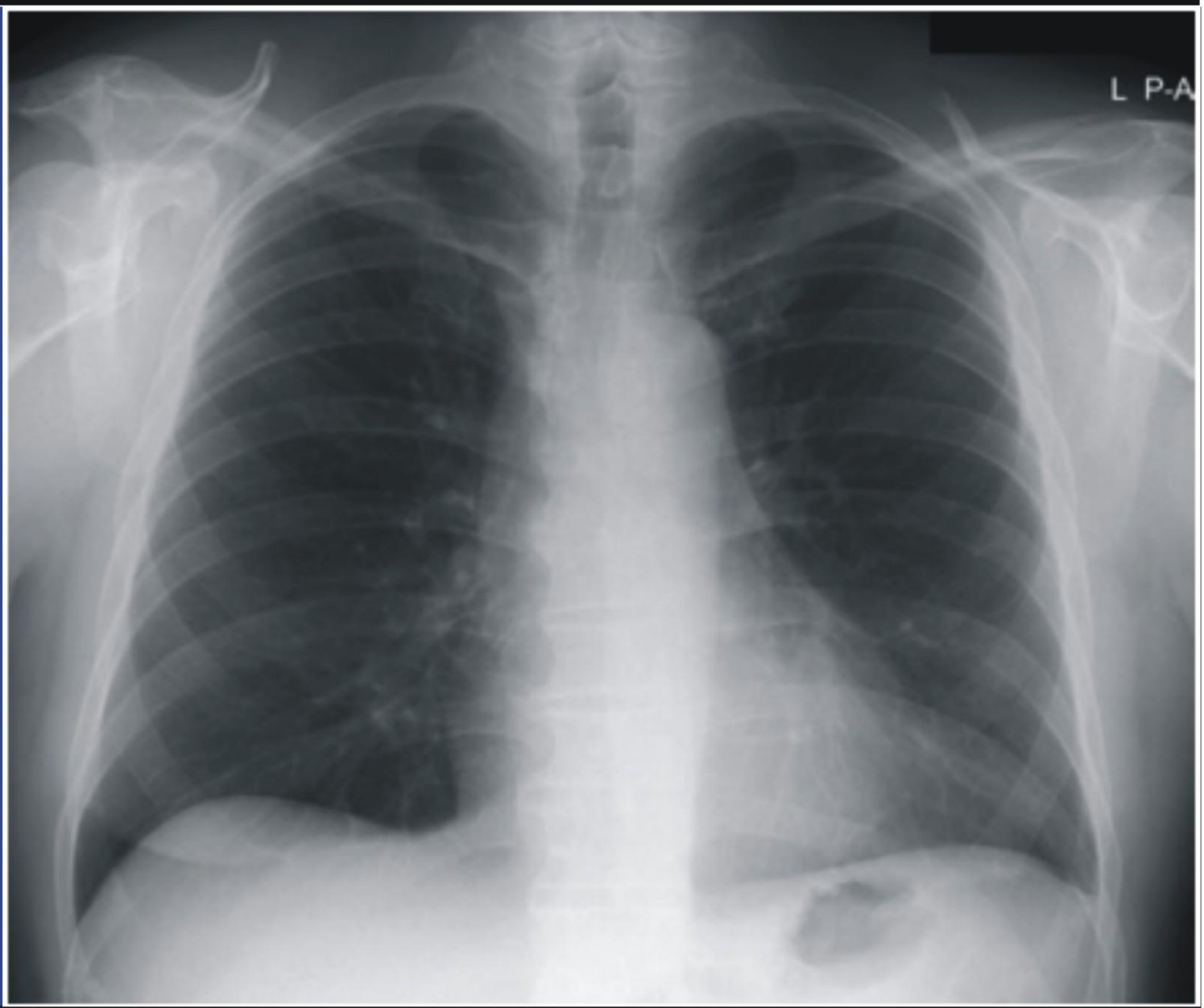
ANNUAL SCIENTIFIC CONFERENCE OF THE ASSOCIATION OF RADIOGRAPHERS OF NIGERIA

Vol 46 (2014)

BOOK OF ABSTRACTS

ARN BOA



Accessibility: www.jarnigeria.com

46th Annual Conference
18 - 21st November, 2014
Ilorin, Nigeria
Radiography in Patient-Centred Care

NATIONAL OFFICERS OF THE ARN (2014 – 2016)

1.	Patron- - - -	-Senator, Maj Gen (Retd) Ike OS Nwachukwu (CFR, Mni, FSS, DSS)
2.	President- - - -	- Mark C. Okeji (Ph.D)
3.	1st Vice President- - -	- Mr Val Ikamaise (M.Sc)
4.	2nd Vice President- - -	-Mr Emerson Otu (MBA)
5.	National Secretary- -	-Mr Musa Y. Dambele (M.Sc)
6.	Assistant National Sec I	-Mr Tom Adejoh (M.Sc)
7.	Assistant National Sec I I	-Mr Kelechi Chima Aja
8.	National Treasurer- -	-Mrs Mabel Ugwuja (M.Sc)
9.	Financial Secretary- -	-Mr Emmanuel Odumeru (M.Sc)
10.	Public Relations Officer-	-Mr Joshua J. Sule
11.	Immediate Past President-	-Prince Ayo A. Okhiria (MBA, FARN)
12.	Immediate Past Nat Secretary-	-Mrs Ola E. Balogun (M.Sc)
13.	Immediate Past Treasurer-	-Mrs Imoh Udoh (MBA)
14.	Registrar/CEO, RRBN -	-Mr Michael S. Okpaleke (M.Sc)

Comparative Study of the Efficacy of Castor Oil and Dulcolax in Colonic Washout for Barium Enema in Adult Patients in Owerri, Nigeria

Odumeru A. Emmanuel[1], Eze U. Charles[2], Odumeru A. Bolanle[3]

[1]Radiology Department, Federal Medical Centre, Owerri, Nigeria;
yemioduconcept@yahoo.com

[2]Department of Medical Radiography & Radiological Sciences, University of Nigeria, Enugu Campus, Nigeria;
ugwoke.eze@unn.edu.ng

[3]X-Ray Department, Medical Centre, Alvan Ikoku Federal College of Education, Owerri, Nigeria;
bolanleodumeru@yahoo.com

In barium enema examination, proper and accurate diagnosis of bowel pathology is highly dependent on bowel preparation. The aim of this study is to compare castor oil and dulcolax in efficacy for colon cleanliness, patients' tolerability, side effects and economic implication. The study was carried out at Federal Medical Centre, Owerri, Nigeria. Materials used include 125kVp, 500mA static x-ray machine with floating table, automatic processor, illuminator, 35 x 43 cm x-ray cassettes and x-ray films, castor oil (70 mls/patient) and dulcolax (6 tablets/ patient). Sixty patients, males and females, within the ages of 20 and 80 years referred for barium enema who met the selection criteria were recruited into the study. Preliminary radiographs were taken for each subject and colon cleanliness was assessed by four radiologists to evaluate intra and inter observer variability. Unstructured questionnaires were used to measure patients' tolerability and side effects. Mann-Whitney U test and two-tailed tests were used at level of significance, $p = 0.001$ to determine efficacy in the two groups. Results showed that male and female subjects constituted 65 and 35%, respectively, and all had a mean age of 45.6 ± 5.5 years. These patients were divided into two groups of 30 each. One group took castor oil while the other took dulcolax. Intra and inter observer analysis showed little variation in the assessment of the prelim radiograph by the four radiologists. Fifteen (25%) of patients who took castor had excellent result while 6 (10%) had poor result. Eight patients (13.3%) who took dulcolax had excellent results while 12 (20%) had poor result. Tolerability was higher in the intake of dulcolax than castor oil. The most frequent side effect was abdominal cramps and it was most common in patients who took dulcolax. Castor oil is more effective and has lower side effects than dulcolax in bowel preparation for barium enema examination.

Effect of Quackery on Patient Safety: Diagnostic Radiography

Imoh Ajayi

Radiology Department, University of Ilorin Teaching Hospital, Ilorin, Nigeria; ajayiimoh@gmail.com

Radiography is a profession in healthcare system that has direct access to patients of different races, religion and economic background on a daily basis. These patients are with different ailments which may be serious, mild or chronic which will require different phases of medical attention. A professional therefore, should have a specific level of knowledge and skill which must be demonstrated in the course of the work. The scope of practice is to provide overall safety and contribute to the total wellness of the patient. In the practice of quackery, lack of knowledge and skill can be seen in patient handling and the result obtained which may worsen the patient's condition or even lead to death.

Bone Health: Will Bone Densitometry Help?

Elizabeth Balogun (M.Sc Medical Imaging)

Radiology Department, National Orthopaedic Hospital, Igbobi, Nigeria

Background: Bone size and density of mineralized tissue is directly dependent upon the bone mass of a given part of a skeleton. Peak bone mass which is the amount of bone tissue present at the end of the skeletal maturation is usually achieved as a result of normal growth and attained in the second decade of life. The size, shape and mineral content of bone is determined by inherited traits and growth factors. The same inherited traits and growth factors can also inhibit the ability of an individual to attain peak bone mass. Bone mineral density (BMD) is an important determinant of osteoporotic fracture risk. Prevention and early intervention will promote strong bones as well as prevent fractures and their consequences.

Methods: Dual energy x-ray absorptiometry (DEXA) was commercially introduced in 1987. It has since become widely available and clinically useful in the evaluation of both adult and paediatric bone diseases. DEXA provides both accurate and precise bone mineral data and has become the 'gold standard' for BMD measurements.

Conclusion: The knowledge of the application of DEXA in predicting, prevention and management of bone related diseases is of utmost importance to the radiographer. This will benefit both the practitioner and the society at large.

Reflective Practice and Theory-Practice Dichotomy Among Radiographers in Enugu Metropolis, Southeast Nigeria

Charles U. Eze, [1]Cletus U. Eze*, Hillary A. Idogwu

Department of Medical Radiography and Radiological Sciences, University of Nigeria, Enugu Campus, Nigeria

[1]Department of Radiation Biology, Radiotherapy, Radiodiagnosis and Radiography, University of Lagos, Nigeria

Presenter:*fame4@yahoo.com; +2348032432915

Background: Reflective practice is evidence-based approach to problem solving while theory-practice dichotomy is failure to apply conceptual knowledge in practice.

Objective: To investigate the extent of reflective practice and existence of theory-practice dichotomy among radiographers in Enugu metropolis.

Methods: This was a descriptive cross-sectional survey involving all 50 registered radiographers working in Enugu metropolis in 2012. Informed consent of respondents was obtained. A semi-structured questionnaire and observation methods were used in data collection. Data were analyzed using SPSS version 17.0. Descriptive statistics were computed while Chi-square was used to test significance of results at $p < 0.05$

Results: Reflective practice was found in 70% of respondents, and 74%, 68%, 66%, and 64% of respondents would tinker with patient positioning, recommended projections, x-ray tube tilting, immobilization and beam centering, respectively. Thirty percent engaged in theory-practice dichotomy while superiors' attitude, inadequate clinical training supervision, bias towards didactic education, aging equipment and patients' age/condition (28%, 22%, 30%, 84% and 80%, respectively) engendered it. Eleven percent and 34% of reflective practitioners and 20% and 27% of those who engaged in theory-practice had job experience of 1-4 and 20-24 years, respectively.

Conclusion: Reflective practice appears to increase with job experience whereas theory-practice dichotomy does not.

Keywords: Reflective practice, theory-practice dichotomy, radiography

Trends in Medico-Legal Aspects of Patients' Right For Radiological Services in Nigeria

Charles U. Eze, and Patience Inyang[1]

Senior Lecturer, Department of Medical Radiography and Radiological Sciences, University of Nigeria, Enugu Campus, Nigeria; ugwoke.eze@unn.edu.ng

[1]Radiographer, Department of Radiation Medicine, University of Nigeria Teaching Hospital, Ituku-Ozalla, Enugu, Nigeria; **treasure4pee@gmail.com**

Background: Nowadays, radiological services are increasingly being sought for in the diagnosis and treatment of some diseases affecting patients in Nigeira. Any form of negligence in the standard of patient care during radiological procedures amount to medical malpractice of the concerned professional. Thus medical malpractice has resulted in high medico-legal issues and claims worldwide.

Objectives: To review the level of knowledge of radiographers about medico-legal issues and document the medico-legal issues on patients' right for radiological services in which a radiographer is liable to be sued.

Methods: A retrospective study of reviewed literatures on medical malpractice in radiology and related medical services using Google search was done.

Results: Medico-legal issues are generally far less common in Nigeria compared to developed countries. The awareness and attitude of radiographers to ethical and medico-legal issues are poor in the literature. Prolonged patient waiting time, misinterpretation of radiographs due to poor radiographic technique, poor handling of critically injured patients such as patients with cervical fracture, and lack of consent from the patient are some of the medico-legal issues.

Conclusion: Adherence to ethical principle is an important part of the professional life of radiographers. There should be adequately-filled informed consent forms by the patients and adherence to professional ethics of radiographic practice to avoid a likely avalanche of medical litigations involving radiographers in the country in the near future.

Keywords: Litigation, medico-legal issues, radiographer

An Analysis of Repeats in Special Radiographic Examinations in a University Teaching Hospital in Nigeria

Adejoh, Tom B.Sc, M.Sc Radiography (Nigeria)

Radiology Department, Nnamdi Azikiwe University Teaching Hospital, Nnewi, Nigeria; adtoms@yahoo.com, +234(0)8133301005

Objective: To establish the rate of repeats in special examinations involving conventional radiography and to determine the underlying cause(s) for the repeats, with a view to recommending remedies.

Methodology: Radiology x-ray examinations record between June 2012 and 2014 were retrospectively scrutinized by the researcher and the relevant data on special examinations were extracted. Descriptive statistical tools like measure of central tendency and dispersion, from SPSS version 16.0, were used in the analysis of the data.

Results: The examinations carried out within the period of study were 533 and they included hysterosalpingography (HSG), intravenous urography (IVU), barium enema, colostography, micturating and retrograde urethra-cystography, venography and sialography, with HSG (44.5%, n = 237) and sialography (0.2%, n = 1) being the most and least frequent, respectively. A total of 96 repeats were established giving a repeat rate of 18.01%. The responsibility for repeats were spread across radiologists (51%, n = 49), patients (36.5%, n = 35), radiographer (10.4%, n = 10) and machine (2.1%, n = 2). Difficulty in cannulation during HSG by radiologists (28%, n = 27), hypertension in patients (10.4%, n = 10), booking for HSG beyond 10 days by the radiographer (3.1%, n = 3), and x-ray machine faults (4.2%, n = 4), were noted as the highest specific causes of repeat.

Conclusion: Good professional practice, proper clerking of patients and prompt repair of faulty x-ray machines, will reduce the repeat rate for special examinations.

Keywords: Repeat, radiographer, radiologist, special examinations, cannulation

Iodinated Contrast Agent and Allergy

Kalu Ochie

Department of Medical Radiography & Radiological Sciences, University of Nigeria, Enugu Campus, Nigeria; kaluochie@yahoo.com, +234(0)8034721738

Allergy is a term used to describe an adverse reaction by the body to any substance which the affected individual ingests. Strictly speaking, allergy refers to any reactions incited by an abnormal immunological response to an allergen. It is also known that the causes of allergic reactions could be atopic. Allergy has moved from being a rare condition to one afflicting almost one in two people in the developed nations especially to substances such as insect venom, pollen dust, antibiotic, iodinated contrast agents, etc. Iodinated contrast agent is the common allergen in the radiography department. However, improved compounds of low osmolality water soluble iodinated contrast media has enhanced control of contrast agent reaction. The reduced rate of contrast agent reaction by patients receiving radiographic treatment has been traded with increased cost of treatment because, the low osmolality contrast media are more expensive although safer in terms of possible contrast agent reaction. Therefore, the choice of contrast agent should be carefully balanced between the risk of reaction, value of the examination and cost to the client. Allergic reactions range from mild to severe, i.e. from just lacrimation or sneezing to respiratory failure or death, and these reactions may be immediate or delayed. Therefore, treatment and control of allergic reactions require swift, clear, well rehearsed steps and procedure. Good knowledge of contrast agents and allergic reactions and consequences will greatly enhance patient case and cost in the treatment of clients in the department.

Effective Radiographer-Patient Communication in Patient-Centred Care

Sule, Joshua J.

Radiodiagnostic Department, Federal Medical Centre, Ebute Metta, Lagos; sulejoshuaj@gmail.com, +2348033484444

Communication is a very vital part of diagnostic radiography and medical imaging practice. Effective radiographer-patient communication enables the medical radiographer to achieve a radiograph of optimal quality. This also applies to magnetic resonance imaging (MRI), computed tomography (CT) and ultrasound scan procedures. This paper attempts to assess how well Nigerian radiographers communicate with their patients in order to have their cooperation and successful completion of whatever examination they came for.

Effect of Quackery in the Practice of Radiography

Sikiru, GB*; Dambele, MY; Ezinma, MC

Department of Nuclear Medicine, University College Hospital, Ibadan; Nigeria ***olawalerad@yahoo.com**, +2348051209910

Quackery is a global professional menace that has turned to usurp all professional benefits to the practitioner and even in some situation, claimed professionalism with fake certificates, license and at times, registered as a body. Medical radiography quacks have caused lethal effects on the health of Nigerians. Observation showed that they might have been poorly challenged and prosecuted. In some cases, qualified radiographers were found to be the protective shields for the quacks to operate whereas radiographers are supposed to be professional consultants. It is high time the stakeholders took the bull by the horn and expedited action in bringing the quacks to book to serve as deterrent to others. Equally needful might be publication by the registration board on the culprits, public sensitization through the media on dangers of quackery, amnesty for those quacks yet to be caught to desist, incentives for providers of information on quackery, and much more might be helpful. Quackery is a cankerworm that has eaten deep into our professional fabrics and has led to loss of life and wastage of scarce resources, unnecessary irradiation of patients and the public and misrepresentation of who we are as medical professionals.

Evidenced-Based Radiography Practice (Ebrp): A Nitty Gritty in Effective Health Care Delivery

Dlama Z. Joseph, Samuel Shem, Ginikanwa Njoku, Goni Mohammed

Radiology Department, Abubakar Tafawa Balewa University Teaching Hospital, Bauchi, Nigeria; josephdlama@gmail.com, +2348130582721

Evidence based radiography practice refers to a conceptualized, judicious and explicit integration of research evidence with practical methods of administering effective radiological health care. This paper is a conceptual review that promotes the application of evidence-based framework in both justification of choice for clinical diagnosis and treatment, with optimization of the modality or technique used. There is a need for medical radiographers, professionals and other clinicians to stay abreast of published literatures in their field if they are to provide the best quality service to individual patients and to the community as a whole. The evidence-based framework however, provides a model for efficient use of the literature to address specific clinical problems or areas where improvement is needed. Health professionals need to possess more than just their clinical expertise if they are to meet the demands of the changing health care system and the expectations of an increasingly aware and informed patient population.

Optically-Stimulated Luminescent Dosimeter: An Emerging Dosimeter in Patient-Centred Care

Nzotta, CC[1]; Nkubli, BF; Joseph, DZ[2]; Luntsi, G; Moi, SA; Njiti, M; Abubakar, A; Abubakar, M.

[1]Department of Radiography & Radiological Sciences, Nnamdi Azikiwe University, Nnewi Campus, Nigeria

Department of Radiography, University of Maiduguri, Nigeria

[2]Radiology Department, Abubakar Tafawa Balewa University Teaching Hospital, Bauchi, Nigeria

The measurement and quantification of radiation dose to patients have presented a technical challenge which has formed the basis of previous and ongoing researches in the field of radiation protection and dosimetry. It is presumed that with justified procedures and optimized radiation protection, doses to patients will be as low as reasonably achievable. Extensive review of the literature was made using different search engines and databases such as google, google scholar and hinari to gain in-depth and up-to-date information on the topic, with emphasis on historical perspective, medical applications and efficiency as compared to other dosimeters. The optically-stimulated luminescent dosimeter has a read-out system which is all optical and does not require heating of samples. It also offers the advantage of retrospective dosimetry and higher detection sensitivity. Findings from our review show consistent agreement among authors about the superior advantage offered by the optically-stimulated luminescent dosimeter over conventional thermoluminescent dosimeter and other types of dosimeters.

Estimating the Volume of Hippocampus From MRI Images of the Brain in Nigerian Adults

Sekinat Zurakat-Aderibigbe

Radiography Supervisor, Afriglobal Medicare Limited, Ikeja
DIR, B.Sc Radiography (Queen Margaret University, UK), M.Sc Anatomy (UNILAG)

The hippocampus is a complex and fascinating region of the brain that has enormous clinical significance. Quantitative measurements of hippocampal volume is believed to fulfill the basic criteria of general acceptance of the validity of a biomarker in clinical trials. It is an anatomically defined structure with boundaries that are visually definable in a properly acquired magnetic resonance imaging (MRI) scan. There is widespread agreement of its clinical significance and that it can be measured with appropriate accuracy and reproducibility. The MRI volumetry of hippocampus is important in diagnosis and management of especially, adult onset temporal lobe epilepsy, in which majority of cases are caused by hippocampal sclerosis. A good prognosis with with cure rate of 90% can be expected with surgical resection of anterior temporal lobe. Several studies have been carried out to create a database of normal hippocampal volume. However, there is currently no

normative data of MRI hippocampal volumetry available for the Nigerian population. This retrospective, cross-sectional study was carried out to determine the normative volume of hippocampus in normal Nigerian adults using the database of MRI images from Mecure Diagnostics, Lagos. The MRI of the brain was performed using a GE Brivo 1.5 Tesla machine. Images for hippocampus were obtained in axial FRFSE T1 and T2, axial T1 and T2 FLAIR in 4 mm slice thickness with 2 mm gap. Straight coronal planes (not perpendicular to the hippocampal formation) were done in T2 weighted and FLAIR protocols with 5 mm slice thickness and 3 mm gap. Anatomical boundaries for hippocampal volumetry was done by manual tracing, taking a guide from the harmonized protocol for hippocampal segmentations described by Frison et al. Image display and manual tracing of the hippocampus was performed using Osirix software version 5.2.1 (Pixmeo Sarl, Bernex). The images of 78 (27 male, 51 female) normal adults aged 25 – 79 years old were retrieved from 2012 to 2014. In this study, the mean absolute right and left HCVs were 3.43 + 0.32 cm^3 and 3.26 + 0.34 cm^3, respectively while the total HCV was 6.69 + 0.64 cm^3. There was no statistically significant difference between the right and left hippocampal volumes as both showed equal level of discrepancy ($p < 0.05$). Likewise, the volume of the hippocampus in males and females when compared showed no statistically significant difference.

Edited by the Education Committee of the ARN (2017 – 2020)

Adejoh T (Chairman); Joseph DZ; Nkubli FB; Balogun-Adebiyi IR; Okeji MC