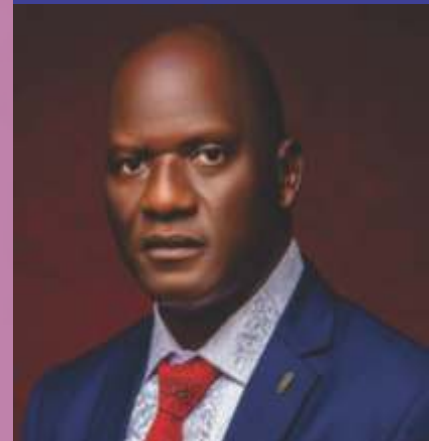




**You are a  
Driving Force  
in Quality Management**  
- Minister to MLSCN



**Erhabor:** Defying odds,  
making a difference in the  
past one year



**Prof James  
Garba Damen**  
President AMLSN

**AMLSN is still  
One Big Family**



**WAPGMLS: A SUB REGION UNITES FOR  
BETTER MEDICAL LABORATORY DIAGNOSIS**



**MLSCN in the  
Midst of COVID-19**



**PRESS BRIEFING ON  
THE PROGRESS REPORT  
OF SARS-CoV-2 INFECTION TEST KITS**



# **NATIONAL LABORATORY EQUIPMENT CALIBRATION CENTER (NaLECC)**

## **MEDICAL LABORATORY SCIENCE COUNCIL OF NIGERIA**

Plot 1166 Muhammed Umar Lane, Durumi Phase II,  
Garki, Abuja, FCT.

Email: [info-nlecc@mlscn.gov.ng](mailto:info-nlecc@mlscn.gov.ng) Phone: 09067992199

*The National Laboratory Equipment Calibration Center (NaLECC) owned by MLSCN, funded by center for Disease Control, (CDC) USA with technical support from Institute of Human Virology Nigeria (IHVN) is situated at MLSCN headquarters, Abuja, the first of its kind in West Africa.*

*The National Laboratory Equipment Calibration Center (NaLECC) which started operations recently only offers onsite laboratory equipment calibration for now with scopes on.*

- Volume (Pipette)
- Mass (Balance and Mass)
- Temperature (Refrigerator, Freezer Autoclave oven, incubator, water bath etc)
- Speed (Centrifuge vortex mixer)
- Time (Timers)



### **CRITERIA FOR ACCEPTANCE**

- Uniformity between the work order form, the equipment receiving form and items received.
- Equipment should be in utmost functional condition (good working condition, no visible sign of damage or missing parts)
- Equipment for calibration should be decontaminated before presentation.
- Evidence of payment for each item through Remita

### **NOTE:**

- Any Equipment that falls short of the requirement will be rejected.
- MLSCN (NaLECC) is not liable for damages during the shipment to and fro NaLECC.
- Verification of items will be done in presence of the delivery man so as to return those that did not meet the criteria for acceptance.

*For more information and enquires visit: \_\_\_\_\_*

**The National Laboratory Equipment Calibration Center (NaLECC)**

Medical Laboratory Science of Nigeria Headquarters,  
Plot 1166 Muhammed Umar Lane, Durumi, Phase II, Garki Abuja.

Email: [info-nlecc@mlscn.gov.ng](mailto:info-nlecc@mlscn.gov.ng) Phone: 09067992199 or  
mlscn website: [www.mlscn.gov.ng](http://www.mlscn.gov.ng)

*Patronize NaLECC, Achieve Accuracy and Precision!!*



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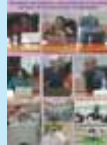
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**Dr. Tosan Erhabor,**  
*Editor-in-Chief*

It is a delight to bring you another edition of “*The Medical Laboratory Scientist*”. This edition is coming out slightly late, we know; for as the saying goes, man proposes, but God disposes. But we have gone to great lengths, as you would soon corroborate, to ensure that our readers get a publication that they can be proud of. From the early days of Year 2020, the editorial board had resolved to adhere strictly to an agreed deadline to bring out the next edition of the news bulletin. However, all that was to change following the outbreak of the COVID-19 pandemic that unleashed a crisis of cataclysmic proportions across the globe, the sort none could have foretold.

While, many government agencies observed a total lockdown in adherence to the federal government directive to help contain the spread of the virus, Medical Laboratory Science Council, though also on lockdown, but being a part of the approved essential or emergency services, was still able to deploy resources towards the validation of the myriad of kits coming into the country at the time. So, the initial deadline for the release of this edition had to be readjusted. Fortunately, the slight delay enabled us to package a robust and highly informative publication for the readers. To hold a copy of this edition is to be in tune with the activities of MLSCN and more.

It is also notable that, just before the lockdown commenced in March, MLSCN hosted a two-pronged event at its headquarters in Abuja. One was the presentation of the certificate of accreditation by the South African Accreditation Service (SANAS) to the National External Quality Assessment Laboratory, Saye – Zaria, Kaduna State, owned and managed by MLSCN with funding from US-CDC and technical assistance from IHVN. The other was the commissioning of the National Laboratory Equipment Calibration Centre (NaLECC), the first of its kind in West Africa. The event was graced by eminent personalities, including the Hon. Minister of State for Health, Senator (Dr) Adeleke Olorunnimbe Mamora, who brought the paraphernalia of his exalted office to bear on the event. In his remarks, he described MLSCN as “a driving force in quality management” and got us all blushing. Highlights of the event are

# Editorial Suite

included in this edition.

After what many described as an achievement-laden tenure in acting capacity, the MLSCN Governing Board unanimously confirmed the appointment of yours truly as substantive Registrar/CEO, in June 2019. It was a humbling experience for which the current management pledged to re-dedicate itself to the vision of turning the Council into a world acclaimed regulatory agency. Evidence of ongoing efforts to fulfil that pledge can be seen in our accomplishments within the first year, and the highlights are captured in this edition in the interest of our teeming readers.

Not long after the above event took place, Prof James Damen succeeded Dr Bassey E. Bassey as the National President, Association of Medical Laboratory Scientists of Nigeria (AMLSN) thereby ensuring a seamless succession and continuity in the affairs of the Association. Details of the elections and the handover from the old to the new administration are already in the public domain. What is new, though, is that the new president gave the *Medical Laboratory Scientist* “the right of first refusal” for his first formal interview. Marshalling the vision that endeared him to the profession and detailing his agenda for our great Association, Mr President's interview makes such an interesting reading. We could not delay its publication a day longer than necessary, and so it is served 'hot-hot' in this edition.

Furthermore, one of the pieces that made it into this edition focuses on the moment Medical Laboratory Scientists in the entire sub region came together to make a case for improved medical laboratory services for the good of the citizenry. Leveraging the unique opportunity offered by the investiture of the foundation Fellows of the West African Postgraduate College of Medical Laboratory Science (WAPCMLS), various speakers on the occasion expressed the hope that a new dawn had arrived for medical laboratory services in the sub region, and that the time had come for solutions to the incidence of emerging and re-emerging diseases in sub region to be found.

Also included in this edition is the commendable effort by some scholars “to evaluate the levels of Leptin and Adiponectin in cord blood and their relationship with birth weight, head circumference, recumbent length, and ponderal index in small gestational babies.” Previously published in the *British Journal of Medical and Health Sciences*, the authors of work are proud Medical Laboratory Science scholars, whose seminal publication has the potential to trigger new debates and research. It is worth the attention of every Med Lab Scientist.

Of course, there are other pieces showcasing the activities of MLSCN even at the peak of the COVID-19 lockdown. Thanks to the emergence of virtual communication apparatus, most of the regulatory activities of the Council were effectively executed, and some of the highlights made it into this edition. We are gratified that this iconic publication has continued to thrive while serving the purpose for which it was founded. As anyone involved in publishing can attest to, putting a mere newsletter together is not a tea party talk more of a serial such as *The Medical Laboratory Scientist*. We appreciate the continual support of our readers and contributors, and we do not take it for granted. Thank you and stay safe!



# “You are a Driving Force in Quality Management”

## - Minister to MLSCN

The Medical Laboratory Science Council of Nigeria (MLSCN) has been described as a driving force in quality management in the health sector. This description was made by the Hon. Minister of State for Health, Dr. Adeleke Olorunnimbe Mamora, while receiving the Certificate of Accreditation (**ISO IEC 17043:2010**) presented to MLSCN National External Quality Assessment Laboratory (NEQAL) Saye, Zaria, Kaduna State by the South African National Accreditation Service (SANAS). The ceremony also doubled as the commissioning of the National Laboratory Equipment Calibration Center (NaLECC) also owned by MLSCN and funded by the United States-Centers for Disease Control (CDC) with technical support from IHVN.

While commissioning NaLECC which was done simultaneously with the SANAS Certificate presentation, the Minister emphasized the importance of Laboratory Equipment Calibration which he said is the bane of accurate diagnosis. “Despite the level of competency and experience, without the right working equipment there won't be an optimal result,” he said, even as he called on stakeholders and laboratory users to patronize NEQAL and NaLECC with a view to achieving accurate diagnosis.

Meanwhile, the Minister also expressed appreciation to the implementing partners for their support and prayed for a sustained relationship between them and MLSCN, assuring that the Federal government was fully committed to improving the quality of health care available to the citizenry.

Earlier in his remarks, the Chairman, MLSCN Governing Board, Prof Muhammad Yelwa Gwarzo said he was gratified that the milestone was achieved by MLSCN during his tenure as Chairman. He hailed the tenacity, hard work and professionalism of the staff of NEQAL and the implementing partners, whom, he said, were “dogged and committed” in their quest to achieve accreditation.

“Your commitment to standard and quality has paved the way to success,” he said, urging the citizenry to look into the future with confidence as they are now sure of quality Medical Laboratory Diagnosis given MLSCN feats with the accreditation of NEQAL and the commissioning of NaLECC.

In his welcome address, the Registrar/CEO, Dr. Tosan Erhabor recalled, that “it seemed easier for the proverbial camel to pass through the eye of a needle than for medical laboratory facilities to willingly key into any external quality assessment program some years ago.” This narrative, he said, had now changed as the National External Quality Assessment Laboratory had begun to revolutionize the external quality process in the health laboratory system in Nigeria. According to him, several facilities across Nigeria had already enrolled and many are still enrolling in the MLSCN EQA program.

Erhabor, who decried the failure of most of the public health facilities to participate in the EQA/PT scheme with few exceptions being those supported by PEPFAR, appealed to the Federal Ministry of Health to assist MLSCN in advocating to CEOs of various government-owned hospitals on the essence of enrolling their laboratories in the MLSCN Proficiency Testing (PT) scheme for quality assurance of their laboratory results.

On the National Laboratory Equipment Calibration Center, the Registrar noted that the center was founded to ensure the calibration of medical instruments and ancillaries which, he said, could help maintain the integrity of equipment or instruments involved in the process of diagnosis. He, therefore, called on all stakeholders to support MLSCN to overcome the issue of inaccurate or unreliable equipment or instrument in the health sector by supporting the center so as to restore confidence in the results emerging from our laboratories.



Presentation of SANAS Certificate to the Hon. Minister of State for Health Dr. Adeleke Olorunnimbe Mamora, by the Chairman assisted by the Registrar/CEO, MLSCN.





The Hon. Minister of State for Health, Dr. Adeleke Olorunnimbe Mamora, Registrar/CEO Dr. Tosan Erhabor during the National Anthem at the event, during the presentation of SANAS Certificate.



The Hon. Minister of State for Health, Dr. Adeleke Olorunnimbe Mamora, Registrar/CEO Dr. Tosan Erhabor at the occasion.



Dr. Tosan Erhabor, Registrar/CEO, delivering his speech.



The Hon. Minister of State for Health, Dr. Adeleke Olorunnimbe Mamora, delivering his speech at the occasion.



The Board Chairman MLSCN, Prof. Muhammad Yelwa Gwarzo, delivering his speech at the occasion.



Prof. Alash'le Abimiku of IHVN, delivering her speech at the occasion.



Ms Deborah Connor, Acting Country Director CDC, delivering her speech at the occasion.



Cross section of Dignitaries at the event.

# PHOTO SPEAK





# MORE VISUALS FROM THE EVENT





# Erhabor: Defying odds, making a difference in the past one year



A year ago, the then Acting Registrar/CEO of MLSCN, **Tosan Erhabor's** appointment as the substantive Registrar/CEO of the Council was confirmed by the Governing Board of the Council led by Prof Muhammadu Yelwa Gwarzo.

Since then, Dr Tosan Erhabor who holds a Ph.D in Hematology and Blood Transfusion Science, has not rested on his laurels as a silent achiever, in his strives to make the Council the envy of other regulatory agencies in the health sector defying all odds. Within this period, there has been a plethora of achievements despite the outbreak of the COVID-19 pandemic. These achievement have made MLSCN under him to continued to receive accolades both nationally and Internationally. It is therefore with fulfilment and thanksgiving to God that we share some of these achievements, including but not limited to the following:

## 1. Accreditation and presentation of Certificate to MLSCN National External Quality Assessment Laboratory (NEQAL) by SANAS:

This facility located in Saye, Zaria, Kaduna State is owned and managed by MLSCN but funded by US-CDC with technical support from IHVN. Although the process for accreditation started during his tenure in the acting capacity, it was during his one year in office as the substantive Registrar that NEQAL was officially presented with the certificate of accreditation (ISO/IEC 17043:2010) for Proficiency Testing by the South African National Accreditation System (SANAS). With this accreditation, NEQAL's policies, processes and procedures have passed assessment by a third party organization.

## 2. The setting up and Commissioning of the National Laboratory Equipment Calibration Centre NALECC:

This facility located within MLSCN headquarters in Abuja, is managed by MLSCN and funded by the US-CDC with technical support from IHVN. It is the first of its kind in West Africa. The center which was commissioned by the Hon Minister of State for Health, Senator Adeleke Olorunnibe Mamora is to ensure that laboratory equipment are calibrated for optimal diagnosis culminating to the treatment of patients. This servant Leader made history by commissioning the calibration center and receiving the certificate of Accreditation by SANAS simultaneously on the same platform.

## 3. Pre-market validation of SARS-CoV-2 infection (COVID-19) Rapid and RT-PCR Test Kits:

As part of her mandate as contained in Section 4(e) of MLSCN CAPM25 LFN 2004 to:

**“Regulate the production, importation, sales and stocking of diagnostic laboratory reagents and chemicals”.**

MLSCN conducted pre-market validation on SARS CoV-2 Rapid Test Kit RTK at the MLSCN Public Health In-Vitro Diagnostics Laboratory (IVD Lab) Yaba, Lagos.

The result of 1<sup>st</sup> and 2<sup>nd</sup> validation exercises of COVID-19 otherwise known as SARS COV2 kits conducted by the Medical Laboratory Science Council of Nigeria (MLSCN) was endorsed by the Hon Minister of Health and communicated to the general public through a press briefing by the Registrar/CEO MLSCN Dr. Tosan Erhabor on the 29<sup>th</sup> of May 2020 and 13<sup>th</sup> October 2020. The validation of RTK and other laboratory consumables is a continuous exercise in line with MLSCN mandate to ensure sensitivity, specificity, reliability and accuracy of all laboratory consumables.

**4. Unveiling of Guidelines for Private Medical Laboratories seeking to provide COVID-19 testing through private arrangement:**

During the year under review MLSCN developed guidelines for Private Medical Laboratories Seeking to Provide COVID-19 testing through private arrangement. This guideline simultaneously was unveiled during the press briefing on Friday, May 29<sup>th</sup>, 2020.

This is also in furtherance to the COVID-19 pandemic response by Council in Nigeria as it has become expedient to scale up Covid-19 testing and involve certified private laboratories to be part of this testing.

**5. SANAS ACCREDITATION FOR MLSCN PT SCHEME:**

In line with the Council's drive for quality Medical Laboratory Testing, the MLSCN under the able leadership of Dr. Tosan Erhabor achieved SANAS International Accreditation to ISO 17043 for MLSCN PT scheme. This has strengthened the MLSCN-PT Program and will enhance acceptability and patronage by stakeholders.

**6. SUSTAINED ADVOCACY:**

During the past year, the Council has sustained advocacy and stakeholders' engagement which has yielded an improvement in collaborations and understanding of MLSCN mandate.

**7. WAIVER ON CPD AND 200% PENALTY FOR DIASPORA MEMBERS:**

In response to the demands from Council members in diaspora, MLSCN under the leadership of Dr Tosan Erhabor has been able to secure a waiver of CPD and 200% penalty on

annual practicing license fee for members in Diaspora.

**8. ESTABLISHMENT OF MORE INTERNSHIP CENTRES:**

The Registrar/CEO understands that the younger generation is the future of this profession. Thus, in order to ameliorate the plight of prospective interns, three more facilities have been approved for internship training to beef up the existing ones, kindly visit the MLSCN website for details.

**9. DEVELOPMENT OF INTERNSHIP TRAINING GUIDELINES:**

For effectiveness and uniformity in internship training, a guideline on internship training was developed and circulated.

**10. UPDATE ON ACCREDITATION REQUIREMENTS FOR BMLS AND MLT PROGRAMMES:**

Accreditation requirements for BMLS and MLT programmes were reviewed and updated to meet current expectations.

**11. ACCREDITATION AND REACCREDITATION OF TRAINING INSTITUTIONS:**

Within the past year, 50 training institutions were visited for accreditation and reaccreditation to ensure maintenance of standard in our training institutions. This programme also helps to ensure that only training institutions with the right standard of manpower, equipment, infrastructure etc. are able to scale up their training standards to benchmark international best practice are approved.

**12. EARLY CONDUCTION OF EXAMS AND INDUCTION:**

As a father that listens to the yearnings of the younger generation of this profession for timely graduation, Dr Erhabor's administration has committed itself to continuous succession by conducting examinations and inductions regularly and promptly.

**13. ACCREDITATION OF TWO DESERVING MEDICAL LABORATORIES:**

To ensure that patients get the best medical



laboratory diagnosis, the Council has given recognition to two deserving laboratories as they were awarded National Accreditation to ISO 15189. These laboratories are the Nigerian Navy Reference Hospital Laboratory Ojo, Lagos State and the Nigerian Navy Reference Hospital Laboratory, Calabar. Cross River State. Many others have already gone through baseline assessment and are in line for same recognition.

**14. QMS Training on Laboratory Quality Management System (QMS) and ISO 15189:**

In the past one year QMS Training on Laboratory Quality Management System (QMS) and ISO 15189 implementation was conducted for MLS practitioners.

**15. TRAINING OF QMS MENTORS:**

MLSCN trained Laboratory Quality Management System (QMS) Mentors who will in turn provide mentorship for medical laboratories seeking to implement QMS in their facilities.

**16. DEVELOPMENT OF NATIONAL CERTIFICATION GUIDELINES:**

Council has developed National Certification guidelines for laboratories as a guide for those seeking to enroll for National Accreditation.

**17. UPGRADE OF MLSCN IVD LAB:**

The MLSCN IVD Control Laboratory in Lagos was effectively positioned to carry out its functions. Necessary equipment was procured including a Bio Bank facility for adequate storage of samples. And it is hoped that the facility would soon commence the process leading to accreditation as it is one of the MLSCN Quality Tripods.

**18. ONLINE TRAINING, ADVISORIES AND GUIDELINES for COVID-19 RESPONSE:**

Council organized several online trainings, released advisories and guidelines during this lock down for Medical laboratory practitioners as part of the response for COVID-9.

**19. SETTING UP OF THE DISCIPLINARY COMMITTEE OF THE BOARD:**

The Disciplinary Committee of the Governing Board of the Council was constituted with the

representation and recognition of the Ministry of Justice within this one year.

**20. INSPECTION OF MEDICAL LABORATORIES:**

In order to prevent quacks and charlatans from continuously infiltrating into Medical Laboratory Science Practice, the Council inspection of Medical Laboratories in Rivers and Cross River states were carried out. Over 300 Medical laboratories were inspected and 101 laboratories were sealed for various unethical reasons.

**21. SUSTENANCE OF STAFF WELFARE AND PEACEFUL WORKING ENVIRONMENT IN THE COUNCIL:**

Peaceful work environment and welfare of staff has been sustained to the admiration of everyone, reason being the servant leader's understanding that "a happy workforce is a panacea for positive production" and staff are the greatest ASSET of an organization

**22. SUSTENANCE OF COLLABORATION BETWEEN MLSCN, ITS SISTER AGENCIES AND IMPLEMENTING PARTNERS.**

There has been a sustenance of collaboration and partnership between MLSCN and other agencies like NCDC, IHVN, NUC, US-CDC, MSH, NINAS etc.

**Challenges**

- Paucity of funds
- Suspension of MLSCN activities occasioned by Covid-19 pandemic
- Quackery
- Poor government funding

**PROJECTIONS**

- Finalization of MLSCN computerization and transition to e-Licensing with photo and security features which will enhance timely service delivery and customer satisfaction.
- Quality improvement in Medical Laboratory Services is in the front burner and a proposal to incorporate quality management system as a component of the minimum requirement for operating a medical laboratory has been presented to the Governing Board for approval.
- Medical Laboratory Scientist audit in Government facilities is being considered as a good number of practitioners who work in government hospitals

and universities do not pay for the renewal of their practicing license.

- Internship audit is also being proposed with a periodic visit to internship training facilities to maintain standards.
- Further strengthening of MLSCN activities will continue in various areas in line with the MLSCN vision and mission statement.

### CONCLUSION

Though the year 2020 was a trying one for everyone all over the world, with the help of God, the support

from the MLSCN Board headed by Prof Muhammadu Yelwa Gwarzo, the Management and Staff of Council, and stakeholders, the administration of Dr. Tosan Erhabor was able to achieve the above milestones even in the face of constraints like COVID-19 and paucity of funds, confirming that MLSCN is poised to sustain the drive to strengthen the Medical Laboratory health systems and professional practice for quality services in Nigeria in the years to come.

## SOME OF ONE YEAR ACHIEVEMENTS PIX



Presentation of SANAS Certificate to the Hon. Minister of State for Health, by the Board Chairman.



MLSCN and Implementing partners staff of NEQAL at the event



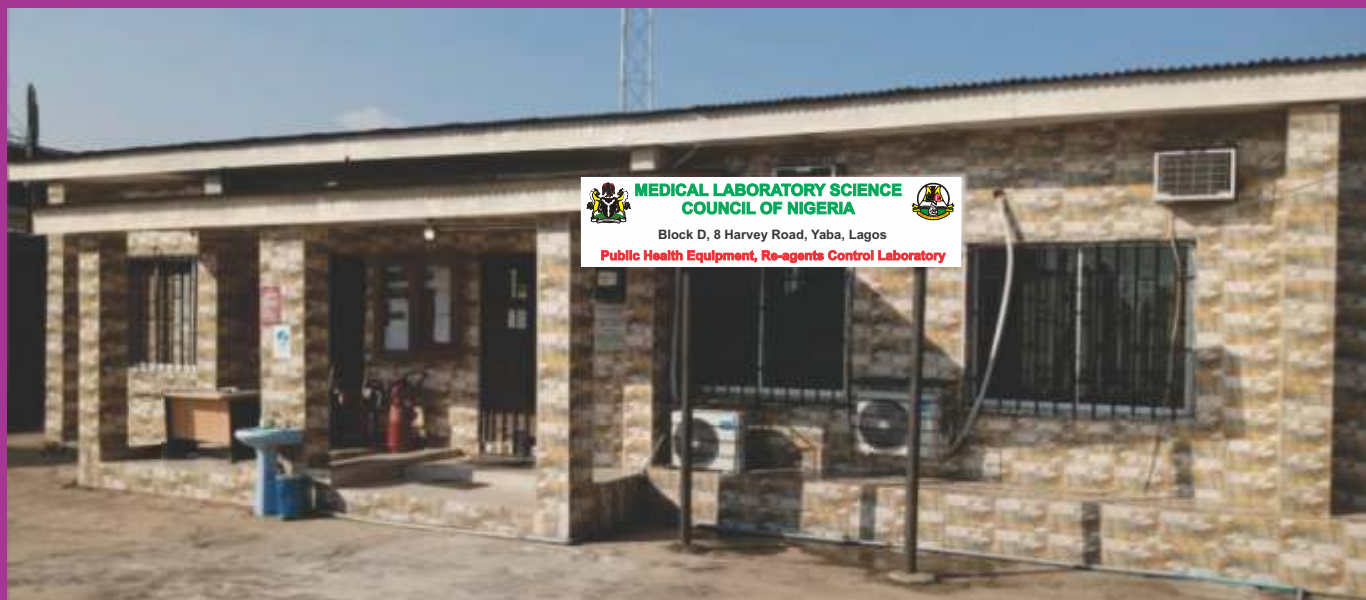
Registrar/CEO with Staff of MLSCN Calibration Centre



Cutting of tape for the commissioning of MLSCN Calibration Centre by the Hon. Min. of State for Health assisted by other dignitaries.



# Achievement contd.



**MLSCN Validation Team at Public Health In-Vitro Diagnostic Laboratory, Yaba - Lagos**



**PRESS BRIEFING ON THE PROGRESS REPORT ON FIRST BATCH VALIDATION OF SARS-CoV-2 INFECTION TEST KITS**



**PRESS BRIEFING ON THE PROGRESS REPORT ON SECOND BATCH VALIDATION OF SARS-CoV-2 INFECTION TEST KITS**



# WAPCMLS: A SUB REGION UNITES FOR BETTER MEDICAL LABORATORY DIAGNOSIS.



**The Foundation Regional Executive Council R-L Prof. Nafiu Amidu (President) Ghana; Dr. Godswill C. Okara (Registrar) Nigeria; Dr. Youan G. Pascal (Asst. Registrar) Côte d'Ivoire; Dr. (Mrs) Haddy Bah (Treasurer) Gambia; Mr. Adjodi Anabadedi (Asst Treasurer) Togo.**

The Association of Medical Laboratory Scientists of Nigeria (AMLSN) annual public lecture series provides a veritable platform for the Medical Laboratory Scientists use to enhance quality healthcare in the country through insightful lectures. The 2020 edition was epochal in many ways in that it involved the induction/investiture of foundation Fellows of the West African Postgraduate College of Medical Laboratory Science (WAPCMLS). The new College has its Headquarters in Abuja, Nigeria.

The WAPCMLS is a brain child of the West African delegates at the 30<sup>th</sup> World Congress of International Federation of Biomedical Laboratory Science (IFBLS) in June 2010 in Kenya, East Africa. Tagged “the Nairobi initiative”, the meeting brought to the fore the need for human capacity development in Medical Laboratory

Science in West Africa to enable the sub region to overcome the growing challenges of ill health and diseases. The constitution of the College was inaugurated in Lagos on the 14<sup>th</sup> September 2010, during the 46<sup>th</sup> Annual Scientific Conference and International Symposium of AMLSN, while the MOU was signed in Abuja in 2013, during the tenure of Dr G. C. Okara as the President of the Association and Prof A.O. Emeribe as the Registrar/CEO, Medical Laboratory Science Council of Nigeria (MLSCN). A copy of the MOU was published in the July – September, 2013 edition of the “Medical Laboratory Scientist”. The mission of the College as enunciated from the outset is to build specialists that will bring to bear the highest level of medical laboratory services in the West African region.

Indeed, the mission is imperative in light of IFBLS



findings that 60-70% of data required for effective diagnosis, treatment, prevention, monitoring and surveillance of diseases is generated from the medical laboratories. The report also makes a strong case for more attention to be paid to the development of the laboratory workforce in Africa, especially in the West African sub region, to meet sustainable developmental goals (SDGs).

Undoubtedly, providing health care in the sub Saharan Africa is a complex challenge, as Africa ranks amongst the lowest in per capita spending on health. Curiously, instead of investing available resources in manpower development to assist in disease prevention and treatment, governments and policy makers in the sub region tend to invest more in other segments of the economy. The assumption, which is clearly erroneous, appears to be that Africans don't normally patronize medical diagnostic centers majorly because of their belief system and not because of government lack of investment in health laboratory systems.

The foregoing is exacerbated by the menace of quacks eking their living by dishing inaccurate and unreliable medical laboratory test results thereby increasing health expenditures in a region already plagued by resource shortage. Unfortunately, this situation seems to deepen the perception that laboratory testing is unhelpful and, in worst cases, capable of compromising patient care.

Now the question is whether WAPCMLS would be able to train enough manpower that can speak with one voice to overcome barriers to consistent accurate, reliable, cost-effective, and timely laboratory testing across the sub region. Would such manpower be able to advocate for effective government and private sector engagement in the medical laboratory services value chain with an emphasis on laboratory testing?

This puzzle was what Dr Younan Govanda Paschal, of Felix Houphoet-Biogny University, Cote d'Ivoire attempted to unravel during his speech at the investiture ceremony of the Board of Directors WAPCMLS. According to the don, the establishment of the college would be a major boost to micro states which, for lack of resources, cannot offer better training or qualification to their nationals. "Having the college in an area in the ECOWAS region where no visa is required to travel, where the cost of accommodation is so moderate, and where the listeners come from countries with more or less similar culture, economic and health realities can only be mutually beneficial to all

of us," he said.

However, he decried the nonchalant attitude of leaders in the region towards diagnosis of diseases and the attendant losses attached to them, warning that: "Our fragile economies can only rejoice when we know that misdiagnosed pathology or blind treatment tests cost more than when laboratory made its diagnosis". The scholar further noted that, if the evolution of applied science and technology has made diagnosis easier, its control requires heavy investment in terms of training, equipment, and maintenance." So, what does he consider to be the way out of the quagmire? He noted as follows: "For the region to make headway, synergy of action is more than necessary because running alone allows you to go faster, but running together makes us go farther," he said.

In his keynote address titled "The role of medical laboratory professionals in the successful implementation of universal health coverage in the region", Prof Stanley Okolo, Director General, West African Health Organization (WAHO) dwelt on the non-inclusive nature of universal health coverage, impoverishment of out of pocket payment on the populace and government non-investment in diagnosis and training of personnel in medical laboratory service. The DG told the highly elated 214 investees drawn from different countries of the West African sub region that Health is a human right and humanity's failure to provide Universal Health Coverage (UHC) is a violation of this right. For this right not to be violated, according to him, "The ability to detect illnesses and outbreak must be made an integral part of UHC". Drawing on the IFBLS position highlighted earlier, he re-iterated that estimated 60-70 per cent of all decisions regarding a patient's diagnosis, treatment, hospital admission and discharge are based on the result of the medical laboratory test results.

Thus, Prof Okolo suggested that there is need for a strong political commitment to the national health accounts system, adding that, "A strong mechanism should be put in place for working health insurance scheme in our region and diagnostics must be included as a key component of such packages".

Furthermore, he stated that: "Since one of the goals of Universal Health coverage is to reduce the financial hardship associated with healthcare, it is expected that regardless of the quality of services in a system, high costs of care must be reduced." He, however, expressed regret that, even in the face of the global momentum and political commitments to UHC, the

incidence of catastrophic out of pocket payments spending global has actually increased since 2000 at all household expenditure thresholds.

In order to come out of this quagmire and address the existing gaps, the speaker urged countries to invest in a sustainable, connected, integrated laboratory networks, procure quality diagnostics, and train laboratory professionals to assess results. He also slammed the mindset that simple, rapid test, and syndromic treatments were enough for poor countries, adding that "All patients, rich or poor, deserve to know their diagnosis."

Analysts and policy makers believe that the coming of WAPCMLS could usher in a new dawn for the sub region in the area of diagnosis; surveillance and so on leading to better patient treatment and management provided the stakeholders are able pull together while ensuring what affects one part of the region affects the other. Apparently, Prof Okolo shares this view, but adds that the College think tank must collaborate with professionals in the area of research for the benefit of the sub region. He said they "must come up with pragmatic research findings that would proffer some solutions to the incidence of emerging and reemerging diseases in the ECOWAS region" and also work together with other health professionals to provide a

total one health to the ECOWAS population, as "the health of one man is the health of all".

While lending support to the foregoing views, the Registrar/CEO, Medical Laboratory Science Council of Nigeria, Dr Tosan Erhabor also pledged the support of his agency towards the realization of what he describes as the noble ideals of the College, just like the West African Health Organization (WAHO). "All hands must be together for us to stand a chance of transforming health laboratory systems across the sub region. The college represents a positive point of convergence for Medical Laboratory Scientists in the region who are expected to together to realize the ideals embedded in the founding of the College," he said.

In summary, there appears to be an avalanche of goodwill, support, and expectations from within the Medical Laboratory Science profession and beyond towards the new College. With such support, it seems destined to grow, yet some have urged that it should be allowed to grow organically, take a few baby steps first, and overcome a few teething problems. Stakeholders should neither despair at such nor hurriedly begin to compare it to its peers some of which are decades old. Given the right Leadership, the right vision, WAPCMLS should be able to live up to the ideals expounded by its founding fathers.



L - R Hon. Minister of State for Health Senator Dr. Adeleke Mamora and Perm. Sec. and Rep. of SGF Dr. Mrs. Amina Shamaki



L - R Hon. Minister of State for Health Nigeria and Deputy Minister of Health Ghana



Registrar/Secretary General, Dr. G.C Okara, WAPCMLS



Registrar/CEO Dr. Tosan Erhabor MLSCN, delivering his speech



MLSCN Board Chairman Prof Muhammed Gwarzo and Registrar/CEO MLSCN,



## CROSS SECTION OF INDUCTEES FROM DIFFERENT PARTS OF WEST AFRICA



Board Chairman Prof Muhammed Gwarzo, Dr. Tosan Erhabor Registrar/CEO MLSCN and Hon. Minister of State for Health Nigeria



L - R: Hon. Dr. Prince Amuzu of Ghana & Dr. G.C. Okara administering the College vow.



L-R Mr. Idris Saliu, Dr. Sunday Etukudo and Dr. G.C Okara, WAPCMLS



**Dr. Joseph O. Olorunda**  
Rep. of the DG., WAHO delivering the DG's Keynote address





# SEEK WAYS TO IMPROVE YOURSELVES,

## *Registrar Urges Foreign Graduate Inductees*

Young Medical Laboratory Scientists in the country have been urged to seek ways to improve themselves professionally for brighter career prospects. The call was made by the Registrar/ CEO, Medical Laboratory Science Council of Nigeria, Dr. Tosan Erhabor at the 5<sup>th</sup> induction ceremony of foreign – trained graduates of Medical Laboratory Science who have completed their retraining programme in Nigeria, which took place at Council's headquarters in Abuja.

According to Erhabor, “the Medical Laboratory Science field is peculiar due to its ever evolving and dynamic nature;”



adding that “viruses and diseases also evolve everyday with new strains and so it has become imperative for professionals to update their knowledge and be always prepared for any sudden outbreaks. The Registrar cited the case of the Covid-19 pandemic which is ravaging the world, and noted that no one envisaged at the beginning of the year 2020.



Furthermore, he noted that one of the ways of acquiring more knowledge is by seeking and participating in Council's approved continuous professional development programs (CPDs), warning that “Failure to do that would imply that the relationship with the profession will be short lived as this is one of the criteria for licensure from the Council.”

Meanwhile, the Registrar also warned against result forgery which, according to him, was becoming “a trend”, and added that it was one of the reasons some potential trainees could not make the final list. He affirmed that the Board and Management are on top of the matter as anybody indicted would be handed over to the appropriate law enforcement agency even after induction and licensure as MLSCN has zero tolerance for forgery/malpractice of any kind.

While reiterating the importance of harmony in the health sector especially at this time of COVID-19, the Registrar added that “The world needs competent, committed, modern and versatile professionals to fight the menace of the pandemic”. He, therefore, called on all stakeholders work together to enable the country to come out of the quagmire, adding: “Health professionals whether on the frontline or working behind the scene should pull together to avail the nation of our expertise”, but this, Erhabor noted, “could only be achieved if the professionals avoid rancor and undue rivalry.

260 foreign graduates retrained in Nigeria were inducted into the Medical Laboratory Science profession under strict Covid-19 protocols and received by Pastor Joseph, the Chairman of the Abuja branch and a Board member of the Council.



# THE NATIONAL EXTERNAL QUALITY ASSURANCE LABORATORY (NEQAL): THE STORY BEHIND THE SUCCESS

The National External Quality Assessment Laboratory situated inside the National Tuberculosis and Leprosy Training Center, Saye – Zaria, Kaduna State, was established in 2009 during the tenure of Lady E. U. Okonkwo as the Registrar/CEO, Medical Laboratory Science Council of Nigeria (MLSCN). The Laboratory was funded by US Centre for Disease Control (US-CDC), with technical support from Axios Foundation Nigeria.

At inception, the Laboratory was primarily built to provide ISO 15189 proficiency panels sourced from providers and distributed through last mile to PEPFAR-supported laboratory facilities. The scope was later expanded to cover all Nigerian medical laboratories to challenge their competences and performances.

## **Activities in NEQAL among others include:**

- Production
- Procurement
- Packaging
- Distribution through the last mile distribution LMD channel to laboratories. to curtail issues arising from handling of panels during transit like temperature loss, breakage and loss of panels.

The first Lab Manager was Dr Donald Ofili, while Dr Theo Faruna represented Axios Foundation. Subsequent managers of the facility include Messrs. Olusegun Busari, Greg Uchuno and the present Lab Manager/PT Coordinator Joshua Barde under whose tenure the laboratory received International Accreditation.

In 2012, during the tenure of Prof Emeribe, NEQAL was given a 5-star certification SLMTA exit audit rating after which it went through the ASLM accreditation and came out with a 3star certification thus enabling

NEQAL to key into International Accreditation.

To give EQA its rightful place as a regulatory component of the MLSCN mandate, the Dept. of EQA/PT was created by the 5<sup>th</sup> Governing Board led by Dr. N.N Shidali in 2015, while Dr. Tosan Erhabor, then a Director, was appointed to oversee the Department and NEQAL in particular.

Following some disagreements among the key stakeholders regarding the direction NEQAL was headed at a time, the facility was ceded to IHVN sometime in 2015, but it was returned to MLSCN Dr Tosan Erhabor took over the mantle of leadership in the



Council as Acting Registrar in 2016, and the facility has since leveraged the support of the Registrar and regained its lost glory. This is understandable considering that NEQAL has always been seen as his pet project.

Owing to the progress made by the laboratory when he was the Acting Registrar/CEO, Erhabor invited the then Minister of State for Health, Dr Osagie Ehanire, to the facility in 2017, and also the former Hon Minister of Health, Dr Isaac Adewole, in 2018. Such visits by the top echelon of the federal government has helped attract a lot of positive attention and goodwill to NEQAL apart from making it the only facility owned by

MLSCN that has been visited by two Ministers within a regime.

### **The Journey to Accreditation**

When there was a need for a paradigm shift from ISO 15189 - IEC 17043, NEQAL keyed into it and started building the process to develop its quality management system (QMS) to conform to the standard practice in proficiency testing across the globe which IEC 17043 represents. Again, supported by the Registrar/CEO and the Implementing Partners, it took a little more than two years for the facility to go through the processes and become a SANAS IEC-17043 accredited Laboratory.

While fielding questions from the editorial crew of the *Medical Laboratory Scientist*, on their journey to accreditation, the Lab Manager, Joshua Barde described it as "a bitter – sweet experience".

#### **How would you describe your experience following the accreditation of NEQAL?**

The experience was bitter in the sense of the enormous work before accreditation, and of course there was the sweet savor of success experienced by an entire workforce when a facility has been approved for accreditation. When there was need for a paradigm shift from ISO 15189 to ISO IEC 17043 in NEQAL, we started by developing our documents. Therefore, my advice to those that want to embark on this journey is to first employ the services of a mentor who will help in putting them through the rigors of the processes to accreditation.

In our case, we had a mentor, a lady from Zimbabwe, who came and mentored the staff of NEQAL on the job specifications of the personnel in the lab and helped us in putting our documents in order like the Quality Management System (QMS) and kept reviewing them to ensure that they conform to the standard of ISO IEC 17043/2010. With the help of the management of MLSCN led by the golden Registrar/CEO, MLSCN, Dr Tosan Erhabor, our implementing partners and the dedicated staff of NEQAL, we were able to pull through.

#### **Could you briefly take us through the sequence of activities leading to the accreditation exercise, so that those aspiring to key into the process could also learn a thing or two from your experience?**

After the preparation, we sent our documents to the South African National Accreditation Service, SANAS

for a pre-document review via a viz ISO IEC 17043/2010.

The second step was the invitation of SANAS for a Pre-assessment visit: This was to assess our QMS and advise us on the areas they felt we were lagging behind so that we can put our house in order before the main accreditation visit.

Lastly, they came for the initial accreditation visit. That was when our QMS was assessed, appraised and the end result of that visit is the accreditation of NEQAL as the as proficiency testing laboratory in Nigeria West Africa, with a PTS number of 0016 thus putting MLSCN, Nigeria, and West Africa on the world map.

*"This accreditation means that what we are doing at the National External Quality Assessment Laboratory owned by MLSCN is in consonance with international standards and best practice. With this accreditation, NEQAL has been able to put Nigeria on the annals of history as far as proficiency testing is concerned in the world, if you go to SANAS website and type NEQAL, it is there with PTS number 0016".*

#### **What does accreditation mean to MLSCN now that it has been earned?**

This means that anybody who wants HIV panels can contact the Registrar/CEO MLSCN from anywhere in the world or you want to do research on HIV Serology, NEQAL has been accredited, and certified to conduct proficiency testing in that area and I am happy to be part of this success story.

#### **What is your advice to those wishing to embark on the journey of Accreditation?**

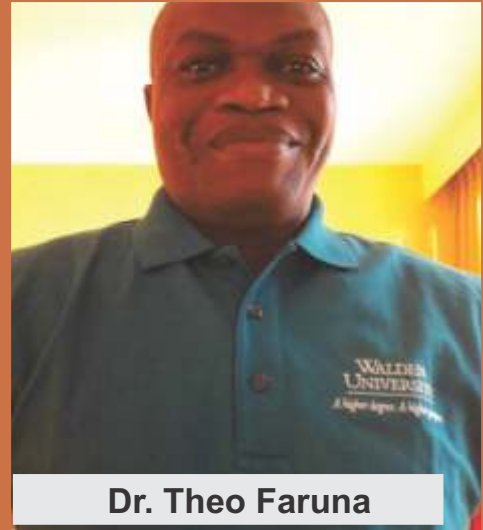
My advice to those that want to embark on this journey is to first employ the services of a mentor who will help in putting them through the rigors of the processes to accreditation.

Secondly stick to rules as stipulated by the accreditation body with determination and hard work every other thing will follow.





**Dr. Donald Ofili**



**Dr. Theo Faruna**



**Mr. Olusegun Busari**



**Dr. Tosan Erhabor**  
First HOD, EQA MLSCN



**Mr. Gregory Uchuno**



**Mr. Joshua Barde**



*At a training in preparation for NEQAL International Accreditation L - R Mr. Joshua Barde, Dr. Tosan Erhabor and Mr. Gregory Uchuno*



*The Lab Manager, Mr. J. Barde welcoming Dr. Osagie Ehanire, to NEQAL.*



*Dr. Osagie Ehanire, the then Minister of State for Health, inspecting the NEQAL facility at Saye Zaria.*



*The then Ag. Registrar/CEO Dr. Tosan Erhabor, welcoming the then Minister of Health to NEQAL.*



*Prof. Isaac Adewole the then Hon. Minister of Health, being taken round the NEQAL facility at Saye Zaria during his visit.*



*Sitting from right: Mr. Mponeng Poo and Mr. Sam Thema of SANAS with Dr. Okoro of NiNAS / MLSCN, Staff of Implementing Partners / MLSCN Staff after the last visit before Accreditation*



*Presentation of SANAS Accreditation Certificate to the Management of MLSCN at the Office of the Registrar/CEO Dr. Tosan Erhabor.*



*Presentation of SANAS Certificate to the Hon. Minister of State for Health, by the Board Chairman.*



# MLSCN ACTIVITIES IN THE MIDST OF COVID-19

Year 2020 apart from being a leap year has been one of the most challenging years in the history of mankind. This is due to the devastating impact of COVID-19, otherwise known as SARS-CoV-2, pandemic on the whole world. The virus which has brought even the world super powers to their knees, has ravaged all continents of the world including, Nigeria. The virus which came into the country through an Italian national through the nation's commercial nerve centre, Lagos spiked infections and case fatalities and still continued till today.

The effect of this virus compelled the government to place a total lockdown that led to the closure of governmental and non-governmental agencies, businesses and other spheres of life except the health care industry, and markets with the government mauling out COVID-19 protocols.

As a consequence of these restrictions, social, political, economic and other activities were stagnated.

While all these were going on with the world in a limbo, MLSCN a regulatory body to one of the professions in the forefront of the fight against COVID-19, tenaciously rose to the challenge by giving support to those at the epicenter. This she did by developing guidelines and advisories for COVID-19 response to enable practitioners cope with the challenges experienced while working with COVID-19 samples.

Webinars were conducted during the lockdown period on different relevant topics to encourage professionals at the forefront of the fight COVID-19, SARS-CoV2. They are as follows:

- Basic concepts of Biosafety and Mitigation
- Fundamentals of method validation
- MLSCN Annual Licensure and new policies – the way forward in an era of COVID-19 Pandemic.
- CPD policy-the nitty-gritty
- Quality Manual System (QMS) fundamentals in laboratory response to COVID-19

Rules and regulations for minimum Practice Standard for medical laboratory professionals in Nigeria COVID-19 response.

Besides these, the Council joined the world to celebrate the world accreditation day. The celebration which was done virtually with the theme “**How Accreditation is improving Food Safety**” with a sub theme: National ISO15189:2012 Accreditation guidelines.

In the same vein the Council inducted in batches, 260 foreign trained graduates of Medical Laboratory Science in Abuja, in accordance with COVID-19 protocols.

Validation of COVID-19 test kits and press conference

**Constraints:** Though COVID-19 came into the world like a thief and destabilized the entire universe, the Council in its capacity rose above all the obstacles it presented and performed its duties notwithstanding the paucity of funds.

# TRAINING FOR MEDICAL LAB SCIENTISTS VIA ZOOM AS PART OF MLSCN COVID-19 RESPONSE



## VALIDATION OF COVID-19 TEST KITS





# REGISTRAR/CEO WARNS SCHOOLS PROPRIETORS AGAINST DISRESPECTING MEDICAL LAB SCIENTISTS



Proprietors of Schools of Health Technology in the Country have been warned against maltreating Medical Laboratory Scientists under their employment. The warning was contained in a speech by the Registrar/CEO, Medical Laboratory Science Council of Nigeria (MLSCN), Dr. Tosan Erhabor during the presentation of certificates to newly approved schools of health technology in the Council's Headquarters in Abuja recently.

Furthermore, the Registrar said the Board, having been observing the sad developments for a while, was now poised to take drastic actions on any school proprietor found treating Med Lab Scientists with disdain. "It is so bad that some of you hire Medical Laboratory Scientists during your process of approval/accreditation but terminates their appointments after achieving your goals. Some even pay Medical Laboratory Scientists derisory amounts as salary contrary to what was stated in the



While frowning at the attitude of some proprietors of Institutions, who were fond of disrespecting the Medical Laboratory Scientists after using them to gain approval and accreditation from the Council, he stated that the Council would no longer sit back and watch anybody or organization maltreat its members, adding that ***"Medical Laboratory Science is a noble profession that is not for all comers but for highly cerebral human beings"*** and that such unpleasant reports were, therefore, unacceptable.

Letter of Contract. This is dehumanizing and unacceptable, and the Board and Management of the Council would not hesitate to sanction any school found culpable," he said.

The Registrar noted that the idea of hiring a Medical Lab Scientist that does not have up to 10 years of cognate experience, and is in good standing with the Council, as head of medical laboratory department in the schools will no longer be tolerated. "Understandably, your lecturers maybe Medical Lab Scientists, but we must know whether they are up-to-date with the Council by renewing

their license on or before 31<sup>st</sup> March every year, as that is a prerequisite for any bona-fide Medical Laboratory Scientist in the country," he added.

Besides, Erhabor also gave a marching order to the schools to ensure that the Medical Lab Scientists who heading their departments receive the necessary support to be in tune with the activities in the Council whenever the need arises, including attendance to Council-organized meeting as, according to him, "It is in these meetings that issues concerning the operations of the schools are discussed and necessary decisions taken. So any school that takes these meetings for granted without cogent reason will face sanctions".



Also on inter transfer of students to another School, he harped on the rule that the council must be informed before any transfer, so as to know whether the new school is approved or accredited by the Council.

Finally, he informed them that the Board has mandated that Basic Science questions must be sent to the Council for appraisal before exams, so as to know whether it meets up the set standard, "as it has been discovered that some of you do not take it serious", and as a regulatory body we do not want to the quality of our training to be compromised.



### **Presentation of Certificates to Approved Schools**

Meanwhile, on the issue of the admission of students, the Registrar said the Council was aware that the country's primary health system care needs products of the institutions as middle – level manpower, but he also advised the institutions to enter into memorandum of understanding (MOU) with their various state governments on how those products would be absorbed into the system to avoid a situation where they would be roaming the street after graduation. "You must strive to have the necessary MOU with your state government to enable the government to absorb the graduands, and that would encourage you to continue to operate. Therefore, you must give us a commitment that those you are training would be absorbed in the various health centres in the states; otherwise it may be difficult to justify your existence."

Succinctly, the Registrar informed them that the Council does not take lightly the disregard of its policies by anybody, thus appealed to them to always abide by the rules on indexing of students and noted that the students must be enrolled six months before exams.

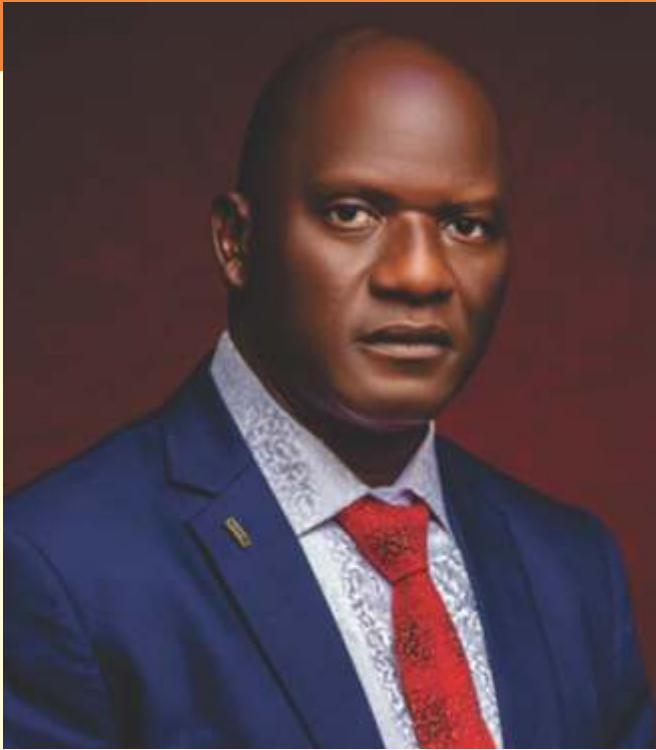
While replying on behalf of the newly approved schools the head of NKST Mkar, Gboko appreciated the Registrar and the Board, and promised on behalf of the newly approved Schools that they will do all within their power to live up to expectation of the Council.

She noted that this approval has made them Medical Laboratory Scientists by association saying that Medical Laboratory profession is a noble profession which apart from God can predict the longevity of human beings apart from God. She thus advised their members and said "Let us not be mindful of money but rather give our students quality knowledge , let the certificate be a reminder to us that we owe the Council and Nigerians the debt of quality in all our doings" She used the opportunity to plead on behalf of their members for forgiveness from the Council while urging MLSCN not "to be tired of correcting us when we err as we are partners in progress", and promised that they will not cut corners to satisfy their selfish interest.



# Interview

## AMLSN is still One Big Family



**Prof James Garba Damen**  
**President AMLSN**

*In the just concluded 57th AMLSN National Scientific Conference and Annual general meeting of the Association of Medical Laboratory Scientist of Nigeria (AMLSN) and election in Abakiliki Ebonyi State tagged Salt City 2020, Prof James Garba Damen, a Professor of Medical Microbiology and a University lecturer emerged as the National President of the Association of Medical Laboratory Scientists of Nigeria, AMLSN.*

*After his inauguration and handover by his predecessor “the Medical Laboratory Scientist Bulletin” crew had a chance meeting with him which was utilized to have a short interview to know what he has in stock for the Association, in the next years.*

*Excerpts:*

***Congratulations on your election Sir!***

*You are welcome.*

**As a Professor of Medical Laboratory Science we know your CV will be loaded, but please tell us a little about yourself and how your journey into the profession of Medical Laboratory Science started.**

As you know, I am Prof James Garba Damen a native of Chip in Pankshin LGA of Plateau State. My journey into the profession started in the University of Jos Teaching Hospital (JUTH), when I was employed as a junior laboratory worker after my secondary school. As a result for my interest and commitment into the job, I was sponsored for an in-service training to Federal College of Veterinary and Medical Laboratory Technology Vom, FCVMLT where I obtained a certificate in Medical Laboratory Technician in 1995, I later got admission to read Medical Laboratory Science programme in Federal School of Medical Laboratory Science Jos (an affiliate of Unijos) and became an Associate of the Medical Laboratory Science Council of Nigeria in 1998 and subsequently a Fellow of MLSCN in the year 2000.

I obtained my Master's degree in Medical Microbiology from UniJos in 2007 and my PhD in Medical Parasitology from Abubakar Tafawa Balewa University, Bauchi in 2012. I was amongst the foundation Fellows of the West African Postgraduate College of Medical Laboratory Science (FWAPCMLS) in 2020 amongst other accolades.

As I said earlier, my working in JUTH at a tender age in the laboratory exposed me to Medical Lab Science. After my Associate in 1998, I started my Teaching career as a visiting lecturer at Federal School of Medical Laboratory Science Jos. Thereafter, I was employed as Lecturer 1 (one) with University of Jos from then every other thing has been good to the glory of God. I became a Professor of Medical Microbiology in 2018, and currently the Head of Department Medical Laboratory Science, University of Jos. To the glory of

God, I have more than 40 scientific publications in National and international reputable journals. I am a member of so many professional bodies. I am also a Knight of St Mulumba Nigeria and married with children. My hobbies are travelling, reading and praying.

***Prof, in the just concluded 56<sup>th</sup> AMLSN AGM held at Abakiliki tagged “Salt City 2020”, you emerged victorious as the President of this great Association, did you see that coming?***

My emergence as the National President of the Association on November 17th 2020, in the keenly contested election, was an act of God though I saw it coming, my reason for saying this is firstly, because God has been so merciful to me all through my life, though not by my strength, but because all my life I have never lost any contested position, both in AMLSN, in my local community or any other position I have aspired for. I trusted God and believed that as he has not failed me before, he will not fail me now. Another thing that boosted my morale and confidence that I was going to win the election was the overwhelming acceptance and responses I got from our elders, the female scientists, the young MLS and members all over the country during my campaign. It was quite promising, hence I knew that with God on my side I was going to win, I am happy about it, though it is a call to service.

***There appears to be some cracks in the once united Association with many pointing to the escalated AGM that produced your administration. As a man that made the pursuit of unity part of his manifesto, what are your plans towards pacifying the aggrieved groups so that this great association is not polarized into regional factions?***

You know we are just kicking off, but I wish to reiterate that AMLSN is one big family and it is normal in politics for people to belong to different camps, and disagreements are bound to happen especially when the other contenders are also big shots in the association and profession. Even children of the same parent's fight and settle their differences.

***“My appeal to them and their supporters is that AMLSN is for all of us, we need to be united to fight our common enemies”.***

In my view there is no looser or winner, all of us are winners because we are fighting to achieve one goal which is to better the lives of our members and guarantee the place of Medical Laboratory Scientists in the health sector in Nigeria. I want to use this medium to appeal again to all of them to sheath their sword and let's close ranks and work together in unity for the progress of AMLSN. We are stronger together, all of us are stakeholders in AMLSN, my administration intends to be an all-inclusive in nature without barriers or regional bias. I and my wonderful team will put head together to think out modalities to bring every aggrieved group under one umbrella God willing.

***Your predecessor in one of his interviews with our crew pledged to do everything within his power to actualize the Directorate of Medical Lab Services within the Federal Ministry of Health, and here you are bringing it up again in your manifesto. If we may ask, what different approach do you intend to take, to accomplish this as against what your predecessors have done before?***

I served under the past administration as the National Secretary, and we had the passion to push for the creation of the Department of Medical Laboratory Services in the Federal Ministry of Health. I must tell you here, we did our best to actualize this dream but we were not successful before our tenure expired. That notwithstanding, my administration is determined to continue from where our last regime stopped, maybe by changing our strategy for the actualization of this dream. In life if you use one strategy and it fails, you change to another, it is only change that is constant. Most of the problems that our colleagues are facing especially those working in Federal Tertiary Hospitals can be adequately addressed if we have the Department of Medical Laboratory Services in place in the Federal Ministry of Health. The



strategies may include (but not limited to) advocacy, involving critical stakeholders within and outside the profession and also working in synergy with our regulatory body, the Council (MLSCN).

***It has been reported that in the last 10 years or thereabout many tertiary institutions and Federal medical centers have not employed qualified Medical Laboratory Scientists in their organizations, rather they are employing all manner of graduates in other science related courses to do the job of Medical Lab Scientists. As the President of AMLSN what will you do to put a stop to this ugly trend and prevent quacks from working in our medical laboratories so that Nigerians can get value for their money?***

It is very true that Medical Laboratory Scientists have not been employed in the past 10 years in many federal tertiary hospitals and even when they do, the numbers are not significant. But it is pertinent to state that the Chief Medical Directors/ Medical Directors are clinicians and most of them who are pathologists are envious of our growth and I must say they are deliberately frustrating us by using their executive position negatively on our profession. Is it not unethical for any CMD/MD to employ a Science Laboratory Technology officer to work in a Medical Laboratory where Medical Lab Scientists are available? Pathologists are not trained to analyze human or animal samples; their primary responsibility is to serve as interface between the results produced by Medical Laboratory Scientists and clinicians in other departments, and also to run clinics such as Diabetes, Sexually Transmitted Diseases, Sickle Cell Disease and so on.

Indeed, any Pathologist that collects and analyze specimen or write out results is doing an illegal job. It simply means that such a Pathologist does not really know his duties. Again, Pathologists should know that they are all clinicians and are licensed to practice medicine and surgery by Medical and Dental Council of Nigeria (MDCN) thus they are not expected to abandon the clinics to go and be struggling with Medical Laboratory Scientists for their job. Therefore, my administration will liaise

with our regulatory body, MLSCN for a vigorous advocacy to the Federal Ministry of Health and some of the CMDs/MDs in this regard. We are taking steps for the implementation of our court judgments which will help solve most of these problems and give room for the full implementation of MLSCN Act 11 of 2003.

***You have been involved in the politics of this association for many years, as expected you must be used to “cat and mouse” relationship amongst the different professionals in the health sector. As the President of this great association what are your plans to minimize the disharmony and bickering amongst these groups of professionals?***

Nigeria is a great Country that God has blessed with a lot of human and natural resources. One of the blessings is the different professional groups in the health sector. However, one of the things causing disharmony in the health sector is the usurping of jobs by different professionals that make up the health sector especially where they see that the other is more lucrative. For example, Pathologists who want to act on a supervisory role to Medical Laboratory Scientists when they don't have business in a medical laboratory are part of the problems. If different professionals in the health sector adhere strictly to their calling without interfering in others' jobs, there will be no need for bickering and acrimony in the health sector. But a situation where people are only interested in where money is, or where a particular profession is pampered and treated as egg, while others are being neglected, definitely there is bound to be problem. The administrators of the hospitals are not usually fair to all health professional groups in this country. Suppression, injustice and impunity is prevalent in the health sector, thus leading to disharmony and poor service delivery.

My appeal as always is for the different professionals to come together and work in harmony so as to be able to mount pressure on Federal and State Government to take health as a priority. When we work together we can push for more budgetary allocation to the health sector and

improvement in infrastructural developments, equipment of our hospitals and employment of qualified professionals on yearly basis. I appeal to the professionals in the health sector to know that we are unique and there is need for collaboration to give the best health services to Nigerians. In this regard, my administration plans to reach out to other health professionals as my predecessors have done in the past.

***Sir, it is known that you come from the academics and considering how busy Professors can be, how do you intend to combine the duties of a Professor with those of the Association President without neglecting either side.***

Academics are actually very busy people; there is always work on our table, but the good news is that we also know how to manage our time very well.

Besides, I have a very formidable team though we are new in this administration, I believe that we will perform fantastically well both in time management and otherwise without each side being neglected.

***Now let's digress a bit, COVID-19 has been ravaging the whole world since the beginning of 2020, and the members of this association are amongst those at the epicenter in the fight against the pandemic, many have lost their lives in the course of their duties. As the President what plans do you have to ensure that the families of such are duly compensated as obtainable in other countries? Secondly, are***

***there any possibilities on collaborating with the federal government concerning insurance packages in respect of others that are currently in the line of duty?***

Covid-19 is real, Medical Laboratory Scientists are front liners, based on the nature of our roles in the diagnosis of Covid-19, many of our colleagues have been infected, some recovered while some lost their lives in the process. I am aware of the insurance package by the Federal Government of Nigeria in respect to frontline workers who got infected with Covid-19 and sadly died. As an Association we are compiling the data of all our colleagues that were affected to enable us present same to Government as a follow up to make sure our members are duly compensated.

***Given the promises you made as contained in your manifest, what would you want to be remembered for at the end of your tenure?***

I would love to be remembered as a unifier and bridge builder across all strata of the profession including, Medical Laboratory Scientists, the Medical Laboratory Science Council of Nigeria, and other professional groups.

I would want to be remembered as a National President that made a lot of positive impact on AMLSN and as it is said "with God all things are possible" and I believe in that, thank you.



***"We are stronger together, all of us are stakeholders in AMLSN, my administration intends to be an all-inclusive in nature without barriers or regional bias".***





## BE GOOD AMBASSADORS OF THE PROFESSION, Registrar Urges NIMELSSA

The Registrar/CEO Dr Tosan Erhabor has called on Nigerian Medical Laboratory Science students to be good ambassadors of the profession. Erhabor made this call when the executives of the Nigerian Medical Laboratory Science Students Association paid him a courtesy call in his office in Abuja.

While speaking to the students, the Registrar said he was elated by their August visit of which his management does not take for granted because “you are the future of this profession”. To guarantee that future, he said “you must amongst other things take your studies serious, avoid peer group pressure, adhere to the ethics of dressing responsibly and above all respect the elders of the profession bearing in mind that you will be in their shoes someday”.

Furthermore, Erhabor urged them to always consult with the Council before going to social media. As he said “the activities of the Council is not run on social media but in our various offices across the country. Besides the Council runs an open door policy and accepts any positive contribution no matter how little or who it is coming from”.

Moreover, he assured the representatives of students drawn from universities offering medical laboratory science across Nigeria, that the Council is willing and ever ready to churn out policies that will help alleviate the constrains the younger scientists are encountering in their studies especially in internship. He then used the opportunity to inform them that the Council have gotten approval for three new centres for internship training to augment the existing ones and promised that more are in the offing.

Relatively, the MLSCN Boss reiterated the Council's resolve to work assiduously towards a better Medical Laboratory Science training as he informed them that the lapses recorded in the students' graduation is due to the over indexing by the universities during their admission processes but with the new policy put in place by Council “it won't be business as usual”. He said “this is not to witch hunt anybody but rather a way of bringing sanity to the system”.

In the same vein, the Registrar used the opportunity to tutor them on the issue of training of MLA and MLT which the students earlier complained that are

their job description which is to work in the primary health care centres. He informed the students that some of these cadre that work in the laboratories are not to be blamed as he said “it is we professionals that are causing the problem by passing our work to them or employing them for the work meant for professionals while we lazy about or go out to look extra money”.

Rather than discriminating against these cadres within our profession, they should be treated well. They are found across all strata of the professions in the health sector like pharmacy, nursing etc. A while ago those that tried to marginalise their own regretted it. Instead of discriminating against our own, we should be talking about those that are not supposed to be there which are the real quacks: The Science Laboratory Technologists and Microbiologists, those are the ones that have no business in the medical laboratories and not those that are captured by MLSCN extant laws.



**President NIMELSSA Mr. Adah Julius with the Registrar/CEO during the courtesy visit by NIMELSSA**

## **Comparison Of Leptin And Adiponectin Levels In The Cord Blood Of Small For Gestational Age Neonates And Appropriate For Gestational Age Neonates At Birth**

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### **Abstract**

**Background:** Fetal birth weight is one of the key indicators of neonatal mortality and morbidity. It may lead to several perinatal and long-term complications such as mental development, future physical growth, and survival.

**Objective:** To evaluate the levels of Leptin and Adiponectin in cord blood and their relationship with birth weight, head circumference, recumbent length, and Ponderal index in small for gestational age babies.

**Methods:** Cord blood leptin and Adiponectin were determined in 200 neonates at delivery. Cord blood leptin and adiponectin levels were determined by Enzyme-linked immunosorbent assay using reagents kits supplied by

Elabscience Biotechnology Inc (Bethesda, USA).

**Results:** Cord blood Leptin and Adiponectin levels were significantly lower ( $P < 0.001$ ) in Small for Gestational Age babies when compared with appropriate for Gestational Age babies. The anthropometric measurements: birth weight ( $P < 0.01$ ), head circumference ( $p < 0.04$ ), recumbent length ( $p < 0.04$ ) and ponderal index ( $p < 0.02$ ) were significantly lower in Small for Gestational Age babies than in Appropriate for Gestational Age babies ( $p < 0.05$ ). Cord blood Leptin ( $r = 0.49$   $P = 0.001$ ) and Adiponectin ( $r = 0.26$   $P = 0.001$ ) correlated positively with birth weight.



**Conclusion:** Cord blood adiponectin and leptin were significantly lower in small for gestational age than appropriate for gestational age neonates. The possible long-term implications of the findings are discussed. The need for pregnant mothers to pay attention to those intrinsic factors that predispose them to having small for gestational age babies is emphasized.

**Keywords:** Small for gestational age, cord blood, leptin, adiponectin.

### Introduction

Birth weight of babies is one of the most important public health concerns worldwide and is still the leading cause of prenatal and neonatal deaths (Maznah *et al.*, 2016). In developed countries, most of the low birth weight neonates are born premature, but in low resource settings, most of the full-term infants who experienced growth restriction in-utero often result in small for gestational age (SGA) babies (Rizzo and Arduini, 2009). SGA is defined as birth <10<sup>th</sup> percentile for gestational age using the INTERGROWTH-21 (Villar *et al.*, 2014). SGA may occur as a result of pathologic process of intrauterine growth restriction (IUGR) in which a fetus does not attain its in utero growth potential, or due to normal variability in which a fetus attains its in utero growth potential but is constitutionally small (Blake *et al.*, 2016). Despite the relatively high rate of SGA births in Nigeria, information on cord blood cardiometabolic status is scanty. Growth restriction occurs in ~ 10% of all human pregnancies and is characterized by birth weight of <2.5 kg (Farr *et al.*, 2015). There are reports from some epidemiological studies which identified that growth-restricted fetuses have an increased risk of developing several diseases in adulthood, including cardiovascular and metabolic diseases (Flier and Maratos-Flier, 2017). In developing countries like Nigeria, the documented main cause of small for gestational age babies is maternal undernutrition (Adinma *et al.*, 2017). Specifically, intrauterine growth restriction is frequently associated with inflammation and infarcts within the villi, resulting in lesion formation or severe cases a reduction of the villous surface area, implying abnormal villous development (Farooqi and Rahilly, 2014). However, recent studies suggest that certain adipokines such as Leptin and Adiponectin play some roles in intrauterine growth, thus influencing neonatal birth weight (Marialena *et al.*, 2008).

Adiponectin is a protein hormone that regulates many metabolic processes including glucose regulation and fatty acid oxidation (Emilio *et al.*, 2010). It is mainly secreted from adipose tissues and also from the placenta in pregnancy into the bloodstream with higher plasma levels relative to many hormones. It may play a vital role in fetal growth, probably enhancing the growth-promoting effect of insulin through its insulin-sensitizing action (Laudes *et al.*, 2009). However, the relationship between fetal adiponectin and birth weight is not conclusive. In small for gestational age (SGA) newborns, a low concentration of adiponectin has been observed (Matsubara *et al.*, 2002) but other studies did not find significant differences between small for gestational age and appropriate for gestational age (Martinez-Cordero *et al.*, 2006).

On the other hand, leptin is the hormonal product of the obesity (ob) gene and it is centrally sourced in adipose tissues and it is produced in both maternal and fetal adipose tissues during pregnancy (Hoggard *et al.*, 2001). Because leptin hormone plays a role in the development of several fetal organ systems; control of food intake, energy balance, and fat storage as well as the regulation of cell multiplication and differentiation in adipose tissues, pancreas, kidney, liver arteries, stomach and immune cells (Dijiane and Attig, 2008). Any condition that reduces fetal leptin concentrations is likely to reduce fetal growth and development, predisposing these offspring to many diseases in adulthood (Marzaki-Toviss *et al.*, 2005). The placental is, however, believed to be an important contributor to the fetal leptin concentration due to the decline in neonatal levels following birth (Yura *et al.*, 2003). Fetal leptin appears to be vital in overall fetal growth and development and as a result, there are different growth patterns in utero due to specific variations in leptin levels. The limitations of some of the previous studies are small sample size and presence of controversies for differentiation between IUGR and early gestational age of (SGA) neonates. The objective of this study was to compare the cord blood levels of adiponectin and leptin among small for gestational age and appropriate for gestational age babies. It also correlates cord blood Leptin and Adiponectin with head circumference, recumbent length, and Ponderal Index in the neonates.

### Materials and Methods Study Population

This is a cross-sectional study of 200 healthy pregnant women attending antenatal clinics at the Departments of Obstetrics and Gynecology, Stella Obasanjo Hospital, Benin City. They were consecutively enrolled for the study between January and December 2018 and later admitted with the onset of confirmed labor for deliveries in the same facility. The ultrasound derived gestational age was used to determine SGA status.

### Ethical Consideration

Institutional Ethical approval was obtained from the Ethics Committee of the Edo State Hospitals Management Board and individual informed consent was obtained before the commencement of study. Demographic and clinical information were obtained using structured questionnaires.

### Inclusion Criteria:

All apparently healthy pregnant women of 18 years and above expecting singleton, who attended antenatal clinic throughout the pregnancy and reported for delivery were included. Pregnant women who carried their pregnancy to full term and delivered either by vaginal and cesarean were also included.

**Exclusion Criteria:**

Pregnant women with complications such as diabetes mellitus, cardiovascular diseases, and those who had parity more than four (4) were excluded. Obstetric conditions that could cause small for gestational age babies like preterm deliveries, bad obstetric history, intrauterine rupture, abruption placenta previa, intrauterine death and congenital anomalies of the baby, pregnancy-induced hypertension, polyhydramnios, endocrine disorders or other severe maternal illnesses, clinical signs of infection, benign tumors and malignancies were excluded.

**Sample Preparation:**

The pregnant women were admitted at the onset of labour and immediately after delivery, the cord was clamped at both ends and cut. Four milliliters (4mL) of blood was collected from the umbilical vein into Lithium Heparin containers and labeled. The blood was spun at 3000 rpm for 10 minutes to obtain plasma. The Plasma was stored at  $-20^{\circ}$  C until analysis for leptin and adiponectin.

Demographic information was obtained using a structured questionnaire while the birth weight of the neonates, head circumference, and recumbent length was measured by digital infant scale, flexible metal tape measure, and Seca 416 portable Infantometer respectively. The ponderal index (PI) was calculated as  $\text{Birth weight (gr)} / \text{Body length (cm)}^3 \times 100$ , to assess the fetal growth pattern.

**Determination of Leptin and Adiponectin**

The concentration of leptin and Adiponectin in cord blood was analyzed by the Enzyme-Linked Immunosorbent Assay (ELISA) with the use of kits from Elabscience Biotechnology Inc (Bethesda, USA). The Elabscience protocols outlined in each kit were followed. All standard precautions outlined by the manufacturer were observed with the inclusion of Quality Control sera in the laboratory assays.

This ELISA kit uses the Sandwich-ELISA principle with a micro ELISA plate that has been pre-coated with an antibody specific to Human LEP and ADP/Acrp30 respectively.

**Statistical Analysis**

The data obtained were analyzed using the statistical package for the Social Science Program (SPSS) Version 21.0 (Chicago, IL, USA). The values obtained in this study are represented as Mean  $\pm$  Standard Deviation. Student's t-test, Chi-Square, and Analysis of Variance (ANOVA), were used to compare means between the groups while Pearson correlation coefficient was used to assess the relationship between the measured variables and the birth weight of babies. A  $P < 0.05$  was considered statistically significant.

**Results**

The results of the study are presented in tables 1-5. Table 1&2 shows the comparison of measured Parameters in cord blood samples according to Birth Weight. In table 1, the Cord blood Leptin and Adiponectin were significantly lower ( $P < 0.001$ ) in small for gestational age babies than appropriate for gestational age babies.

The anthropometric measurements: Birth weight, Head circumference, recumbent length, and ponderal index were significantly lower ( $P < 0.05$ ) in babies with small for gestational age when compared to normal birth weight babies (Table 3).

Table 4 shows the Comparison of anthropometric measurements of Babies according to the mode of delivery. Birth weight, Head circumference, recumbent length, and Ponderal Index were not significantly different ( $P > 0.05$ ) in babies delivered by spontaneous vaginal delivery when compared to those delivered by cesarean section.

Table 5 indicates the correlation of birth weight of neonates with measured indices. Cord blood Leptin ( $r=0.49$ ;  $P=0.001$ ), Adiponectin ( $r=0.26$ ;  $P=0.001$ ), head circumference ( $r=0.394$ ;  $P= 0.05$ ), Recumbent length ( $r= 0.025$ ;  $P = 0.725$ ) and Ponderal Index ( $r=0.59$ ;  $P = 0.001$ ) correlated positively with neonatal birth weight.



**Table 1: Comparison of Measured Parameters in Cord Blood Samples according to Birth Weight (Mean  $\pm$  SD)**

Birth weight (Kg)	Leptin (ng/mL)	Adiponectin (ug/mL)
Small for gestational age babies (<2.5) n=41	1.97 $\pm$ 1.14 (1.61-2.33)	37 $\pm$ 5.92 (25- 48.9)
Appropriate for gestational age babies (>2.5) n=159	6.23 $\pm$ 2.53 (2.33-6.63)	67.2 $\pm$ 1.26 (64.7-69.7)
t value	10.5	7.78
P value	0.001	0.001

**Table 2: Comparison of the Levels of Measured Parameters in Cord Blood Samples with Birth Weight Ranges (Mean  $\pm$  SD)**

Birth weight Ranges(Kg)	Leptin (ng/ml)	Adiponectin (ug/ml)
2.0-2.5 ( n =41 )	1.97 $\pm$ 1.14	37 $\pm$ 5.92
2.6-3.0 ( n =38 )	3.17 $\pm$ 1.14	49.5 $\pm$ 9.72
3.1-3.5 ( n =85 )	6.63 $\pm$ 1.53	67.3 $\pm$ 7.46
3.6-4.0 ( n =26 )	8.28 $\pm$ 2.05	82.8 $\pm$ 7.88
>4.0 ( n =10 )	9.14 $\pm$ 3.36	92.3 $\pm$ 7.74
F-value	112	36.6
P-value	0.001	0.001

**Table 3: Comparison of Some Anthropometric measurements of Babies with Normal and SGA.**

Anthropometric Parameters	Small for gestational age babies (n =41 )	Appropriate for gestational age babies (n=159)	P-value
Birth weight (Kg)	2.34 $\pm$ 0.3	3.47 $\pm$ 0.4	0.01
Head Circumference (cm)	32.3 $\pm$ 1.3	34.4 $\pm$ 2.8	0.04
Recumbent length (cm)	50.2 $\pm$ 0.5	54.6 $\pm$ 0.3	0.04
Ponderal Index (g/cm <sup>3</sup> )	2.14 $\pm$ 0.5	2.45 $\pm$ 0.2	0.02

**Table 4: Comparison of Some Anthropometric Measurements of Babies according to Mode of Delivery**

Parameters	Spontaneous vaginal Delivery ( n =176)	Caesarean Section ( n=24 )	P-value
Birth weight (Kg)	3.31 $\pm$ 0.2	3.39 $\pm$ 0.5	0.06
Head Circumference (cm)	33.8 $\pm$ 1.5	34.3 $\pm$ 1.8	0.07
Recumbent length (cm)	52.1 $\pm$ 0.7	51.6 $\pm$ 0.5	0.08
Ponderal Index (g/cm <sup>3</sup> )	2.44 $\pm$ 0.3	2.39 $\pm$ 0.7	0.08

**TABLE 5: Correlation of Measured Parameters in Cord Blood with Birth weight**

Parameters	R-value	P-value
Leptin (ng/ml)	0.49	0.001
Adiponectin (ug/ml)	0.26	0.001
Head Circumference	0.394	0.05
Recumbent Length	0.025	0.725
Ponderal Index	0.59	0.001

## Discussion

The data presented in this study indicate that cord blood leptin and adiponectin were lower in SGA babies than appropriate for gestational age babies. In the same vein, Cord blood adiponectin and leptin concentrations correlated positively with head circumference and the Ponderal Index with the birth weight of babies. There was a significant correlation between the recumbent lengths of babies with adipokines.

The above observations are consistent with previous studies (Eyal *et al.*, 2003; Marzaki-Tovis *et al.*, 2005; Saneyard *et al.*, 2018). It was reported that leptin levels in umbilical cord blood at term were highly correlated with birth weight. Remarkably, the role of leptin in fetal development has not been completely understood. What is factual is that leptin plays a role in the development of many fetal organ systems, therefore, any condition that reduces fetal leptin concentrations is likely to reduce fetal growth and development, predisposing these offspring to several diseases in adulthood. SGA babies grow rapidly during the early postnatal period as a result of increased insulin sensitivity. These babies, therefore, gain excess body fat mass during childhood and adulthood, thereby leading to a higher risk of insulin resistance in adulthood (Duffield *et al.*, 2009; Seneyard *et al.*, 2018). It was reported that leptin is directly associated with body fat mass in neonates and fat storage increases significantly in the last week of pregnancy and small for gestational age neonates are likely to have lower levels of leptin than normal neonates (Seneyard *et al.*, 2018). The reasons for the 20.5% (41/200) high rate of SGA babies are not clear.

The causes of growth-restricted babies are multifactorial, which includes maternal size and poor nutrition, social exclusion, infections, congenital abnormalities, teratogens chronic hypoxia, renovascular disease of the mother as well as placental and umbilical cord disorders (Cunningham *et al.*, 2005; Seneyard *et al.*, 2018). Our group previously associated lower levels of some micronutrients and higher concentrations of toxic metals like cadmium and lead with a low birth weight of neonates (Agbonlahor and Emokpae, 2016; Emokpae *et al.*, 2016). Some of these causes are associated with inflammation and infarcts within the villi, resulting in lesion formation or in severe cases a reduction of the villous surface area, implying abnormal villous development (Farooqi and Rahilly, 2014). On the other hand, maternal malnutrition results in an increased villous surface area, with no changes in placental volume, potentially suggesting an attempt to compensate for the maternal malnutrition by increasing villi branching. Based on these findings, the potential effects of programming in these different groups are

likely to vary significantly.

Despite these varied results in the maternal plasma leptin concentrations, there is a significant reduction in fetal leptin concentrations in growth restriction that is associated with both maternal malnutrition and placental insufficiency (Laudes *et al.*, 2009). Thus, there is either reduced leptin transportation or reduced placental leptin production, which decreases offspring leptin concentrations. From the findings in this study, it may not be incorrect to suggest that low cord leptin concentrations may increase the risk of developing metabolic syndrome in adulthood.

The significant positive correlation of leptin levels in cord blood with ponderal index observed in this study was consistent with other authors (Christou *et al.*, 2002; Fazeli *et al.*, 2019) but inconsistent with that of Geary *et al.* (1999), who reported a negative correlation of cord blood leptin with ponderal index. During human pregnancy, leptin physiologically regulates fetal growth and conceptus development (Henson and Castracane, 2000). It was reported by Christou *et al.* (2002) that leptin levels in infants whose birth weights were classed as large for gestational age were threefold higher than those for whom body weights were considered appropriate for gestational age and 12-fold greater than for those infants classed as small for gestational age. It has been proposed, therefore, that leptin in umbilical cord blood may originate exclusively from fetal and/or placental sources and, in light of correlations with birth weight and/or ponderal index, may play a role in conceptus growth and development (Christou *et al.*, 2002).

The observed significantly lower cord blood adiponectin levels in SGA babies when compared with appropriate for gestational age babies as well as a significant positive correlation between adiponectin levels in cord blood and birth weight, are consistent with Eyal Sivan *et al.* (2003) and Weyermann *et al.* (2019). The mechanism by which increased cord blood adiponectin results in high birth weight is not well understood. However, maternal adiponectin is predicted to reduce gluconeogenesis in maternal liver, increase fatty acid oxidation and glucose utilization, and improve insulin sensitivity in liver and skeletal muscle. In the placenta, maternal adiponectin decreases placental insulin-signaling and reduces insulin-stimulated amino acid transport and subsequently decreases fetal growth. Fetal adiponectin is reported to increase fetal adiposity and growth, possibly via increased lipogenic enzyme expression in the fetal liver (Mantzros *et al.*, 2009).

Besides, a study that used genetic approaches to manipulate fetal adiponectin gene expression in mice and reported data to suggest a direct link between



elevated adiponectin and increased size of fat depots in early life (Qiao et al., 2012). Similar to the findings in humans, neonatal adiposity in mice was positively correlated with circulating neonatal adiponectin concentrations, whereas adiponectin knockout fetuses displayed lower body weight and fat content. However, the effect of adiponectin gene-knockout on body weight and body fat was no longer observable after the 15<sup>th</sup> postnatal day. While the mechanisms underlying the delayed expansion of adipose tissue in adiponectin knockout fetuses remain unclear, it may be related to decreased transcription of lipogenic genes in the fetal liver. The above support the possibility of the linkage between reduced adiponectin levels in cord blood and small for gestational age babies as observed in this study.

### Conclusion

Lower cord blood leptin and adiponectin concentrations were observed in SGA babies compared to normal birth weight babies. Also, cord blood leptin, and adiponectin correlated positively with neonatal birth weight, head circumference, recumbent length, and Ponderal Index. Adequate preventive care and treatment of pregnant women with suspected intrauterine growth restriction could help reduce the rate of SGA babies to avoid the associated consequences.

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# AstraZeneca Vaccine

Details published in Lancet, but data suggests need for more trials.

By William Booth and Carolyn Y. Johnson  
(Dec. 9 2020)



Scientists at AstraZeneca and the University of Oxford on Tuesday became the first vaccine developers to publish their full data in a peer-reviewed scientific journal, confirming earlier claims that the vaccine is 70 percent effective overall.

The study results, published in the British medical journal Lancet, answered many questions but not all about the AstraZeneca vaccine.

It remains uncertain how well the vaccine works in those older than 55, a crucial group because most serious illness, hospitalization and deaths from COVID-19 occur among the oldest patients.

Researchers also are still studying which dose regimen can produce the greatest protection.

Still, the results show a safe, well tolerated and effective vaccine, and one that is cheaper - at \$2 or \$3 a dose - and easier to manufacture, transport and store than its competitors, Maria Doleria Knoll of the John Hopkins Bloomberg School of Public Health wrote in a commentary accompanying the article in the Lancet.

The researchers said they are now submitting their data to regulators for approval to deploy the vaccine in mass immunization campaigns in Britain, Brazil, India, and countries in Europe, among other places.

The AstraZeneca vaccine, if approved will compete with others including one produced by the American pharmaceutical giant Pfizer and its German partner

BioNTech that is reported to be 95 percent effective.

The Pfizer vaccine was approved for emergency use in Britain, and the first injections in a massive campaign began there on Tuesday. It is now being reviewed by the Food and Drug Administration, with possible approval by week's end. Another vaccine made by US based Moderna is more than 90 percent effective.

The Pfizer vaccine requires special handling and must be kept on dry ice or in high-end freezers at Sub-Antarctic temperatures of minus 70 degrees Celsius. The Moderna vaccine can be stored in a freezer for six months or refrigerator for up to one month.

The AstraZeneca-Oxford vaccine, however, can be stored long term at ordinary refrigerator temperatures, which could ease its distribution throughout the world.

In the Lancet, the AstraZeneca and Oxford Scientists reported on the interim results from two clinical trials run in Britain and Brazil involving 11,636 participants. Half got the vaccine and half received a placebo.

For the volunteers who got two full doses, the vaccine was 62 percent effective in protecting them from COVID-19 symptoms.

There also was an intriguing, but still mysterious result: A subgroup that mistakenly - or serendipitously, as the researchers put it - got a half dose and then full dose achieved 90 percent protection from coronavirus symptoms.

But this group was too small to prove such high efficacy. The scientist said their clinical trials are ongoing and more data will be forthcoming.

The Lancet article said the pooled results of the two different dose regimens produced the 70 percent effective rate, but even that number needs unpacking.

After AstraZeneca and Oxford provided news releases



and media interviews last month offering some data, the researchers were criticized for over emphasizing the 90 percent effectiveness claim evading questions about the lower-dose regime, which was the result of a measurement error during manufacture.

"The data released today add a lot of flesh to the bones of the earlier press release" said Ian Jones, a professor of virology at the University of Reading.

The vaccine is "undoubtedly safe and is also capable of preventing disease, its general rollout would impact the epidemic. Its cost and availability are also powerful positives, he said. "But further trial data might be needed to explain why the lower-dose group was significantly better protected than the standard-dose group."

The AstraZeneca and Oxford researchers said that there were no deaths, hospitalization, or severe disease observed in the vaccinated groups from three weeks after the first dose. AstraZeneca said the vaccine should exceed regulatory thresholds.

However the vaccine's effectiveness in older age groups could not be accessed because only 12 percent of the participants in the trials were over age 55 and only 4 percent were over 70, too few to give statistically robust answer.

In addition, none of the vaccine recipients over age 55 got the low dose - regular dose regimen that produced the most impressive results of 90 percent efficacy.

The vaccine's value to older people will be determined in future analyses after more cases have accrued in this age range, the scientists said.

Mene Pangalos, a vice president of research and development at AstraZeneca, told reporters that the company has produced results "sufficient to get approval around the world"

He said "I do think a vaccine at 62 percent is viable, effective vaccine"

Pangalos said it will be up to regulators to decide to whom to give the vaccine - everyone or just those under 55, for example - and how much to give them, the two standard doses or a low dose followed by a standard dose.

Pascal Soriot, chief executive of AstraZeneca, said that the company would seek early approval from regulatory authorities around the world and that its global supply chains "are already up and running, ready to quickly begin delivering hundreds of millions of doses on a

global scale at no profit."

Soriot acknowledged that more studies were needed to understand how well the vaccine works among older people. He said ongoing clinical trials in the United States have enrolled more seniors.

"The older group is very important, but we also need to vaccinate younger groups, too," Soriot said.

"It's good they've published it. They're being transparent," said Peter Jay Hotez, dean of the National School of Tropical Medicine at Baylor College of Medicine.

The vaccine uses a harmless cold virus that typically chimpanzees to deliver to the body's cells and genetic code of the spike protein that dots the outside of the coronavirus. That teaches the body's immune system to block the real virus.

But the complexity of the AstraZeneca trial - which used different dosages, different intervals between the first and second shot, and different control groups - may mean that more data needs to be gathered to satisfy regulators.

The regulatory situation in the United States for AstraZeneca is not clear because an ongoing 30,000-person trial is not expected to report results until late January or early February.

Moncef Slaoui, chief science adviser for the U.S government's vaccine development effort,

Operation Warp Speed, said in an interview Monday that he expected that the vaccine might begin to be available in the United States of America at the end of February based on those projections.

The Oxford vaccine could be a powerful tool for the world and the United States where there are already concerns about securing sufficient supplies. But even if doses are scarce, scientists are debating whether there might be confusion or hesitation among the public if one vaccine is less effective than others.

After Pfizer supplies the United States with the first 100 million doses, it is unclear whether the country will have access to substantially more doses until June or July.

"We're going to need it for the U.S.," Hotez said. "I don't think we're going to be able to vaccinate a significant percentage of the U.S. population with {Pfizer and Moderna} vaccines."

**Culled from the Washington Post**



# Social Diary

Year 2020 was one that the whole world welcomed with so much expectations due to the hype that has been attached to it by the social and economic developmental goals. Unfortunately later it became one of the most tumultuous and agonising years ever experienced by mankind. For MLSCN the year started with high expectations and plans without any inkling to what was to come later.

## THANKSGIVING

In line with the tradition of the Council since the commencement of this present current administration, the Management and Staff organised a thanksgiving/prayer session to appreciate and seek His guidance for the new year. After this, COVID-19 sneaked into Nigeria through an Italian national and this created enormous challenges and setbacks in so many areas of life including social life.

## REGISTRAR'S ONE YEAR IN OFFICE

Due to the effect of the pandemic, there was not much done socially until the anniversary of the Registrar/CEO Dr. Tosan Erhabor, in June, when a thanksgiving/praise session was organised in tandem with the COVID-19 protocols at the Council's Golden Arena. The event was to mark the one year anniversary of his confirmation as the Substantive Registrar of the Council.

## 2005 ACCIDENT VICTIMS

On the 27<sup>th</sup> of August 2005, the Council was thrown into mourning following a fatal accident involving some of her staff that attended the AGM tagged Kano 2005 along Kaduna-Abuja road in which two of her staff died. 15 years later, the survivors of this accident organised a thanksgiving ceremony to thank God for his mercy and protection all these years.

## WEDDINGS

Two volunteers with the Council Mr Jeremiah Shiaka and Miss Mercy Ameh wedded their spouses, during the period under review. This is wishing them a very blissful married life, Amen!

## Memorials

Also, two deaths were recorded amongst the staff. They are, Mr. Peter Okigbo who died after a brief illness, and the Council's nurse, Mr Paul Uzoma Njoku who died as a result of injuries sustained during a domestic accident in his home in Abuja. May their souls continue to rest in perfect peace, amen. The Council lost the former Chairman of the MLSCN Board, the man referred to as the father of the modern day Medical Laboratory Science in Nigeria, an icon and the first Medical Laboratory Scientist to head the Board, Chief Dunstan I. Tabansi passed on at the age of 88 years old.

In the mood for  
Thanksgiving





# Pictorial



The Top Management of Council with  
Pastor Samuel Owokoniran of Redeemed Church



Survivors of the 2005 Accident



Mr & Mrs Jeremiah Shiaka

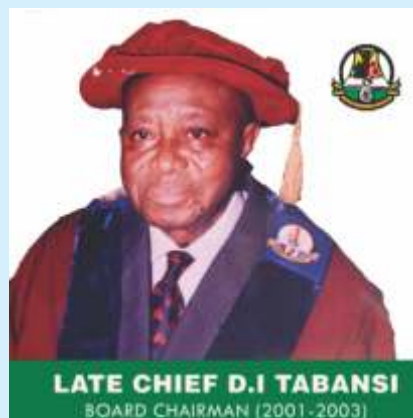


Mr & Mrs Innocent Okoko

## WE LOST THEM



Late Mr. Peter Okigbo



**LATE CHIEF D.I TABANSI**  
BOARD CHAIRMAN (2001-2003)



Late Mr Paul Uzoma Njoku





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Saye, Zaria, Kaduna State

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