Paediatric surgery in Nigeria: Past, present and future

(The full text of the 7th Annual Conference of the Association of Paediatric Surgeons of Nigeria (APSON) guest lecture delivered at crest hotel, Jos-Nigeria, on 28th November 2008)

Distinguished colleagues, ladies and gentlemen,

I bring you warm greetings from my family, friends and colleagues in the ancient city of Zaria.

It fills me with pleasure to be invited to deliver this guest lecture on this auspicious occasion of the 7th conference of the Association of Paediatric Surgeons of Nigeria.

In 19th century America, there were a number of purely childrens' hospitals scattered across the major cities of the USA, two of the most prominent being the Boston and Philadelphia Childrens' Hospitals.[1] Up until the late forties and even the late fifties of the 20th century, childrens' hospitals were under the headship of paediatricians, who left no one in doubt as to who was in charge. They determined and regulated the quantity and type of child surgery performed. The "child surgeons", as our professional forebears in the USA were called, were barely tolerated. The surgeons and the anaesthetists were viewed with suspicion and postoperative morbidity and mortality were high. The paediatrician kept his patient and determined the age when he felt surgery could safely be preformed. Newborns with inguinal hernia were known to have been shielded for periods of up to 18 months before the child surgeon was invited reluctantly. The environment was openly hostile to the child surgeon. It was not until 1970 that the child surgeons of USA were accorded full recognition as a specialty.

The first use of the name paediatric surgery was attributed to Everett Koop, but he himself contended that this can not be proven.

I take responsibility for any lapses in this discourse and give any credit therein to all the children of Nigeria, especially those with surgically correctible conditions and to all who gave and still give of their time, energy and expertise to care for such children.

The first attempt to educate doctors on the peculiarities of the child, particularly as it affects paediatric surgery, was made in the first modern American book of child surgery – "Abdominal Surgery in Infancy and Childhood",[2] authored by William E. Ladd and Robert E. Gross and published in 1941. Ladd and Gross painstakingly explained that "the child is not a small adult" and should therefore not be treated as such. The child is unique and his treatment should be individualized. We will be mistaken if we think that this notion is obvious to everyone. We will not be in the doldrums of our specialty today if that notion had penetrated the consciousness of many of our colleagues, other caregivers, hospital managers, the society and even our governments and their agencies. Along with universal immunization, malaria, human immunodeficiency virus (HIV)/acquired immunodeficiency syndrome (AIDS), paediatric surgery needs to be incorporated in the Child Health Policy of every government in Africa.

The scope of paediatric surgery as a branch of Child Health is said to begin from a few weeks, about 22 (weeks), after conception up to adolescence, but may extend up to adulthood in not a few instances.

The British Association of Paediatric Surgeons explains the spectrum[3] of paediatric surgery as including Specialist Paediatric Surgery, General Paediatric surgery (scope of selected procedures allowed to be undertaken by general surgeons) and Paediatric Urology.

Specialist Paediatric Surgery consists of the following five categories:

(a) Neonatal Surgery: Surgery of infants up to 44 weeks postconceptional age (gestational age + postnatal age). It also includes antenatal counselling of parents, other health workers and therapeutic intervention when appropriate.
(b) The surgical management of children requiring specialist expertise, i.e. complex congenital anomalies, e.g. anorectal malformation, benign and malignant tumours, inflammatory bowel disease, gastrointestinal lesions, chest, major trauma, vascular and lymphatic anomalies, diagnostic endoscopy as well as endoscopic surgery among many others.

(c) Management of children with relatively straight-forward surgical conditions who have associated disorder, which in itself requires management in a specialist centre – e.g. hernia in a patient with congenital cardiac disease.
(d) Paediatric Urology: Management of congenital as well as acquired anomalies.
(e) Adolescent and adult surgery requiring the expertise of a paediatric surgeon, e.g. congenital anomalies recognized late and requiring reconstruction, e.g. female genital anomalies. Added to these are oncology and major trauma.

A paediatric surgeon therefore is a board-certified surgeon who is involved in the management of paediatric surgical conditions. The term may also be loosely applied to those who engage in the subspecialties, e.g. paediatric neurosurgery, urology, ophthalmology, cardiothoracic and so on.

Paediatric surgery as a specialty is a response to the realization over 70 years ago that the needs of the child anatomically, physiological and emotionally are different than the adult. The surgical conditions are unique. Paediatric surgery embodies the recognition of the total needs of the child and their parent socially and psychologically.

Paediatric surgery should be practiced in a Child Centred Service, whether in a general hospital, childrens' hospital, tertiary institutions or a regional centre. What is paramount is that the service should have child-friendly facilities, including a day care unit, outpatient department and perioperative wards. This service should also allow the child, if mature enough, and his relatives to participate in decision making at all stages of the management process. It is the responsibility of the surgeon to obtain consent from the family and assent or consent from a competent child.

The staffing should be multidisciplinary and must have trained in the appropriate paediatric specialties or subspecialties.

As much as possible, parents and carers should have unlimited access to the child from the ward to the anaesthetic induction room and when fetching the child from recovery. Parents should be allowed to participate in the management of the child and be allowed unlimited access, as much as is possible, to the patient.

Three epochal generations have played significant roles in the evolution of paediatric surgery in Nigeria to date. They are the "silent generation", the "Baby boomers" and the "Generation X". These generations are recognized and have been classified by character stereotypes peculiar to the generation in question.[4]

Nigeria is a vast country with a land mass of 923,768 sq kilometers, 4% of Africa's total land mass. It is the most populous country in Africa and has a population of 146,000,000 people (2006 census).[5] One in every five African is a Nigerian and 45% of the population, approximately 66 million people, is below the age of 15 years.

The beginnings of paediatric surgery as a specialty in Nigeria, as indeed the whole of Africa, is hazy.

However, Prof. Paul Omodare of Lagos University Teaching Hospital (LUTH) (now late) Prof. M.A. Bankole Obafemi Awolowo University Teaching Hospital (OAUTH) and Prof. Festus Nwako University of Nigeria Teaching Hospital (UNTH) were well-known as pioneer paediatric surgeons during the late sixties and early seventies.

The non-Nigerian in their midst was Prof. J.H. Lawrie of Ahmadu Bello University Teaching Hospital (ABUTH). They all belonged to the Silent Generation, a cohort born between the years 1923 and 1942. Bernard Salt, an American corporate consultant, says "it is a generation of helpers. It has not yet produced a US president, but it did produce every great Civil Rights leader and almost every leader in the Women's Movement. "The major contribution of the silent generation was to humanize their world, and now they want to help ensure a safe world for their grand children". These men practiced paediatric surgery in the academic centres in Nigeria. True to their generation, they courageously and conscientiously embarked upon a course that we are still charting today in Nigeria. It is not easy to pay adequate tribute to them; however, let us not forget that the lessons of the present, if not the future, are products borne of instructions of the past.

I salute these men for their great vision, doggedness and perseverance for their desire to practice the only unique specialty in surgery. They indeed worked "silently" but steadily and tirelessly. They set the stage, planned the plan and worked the plan to lead us to the present.

Permit me to use my experience in Zaria to illustrate the achievements of these pioneers of paediatric surgery in Nigeria.

Paediatric surgery started in northern Nigeria in what is now Ahmadu Bello University Teaching Hospital

(ABUTH), Zaria, with the arrival of Prof. James Hunter Lawrie, a Scotsman and foundation Professor and Head of the Department of Surgery, Ahmadu Bello University and Ahmadu Bello University Teaching Hospitals. I shall quote copiously from his inaugural lecture delivered at a valedictory on 29th May 1984, at which I was privileged to be present. The excerpts were culled from that lecture titled "SURGERY FOR CHILDREN IN ZARIA REGION",[6] to illustrate an example of paediatric surgery in the past.

He began, "I hope that you will accept a variety of reasons for considering this subject today. The first and selfish reason is that paediatric surgery was my major interest when I came to Zaria 15 years[7] ago from Hospital for Sick Children at Great Ormond Street in London and before that at the Royal Hospital for sick children at Yorkhill in Glasgow.

The next is that I was able more or less single-handed to get paediatric surgery off to a good start[8] through the goodwill of Dr. Tom West and Wusasa Hospital, which then had a simple highly efficient operating theatre and well-trained experienced paediatric sisters. In my first 2 years, I was able to operate on more infants there than here (ABUTH). Next was the generosity of the paediatricians, through that tough eccentric polo player Professor Bob Collis, who allowed us from the beginning to have our own clinic and admissions. Many children's surgeons enjoy no such luxurious autonomy, but remain as beggars at the backdoor of the paediatric ward, summoned to do a bit of plumbing as the paediatricians see fit. We have been grateful to his successors for maintaining this healthy tradition. More important however was the early strengthening of the unit, when we were joined by Professor Tope Mabogunje with experience from Boston, New York and later Los Angeles Children's Hospital, then by Dr. Garg who has built up an international reputation in paediatric urology and later by Dr. Momoh from the Sick Children's Hospital in Toronto. We have thus had a group with children's surgery as a special interest, each pursuing his own independent interest, yet able to pool resources readily in collaborative surgical studies".

Lawrie noted that 54% of the children with surgical problems came from all over the northern region, while the Zaria area produced the remainder 46%.

This team treated both simple and complex surgical problems, hernia hydrocoeles, cleft lip and palate, neonatal intestinal obstruction, i.e. anorectal malformations, Hirschsprung's disease, atresias and pyloric stenosis among others. In a study[7] of a certain 5-year period, 79 various operations were carried out for intestinal obstruction, 63% (50) of this number were for anorectal malformation, 15% (12) Hirschsprung's disease, 6% (5) were atresias of the bowel, 5% (4) congenital bands and 3% (3) were for strangulated hernia. These ratios have not changed very much since that study 24 years ago.

Intussusception during his time was predominantly of the caecocolic variety. This has since given way to the classical infantile ileocolic variety, a phenomenon yet to be properly explained. He also noted the rising incidence of acute appendicitis in children between the ages 5 and 13 years.

On Spina Bifida, he states, "These are tragic conditions untreatable even in the best equipped surgical centres. It is therefore as important to appreciate what not to do, as to know what is possible for these children".

He decried the wastage of resources on a child "with meningomyelocoele, who is brought away from its mother, to a central hospital as an emergency where he is placed in an incubator, given antibiotics and artificially fed at great expense, all to the inevitable exclusion of several other babies with remediable conditions". By this he implied that an unruptured myelomeningocoele is not an emergency; second, the mother is the better incubator, the machine could be used for the more needy and so the feeds. He was greatly misunderstood and perhaps still is today. He continued "meningocoeles are more benign, but again can be observed for a while for neurological deficits. All are in greater or lesser degree associated with hydrocephalus, also untreatable here, and it is, and will be, extremely difficulty to justify the vast burden which is assumed by the introduction of ventriculoatrial drainage systems".

Here, I appeal to our neurosurgeons to dispassionately and carefully look into the circumstances surrounding the spina bifida complex and its management. They should critically evaluate Lawrie's observations and say whether more than 25 years later things have changed for the better.

"Gastroschisis is not easily recognized, with resulting delay in treatment and 100% mortality. For the omphalocceles, there is a wider acceptance of conservative management to convert them to umbilical hernias, which can be repaired later in life. There is no place for heroic surgery for these infants".

Genitourinary anomalies, undescended testis, ambiguous genitalia, bladder extrophy, hydronephrosis and posterior urethral valves featured prominently in their practice. Genitourinary anomalies were second

only to hernia as surgical conditions.

On burns and scalds, he decried "the needless waste, with a mortality of 20%". Cancer in children posed a problem. The team "successfully separated a number of conjoined twins, with no technology involved, only a large team of sensible people, nurses, anaesthetists and surgeons who were accustomed to work together in a sensible practical way. This is the essence of surgical practice in Zaria".

He roundly condemned the new hospital at Shika, which he described as "inappropriate and ill conceived and has effectively blocked all rational development of clinical surgery in this region. It will never be completed" he stated.

He thought the postgraduate examinations were having an ill effect on surgery. Nationally, he described them as "foreign importations, dangerously abbreviated and made more theoretical instead of more practical".

This, ladies and gentlemen, probably sums up the story of paediatric surgery in the past. One may not agree with many ideas therein but some home truths remain. In the area of constructing tertiary health institutions, over 30 years on, many have not been completed.

The curriculum in the postgraduate examinations is increasingly becoming more factual while examiners are at pains desiring trainees to apply clinical situations in answering questions.

My foray into paediatric surgery was fortuitous. During my residency period, I had the privilege of spending up to a total of 6 years on rotation through the paediatric unit and worked under all the consultants. On completion of my residency in general surgery, Dr. later Prof. J. T. Momoh, with whom I had a close personal and professional relationship, left for Jos. The then Head of the Department, Prof. Mabogunje. also a paediatric surgeon. called me to his office and told me to take charge of the Blue Team.

The Blue Team was two separate units combined – a paediatric surgical and a general surgical. It was the only team that ran two clinics in the week: A separate day for general surgery and another purely for paediatric surgery. It also had two operating days, one for each specialty. I enjoyed the period along side my academic responsibilities and a 6-year stint as a very busy hospital administrator. I literally worked "26 hours a day", as I always jokingly told my friends. I led the Blue Team for 10 years, 1988-1997.

My generation is called the "Baby boomers".[4] It is descriptive of a cohort born between the years 1943 and 1960. It was the consequence of World War 2 and reminiscent of a period when soldiers returned from the war, met a glut of women and went to work trying to replace the fallen heroes decimated by war.

This cohort the world over was characterized by being more educated than the generations before. This generation has parents who are living longer, their children seeking a better and longer college education. It is aptly called the "sandwiched" generation, caring for both elderly parents and young children together at the same time.

It was predicted years ago that this generation would experience an economic downturn at their retirement during 2007-2009. I believe that we all recognize these times.

The generation is working with, but will gradually give way to, the Generation X.

Generation X spans the cohort born between the years 1961 and 1981. I believe that many of us in the hall identify with this cohort. The thinking of generation X is said to be cynical, especially towards things held dear by the previous generations, particularly those of the baby boomers.

"They possess only a hazy sense of their own identity, but a monumental preoccupation with all the problems the preceding generations will leave for them".

Nigeria today has 53 paediatric surgeons serving a population of 66 million children and adolescents. This comes to one paediatric surgeon for 2.7 million children.

The BAPS recommends at least five specialist surgeons and one urologist in a specialist centre serving a population of 2.5 million. The Senate of surgery of UK regulation is 1,300,000. For this to be achieved in the UK according to a 2002 report, an increase in the work force from 104 to 173 was the goal.

Using the BAPS criteria, present day Nigeria would need 1584 paediatric surgeons and urologists. This is 30-folds what is on the ground. At the present rate of certification of four surgeons annually, we may take another 28 years to achieve this, i.e. without making any allowances for population growth, which at 3% would correspondingly be exponential.

The spectrum of paediatric surgical disease and the scope of surgical practice have not changed much over the past 40 years. Demographic and clinical studies seem to be somehow repetitive. In spite of the better network of roads linking many places, the patients still have to travel long distances at great cost from rural to urban areas, where the surgical care may be given. The frustrations endured by the present crop of paediatric surgeons include that of space arising from uncompleted facilities. The permanent sites of many tertiary hospitals – which serve as the mainstay of paediatric surgery – remain uncompleted and progress is very slow. When completed, their capacity is greatly reduced, e.g. ABUTH complex, i.e. Kaduna, Zaria, Malumfashi was a 1200-bed complex, whereas the new site has only 500 beds and even at that, there is only a half that number of beds available, as ward blocks are yet to be completed.

Space allocation is disproportionate in favour of adult patients. There are no outreaches to take the load off the back of the surgeons. The need for more space for beds, clinic, theatre and office use in increasing extremely rapidly. Many facilities have little or no neonatal intensive care units or paediatric anaesthetic support.

Team work seems to be dwindling as persons and professions are becoming individualistic and exclusive. There is a silent struggle for instance in the operating room as to who is really the leader, the nurse, the anaesthetist or the surgeon. There are few specialty-trained supporting staff. Where this is available, they are deployed to areas irrelevant to their specialty. This is most noticeable in the nursing departments.

The explosion in the number of medical students admitted and rotated to the units does not allow for role modelling during the short 1-3-month rotation as there is little or no contact time. In fact the number is so large that it is impossible to accommodate say 30 students or more at the same time in an operating room space (designed for about 10 staff) during a theatre session. Residency rotation through the specialty is also so short that hardly any mentoring is done.

The paediatric surgeon compared with his adult patient surgeon seems not to enjoy "the good things of life", as the patients are generally very poor. The GSM phone has served as a tool for reducing concentration in classrooms, clinics, seminars and ward rounds.

Most annoying of all is the orientation of hospital managers towards the specialty. This probably is just slightly better than the America of 150 years ago[1]. The ignorance, apathy or nonchalance of policy makers is heartbreaking.

The present, in my opinion, is tough, but are the key actors meeting the challenge, only time will tell. The bulk of the present paediatric surgeons, the generation X, "grew in the times of drugs, divorce and economic strain. They are said to have come of age and shed their excesses and instead are in their peak years of product and service consumption and are embracing electronic media" more feverishly than before. The generation X cohort is between the ages of 25 and 44 years, 90% of them use the internet and mobile phones are their consent companions. They eagerly embrace high technology and are upwardly mobile. Most of them earn full salaries, have money to spend and embrace a wider range of lifestyles than previous generations".

A seismic change in American politics has catapulted one of them, Obama – the "we want change – yes we can man" to the White House.

We therefore rely on this "yes we can" generation to partly take us to the future.

The West African College of Surgeons training programme to date has produced 38 paediatric surgeons since inception in 1979. May I use this occasion to congratulate the latest entrants to the fold. You have come at a difficulty time. The college training programme is well structured. Workshops are organized by the college in collaboration with resource persons from abroad and residents widely exposed to the current trends. There is, in the area of Continuous Medical Education, commendable and concerted effort by individual consultants to foster relations with local and international colleagues and agencies. In Zaria, arrangements have been made and residents and consultants have been sent to Ghana, Egypt, USA, South Africa and the UK for short tours of 8 weeks to 6 months for specialty and subspecialty attachment, respectively, thanks to the effort of Dr. Ameh. My overall assessment of the present is that it has done relatively well in the face of constraints. I am using Zaria as a yardstick.

For the future, I will caution that there should be no lofty dreams. We should not go to the moon yet. We should, instead, spend time making right what is hindering the progress of the specialty. I sincerely pray and hope that the immediate future would be occupied, addressing the myriad shortcomings of the present.

The global recession is here to stay, it would be with us for a while, we would have to practice in that milieu.

We must device means and ways of meeting up with the challenges posed. I do not (this is my gut feeling) see much happening by way of upgrading paediatric surgery practice in Nigeria by the year 2020. (By this year Nigeria is expected, in many ways, to be among the top-20 developed nations of the world.) It is my very sincere prayer that I am wrong.

By then, vaccines would have been produced for the prevention of malaria, HIV/AIDS and this would positively affect our specialty.

Most patients would still be too poor and would ill afford to pay for paediatric surgical services and the Federal and State Governments would gradually divest their full responsibility to health care by encouraging public private sector partnership.

Sixty to 70% of paediatric surgical procedures and care can be performed on an ambulatory basis. Facilities for day care should be established in every specialist centre and selected outreaches.

Endoscopic surgery, which is making a head way, will be available in a few selected centres, but, overall, would not make any appreciable impact, as the enormity of the problem in terms of space and the extent of pathology will limit its routine use.

The college should device a programme to produce very competent and proficient paediatric surgeons within a shorter time and in large numbers, say 3 1/2 years.

I also foresee a greater movement of paediatric surgeons across borders within the West African subregion.

More paediatric surgeons should aspire to be hospital managers and chief executives of hospitals.

The Association of Paediatric Surgeons (APSON) would metamorphose in keeping with the letters of her constitution to be the spokesman of the specialty. The APSON would be strong enough for advocacy between the practitioners of the specialty, the children of Nigeria and the people and governments of Nigeria.

Ladies and gentlemen, I thank you.

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