surgeon in this rural district of Western Nigeria since 1986. The X-ray department was established in the practice two years after inception, at first with a mobile Hungarian made Mediroll-1 100mA output machine which was permanently set-up in the X-ray room. This was later replaced by a higher output Allengers-100R unit in 2007 to mark the clinic’s 25th Anniversary.

To further relieve our patients of the hardship of having their scan done at Abeokuta or Ibadan, the use of USS machine was added to the existing X-ray machine in 1995.

INDICATIONS FOR MEDICAL RADIOLOGICAL EXAMINATION

Table 1 shows the operations performed in the year 1986 till 2010 and it reflects closely the pattern of surgical diseases diagnosed. Table 2 shows the X-ray examination carried out between 1988 and 2010.

**Table 1**  
**SURGICAL OPERATIONS IN ERUWA 1983 – 2010.**

<table>
<thead>
<tr>
<th>OPERATION</th>
<th>NUMBER</th>
<th>PER CENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>External hernia repair</td>
<td>6355</td>
<td>39.4%</td>
</tr>
<tr>
<td>Excision of lumps</td>
<td>2144</td>
<td>13.3%</td>
</tr>
<tr>
<td>Hydrocelectomy</td>
<td>960</td>
<td>5.9%</td>
</tr>
<tr>
<td>Laparotomy infection gynaecologic</td>
<td>940</td>
<td>5.8%</td>
</tr>
<tr>
<td>Laparotomy intestinal obstruction</td>
<td>850</td>
<td>5.3%</td>
</tr>
<tr>
<td>Laparotomy trauma</td>
<td>345</td>
<td>2.1%</td>
</tr>
<tr>
<td>Laparotomy trauma</td>
<td>50</td>
<td>0.3%</td>
</tr>
<tr>
<td>Caesarean section</td>
<td>920</td>
<td>5.7%</td>
</tr>
<tr>
<td>Prostatectomy</td>
<td>852</td>
<td>5.3%</td>
</tr>
<tr>
<td>Thyroidectomy</td>
<td>352</td>
<td>2.2%</td>
</tr>
<tr>
<td>Sequestrectomy</td>
<td>202</td>
<td>1.2%</td>
</tr>
<tr>
<td>Orchidopexy</td>
<td>180</td>
<td>1.1%</td>
</tr>
<tr>
<td>Vagotomy and drainage</td>
<td>165</td>
<td>1.0%</td>
</tr>
<tr>
<td>Mastectomy</td>
<td>133</td>
<td>0.8%</td>
</tr>
<tr>
<td>Major open fracture</td>
<td>120</td>
<td>0.7%</td>
</tr>
<tr>
<td>Chest tube insertion</td>
<td>100</td>
<td>0.6%</td>
</tr>
<tr>
<td>Vesico vaginal fistula repair</td>
<td>100</td>
<td>0.6%</td>
</tr>
<tr>
<td>Vaginal hysterectomy</td>
<td>74</td>
<td>0.5%</td>
</tr>
<tr>
<td>Splenectomy</td>
<td>38</td>
<td>0.2%</td>
</tr>
<tr>
<td>Major amputations</td>
<td>30</td>
<td>0.2%</td>
</tr>
<tr>
<td>Nephrectomy</td>
<td>30</td>
<td>0.2%</td>
</tr>
<tr>
<td>Mandibullectomy/maxillectomy</td>
<td>25</td>
<td>0.1%</td>
</tr>
<tr>
<td>A-P Resection of rectum</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>1200</td>
<td>7.4%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>16167</td>
<td></td>
</tr>
<tr>
<td>Study</td>
<td>1988-99</td>
<td>2000-2010</td>
</tr>
<tr>
<td>---------------------</td>
<td>---------</td>
<td>-----------</td>
</tr>
<tr>
<td>Chest</td>
<td>4765</td>
<td>12,074</td>
</tr>
<tr>
<td>Lower Limbs</td>
<td>970</td>
<td>2,237</td>
</tr>
<tr>
<td>Upper Limbs</td>
<td>629</td>
<td>1,452</td>
</tr>
<tr>
<td>Pelvis</td>
<td>297</td>
<td>1,305</td>
</tr>
<tr>
<td>Spine</td>
<td>282</td>
<td>720</td>
</tr>
<tr>
<td>Abdomen</td>
<td>178</td>
<td>174</td>
</tr>
<tr>
<td>Skull</td>
<td>83</td>
<td>410</td>
</tr>
<tr>
<td>Jaws(upper/lower)</td>
<td>43</td>
<td>183</td>
</tr>
<tr>
<td>Sinuses</td>
<td>18</td>
<td>80</td>
</tr>
<tr>
<td>Ba Swallow/ meal</td>
<td>178</td>
<td>172</td>
</tr>
<tr>
<td>H.S.G</td>
<td>80</td>
<td>283</td>
</tr>
<tr>
<td>I.V.U</td>
<td>30</td>
<td>19</td>
</tr>
<tr>
<td>R.U.G</td>
<td>12</td>
<td>47</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>7,565</strong></td>
<td><strong>19,155</strong></td>
</tr>
</tbody>
</table>

**PLAIN XRAYS**

Chest X-ray remains the commonest examination, indications including tuberculosis and other chest infections, congestive cardiac failure, metastasis, carcinoma, gastrointestinal perforation and routine examination for admission into tertiary institutions.

Trauma, chronic osteomyelitis, osteoarthritis, tumors are indications for X-ray of the extremities while trauma, tuberculosis and spondylosis were indications for radiography of the spine.

Major fractures and dislocation need radiograph for meaningful manipulation and immobilization. Check x-rays are done to confirm adequate correction of all deformities.

Most trauma patients who elected to have treatment at the traditional bone-setters often came back to the clinic with poor alignment of the fractures or unsuccessfully treated dislocation especially of the hip.

**CONTRAST STUDIES**

Contrast studies are performed without fluoroscopy—these include:-

1. **Ba Meal and Follow Through** which helps in differentiating Gastric Outlet Obstruction due to chronic duodenal ulcer, gastric antral carcinoma and other lesions.

2. **Intravenous Urography (IVU)** to study the functional state and positions of the kidneys.

3. **Hysterosalpingography (HSG)** in cases of primary or secondary infertility to outline fallopian tubes, to rule out tubal blockage and show other tubal diseases like hydrosalpinx.

4. **Air Ventriculography** was carried out for the first time in the history of the clinic before the recent Ventriculo-Peritoneal (VP) Shunt surgery on a hydrocephalic baby.
The availability of radiological services in the hospital has enhanced patient care and the science of surgery. It has reduced the bills and the risk of travelling to the urban centre for these investigations. Radiography remains the “Eye of Medicine.”

Ultrasound technology has advanced rapidly in recent years. Awojobi Clinic Eruwa is not left out of the advancements. The addition of a Chison 600M Ultrasound scanner totally replaced Radiography in obstetric practice and improved life service. It has been used for:

1. Monitoring fetal growth
2. Early pregnancy dating
3. Diagnosis of multiple pregnancies especially here in Eruwa that is noted for its high twinning rate
4. Placenta localization in cases of Antepartum Haemorrhage
5. Testing fetal viability in obstructed labour where Caesarian Section may be avoided in the case of Intra Uterine Death.
6. Abdominal imaging in the assessment of primary liver cell carcinoma, metastases, ascites, renal disease, gall stones in severe, right upper quadrant pain, splenomegaly and generalized peritonitis due to typhoid perforation and abdominal masses.

USS is of significant potential benefit in detecting structural fetal anomalies such as Anencephaly, Fetalis Hydrops, Phocomelia. A typical case was that of a woman carrying a twin pregnancy, referred from a hospital in a neighboring town which showed polyhydramnios, both babies XX, Twin 1 with head, trunk & limbs but Twin 2 had no head at all, no upper limbs, and 4 digits on each of the feet. (Picture below)

7. The diagnosis of Fibroids, Polycystic Ovarian Masses, Ectopic Pregnancies and other gynaecological diseases
8. Bladder masses like Benign Prostatic Hypertrophy and Carcinoma, calculi missing IUCD, etc.
TWIN CYESES

HYDROPS FOETALIS

GALL STONES
Table 3 shows the total no of USS examination between 1995 and 2010.

<table>
<thead>
<tr>
<th>Study</th>
<th>No</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>BPH/Ca</td>
<td>259</td>
<td>0.7</td>
</tr>
<tr>
<td>Fibroids</td>
<td>1004</td>
<td>2.8</td>
</tr>
<tr>
<td>Normal Cyesis</td>
<td>2238</td>
<td>6.3</td>
</tr>
<tr>
<td>Ectopic Cyesis</td>
<td>130</td>
<td>0.4</td>
</tr>
<tr>
<td>Cyesis/FWB</td>
<td>15852</td>
<td>45.0</td>
</tr>
<tr>
<td>IUD</td>
<td>191</td>
<td>0.5</td>
</tr>
<tr>
<td>Others</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ovarian Cysts, Gall Bladder disease</td>
<td>15,276</td>
<td>43.0</td>
</tr>
<tr>
<td>Renal disease, Abortion,</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CONCLUSION

There is a great awareness of the use of USS by the people of Ibarapa area and its environs and this has greatly improved health care as most people just walk into the X-ray department to have a scan done and to know their health condition for prompt attention since it has the advantages of being quick, non-invasive, avoidance of the use of contrast media and ionizing radiation.

REFERENCES

Dear colleagues,

On Thursday 13th October 2011, Dr G O Salaudeen (chairman, education committee of ARSPON) and I were in the audience that listened to the inaugural lecture of Prof Ewan Frank Alufohai at the Ambrose Alli University, Ekpoma. The title of the lecture was SURGERY IN PRIMARY CARE: A BOOST TO THE MILLENIUM DEVELOPMENT GOALS IN DEVELOPING COUNTRIES.

Without attempting to breach the copyright, he started off thus: “A minute in the theatre clock makes a great difference between life and death”. This was the innocuous statement in a grammar school literature text that launched Frank into the satisfying but challenging life of a rural surgical practitioner.

On arrival back home, I wasted no time in delivering two copies of the lecture to Prof O O Ajayi, one of the grandfathers of rural surgery in Nigeria. Below are his comments.

With Prof Alufohai’s inaugural lecture, rural surgery has truly gone from TOWN (VILLAGE) to GOWN.

I wish to appeal to him to bring many copies of the lecture to our conference next month.

With kind regards.

Yombo.

---

On Sun, 16/10/11, Olajide Ajayi <jagunaso36@yahoo.com> wrote:
From: Olajide Ajayi <jagunaso36@yahoo.com>
Subject: 42nd Inaugural Lecture
To: "ewanprof@yahoo.com" <ewanprof@yahoo.com>
Cc: "Dr Awojobi Oluyombo" <oluyombo2@yahoo.co.uk>
Date: Sunday, 16 October, 2011, 22:56

Dear Professor Alufohai,

Congratulations on the rendition of the 42nd Inaugural Lecture of the Ambrose Alli University, Ekpoma delivered on the 13th October, 2011. I was a member of the first Governing Council of the University and I feel particularly proud of the tremendous changes and development over the time space. The venue was particularly apt for the title of your lecture on the place of surgery in PHC. I wish Dr. Christopher Okojie of Irrua was in the audience that witnessed your presentation. The lecture was brilliant, stimulating as also challenging. Your John Fitzgerald Kennedy reminder was also appropriate as it has now become obvious to all that societies that do not care about the poor also undermine the freedom of “the few who are rich”. That loss of freedom, in modern parlance, is subsumed in the concept of “globalisation”.

We imply this loss of freedom often but not forcefully emphatic enough by pleading the obvious facts that the Millennium Development Goals (MDGs) cannot have the “meaningful impact” without
economic development. You hit the nail right on the head by recognising that "...the few very rich and healthy nations of the world cannot also ignore the health of the poor countries of the world that are in majority because their outlandish life-style is predicated on the continuous exploitation of the rich natural resources and super-abundant cheap human labour in these poor countries."

Your observation was piercing, concise, frank and transparently honest in the remark that for the healthy nations to continue revelling in their purulent life-style, "poor nations must have a population that is minimally healthy." Globalization is the strategy in vogue heralded by the unachievable slogans of 'Health For All by the Year 2000' and the newer 'Millennium Development Goals' which, supposedly, cannot be declared a failure until the end of a millennium!

I appreciate your devotion to duty as exemplified by the case-reports. Behind the devotion was a Christian fortitude and a total submission to the Will of God, through Our Lord, Jesus Christ. St. Paul, the Apostle, reminds us in Heb. 6:10 that God is not unjust and will certainly reward those who serve Him.

Thanks for the acknowledgements to all. Your Reference 12,* delivered from an academic sursum corda, could not realistically match the practical dimensions of a man who really worked 'in the field'.

Knowing me as you do, the tears finally came at the end of your lecture. Lady Kofoworola Iyabode Alufohai has not died! She is one of the "....Saints who from their labours rest....." Amen.

With profound appreciation and much respects,

Jide Ajayi

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* Ajayi O O  Surgery in poverty: Pragmatic options for training and accreditation in Nigeria. the 9th faculty of Surgery lecture of the National Postgraduate Medical College of Nigeria held 27th February 2003.
Minutes of the General Body Meeting of IFRS on November 6th, 2009 in Pipalia/Rajasthan/India

Attendance
1. Association of Rural Surgeons of India (ARSI)
2. Association for Anaesthesia in Developing Countries (Germany)
3. German Society for Tropical Surgery (DTC)
4. Association of Rural Surgeons of Tanzania (ARST)
5. Association of Rural Surgical Practitioners of Nigeria (ARSPON)
6. Dr Jill Donnelly, Association of Surgeons of Great Britain and Ireland Overseas Committee.

Minutes of the last meeting
The president, Dr R D Prabhu (India), opened the general body meeting and welcomed all. In the absence of Dr Thomas Moch, the Secretary, he read out the minutes of the last general body meeting held in Ifakara, Tanzania in 2007. The minutes had been circulated on the internet by Dr Moch.

The minutes were accepted by the members.

Admission into IFRS
- The Association of Rural Surgical Practitioners of Nigeria was admitted into the IFRS.
- Although, Dr Manjur Kadir Ahmed from Bangladesh was present, Gono Swasthya Kendra from Bangladesh was not admitted because it was not an association of rural surgeons but a Non-Governmental Organization, NGO.
- Further discussions were held on the admissibility of NGO’s, into IFRS. It was decided that only professional bodies could become members of IFRS and several associations in a country are eligible to apply for membership.

Elections
The general body elected the following:
President: Dr P L Kibatala (Tanzania)
President-elect: Dr Gabriella Holoch (Germany)
Treasurer: Dr Peter Reemst (The Netherlands)
Secretary: Dr Oluyombo A Awojobi (Nigeria)
Joint Secretary: Dr Ravindranath Tongaonkar (India)

Directors of IFRS
The general body elected the following directors:
Dr Swaran Arora (India)
Dr S K Baasu (India)
Membership fees

Annual membership fees as decided by previous general body were retained as follows:

High income countries (H I C): 250 - to 1.000 - Euros
Low and middle income countries (L M I C): 50 - to 250 - Euros
Indiv. members – H I C: 5 - to 25 - Euros
Indiv. members – L M I C: 1 - to 5 - Euros

Finances

The treasurer Dr Reemst reported the financial situation and presented the accounts as below: He promised to submit the $ 2000 = to cover the 2nd IFRS cost at the soonest time possible.

IFRS account 2006 - 2009

Received:  
- Germany  
  2006 1000  
  2007 1000  
  2008 1000  
- Netherlands  
  2006 250  
  2007 250  
  2008 250  
  2009 250  

Other income  ARSI by DTC and transferred 100 Rupees

Total 4100

Spent:  
- Bank costs 165,98
- IFRS India 2009 USD 2000 1400
- IFRS Ifakara 2007 USD 2000 (0)

Payed directly by GTZ

Balance as per 4 Sept 2009 2534,02

Comment: Other income from outside Europe difficult to mention exactly
money for IFRS Ifakara unclear if to be refunded by IFRS to

GTZ 1000 euro from GTZ 2009 on its way

Bank costs expensive but in Europe not to be avoided

Dr Kibatala could not present the account for the Ifakara symposium as it was incomplete.

The IFRS accounts shall be published on the I F R S website for transparency.
Further activities

Certificate in Rural Surgery

- Fellowships are awarded in workshops that take place in Rural Medical Centre, Delhi.
- Indian surgeons could be invited to Africa to assist in the training of local surgeons.
- Drs Kibatala and Awojobi would form a committee to explore how African doctors could benefit from the annual workshop in Ifakara.

IFRS website

Dr O Awojobi has not created a website for IFRS. The website will be hosted on a non-profit server in Germany and the server fees will be paid by DTC.

Next Conference

The next conference of IFRS will hold in November 2011 in Nigeria and will be organised by the Association of Rural Surgical Practitioners of Nigeria.

Bangladesh will host the 5th conference in 2013.

Dr R D Prabhu Dr Oluyombo A Awojobi
President Secretary
Eruwa, Nigeria. 14th December, 2009

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Dr R Zuckerman: ???????????????????
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Dr J I Umunna: james_umunna@yahoo.co.uk
Dr Oluyombo A Awojobi: oluyombo2@yahoo.co.uk
1. **THE HIGHLIGHTS OF ARSPON 3RD ANNUAL CONFERENCE GBOKO 2010**

   (Held between 15th -17th November, 2011 at TBTH Hospital Gboko)

A) The election of a new executive of the association took the center stage of the activities of the 3rd National conference with the following elected to lead the association for the next two years:

1. President: Dr. Charles Agbamu Sagua (elected unopposed).
2. Vice President: Dr. Pevkyaa Yandev.
3. National Secretary: Dr. J. N. Afuka.
4. Assistant National Secretary: Dr. L. A. Durojaiye
5. Treasurer: Dr. AOB Adenuga
6. National Auditor: Dr. G. O. Salaudeen
7. National Publicity Secretary: Dr. D. C. Akukwu

B) A new education committee was elected with new terms of reference to replace the defunct committee whose work could not be presented because of the controversy that caused its chairman to resign before the submission of its proposal to the Governing council; the members are:

1. Dr. G. O. Salaudeen Chairman
2. Dr. Adetunji Adenuga Secretary
3. Dr. Durojaiye L. Member
4. Dr. Adams-Momoh Member
5. Dr. Darligton Akukwu Member
6. Dr. Benard Orji Member

Terms of Reference:

a. To develop a training program that would not take the doctors too long away from their practices, i.e. it should have considerable hands-on training of the doctors in their hospitals.

b. While aspects of existing training programs can be adopted or adapted, avoid copying existing programs so that the program is unique to ARSPON.

c. Utilize suggestions from members and the work done by the defunct Committee on Training but the program should be built from the bottom up to ensure it would produce people with appropriate skills and knowledge that would make them most useful in rural surgery.

d. Discuss with the Postgraduate Medical Colleges to ensure their inputs are accommodated, but the program must be approved by ARSPON and its Governing Council after which it would decide to which Postgraduate Medical College the program would be submitted.

e. Consider any other issue that would enhance the implementation of this project.

f. The first report should be considered at a meeting of the Governing Council not later than 12 months from this meeting.

2. The ARSPON members South East Zone hosted the Operation Hernia team for five consecutive days (27th February and 5th of March, 2011). The following is the report of the mission:

The following members were on the team that took part in this current operation at Abob Mbaise General Hospital: Professor Andrew Kingsnorth the leader of the team, Dr. Denis Blasquez a paediatric surgeon from France, Dr. Scott Lechman from USA and Petr Bystricky from Czech Republic. The team arrived Imo State on Sunday 27th Feb. 2011 after overnight state in Lagos being led by Dr O. A. Awojobi who received them on arrival in Lagos and played host to them on behalf of Imo State ARSPON branch. They received at the airport and taken to the hotel at the out skirt of Owerri where they were taken to their room for brief refreshment. On arrival to the hospital to assess the patients gathered for the operation they were surprised at the huge turn out. Two hundred and fifty patients were examined and classified according to the classification developed by Professor Kingsnorth. This classification uses two parameters H for size and reducibility of the hernia given numbers 1-4 and F for the body type of the patient whether slim or fat and also given numbers from 1-4. So H1F1 is the simple hernia barely noticeable on a not fat patient while H4F4 is huge irreducible hernia in a very fat patient.

The following is the statistics of the operations done during the five hectic days of operation:
Day 1 28/02/11 12 operations- 11 Hernias and 1 Hydrocele
Day 2 01/03/11 17 Operations- 16 Hernias and 1 Hydrocele
Day 3 02/03/11 28 Operations- 27 Hernias and 1 Hydrocele
Day4 03/03/11 29 Operations- 2 Hernias, 2 undescended testes, 1 Hydrocele and 1 Lipoma
Day5 04/03/11 34 Operations- 34 Hernias

Total number of operations done was 120 roughly 40% of those that showed up for the exercise.
Total number of children (7 months to 15 years) operated upon was 51= 43%
Total number of adult males operated upon was 33= 28%
Total number of adult females operated upon was 36= 30%

Note that the above figures is not a true reflections of the prevalence of hernia in this operation since there was a bias in the selections of those operated upon in favour of children and women over the men.

In spite of the logistical difficulties that were encountered in the preparation and operation of the mission it was a huge success on the ground of bringing to the fore the awareness of the teeming masses around us suffering from hernias. We were not sure we could recruit up to fifty patients for the exercise but behold we could not at last control the crowd that turned out. Our doctors that participated gained immensely from the on hand training on mesh hernia repair by Professor Kingsnorth and his team. We remain ever grateful to them.

3. The highlights of Governing council meeting that took place on the 14th of May at the General hospital Igboora, Oyo state as are as follows:

ATTENDANCE:
1) Dr. A. C. Sagua –National President
2) Dr. J. N. Afuka-National Secretary
3) Dr James Ibeto Umunna
4) Dr Adenuga A. O. B
5) Dr G. O. Salaudeen
6) Dr L. A. Durojaye
7) Dr Paul Akotaibe
8) Dr R. O. Tijani
9) Dr E. R. Saliu
10) Dr Adams-Momoh Feyisola

2.1. APOLOGIES:
1) Dr O. A. Awojobi
2) Dr P. Yandev
3) Dr Ben Orji (Hon.)
4) Dr Darlington Akukwu
5) Dr Tule T. Z.

The following far reaching decisions were arrived at:

1. The signatory forms from the two banks that ARSPON uses were submitted for change signatories, and this was accomplished even though be lately almost six months from the change of leadership. The National treasurer was asked to speedily complete the remaining signing off from the former National Secretary and National President. We have received report that this has been accomplished.

2. The report of the Education Committee was received and approved. The committee was mandated to submit the corrected version to NOUN as soon as possible and we have been informed that this has been accomplished as well.

3. The Education committee was instructed to pay the 240,000 thousand Naira requested by the MDCN for accreditation of ARSPON programs for CME and CPD units. It is hoped that in the forth
coming international conference members will receive CME units for renewal of their practising licences next year.

4. Dr. G. O. Salaudeen was appointed acting Editor-in-chief of ARSPON journal while Dr. Adenuga A. O. is to be the acting Secretary. They are mandated to produce a maiden edition to be launched during the joint IFRS/ARSPON 4th Conference.

4) Finally the updated National Membership List with serial Registration Numbers is as follows:

1. Prof S K Gyoh  shimagyoh@ymail.com
2. Dr E R Saliu  arisetmedicalnigltd@yahoo.com
3. Dr A O B Adenuga  ofrudo2005@yahoo.com
4. Dr M H Adabanija
5. Dr A C Sagua  saguagbamu@yahoo.com
6. Dr F N Atsen
7. Dr O J Fatokun  olufemi_fatokun@yahoo.com
8. Dr Terver Zua Tule  drtule@yahoo.com
9. Dr Dzer Hembe  dzerhembe@yahoo.com
10. Dr O Ajose
11. Dr A Idoga
12. Dr Pevkyaa Yandev  tbthospital@yahoo.com
13. Dr A Ukpan  anikpan@yahoo.com
14. Dr Yaji Samuel
15. Dr Amah Anselom
16. Dr A Rijam
17. Dr O A Awojobi  oluyombo2@yahoo.co.uk
18. Dr A O Windapo  bayowindapo@yahoo.co.uk
19. Dr T Mustapha  mayowa_ims@yahoo.com
20. Dr Fassil Gebreeziabher
21. Dr J I Umunna  jasumunna@gmail.com
22. Dr J O Adetokunbo
23. Dr Tunde Campbell  campell1005@yahoo.com
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25. Dr M Adetoki  deolutoki@yahoo.com
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27. Dr E N Karibi
28. Dr E D Robinson  drebrirobinson@yahoo.com
29. Dr S Kilete
30. Dr E B Okogba
31. Dr T Apampa  tayoatkh@yahoo.com
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35. Dr B E Mejeha
36. Dr C C Ogbuokiri
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66. Dr P N Iwunze
67. Dr F Obiyo
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70. Dr F Akakwam  rosyclinic@yahoo.com
71. Dr C O Ibediugha
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73. Dr J O Ukawuba
74. Dr H C Anyanwu
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76. Dr R Oriloye
77. Dr K O C Awofeso  kocawofeso@yahoo.com
78. Dr E S Akinyemi  gestateclinic@yahoo.com
79. Dr R S Oriloye  unita_hospital@yahoo.com
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81. Dr Olu G Ogunmodede
82. Dr G B Osisami
83. Dr M K Jaji  jajiyemisi@yahoo.com
84. Dr O M Rufai
85. Dr J F Ayanshola
86. Dr L A Durojaiye  durojayelasis@yahoo.com
87. Dr Mrs O F Durojaiye
88. Dr O A Bamodil
89. Dr Samuel Oladipupo
90. Dr A O Akinkunmi
91. Dr A O Akinsanya  primexhospital@yahoo.com
92. Dr W Abayomi
93. Dr O M Soyinka
94. Dr O M Akpona
95. Dr Lanre Shoyinka  lanreshoyinka@yahoo.com
96. Dr Mrs O O T Oluwagbemi
97. Dr M E Adegun  firstmainland2000@yahoo.com
98. Hon. Dr. O. N. Ekennia  drobiiekennia@yahoo.com
99. Dr C I Agbakwuru
100. Dr A Okorie  shahdrokorie@yahoo.com
101. Dr E. F. P. JESUYAJOLU  newgracelandhospitals@yahoo.com;  firstgracelandhospital@yahoo.com
102. Dr J. A. AGBANYI
103. Dr COL. C. B. WANDA
104. Dr M. O. DANIEL
105. Hon Dr BEN. O. ORJI  benorji2000@yahoo.com
106. Dr B. A. EKE
107. Dr S. A. LIM
108. Dr F. B. I. ADENIYI
109. Dr Mrs MARGARET EGBELE  margeretegbele@yahoo.com

Thanks. Dr. AFUKA J. N.  
(ARSPON National Secretary).
The Secretary  
Association of Rural Surgical Practitioners of  
Nigeria (ARSPON)  
C/o. Dr O. A. Awojobi  
Awojobi Clinic Eruwa  
P.O. Box 5  
Eruwa  
Oyo State - Nigeria

Dear Sir,

RE: PROPOSAL ON PROFESSIONAL EXECUTIVE M.Sc (PRIMARY CARE SURGERY)

I write to acknowledge receipt of ARSPON’s submissions and proposal for the mounting of the Professional Executive M.Sc. (Primary Care Surgery) Programme in the National Open University of Nigeria (NOUN).

The Vice Chancellor Professor Vincent Ado Tenebe, is delighted to note that ARSPON has chosen NOUN as the Open and Distance Learning institution to run this special M.Sc. Programme for it among other institutions in Nigeria. NOUN noted further that 93% of your members are ready to enroll as soon as the programme kicks off. This is very encouraging. I wish to assure you that NOUN is interested in improving the health manpower requirements at the grassroots where majority of the surgical burdens lie. With its motto of "WORK AND LEARN", NOUN satisfies the desire of ARSPON to earn certificates without disturbing their job schedules.

To help us provide the academic content that will suit the needs of ARSPON, I urge you to send in the Outline Programme Proposal (OPP) and Detailed Programme Proposal (DPP) as soon as possible. These would be useful in the development and design of the course materials to be used by the students. The long list of Professors of Surgery, Consultant Surgeons and Primary Care Physicians that abound in ARSPON shall form the critical mass of facilitators to be used at the forty six Study Centres of NOUN, spread across the six geopolitical zones of Nigeria.
It will also be necessary to nominate a contact person (indicating his/her postal address, e-mail and GSM number), who will liaise with the undersigned in the development of the programme. Other suggestions contained in ARSPON's draft proposal have been noted and would be built into the Professional Executive M.Sc. (Primary Surgery) curriculum.

Once again, I wish to thank you for choosing the National Open University of Nigeria.

Yours sincerely,

[Signature]

Professor Mba O. Okoronkwo, OON
Deputy Vice Chancellor, Academic
On Fri, 7/10/11, Jerome Afuka <jeromeafuka@yahoo.com> wrote:
Announcing the death of our colleague Dr Pascal Nkemjika Iwunze, he was the one on the left of Prof. Ajayi in the attached photo. He will be buried on the 15th October, 2011 in his home town of Umuoni Ihitteafukwu in Ahiazu LGA Imo state. He died from acute renal failure. Dr Afuka J. N.

On Fri, 7/10/11, Olajide Ajayi <jagunaso36@yahoo.com> wrote:

I am sad to receive the shocking news of the sudden passing of Pascal. We met in India and shared a room during the conference in Pipalia. We maintained contact by phone thereafter including information about interesting cases admitted into his hospital.

He was a fine man and a perfect gentleman. He was deeply religious and vast in the Christian doctrine, yet modest and humble in the discussions on subjects in which he knew he excelled. In the few days together in India, I discerned in him his love of family and his managerial competence manifest in his telephone conversations with his wife.
I will never forget Pascal. May The Good Lord comfort the family he has left behind. Eternal rest will be his portion in Jesus name.

Prof.(Chief) Olajide O. Ajayi
7 Paul Hendrickse Road
New Bodija
P.O.Box 7253- Secretariat PO
Ibadan 200001
Nigeria.
+2348033218159 +2348055216546
+2348024683144
WHY RURAL SURGERY IN NIGERIA?

by

HRM Oba (Prof) Akinola A Owosekun
Asotun of Isotun,
Atakummosa West LGA, Osun State, Nigeria.

INTRODUCTION

I am deeply appreciative of the invitation by the International Federation of Rural Surgery (IFRS) and the Association of Rural Surgical Practitioners of Nigeria (ARSPON) to their biennial and annual conferences respectively.

This invitation affords me as Royal father of the day and a keynote speaker, the opportunity to place on record some of the salient reasons why, where possible, individual effort and sensibilities which are devoid of government influence are the most viable, in our time, for improvement in the quality of life of the rural population in Nigeria.

BACKGROUND

In analyzing the development process economists very often refer to economic dualism. This is essentially three pronged: technological and Regional/zonal dualisms, and rural/urban dichotomy. We shall adopt a similar approach in our presentation.

DEMOGRAPHY

The regional/zonal distribution as well as the rural and urban distribution of Nigeria’s 167 million population is presented in Table I. The Northern region has a share of 53.38 per cent while the South has 46.61 per cent. The North West zone is by far the most Populous in

<table>
<thead>
<tr>
<th>Zone/Regional</th>
<th>Percentage Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>South West</td>
<td>19.55</td>
</tr>
<tr>
<td>South East</td>
<td>12.08</td>
</tr>
<tr>
<td>South South</td>
<td>14.98</td>
</tr>
<tr>
<td><strong>Sub-Total</strong></td>
<td><strong>46.61</strong></td>
</tr>
<tr>
<td>North West</td>
<td>25.65</td>
</tr>
<tr>
<td>North East</td>
<td>13.36</td>
</tr>
<tr>
<td>North Central</td>
<td>14.37</td>
</tr>
<tr>
<td><strong>Sub-total</strong></td>
<td><strong>53.38</strong></td>
</tr>
<tr>
<td>Urban</td>
<td>44.10</td>
</tr>
<tr>
<td>Rural</td>
<td>55.90</td>
</tr>
</tbody>
</table>


The North and indeed the whole country while the South West is the most populous in the South. At the national level, however, 55.90 per cent or 93.4 million of Nigerians live in rural communities.

SOCIAL AND ECONOMIC FACTORS

The Social and Economic indicators reviewed in this address relate to the Human Development index, the Incidence and severity of poverty, and severe health deprivation. The relevant statistics are provided in Table 2.

Human Development Index (HDI) is a measure of the extent to which a country has created an environment where people can develop their potentials fully, lead productive life and create lives in
accordance with their needs and interest. The underlying principles are that people are the real wealth of nations and that development is about people. The value of the HDI ranges from zero to unity. The closer it is to unity the better. HDI is sometimes referred to as the deprivation index.

### TABLE 2

<table>
<thead>
<tr>
<th>Zone</th>
<th>Human Development Index</th>
<th>Incidence of Poverty (%)</th>
<th>Severity of Poverty Very Poor</th>
<th>Averagely Poor</th>
<th>Severe Deprivation in Health (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>South West</td>
<td>0.52</td>
<td>43.01</td>
<td>20.51</td>
<td>51.02</td>
<td>NA</td>
</tr>
<tr>
<td>South East</td>
<td>0.47</td>
<td>26.74</td>
<td>24.60</td>
<td>53.01</td>
<td>NA</td>
</tr>
<tr>
<td>South South</td>
<td>0.57</td>
<td>36.06</td>
<td>24.77</td>
<td>50.07</td>
<td>NA</td>
</tr>
<tr>
<td>North West</td>
<td>0.42</td>
<td>71.17</td>
<td>14.03</td>
<td>57.92</td>
<td>NA</td>
</tr>
<tr>
<td>North East</td>
<td>0.33</td>
<td>72.16</td>
<td>27.52</td>
<td>54.30</td>
<td>NA</td>
</tr>
<tr>
<td>North Central</td>
<td>0.49</td>
<td>66.97</td>
<td>23.63</td>
<td>56.39</td>
<td>NA</td>
</tr>
<tr>
<td>Urban</td>
<td>--</td>
<td>43.19</td>
<td>18.26</td>
<td>52.46</td>
<td>NA</td>
</tr>
<tr>
<td>Rural</td>
<td>--</td>
<td>63.27</td>
<td>23.82</td>
<td>55.39</td>
<td>NA</td>
</tr>
<tr>
<td>National</td>
<td>0.51</td>
<td>54.41</td>
<td>21.37</td>
<td>54.10</td>
<td>59.5</td>
</tr>
</tbody>
</table>

The data reveal that Nigeria has fallen short by 49 per cent of creating an environment for the achievement of Human Development. Even though the HDIs for the South West and South South are considerably higher than the national average they too are far short of the maximum achievable.

The incidence of poverty is atrociously high for the Northern zones and for our rural communities. However, the degree of severity is mixed. About sixty (60) per cent of the population (mostly rural) suffer from severe deprivation in the provision of health services.

### GOVERNANCE

**Degenerative Quality of Leadership**

Our observation is that, by and large, Nigeria has experienced in all facets of social and economic life, degenerative quality of leadership since independence. This is especially true in public life where it has resulted in the lack of political will and capability to resolve critical issues of social and economic policy. This failure has taken severe toll on social and political infrastructures which situation has been aggravated by the privatization exercise and the concessioning policy.

**Lack of Political Will**

In spite of the huge and unprecedented level of resources at its disposal, Government is not able to provide adequate power supply, design and build durable structures such as roads and railroads, adequately maintain roads, provide potable water, and it is even incapable of disposing waste or of producing adequate quantity of petroleum white products which situation has degenerated to a national debate not only on whether or not there is a subsidy on the products but also on whether, if there is subsidy, it should be removed.

We are reminded of the reported case of a dam project in the South West where construction was started in 1983 and water of 562 million cubic meters impounded in 1991. Though its goals were to provide water for irrigation, domestic use, fishing and power generation, none of these goals was achieved twenty years after. Indeed, the equipment for power generation were left to rot away in crates in an open field. In the North West another dam in which 1 billion cubic meters of water has been impounded and which was to generate about four times as much power suffered the same fate.

### Pyramidal Structure of Health Institutions

As you are well aware other inhibiting factors to surgical procedures in rural communities relate not only to lack of basic infrastructures in the rural communities but also to the hierarchical structure of health provider institutions requiring referrals from rural clinics dispensaries to the more conventional general and teaching hospitals which are invariably located in urban centres. In this circumstance patients from rural communities are discouraged by the cost of transportation, accommodation,
feeding and treatment. There is no indication that this situation will change any time in the foreseeable future.

The importance of this narrative is that, for now, the situation is virtually hopeless. In this circumstance therefore, what are our options?

In our view these options are essentially three (3):

(a) Do nothing
(b) Wait to join the inevitable wave of transformational protests
(c) Do what you can, separately and individually, and independent of government

The relevance of these conferences and the significance of this venue are in option (c).

AWOJOBI’S PIONEER EFFORT

The advantages of the Oluyombo Awojobi’s pioneer effort are many and varied. They include the facts that:

- Involvement of government is avoided therefore distractions such as failure to release funds, federal character requirement for recruitments and promotions, struggle for succession and indiscipline are minimized;
- Overall objective is to cater for the poor and the most vulnerable in an environment lacking in political will to address, in any meaningful way, the relative deprivation of the citizenry;
- The project has an initial low capital outlay and low overhead;
- The project relies on intermediate technology with little or no energy consumption for purposes such as air-conditioning, the determination of packed cells volume (pcv) or lighting.
- The approach requires limited and manageable manpower deployment.
- It is affordable to the poor and the less privileged as they pay less than 25 per cent of the cost of services in conventional institutions;

We are proud to announce that we have imbibed this practice in our domain with the technical advice of the pioneer.

In all of our three decades of private and public life we have not come across a single individual who has contributed so much to the development of this country. He has done so choosing not to be distracted by the nuances of government. He has thereby extricated himself from the blame of ineptitude and the shame of infamy which our generation appears to have been condemned.

Mr. Chairman, Distinguished Ladies and Gentlemen, Gentlemen of the press, once again I thank you for the invitation to be both participant and stakeholder at these conferences.

Thank you!!!

HRM OBA (PROF) AKINOLA A. OWOSEKUN

Asotun of Isotun.